

## CHILDREN AS STUDENTS

Just as there is more than one way to display intelligence, there is more than one way to learn, and children, especially infants, learn differently than adults. Infants and young children have a positive bias to learning physical concepts, causality, numbers, and language rapidly.<sup>1</sup> When children get to the classroom, what do they know already? Do they already know how to learn?

Here are some facts about children and learning:

- Because infants will look at things they find interesting, researchers studied their ability to comprehend patterns of events. After establishing a pattern of flashing a picture two times on the left side of a screen and three times on the right, an infant's gaze pattern is observed. When an infant continues to watch the left side after the first flash, but shifts its gaze to the right after the second flash, it can be assumed that the infant is anticipating the third flash to appear on the right. Therefore, a distinction has been made between one, two, and three events. Using this procedure, infants as young as five months can count up to three.<sup>2</sup>
- Children lack knowledge and experience, but not reasoning. In a study of three- and four-year-olds, the children correctly responded when asked whether an echidna and a statue could move themselves up and down a hill. Though the children had never seen either object before, the children claimed that only the living object (the echidna) could move itself up and down a hill.<sup>3</sup>
- Children are problem solvers, as well as problem generators. When five nesting plastic cups are placed on a table in front of a group of children of 18-36 months, they immediately try to fit the cups together. Although they had seen the cups nested together, there was no real need for them to nest them. They could have stacked the cups or lined them up. Instead, they immediately attempted to nest the cups. The children persisted not because they had to, but because success and understanding are motivating in their own right.<sup>4</sup>
- Adults, particularly parents, can help children make connections between new situations and familiar ones. Recently, the positive effects of reading stories and picture books to infants and young children have been scientifically validated.<sup>5</sup> Additionally, studies of drug-abusing mothers and their infants show how the absence of these critical learning interactions between mother and child depresses three- and six-month-olds' learning.<sup>6</sup>

Children's learning is guided by their parents, grandparents, other relatives and adults, other children, teachers, coaches, caregivers, and others. Their learning influences are not limited to people, as television, books, videos, games, and other devices play roles as well. All of these factors contribute to the development of children as learners, eventually enabling them to learn on their own. It is important that older children, especially students, as well as infants and toddlers, understand what it means to learn and be encouraged to plan, monitor, revise, and reflect upon their learning. Equally important, those who teach children must realize and build on the learning children already have. No child comes to school a *tabula rasa*.

## Endnotes

1. J. D. Bransford, A. L. Brown, and R. R. Cocking, *How People Learn: Brain, Mind, Experience, and School*, National Academy Press, Washington DC, 1999.
2. R. L. Canfield and E. G. Smith, "Number-based Expectations and Sequential Enumeration by 5-Month Old Infants," *Developmental Psychology*, 32(2), pp. 269-279, 1996.
3. C. M. Massey and R. Gelman, "Preschooler's Ability to Decide Whether a Photographed Unfamiliar Object Can Move Itself," *Developmental Psychology*, 24(3), pp. 307-17, 1988.
4. J. S. DeLoache, S. Sugarman, and A. L. Brown, "The Development of Error Correction Strategies in Young Children's Manipulative Play," *Child Development*, 56, pp. 928-929, 1985.
5. C. E. Snow, M. S. Burns, and P. Griffin (Eds.), *Preventing Reading Difficulties in Young Children*, National Academy Press, Washington, DC, 1998.
6. L. C. Mayes, R. Feldman, R. N. Granger, M. H. Bornstein, and R. Schottenfeld, "The Effects of Polydrug Use With and Without Cocaine on the Mother-Infant Interaction at 3 and 6 Months," *Infant Behavior and Development*, 20(4), pp. 489-502, 1998.



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