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Almost every early childhood educator today feels the pressure of the school readiness movement. As the general public has embraced pre-kindergarten as an effective strategy for getting children ready to learn academic skills, accountability has come home to roost in our classrooms, centers, and schools. Are we on the right track to ensuring children are ready? This issue of Beginnings Workshop helps us figure it out.

Nancy Carlsson-Paige helps us reclaim the important role of play in children’s learning and reminds us to ‘teach’ children new skills by how we guide and interact with them. David Elkind and Lilian Katz reconnect us to the developmental and curricula knowledge base of our field. Then, Marjorie Kostelnik rounds out the discussion by sharing tools to make sure we are reliably getting our children ready to learn.
reclaiming play: helping children learn and thrive in school

by Nancy Carlsson-Paige

Child development theorists, researchers, and educators have long known that play is one of children’s most valuable resources, vital to their social, emotional, and cognitive growth. Through play children make sense of the world around them and work through new experiences, ideas, and feelings. But in recent years, a host of social forces and trends — the influence of media, commercialism, fast-paced family life, academic pressures in schools — have been eroding healthy play, robbing children of this valuable resource for optimal growth and learning.

Children today are playing less at home, outdoors, and at school. According to a national Kaiser Family Foundation survey, children in the two- to seven-year-old age group now average about three hours per day in front of screens — time they don’t spend in active, child-centered play (Rideout, et al., 2003). More parents today work, and work longer and harder than they did a generation ago, and without a system of quality national child care and after school care, many rely on screens or structured activities to occupy their kids. In our nation’s schools, teachers have had to cut recess and open-ended play in order to meet pressures in a climate of test-driven curriculum. The focus on academic skills and scripted teaching, alarmingly, has pushed down even to preschools and kindergartens where play experiences are disappearing.

But not only do children today have less time to play, many also have a diminished capacity to engage in deeply imaginative play. The powerful influences of media and marketing have undermined children’s ability to create and be in control of their own play. This influence began right after the deregulation of children’s television in the mid-1980s, when it became legal to market toys and products to children that were directly tied to TV. Almost immediately after this policy change, teachers began observing significant changes in children’s play, reporting that it looked less spontaneous and was conforming to mass media models, especially those from television (Levin & Carlsson-Paige, 2007). Today, children commonly imitate in play what they have seen in movies, video games, and other electronic media as well as TV, and use media-linked toys that further encourage them to replicate what they’ve seen on the screen. Often what children imitate are the models of aggression and violence so pervasive in entertainment media. I have heard numerous descriptions like this one from Candace, who attended a workshop I gave recently: “I’m concerned because the children in my day care center don’t know how to play. All of their play is scripted. It’s just an imitation of whatever popular media show they’re into.” And Margaret who said, “I hate Star Wars. It has taken over the classroom. It’s all the kids can think about — they’re obsessed with it, mostly the boys. They turn everything into a light saber and start fighting.”

We educators have an important role to play in taking back healthy play for children today. There is so much we can do to help children create play that truly meets their needs — play that gives them a strong foundation for learning, the emotional and mental readiness to learn, and the social and emotional skills they need for success in school and in life.

Learning through play

Not long ago, I visited a kindergarten classroom where two children, whose names I soon overheard were Tania and Jasmine, were in the dramatic play area playing ‘sisters.’ I watched these two girls as they searched through the dress-up box to find two identical blue scarves to tie around their waists. Then Jasmine said, “Let’s make pizza.” “Yea,” said Tania, “we can put lots of stuff on it.” Tania took a large flat plate and carefully placed eight round circles on it that...
she took from a container. “These are the tomatoes,” she said. Jasmine took color cubes from another container and put one on top of each of the circles. “And here are the meat things,” she said, and then suggested, “Let’s feed it to the baby!” “No,” Tania exclaimed, “babies can’t eat pizza — they don’t have any teeth!”

As Tania and Jasmine played ‘sisters,’ not only were they having fun, they were learning. Without thinking about it, the two children were working on math concepts such as sorting and one-to-one correspondence when they searched for matching scarves and put tomatoes and ‘meat things’ on their pizza. They were developing social skills as they communicated their plans, heard each other’s ideas, and cooperated on their common project. Seeing their interest in sorting and matching, their teacher Lisa set out unifix cubes on a table later that morning and encouraged the girls to sort them by color and match them to pictures of cubes on printed cards.

By the next time I visited this classroom, the dramatic play area had been converted into a full-blown ‘restaurant’ bursting with activity and excitement. The children had taped a sign at the entrance that said “AR RSTRNT” (our restaurant) and several of them were writing the words ‘pie, pizza, and soup’ with their teacher Lisa, who had suggested they make menus. On a table was a ‘cash register’ made of large Legos® that held strips of paper handwritten with numbers that children were calling ‘money.’

