Section 15-1

Brain Development from Four to Six

Multiple Intelligences

In 1983, Howard Gardner presented his theory of multiple intelligences in his book, *Frames of Mind*. An intelligence is a way of understanding and coping with the world. Gardner argued that there is not a single intelligence that can be measured and assigned a number, as the IQ system suggests. Gardner believed that there are many kinds of intelligence and that intelligence tests only measure verbal, logical, and mathematical intelligence.

Gardner's book proposed that there are seven kinds of intelligence, including visual/spatial, verbal/linguistic, logical/mathematical, bodily/kinesthetic, musical/rhythmic, interpersonal, and intrapersonal. He later added an eighth intelligence, naturalistic, to his list.

Understanding and considering all these aspects of intelligence can help when assessing a child's intellectual development.

- **Spatial intelligence** involves imagining things visually and understanding the use of space. People who are high in this intelligence tend to think in pictures and must create visual images to remember information. Young children who learn best this way like to work with puzzles, look at photographs and videos, and draw pictures.
- Linguistic intelligence refers to the ability to learn and use language. People who are high in this intelligence think in words instead of pictures. Young children who learn best this way can benefit from listening, speaking, writing, and story-telling activities.

• Logical-mathematical intelligence refers to the ability to analyze problems using logic and math. People who are high in this intelligence think logically and in numbers. They ask many questions and enjoy experiments. Young children who learn best this way can be encouraged to solve problems, classify objects, and conduct experiments.

Class

- Bodily-kinesthetic intelligence refers to the ability to coordinate one's body movements and to use one's hands skillfully. People who are high in this intelligence express themselves through movement. They have good balance and handeye coordination. Young children who learn best this way enjoy dancing, sports, crafts, and acting, among other physical activities.
- Musical intelligence refers to the ability to perform, compose, and appreciate music. People who are high in this intelligence think in sounds, rhymes, and musical patterns. Young children who learn best this way enjoy singing, whistling, and playing musical instruments.
- Interpersonal intelligence refers to the ability to understand other people. People who are high in this intelligence try to understand the feelings and motivations of others. Young children who learn best this way like to listen to others and to be in group settings.
- Intrapersonal intelligence refers to the ability to understand oneself. People who are high in this intelligence understand their own feelings, strengths, and weaknesses. Young children who learn best this way are analytical and enjoy spending time alone.

Copyright © by The McGraw-Hill Companies, Inc. All rights reserved.

• Naturalist intelligence refers to the ability to observe, recognize, and categorize features of the natural environment. People who are high in this intelligence are good at classifying plants, animals, and other items. Young children who learn best this way enjoy being in nature and might like to sort rocks and shells or to learn about types of dinosaurs.

No one is equally gifted in all of these intelligences. Some people are very strong in one or two of them. Others may have significant strength in several types of intelligence. Every human being has his or her own unique combination strengths.

IMPLICATIONS FOR LEARNING

Gardner's theory can be used by other caregivers and teachers to enhance learning. They can:

• Recognize all of a child's intellectual strengths. Traditionally, schools have emphasized using language and mathematical abilities. Children who are not strongest in these types of intelligence are sometimes considered less intelligent. However, their overall intelligence, when other areas are considered, may be average or above average.

- Use a child's strengths to boost learning. Children learn best when they are allowed to use their particular intelligences to learn. Presenting new information in a variety ways, allows more children to use their strengths to gain better understanding.
- Help the child improve in other types of intelligence. Research into multiple intelligences has found that in places like Hungary, Japan, and West Africa, children are taught music from the time they are infants. Even people who are not considered musically gifted develop a high level of musical skill. This suggests that although children may be born with particular aptitudes in some kinds of intelligence, they can learn to develop other kinds. The preschool and early school years are particularly important for this. By developing in all areas early in life, children's learning will be enhanced throughout their lives. Parents and other caregivers have a responsibility to help children improve in all areas, not just those in which they have obvious aptitudes.

Taking Action

Imagine that you are a caregiver working at a child care center. How would you engage the different intelligences of preschoolers in your care? Create an activity that will strengthen at least two different intelligences.

