

Editorial: “Enriching the Brain”—The Link Between Contemporary Neuroscience and Early Childhood Traditions

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While browsing through a conference program I noticed a session on “brain-based learning.” My first reaction was, “I certainly hope so!” What would make anyone think that it is possible to learn *without* using the brain? The headline of an online newsbyte article proclaimed, “Students Being Encouraged to Fidget”—no doubt an oversimplification of the finding that physical activity supports development. I also visited a school in which every child had a bottle of water at his or her desk. The explanation given by the administrator was that “the research says that children’s bodies need to be hydrated in order for them to learn efficiently.” After mulling over such efforts to link basic research with educational practice, I finally found the opportunity to read Eric Jensen’s (2006) book, *Enriching the Brain: How to Maximize Every Learner’s Potential*. A fan of his previous work (Jensen 1998), I was eager to see what advances had been made in neuroscience during the eight intervening years between these two works.

For me—and, no doubt, for many educators in the United States—the word “enrichment” elicits images of gifted and talented programs, art classes at the museum, or student internships/apprenticeships out in the community. Jensen (2006) acknowledges this history for the term “enrichment” but goes on to provide a very different definition which is the thesis of the book: “Enrichment is a positive biological response to a contrasting environment in which measurable, synergistic, and global changes have occurred within the brain” (p. 158, emphasis added). As with the word “development,” Jensen’s view of enrichment hinges on the contrast between baseline behavior and the level of performance that occurs after a learning

experience. Jensen enumerates several, research-based ways of improving learning that include: an attentional mind-set; low to moderate stress; coherent, meaningful tasks; repetition of tasks and massed practice; and learner-controlled feedback. The question that immediately came to mind was, “How has the field of early childhood education fared in attending to each of these recommendations, even *before* a research base in neuroscience existed to support them?” The answer is “very well.” What follows is early childhood education’s—if you will—report card on endorsing teaching methods that respect the way the human brain functions.

- *An attentional mind-set.* Jensen (2006) states, “It’s essential to pay fixed attention. The more a student’s mind wanders, the less the rate of change” (p. 72). In early childhood education, this recommendation echoes Maria Montessori’s contention that the last outgrowth of a great education is the ability to concentrate. Early childhood education has a long history of inventing materials to maximize the learner’s attentional mind set. Whether it is unit blocks, outdoor play equipment, a dress up corner, toy animals, or live classroom pets, early childhood is all about captivating children’s attention and capitalizing on their curiosity.
- *Low to moderate stress.* Jensen contends that “The learner must perceive some choice or control over the task and the surrounding conditions. Otherwise, the stress from that loss of control may neutralize the positive effects from the learning” (p. 72). From the earliest writings of Rousseau that recognized childhood as a distinctive phase in human life to NAEYC’s developmentally appropriate practice, early childhood traditions have emphasized the “whole child” rather than focusing exclusively on academic achievement at any cost.

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- *Engagement in coherent, meaningful tasks.* Neuroscience suggests that “random, useless tasks will create little or no change in the brain. It only gets the subjects irritated or bored. They have to buy into the task” (Jensen 2006, p. 72). Motivating young children to “buy into” tasks is one of the great talents of effective early childhood educators today and has been for centuries. This recommendation immediately brings to mind the early childhood program models popularized in the 1800s that were brought to the United States by visionaries such as Patty Smith Hill; the compensatory program models instituted in the mid 1900s; and, more recently, Lilian Katz and Sylvia Chard’s project approach, inspired by the schools of Reggio Emilia, Italy.
- *Repetition of tasks and opportunities for massed practice.* As Jensen argues, “The brain will create new connections when there’s new learning, but these connections must be reinforced and strengthened or they deteriorate. The repetition should be daily, or at least many times a week” (Jensen 2006, p. 73). Routines and repetition have been a mainstay of early childhood education from its very inception. Whether it is learning a self-help skill such as tying shoes, a physical skill such as swinging on a swing, a social skill such as sharing toys, or a cognitive skill such as reading a predictable book in unison, repetition and routines are used to bolster the confidence and learning of the very young. It is also a basic function of early childhood education to provide opportunities for massed practice. In fact, one of the great assets of the early childhood educator is the ability to invent new ways of practicing the same skills so that the learner engagement in the task remains high. Take, for example, the tasks such as learning colors or recognizing letters and numerals. Early childhood educators can generate a host of strategies for accomplishing these basic skills. Jensen tells us that “The ideal is 30–90 min a day, three to five times a week. This length of practice is critical or the brain won’t change much” (Jensen 2006, p.73). In early childhood, entire programs have been based on the principle of mass practice such as Head Start, Even Start, and Follow Through.
- *Learner-controlled feedback.* Studies of learning suggest that “Most tasks will involve learners who make mistakes. If the feedback is too general, too fast, or too irritating, the learner will become distressed and success will drop. Ideally, subjects should be able to adjust the level and type of feedback” (Jensen 2006, p. 73). Whether we are referring to Frederick Froebel’s kindergarten, Maria Montessori’s self-correcting materials, or the latest computer software, early childhood education has been aimed at providing appropriate feedback.

Conclusion

Contemporary educators at all levels, from infant/toddler programs through doctoral programs, are urged to base their teaching practices on research and to make data-driven decisions. Too often, the two most pertinent questions—“Which research?” and “Whose data?”—are overlooked. The truth is that research is most influential when it matches the social, political, and economic tenor of the times (Farstrup and Samuels 2002). Those with the power to drive (or at least tinker with) the educational machine can be surprisingly biased where research and data are concerned. They tend to seek out studies that support their position and disregard the rest; they look, not for research or data that challenges assumptions, but for whatever can be used to fuel their pre-existing argument. Interestingly, in William Golding’s (1974) now classic essay called “Thinking as a Hobby”, he categorized thinkers at three different levels. At the lowest level are those who “warm their hands at the fires of their prejudices” and refuse to consider new ideas or revise their thinking (p. 10). At a slightly higher level are those who question everything, never taking the risk of subscribing to a point of view; they are immobilized by indecision and perpetually wait for someone to tell them exactly what to do. At the third and highest level are those willing to risk disapproval and forge ideas that are uniquely their own. These thinkers are lifelong and life-wide learners. They unafraid to strike out in new directions with their work and continually push themselves to work at the edge of their competence as necessary. Those of us in the field of early childhood education have had the advantage of relying on such “third story thinking” for centuries. Such luminaries in the field of early childhood education have guided our way by endorsing practices that are entirely consistent with the latest research on ways to maximize every learner’s potential.

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