When children manipulate materials in play, they are building a foundation of understanding for the concepts and skills we want them to learn in school. We can’t tell children to understand number, for example, by having them copy number symbols onto paper or by reciting the names of numbers. They have to ‘discover’ for themselves what numbers mean — for example that five unifix cubes and five hats and five ‘discover’ for themselves what numbers mean — for example that five unifix cubes and five hats and five blocks are all the same quantity — and this they can only do through hands-on experience with materials. Once children understand the concept of numbers, the symbols such as the number symbol ‘5’ have real meaning because children have constructed this knowledge for themselves, or as Piaget might say, they have ‘invented’ it. When children construct their ideas through play and hands-on activities that make sense to them, their knowledge builds in a hand-over-hand way that is solid and unshakable. They build a foundation of meaning through play that provides the basis for understanding concepts in language, literacy, math, science, and the arts.

One of the most important ways we can help children understand concepts we want them to learn in school is to provide them with long blocks of time that allow them to get deeply engrossed in play. And we can maximize learning by providing open-ended materials such as blocks, play dough, building and collage materials, generic dolls, and animals. These are the materials that foster extended play and new learning (Fromberg, 1997). With open-ended materials children can work on concepts at their developmental level, bring their own narratives to the materials, and make just about anything they need or want. Low-specificity toys are a stark contrast to the highly structured single-purpose, high-tech toys that flood store shelves today. As we observe the concepts children are working on in play, we can provide follow-up activities to extend learning as Lisa did when she engaged Tania and Jasmine with unifix cubes and encouraged children to make menus and money for their restaurant. There is a compelling and growing body of research to show that play is essential for children’s academic success, and when teachers intervene to scaffold new learning, the benefits of play are especially potent (Isenberg & Quisenberry, 2002; Singer et al., 2003).

**Ready to learn**

Through play children build the foundation they need to understand the concepts they learn in school, but play offers an even deeper benefit as well. Through play children continually regain their sense of equilibrium which is what allows them to greet learning tasks in school with openness and confidence — to have the emotional and mental readiness to say: “I can do this task and I want to do it!”

Let me explain this with the example of Ruby, a child in my kindergarten class years ago, who used play to restore the equilibrium she had temporarily lost. In the second half of the school year, Ruby was hospitalized with ‘spider meningitis,’ as she would later tell her classmates, and was out of school for at least three weeks. Upon her return to the classroom, Ruby headed straight to the dramatic play corner where I had set up a ‘hospital,’ put on a white coat, and was soon leaning over Sam, one of her favorite play partners and now her ‘patient.’
I remember Ruby listening to his heart with a stethoscope, giving him a ‘shot,’ and directing him to eat some ‘medicine’—a bowl full of wooden cubes she’d mixed up just for him. Ruby spent much of the next few weeks in the same play area, hovering over one willing patient after another. Finally, very slowly, she began spending more time in the art, science, and literacy areas she had so enjoyed before she got sick.

Ruby’s dramatic play during this period was vital for helping her come to terms with her hospital experience. As she played, Ruby was using scenes she remembered from her actual hospital stay, but mixing them with ideas from her own imagination. Only Ruby knew what she needed to do, and only through this particular play could she gain a sense of mastery over what she had been through and thus find her equilibrium once again.

Though we may barely notice it, this is ideally what children are always doing in play. They take pieces of experience and transform them into something new, re-ordering things in terms that make sense to them and gaining mastery over the challenges they’ve encountered. As they create their own scenarios, children come to understand and integrate what they’ve experienced in life—the birth of a sibling, an argument overheard between parents, a scary scene viewed in a movie. In this way, play serves children’s learning even more deeply than we sometimes recognize because it’s through the process of play that children continually return to emotional and mental balance and the readiness to learn.

We educators can do a lot to encourage the kind of beneficial play that Ruby created after her hospital stay. But because of the social forces working against creative play today, we may need to take steps to help children create play that truly meets their needs. How might we do this? First, of course, we can observe children’s play closely and with curiosity; what concepts and issues are they working on? What themes and storylines interest them? The answers to these questions will guide what we do next. We might decide to ask an open-ended question while children are playing—one that could spark deeper involvement or a new direction for play. For example, when Tania and Jasmine were making ‘pizza,’ their teacher Lisa might ask, “Who will eat this pizza?” Or, “Do you need a place where you can eat the pizza?”

We could also suggest new materials or directions for play. Janice, a kindergarten teacher, told me that when the children in her class were involved in repetitive Star Wars play, she introduced a large oar into the block area and this one prop led play in a new and more creative direction. Jim told me that he encourages kids to engage more deeply in play by suggesting they make their own props such as ‘radios’ or ‘telescopes’ with open-ended materials. And Charlene said that at times, she briefly enters children’s play to make specific suggestions. She gave an example of a time that the children in her class were playing ‘robber’ and someone was ‘injured.’ Charlene asked to join in and soon said, “There’s someone injured on Center Street. Who can get an ambulance?” And this, Charlene said, inspired a new round of play centered on themes of rescue and helping.

**Social and emotional learning through play**

Writers in the emerging field of social and emotional learning (SEL) list many skills and competencies that are vital to success in school and in life such as the ability to manage distressing emotions, increased sensitivity to how others feel, perspective-taking, impulse control, establishing positive relationships, and learning to resolve conflicts. Researchers in SEL have been able to show conclusively that social and emotional skills and competencies result in improved academic achievement and higher grades in school. (CASEL, 2007).