Section 15-2

Learning from Four to Six

Readiness for School

School districts establish age cutoff dates for starting kindergarten. Children born before those dates are allowed to begin kindergarten in fall of their fifth year. Those born after the date have to wait until the following year.

Just because children are eligible by age to start kindergarten, does not mean parents must start them in school that year. Many are concerned about their child's readiness.

ARGUMENTS AGAINST EARLY PLACEMENT

Children born in the summer or fall who begin school in their fifth year are more likely to experience several problems. They are typically less mature than others in the class, some of whom may be a year older. This tends to affect their emotional, social, and intellectual development and readiness. Research has shown that, as a group, younger children:

- Receive fewer above-average grades than older children do.
- Are more likely than older ones to fail a grade.
- Are more likely to be given tests for learning disabilities than their older classmates.

Several factors contribute to these trends. Younger children typically do not have as long an attention span as older children. As a result, they have difficulty staying focused on tasks. Their social skills may not be as fully developed as those of older children, making it more difficult for them to make friends.

One educator, Kristin McBride of Utah State University, recommends against early placement, even if the child seems particularly gifted. McBride has taught gifted children and argues that as late as Grade 6, children who started school earlier than others still have difficulties. They tend to have more

The Developing Child: Enrichment Activities

behavioral problems, difficulty taking part in class discussions, and difficulty making decisions. A study showed that about one-third of gifted children who entered school early had problems adjusting to school. An extra year in preschool or at home may be appropriate for some children, McBride advises.

Class

HOW CAN PARENTS JUDGE READINESS?

While parents must make the final decision, some parents seek outside opinions. They may have their child evaluated by a pediatrician. A pediatrician can usually identify children who may have problems at school for developmental reasons. Preschool teachers can provide valuable insights about children who have been enrolled in preschool. Some schools districts have screening programs to check for key skills. Social readiness and intellectual readiness should also be taken into account when deciding if children are ready to begin school.

Social Readiness

Children who have already been in a group setting away from home are more likely to adjust successfully to being in school. Young children are more likely to be at ease if they have already had positive experiences with adults other than their own parents. Those who have already spent time with other children their age and have developed social skills, such as sharing and taking turns, also adjust more easily.

Parents can help children be socially ready for school by providing them with opportunities to interact with other children in group situations. Many parents place their children in preschools for this reason. Involving children in play groups, social gatherings, and playing with other children

(Continued on next page)

in the neighborhood are other ways to help develop social readiness skills.

Intellectual Readiness

Children who have strong verbal skills are more likely to do well in school. If children cannot talk to adults other than their own parents and make themselves understood, they are not ready for school. Children need to be able to listen, answer questions, and follow directions.

Parents can help promote intellectual readiness for school by providing opportunities for conversation with both adults and other children. Parents can also help children feel more at ease by familiarizing them with the kinds of stories, songs, and special activities they can expect at school, *before* school starts.

Other Signs of Readiness

Children need to be able to follow a schedule or routine. Young children like the predictability of knowing what comes next. Following a routine at home can help children adjust to following one at school. Children also need to be able to take care of their own personal needs, including using the bathroom without help.

ANOTHER PERSPECTIVE

The National Association for the Education of Young Children has a different perspective about readiness for school. The NAEYC argues that a cut-off date sets a rigid timetable that is inappropriate. All children—except those who have suffered abuse or neglect—enter school ready to learn, says the NAEYC. Children do not always meet success in school, however, because school is not always suited to their particular needs.

The group points out that at every stage of development, children show a wide range of skills. The NAEYC also argues that children can acquire different skills at different rates. They can master some higher thinking skills sooner than some basic skills. For example, a child who has difficulty saying or making letters can still understand complex stories. The NAEYC believes that the burden should be placed on the school, not the child, to make it possible for the child to succeed in school.

Taking Action

Imagine that you are the parent of a child whose birthday is three weeks before the cutoff date. Make a list of skills and traits you would evaluate to determine whether your child should start kindergarten or wait another year.