The social and emotional skills considered vital for success in school begin to build in the early years and to a large extent, they develop through play. When Tania and Jasmine played ‘sisters,’ for example, they were learning to communicate and cooperate. Jasmine gained experience with perspective taking when Tania told her, “Babies can’t eat pizza—they don’t have any teeth!” And when Ruby became the doctor in her hospital play, administering shots and medicine to her classmates, she was likely managing the emotions of fear and helplessness she experienced while ill. As children play, they also learn to control their impulses. They have to stay within the boundaries of the roles they create in their imaginary situations and in so doing, they develop more self-regulatory social behavior (Vygotsky, 1933, 1978).

When children play together, conflicts are commonplace because young kids tend to see things from
their own perspective and don’t easily understand how their actions affect others. But today, conflicts among children are increasing as they try out the models of aggression and violence they’ve absorbed from the media and have diminishing opportunities to develop social skills through spontaneous play with other children. Because of this, it is more important than ever that we facilitate children’s conflicts in ways that help them learn social and emotional skills. With the next example of Curtis, you can see how conflicts during play give us openings to teach positive skills for getting along.

Nadine, three-year-old Curtis’ mom, asked my advice about an incident that happened at Curtis’ family day care site recently. Nadine explained that Curtis was riding a tricycle and he bumped into another child, who then fell off his bike. The teacher made Curtis sit on the steps for a time-out. Later Curtis was back on a trike, and this time he bumped into a little girl named Madeline, who fell off her tricycle and got a bloody nose. The teacher then told Curtis that he couldn’t ride at all anymore. Nadine asked me, “Is this a good way to teach Curtis how to get along with other kids?”

When Curtis got back on the tricycle the second time, he did just what he’d done earlier. The time-out hadn’t given him any new ideas about what to do instead of driving into other kids. What Curtis needed in this situation was to learn how to interact more positively with other children. Three year olds like Curtis need adults to point out, in concrete terms that make sense to them, how their actions affect others. This kind of intervention can help children develop empathy and caring and build awareness and skills about how to get along with others.

After first helping Madeline, the teacher could have brought Curtis over and said in a matter-of-fact voice without blame, “Curtis, Madeline got hurt and her nose is bleeding. She got hurt when you bumped into her. Can you do anything to help her feel better — can you say any words to help her?” The teacher might also have asked Madeline, “Do you want to say anything to Curtis?” or, “What can Curtis do to help you feel better?” Asking questions like these can stimulate children’s thinking and encourage them to invent for themselves the words to say, helping them build communication skills in a meaningful way.

When we send children to time-out, as Curtis’ teacher did, we aren’t giving them any new ideas or skills for building positive relationships. Especially today, as we see so many children in great need of learning social and emotional skills, we can do a lot to foster this critical learning by intervening in ways that encourage skill building. And as research now tells us, we’ll not only be helping children become more socially competent, we’ll be giving them tools that will increase their likelihood of success in school. A definitive meta-analysis of more than one hundred studies showed that students who had social and emotional learning not only got along better with others, but also learned more effectively and had higher grades and achievement test scores (Weissberg, et al., 2007).
This is a time when societal influences are robbing children of healthy play, one of the most important vehicles they have for optimal development and learning. We educators need to step in — with the awareness and skills that is uniquely ours — to reclaim this powerful resource for children. Taking active steps to encourage imaginative and beneficial play that truly serves children’s needs will not only reclaim play for them, but also give children the best foundation possible for success in school and in their lives both now and in years to come.

References


Equilibrium? What’s that?: Is regaining equilibrium so children can greet learning with openness and confidence a challenge for children in your setting? Poll teachers to see. Then, consider as a group what the next steps are in supporting children’s equilibrium through play.

Do teachers understand how play is the perfect individualization?

Social-emotional skills matter: Gather a group of volunteers to create a social-emotional skills checklist. Then, work with teachers to give it equal attention as early learning standards related to school readiness.

How do you ‘teach’ new ideas?: Carlson-Paige presents a scenario where time-out limits rather than teaches. Do teachers use time-out? Observe to see if they do. Collect observation scenarios of your own and then ask teachers to reconsider what to do to make skill learning a part of the attention children get when conflicts arise.
The phrase ‘school readiness’ was, until recently, most often used in connection with a child’s preparedness to meet the demands of a first grade classroom. With the contemporary push down of the curriculum, readiness is now taken to mean the child’s preparedness to meet the demands of kindergarten. Whether in regard to first grade or kindergarten, this way of thinking assumes that school readiness resides entirely in the child’s head. It also assumes that readiness is primarily academic, namely, knowing one’s letters and numbers. In addition, readiness is often taken to mean that a child has acquired his or her knowledge of numbers and letters through one or another form of academic instruction. Finally, another interpretation of readiness is that it is a matter of maturation and is related to age. While all of these ideas about readiness are understandable, they happen to be incorrect. They are a misunderstanding as to what readiness is all about.

**Readiness is in the child’s head**

The belief that school readiness exists within the child’s head does not stand up when examined a bit more closely. Consider the following analogy. If you are a runner who is trained to compete in a race, you are ready for one kind of race, not all races. If you are a sprinter, you are certainly not prepared to run in a marathon. In this example, readiness is only meaningful if the runner is competing in the race for which he or she trained. Just as there are many kinds of runners and many kinds of races, there are many kinds of children and many kinds of kindergartens. One and the same child may well be ready for one kindergarten, but not for another. Readiness is not in the child’s head. Rather it is always a relationship between the child’s level of social/emotional and intellectual development and the particular expectations of the program in which he or she is enrolled. Although this problem of the match, between child and the program, has always been with us it has been acerbated over the past few decades. This is primarily due to the widespread acceptance and participation of young children in early childhood education programs. A few decades ago, only a minority of children under the age of six attended any type of preschool program. And such programs, including the half-day school kindergartens, were most often devoted to socialization and play. In contemporary society the predominance of single parent, and of two parents working, families have made out-of-home care a necessity for the majority of parents with young children. Today more than 80 percent of the children under the age of six spend at least some time each week in out-of-home care.

The rapid expansion of early childhood education programs came at the same time as the technological revolution and globalization of the economy. Politicians, educators, and parents have become concerned that to be competitive in today’s world education has to be a top priority. There is also a widespread belief, despite all the evidence to the contrary, that education is a race and that the earlier you start the better. These beliefs have changed the quality of our early school programs. First grade, which was once relatively open and flexible to accommodate a variety of pupil preparedness, has become fixed and immutable in its demands for children who have numerical and reading skills. The half-day play kindergarten has become a full-day training program for entering first grade.

The effect of these changes is to reinforce the idea that readiness is in the child’s head. Indeed, in many communities we now retain (make repeat kindergarten) up to 30 percent of children who fail to meet the rigid criteria of admission to first grade. In effect we are asking all children to compete in a race for which only some are prepared. And the lack of prepa-
Politicians, educators, and parents have become concerned that to be competitive in today’s world education has to be a top priority.

Readiness as the attainment of literacy and numerical skills

Many studies have been looking at the effects of preschool programs on the later academic success of children. Perhaps the most extensive of these was carried out by West and Hasken (West, 1995) for the U.S. Department of Education. These investigators surveyed a representative sample (of the country as a whole) of 4,423 children from three to five who had not yet attended kindergarten. One of their findings was that children who had attended one or another preschool program had attained significantly more pre-literacy and numerical skills (knew most of their numbers and letters) than did children who did not attend preschool. The study also found, however, that the effects of attending a preschool program were reduced when risk factors (low maternal education, poverty, mother’s minority language, unmarried mother, and single parenthood) were factored in. The more risk factors in the child’s history, the lower the number of skills he or she will attain.

What this finding means is that the mere fact of attending a preschool prior to kindergarten does not insure that the child has numerical and literacy skills. And it is the at-risk children who are most limited in their attainment of these skills and most likely to be retained at the kindergarten level. Put differently, academic readiness cannot be assumed simply because a child has attended a preschool. Unfortunately, the study did not look at the other factor in the equation, namely the quality of the kindergarten program the child was entering. Even a child limited by risk factors might make a lot of progress in a classroom open to children of varying levels of academic preparedness.

Of equal or more importance was the second finding of the study. The researchers compared the conceptions of school readiness held by educational researchers and those held by classroom teachers. While the study identifies emerging literacy and numerical skills as the most important tools for children entering kindergarten, the authors acknowledge that kindergarten teachers do not agree with this assessment. In fact, a survey of kindergarten teachers (Heaviside, 1993) reveals that only a small number of them believe that knowing shapes and colors and having the ability to count and recognize letters are essential for success in kindergarten. Instead they place a great deal of importance upon health, and such skills as the ability to communicate, follow instructions, and to work cooperatively with other children. It seems that educational administrators, who set the acceptance standards, put too much faith in the theories of educational researchers and not enough on the wisdom of teachers with a rich history of classroom experience.

Readiness and early academic training

The belief that early academic training benefits young children and gives them a head start is widespread and growing. It is aided and abetted by a number of commercial educational systems for very young children. The advocates of these systems argue that young children have tremendous potential which is being missed by the traditional play-oriented early childhood programs. Both the Kumon system (Kumon.com) and Glenn Doman’s renamed Institute for the Achievement of Human Potential (formerly The Better Baby Institute) have been around for decades. Yet neither one has provided any systematic research regarding the long-term effects of their systems. Recently these advocates for early academic training have been joined by large companies, like LeapFrog that provide educational programs via electronic media. Many of the claims for these products, like those for the Kumon and Doman systems, are made with no research to support them.

The research that has been done does not support the assertion that early academic training is more conducive to long-term academic achievement than is the traditional developmental early childhood program. Hirsh-Pasek (1991), for example, in summarizing the results of her study of the effects of attending an academic preschool in comparison to attendance at play-oriented preschool concluded: “Highly Academic Environments have very little benefit for children’s academic skills, may dampen creative expression, and may create some anxiety.”

Contrarily, other research suggests that for young children play may provide better preparation for later academic learning than an academic curriculum. Israeli psychologist Sara Smilansky demonstrated the value of early childhood play for academic as well as
social emotional learning. She summarized her studies of American and Israeli young children in the following way:

“Socio-dramatic play activates resources that stimulate social and intellectual growth in the child, which in turn affects the child’s success in school. We saw many similarities between patterns of behavior bringing about socio-dramatic play experiences and patterns of behavior required for successful integration into the school situation. For example, problem solving in most school subjects requires a great deal of make believe, visualizing how the Eskimos live, reading stories, imagining a story and writing it down, solving arithmetic problems and determining what will come next. History, geography, and literature are all make believe. All of these are conceptual constructions never directly experienced by the child” (Smilansky 1990).

Accordingly, there is little evidence to support the view that school readiness is a product of an early introduction into academics. In fact the evidence points in the other direction and suggests that play may provide the most solid grounding for the later attainment of literacy and numerical skills.

Readiness and maturation

Yale pediatrician Arnold Gesell (1940) and his gifted colleagues Louise Bates Ames and Frances L. Ilg did some of most extensive and comprehensive studies of child development of their era. Gesell and his colleagues interviewed and took motion pictures of children from birth to 16. In the process they developed a set of measures to assess children’s development. The Gesell Scales were widely used to assess the child’s ‘readiness’ for formal education. Gesell and his colleagues provided an extraordinarily valuable service in pointing to the importance of children’s level of maturation as an important variable in assessing readiness for school. They argued that children who were below the developmental level necessary for school entrance needed to be granted the ‘gift of time.’ Gesell and his co-workers regarded readiness as primarily a matter of maturation that was related to age.

The Gesell concept of readiness, as primarily developmental, has contributed to the belief that this disposition is in the child’s head. Gesell and his colleagues failed to acknowledge the importance of the program the child was entering. Today, we recognize that maturation is only one aspect of development and that environmental input is also of great importance. As we saw in the last section of this article, the evidence suggests that the most effective early childhood programs are those adapted to the child’s level of intellectual, social, and emotional development.

Conclusion

Readiness, then, does not reside in the child’s head. Likewise, the skills a child needs to succeed in most kindergartens are not knowing numbers and letters, but rather being able to communicate, follow instructions, and work cooperatively with other children. These skills seem to be best acquired in preschools that are developmentally and play oriented. Finally, while maturation plays a role in the attainment of schooling skills, the child’s experience is also an important contributor. A true assessment of
school readiness, therefore, must always take account of the child’s level of intellectual and social/emotional development, his or her experiential background, and the classroom expectations the child will encounter.

References


There is also a widespread belief, despite all the evidence to the contrary, that education is a race and that the earlier you start the better.

Do teachers misunderstand school readiness?: Elkind poses this interesting question that deserves our consideration. Find out by asking teachers to give their definitions of readiness. Then, work with the definition of readiness in this thought-provoking article to align and calibrate teachers’ understanding of readiness. Facilitate a discussion based on faculty members’ experience, then tie the discussion back to the article.

It’s not just teachers: Families have misconceptions about readiness, too. Develop an open-ended questionnaire to ask parents and family members to share their views of readiness.

Talking to families about readiness: Talking to families about readiness is a challenge for many teachers. Using the information in this article, role-play talking to families about readiness. Practice until teachers feel like they can tackle the important task of talking knowledgeably and effectively about school readiness.

Put it in writing!: Ask for volunteers to take this article and rewrite it for parents and other family members. Publish it in your school newsletter.
another look at what young children should be learning

by Lilian G. Katz

Children now love luxury. They have bad manners, contempt for authority. They show disrespect for elders, and love chatter in place of exercise. Children are now tyrants, not the servants of their households.
Heraclitus (around 500 BC)

All teachers of all subjects at all levels have to address the question: What should be learned? Their answers to this question depend in part on the ages of the learners. Teachers' answers at the secondary school level are typically formulated in terms of the specific subjects they teach. Those teaching at the primary school level usually respond not only in terms of subjects, e.g., social studies, or science, etc., but also in terms of the basic skills involved in becoming proficient in reading, writing, and mathematics as well. But, how should preschool teachers answer this question?

The recent introduction of state standards for teaching and learning in the early years is one way of responding to that question. These standards tend to be strongly linked to what knowledge and skills are considered essential to be ready for school. Most of the standards are stated very broadly. For example “Communicate needs, ideas and thoughts” or “Explore quantity and number.” Reaching agreement on such broad goals or benchmarks is fairly easy. However, the younger the children, the more challenging it is to arrive at meaningful statements about what should be learned. And making plans with the intention of achieving such standards on any particular day with every child in the group is not so easily achieved.

Four kinds of learning goals

Frequently discussions about desirable outcomes, standards, and benchmarks refer to what children should ‘know and be able to do.’ Rarely is reference made to the idea that the children not only know, but also that they understand what they know. I am reminded of the story I was told about a kindergartner’s complaint to his grandmother when he was in his early kindergarten experience that his teacher “messed up the calendar today! She put a 1 on the board instead of 32 for the number!” thereby indicating a gap between his knowledge and his understanding of the calendar. In a similar way, many official statements about standards and performance outcomes declare that “what they should know, they should be able to do.” But there is no reference to the importance of children’s knowledge and ability alongside eagerness to actually ‘do’ what they can. I suggest, therefore, that it is helpful to consider the aims and goals of education at every level in terms of four different kinds of learning goals as outlined below.

Knowledge and understanding

During the early childhood years knowledge includes a wide range of facts, concepts, vocabulary, stories, songs, ideas, and many other aspects of the children’s culture. But the goal concerning knowledge should also emphasize the gradual deepening of understanding the knowledge — the facts, concepts, ideas, as they arise. Thus the role of parents and teachers, as well as older siblings and peers, is to offer answers to young children’s questions, provide explanations for events and phenomena that interest them, and in many other appropriate ways, help them to make more accurate and deeper sense of their own experiences. These goals are first on my list, not because they are more important than the other three discussed below, but because they are goals unique to educational settings, though of course, children acquire much knowledge and understanding outside of educational settings.
Skills

The term *skills* usually refers to small units of action that occur in a relatively short period of time and are fairly easily observed or inferred from observation, or from examining its products, e.g., graphic skills indicated by a child’s observational drawing. Physical, social, verbal, reading, counting, and drawing skills are among a few of the almost endless number of skills being learned during the early years. Skills can be learned from direct instruction or by imitation when observing others in the action of applying them. Skills usually need practice to achieve proficiency.

Dispositions

Dispositions can be thought of as habits of mind or tendencies to respond to certain kinds of situations in particular ways. Curiosity, friendliness, or unfriendliness, bossiness, generosity, and meanness, are just a few examples of dispositions or sets of dispositions, rather than as kinds of knowledge, understanding, or skills. Accordingly, it is useful for us as teachers to keep in mind that we want children to acquire significant knowledge, understandings, and skills, and at the same time to develop and strengthen the dispositions to use them. For example, we want children to learn the essential knowledge, understandings, and skills to enable them to read; but we also want them, at the same time, to acquire the disposition to be readers.

Feelings

Feelings are not easy to define, but they are experiences of which we are aware and which we can recognize. They are probably best thought of as subjective emotional states, many of which are innate, but many of which are learned from experience. Among the latter are feelings of competence, or feelings of incompetence; similarly, feelings of belonging or not belonging, feelings of confidence —
high or low — and so forth. Feelings about school, teachers, learning, and peers are also learned from experience in the early years.

The risks of early academic instruction

Recent research on the long-term effects of various curriculum approaches suggests that early experience of academic instruction, while it seems to yield impressive results on standardized tests in the short term, seems to have some negative effects in the long term, especially for boys (Marcon). In the case of boys, it seems that the early academic instruction model that put boys into a passive role, contradicts their natural as well as cultural dispositions to be assertive, active, and in a sense, forceful. In most cultures, girls seem to be more able to accept the kind of passive roles required in formal academic instruction.

Academic versus intellectual learning

Many of those involved in policy decision-making assume that the early childhood curriculum consists largely either of spontaneous play or formal academic instruction. It is, however, important to keep in mind that these are not the only two options for the preschool curriculum. Furthermore, that while both play and instruction can have a place in the curriculum, both positions overlook the importance of children’s intellectual development. To highlight the contrasts, academic goals are those concerned with acquiring small discrete bits of disembedded information, usually related to pre-literacy skills, and practiced in drills, worksheets, and other kinds of exercises designed to prepare them for later literacy and numeracy learning. The items learned and practiced require correct answers, rely heavily on memorization, and consist largely of giving the teacher the correct answers that the children know she wants. These bits of information are essential components of reading and other academic competencies. The issue here is not whether academic skills matter; rather it is when they matter. Intellectual goals and their related activities, on the other hand, address the life of the mind in its fullest sense, including a range of aesthetic and moral sensibilities. The formal definition of the concept of intellectual emphasizes reasoning, hypothesizing, predicting, the development and analysis of ideas, and the quest for understanding.

With the intellectual dispositions in mind, an appropriate curriculum in the early years is one that encourages and motivates children to seek mastery of basic academic skills, e.g., beginning writing skills, in the service of their intellectual pursuits. In this way, the children should be able to sense the purposefulness of the activities and their efforts to find things...
out. While intellectual dispositions may be weakened or even damaged by excessive and premature formal instruction, they are also not likely to be strengthened by many of the trivial, if not banal (e.g., refrigerator art?), activities frequently offered in early childhood settings.

I suggest that when young children engage in projects in which they conduct investigations of significant objects and events around them and for which they have developed the research questions to find out things like how things work, what things are made of, what people around them do to contribute to their well-being, and so forth, their minds are fully engaged. Furthermore, the usefulness and importance of being able to read, write, measure, and count gradually becomes self-evident (Katz & Chard, 2001; Helm & Katz, 2001). 6

References


3 ibid


Four kinds of learning goals: Divide teachers into teaching teams to tease out and write down their learning goals for knowledge and understanding, skills, dispositions, and feelings. Make sure to ask teachers to identify how, when, and where the goals are accomplished.

Is your program academic or intellectual? Do teachers understand the difference?: After reading this article, work with teachers to clearly identify the focus of your program and explore ways to make sure your curriculum allows children to fully engage their minds.

Give Dr. Katz her due!: Ask teachers to assess their classroom environment and the work of the children using Katz’s criteria of being grounded in a sense of the surrounding context, engaging in worthy investigations, providing first hand experiences, learning through process, and engaging in extended activities. Then, facilitate a candid discussion about what they found out and what they plan to do about it.
A baby ‘Pats the Bunny’
A toddler holds up two fingers to show her age
A three year old sings bits of the ABC song
A four year old aligns one cup and one napkin at each place around the snack table
The five year olds keep a running list of who still wants a turn to pilot the ship

All of these children are exploring elements of literacy and numeracy. Such explorations begin in the earliest days of life and are a natural outgrowth of children’s curiosity and interest in how the world works. Based on experiences like these, children build a reservoir of knowledge about language, reading, and mathematics that they take with them to kindergarten, first grade, and beyond.

The playing field is uneven for poor children

Unfortunately, some children are not having the kinds of early experiences they need to develop foundational knowledge and skills. In fact, kindergarten teachers report that one out of three children begin formal schooling lacking the basic experiences they need to succeed. Most often, these children come from families living close to or below the poverty line (National Center for Education Statistics, 2000). Although growing up in a poor family does not guarantee school failure, children from such families are twice as likely as more advantaged children to be in the lowest quartile in reading, math, and general knowledge when they enter kindergarten. Many come to school as much as two years behind their financially better-off peers. This creates gaps in achievement that influence all areas of development that can last throughout children’s school careers (Lee & Burkhart, 2002; Cunha & Heckman, 2007). These trends are depicted in this graph.

Cognitive Skill Accumulation
Children Born in Families Below versus Above the Poverty Line

As you can see, lack of skill early on inhibits new skill development and makes it harder for children to catch up. However, the evidence that high quality early childhood programs can and do make a difference in these trajectories means we have reason to be optimistic that children can develop the skills they need as they participate in child care and other early learning programs from birth to age eight. But, how is this to be done?

Early childhood educators need to pay special attention to literacy and numeracy

Research tells us that adults’ abilities to create stimulating numeracy and literacy experiences for young children are significantly influenced by how well they understand three things:

- the fundamental components of early literacy and numeracy
- how children experience literacy and mathematical concepts in their play
- what teachers can do intentionally to support literacy and numeracy in all areas of the curriculum throughout the day.

Teachers who lack adequate knowledge in any of these areas are hampered in their attempts to create developmentally appropriate programs for young children (Fleer & Raban, 2005). Administrators who understand these components, too, are better able to support and guide early childhood staff.

The fundamental components of early literacy and numeracy

Literacy involves:
- listening
- viewing
- speaking
- writing
- reading

As we look toward the future, skills associated with the use of information technology likely will be considered essential to literacy development (Arthur & Makin 2001; Soderman & Farrell, 2008).

Numeracy has several components:
- understanding number, how people represent number, the relations among numbers, and number systems
- understanding meanings of operations and how one operation relates to another
- computing and estimating
- recognizing, describing, and extending patterns
- sorting, classifying, and ordering objects by size, number, and other properties
- representing and analyzing mathematical structures
- adding and subtracting whole numbers using objects, picture, and symbols
- analyzing and describing shapes and the spatial relations among objects
- measuring
- using mathematical tools
- working with data
- developing inferences and predictions

Literacy and numeracy in the classroom

Take a moment to consider the literacy and numeracy skills these four year olds are exhibiting during learning center time:

The pretend play area has been transformed into a hairdressing shop. The children have created the following signs:

- Hr cataz (haircuts) 2$ 99c
- Shampoo
- Karlazz (curlers) 2$ and 99c
- Prmz (perms) 2$

Both boys and girls move into and out of this area and take turns as customers, receptionists, haircutters, and cashiers. They enact cutting hair, giving perma-

nents, having manicures, making appointments, writing down appointments, writing out receipts, using the play cash register, and making change.

At the same time, four children are working with a balance scale, trying to balance a series of objects against wooden cubes; pairs of children write down their predictions and compare their results.

Six children who are building with blocks roll small trucks down an incline and discuss how to build together. One child writes a sign, Dajs HL (Dangerous Hill), and attaches it to the ramp with tape. Three
**Daily Literacy Checklist: Preschool through Second Grade**

**Every day teachers:**

- Structure a thoughtful balance of child-directed and adult-directed activities to enhance oral language (listening and speaking), writing, and reading.
- Read aloud to children from both narrative and information texts; draw children’s attention to print concepts in the process.
- Model a variety of writing skills, using teacher-modeled writing activities (such as morning message, sharing the pen, predictable charts, attribute naming, secret word, secret message, and so forth.)
- Have children work in their journals, producing illustrations and related writing based on individual skill levels.
- Encourage children to use developing literacy skills for real purposes: to communicate with others; to obtain information; and to read what interests them for enjoyment.
- Design and maintain at least two engaging literacy-focused learning centers during each learning center time; make sure at least one group time has a literacy focus.
- Integrate books and other print materials in all learning centers in the room.
- Conduct a small-group mini workshop on literacy skills, teaching some aspect of the alphabetic principle, phonemic awareness, letter-sound association, letter-grapheme association, comprehension, or concept of print.
- Use children’s names, familiar songs, nursery rhymes, poems, and finger plays to teach literacy skills and concepts such as alliteration, rhyming, and letter sounds.
- Have at least one brief conversation with each child to develop rapport, learn what children are interested in, and extend their oral language skills.
- Provide plenty of opportunities for children to talk and work together cooperatively in small groups.
- Model and encourage good communication skills, such as complete sentences, good eye contact, clear speech, and correct grammar.
- Make sure classrooms are clean and well organized and structured so that children can easily and independently access and return literacy-related materials.
- Create print rich environments in which children read, respond to, and create meaningful print.
- Employ useful assessment skills to make sure children are learning, including periodic vocabulary and language assessments, teacher-developed checklists of desired outcomes, dated work samples for comparison, and child self-appraisal forms and checklists.


These guidelines were created by Anne K. Soderman, Ph.D., Professor Emeritus, Dept. of Family & Child Ecology, Michigan State University. Used with permission.

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*Children write in their journals; two mark the water level on a measuring tape attached to a jar under a leaky faucet. A few children sit in the library corner looking at books. Some are finding words they recognize, others are ‘telling’ the story from memory (adapted from Fromberg, 2002, p. 17).*

All while this is happening, the teacher and an aide move in and out of the play, observing, asking probing questions now and again, modeling problem solving skills, and helping children to record their findings. The adults are careful not to interrupt or take over. At the same time, they provide cues and support to help children advance in their understandings as demonstrated through their actions and words.

Chances are you noticed children engaged in several elements of literacy — listening, speaking, reading, and writing. Measuring, predicting, comparing, strategizing, weighing, and counting are some of the mathematical concepts children are exploring. Embedded in play, these concepts are taking place in a context that is meaningful and intellectually stimulating to the children involved. They will be revisited many times in the children’s play throughout the year as well as during other daily routines such as small group instruction and circle time.

Such activities do not all happen by chance. Skilled teachers intentionally create opportunities for children to become engaged in varied literacy and numeracy experiences every day.
experiences every day. They also take great care to scaffold children’s progress from simple to more complex understandings and skills. Teachers who are less deliberate and less informed about literacy and numeracy are also less able to enhance children’s learning (Mellor, 2007).

**Children benefit when teachers pay special attention to literacy and numeracy every day**

Effective early childhood educators employ purposeful plans and strategies to:

- stimulate and support children’s interest in literacy and numeracy
- structure literacy and mathematics ‘rich’ classroom environments
- design activities that promote the development of literacy- and numeracy-related thinking and concepts
- take advantage of incidental opportunities to enhance literacy and mathematical understandings.

More specific ways teachers accomplish this every day are described in the classroom guidelines that follow.

A useful staff development activity is to have pairs of teachers use the checklists to reflect on their current classroom practices. The checklists also can be used as part of peer observations as well as to identify

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**Daily Numeracy Checklist: Preschool through Second Grade**

**Every day teachers:**

- Provide a rich variety of informal opportunities as well as more formal activities for children to think mathematically.
- Limit time children spend doing mathematics as an isolated activity; integrate mathematical tools and problems in a variety of learning centers.
- Provide various kinds of paper and pencil opportunities for children to practice writing numbers, recording thought processes and communicating mathematical ideas.
- Help children see mathematical thinking as part of the learning of other subject areas by pointing out mathematical connections as children engage in reading, social studies, science, music, or art activities.
- Encourage mathematical ‘play’ in make believe real life context activities like shopping and cooking, making tools like play money and measuring cups part of the play environment.
- Make available everyday objects like buttons, beans, and blocks for children to count, recognize ‘how many,’ and consider questions of greater than and less than.
- Post number words and numerals around the classroom and encourage children to make connections between number words and numerals and to the numbers of objects they represent.
- Create opportunities for children to sort, classify, and order a wide variety of objects in a variety of ways.
- Design activities where children are asked to recognize, describe, and extend different kinds of patterns.
- Model situations that involve adding and subtracting using objects, pictures, and symbols and have children do the same.
- Give children opportunities to recognize, name, build, draw, compare, and sort two- and three-dimensional objects.
- Encourage children to measure with conventional tools like measuring cups, rulers, and scales as well non-conventional units of the same size laid end to end, like paper clips or blocks.
- Ask children to pose questions and gather data about themselves and their surroundings and represent the data using pictures, objects, and graphs.
- Discuss future events with children as likely or unlikely.
- Assess children’s mathematical understandings in multiple ways, including performance tasks, interviews, and observations.


These guidelines were created by Ruth Heaton, Ph.D., Department of Teaching, Learning & Teacher Education, College of Education and Human Sciences, University of Nebraska-Lincoln. Used with permission.
what content and strategies staff members might wish to know more about or pursue in the future.

References


Which fundamental experiences do you offer to children?: Ask teachers to analyze and reflect on how many of the fundamental experiences children need are available in their classrooms. Push this a little by asking teachers to allot minutes in the day to each fundamental. Consider the findings and whether teachers feel their plans and schedules need amending or changing.

Uneven playing field?: Kostelnik points to the significant and lingering differences in the experiences of poor children as compared to their more well-off peers. Are teachers aware of this important finding and prepared to do something about it? A candid conversation about the impact of poverty on children’s growth, development, and learning is a good place to start.

Making the sample checklist fit: Convene teachers to consider the checklists on pages 59 and 60. Then, implement the peer observation suggestion so teachers will feel empowered to make changes.