



**The Best Schools: How Human Development Research Should
Inform Educational Practiceⁱ**

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Abstract: This paper contrasts two different approaches to schooling, one based on raising scores on standardized tests (Academic Achievement Discourse or AAD), and the other based on developing whole human beings (Human Development Discourse or HDD). It argues that an overabundance of AAD results in developmentally inappropriate practices in schooling, such as formal reading and math lessons for preschool children, and an impersonal learning environment for young adolescents. It also provides specific foci for different levels of schooling, including: early childhood education (emphasizing play), elementary education (emphasizing learning how the world works), middle school education (emphasizing social, emotional, and meta-cognitive learning), and high school education (emphasizing preparing to live independently in the real world). Ultimately, it argues that educators and parents need to spend more time engaging in HDD so that our schools become more responsive to the developmental needs of children and adolescents.



When we speak of “the best schools” what do we really mean? To many people, “the best schools,” are those that have achieved the highest scores on standardized tests. This, however, is a rather limited way of perceiving the goals of education. Instead, we ought to be thinking about “the best schools” as those that do the best job of helping students achieve their academic, social, emotional, creative, and spiritual potentials. Unfortunately, most of the discussion in education today relates primarily to academic achievement and test scores. This “academic achievement discourse” concerns itself with the following questions: “How can we close the achievement gap?” “How can we raise the bar on achievement?” “How can we boost test scores?” “How can we have accountability in our schools?” This *Academic Achievement Discourse* (or AAD), has several key components. First, it is focused on academics, and within that, primarily reading, science, and math. Second, it is “test happy,” that is, it values standardized tests as the best way of measuring academic achievement. Third, it values a “rigorous” curriculum, including tougher school requirements, more homework, and harder textbooks. Fourth, it is future-oriented, in other words, it is focused on preparing students for the challenges to come (e.g. the challenges of the 21st century, the challenges of the next level of schooling etc.). Fifth, it values scientifically based research to determine the authenticity of any educational intervention in the classroom (anecdotal evidence is regarded as worthless). Sixth, it is a “top-down” discourse; that is, people with more power (e.g.



superintendents, principals etc.) enforce it on people with less power (e.g. teachers, students). Finally, it has as its bottom line helping students achieve academically so they can assume positions of power in the social hierarchy. The problems with AAD include: the narrowing of educational aims, the neglect of individual differences among students, the habit teachers have of “teaching to the test”, the encouragement of cheating and the use of performance drugs like Adderall among students, and the creation of stress and disempowerment among teachers and students.

There is an alternative discourse to AAD however, that comes closer to defining what a “best school” really means, and which avoids the pitfalls described above: *Human Development Discourse* (or HDD). HDD can be defined as follows: “the totality of speech acts and written communications that view the purpose of education primarily in terms of supporting, encouraging, and facilitating a student’s growth as a whole human being, including his or her physical, cognitive, emotional, social, ethical, creative, and spiritual unfoldment.” Questions that typify HDD include: “How does this child learn best?” “What are her obstacles to growth?” “What are her aspirations in life?” “What are her gifts and abilities?” In contrast to AAD, HDD focuses on the whole person, assesses using authentic measures rather than just test scores, responds to individual differences, focuses on learning in the present rather than preparing for the future, values anecdotal evidence of student growth, represents a bottom-up or “grassroots”



movement rather than a “top-down” one, and has as its bottom line the development of mature human beings. The advantages of HDD are that it prepares students for the real world, not just the world of test scores, focuses on the strengths of student, responds to student diversity, empowers students and teachers, and stimulates innovation.

However, the most important contribution of HDD is that it encourages appropriate developmental practices in the classroom. Because of the predominance of AAD in the educational marketplace of ideas, less attention has been given to the importance of developmental growth in students. In fact, educational interventions based on AAD have essentially trampled on what we know to be true about students’ developmental timetables. As a result, we have too many instances of developmentally inappropriate practices in current educational settings. Examples include preschoolers working on formal reading and math lessons, elementary school students doing hundreds of worksheets a year, young adolescents rushed around from one 45 minute class to the next, and older adolescents stressed from preparing for college entrance exams. While there are a range of developmental goals for students at each stage of growth, I have focused on what I believe are the key developmental issues at each of four levels of education: early childhood education, elementary schools, middle school, and high schools.



Early Childhood Education - Key Developmental Focus: Play.

At the early childhood level, the metabolism of children's brains is at its peak in the human life span. Moreover, the plasticity of the brain - or its sensitivity in rewiring itself according to environmental stimuli - is also at its peak. Consequently, learning activities should be stimulating as much of the brain as possible. Engagement in rough-and-tumble play, pretense play, open-ended artistic expression, and other forms of child-centered play, provides this optimal level of stimulation. At this age, formal lessons in math and reading are developmentally inappropriate, inasmuch as the child has yet to reach Piaget's cognitive stage of concrete operations (around the age of 5 or 6), where understanding of math rules, and proficiency in decoding words become possible. Even where a young child may be advanced in Piaget's stages and can do these things as early as 3 or 4, the abstraction of formal schooling takes valuable time away from the rich multi-sensory experiences that children should have at this age to provide a solid foundation for later abstract reasoning.

Elementary Education - Key Developmental Focus: Learning How the World Works. Although this focus is important at *all* stages of childhood and adolescent development, it becomes particularly significant between the ages of 6 and 11. It is at this time that children have emerged from the relatively secluded world of their family, playgroup, and close friends, into a broader social world,



and a more expansive “objective” world of objects, things, and traditions. Children at this age are undergoing a process of “pruning” of brain pathways, which is sculpting the brain according to the unique culture in which they find themselves. They are hungry at this age to know “what the rules are.” They want to know why different sorts of people look and behave the way they do, why the sky is blue, how their body functions, where different countries are located, how the monetary system works, and much more. Now it becomes appropriate to teach the rules of formal math and reading. However, if education at this level spends too much time focusing on formal worksheets, textbooks, and lectures, then the child will be given the message that the world is a “worksheet wasteland” and their hunger and curiosity in the world can be blunted as a result. Education at this level must engage students in a hands-on exploration of the real world. The educational model most appropriate to this stage of growth is the children’s museum, where kids get immediate interactive experiences of cultures, historical periods, scientific principles, mathematical patterns, and other components of the broad sweep of life.

Middle School - Key Developmental Focus: Social, Emotional and Meta-cognitive Development. Around the age of 11, there is a spike in gray matter in the frontal lobes that may be associated with Piaget’s stage of formal operations when thinking can take



place entirely in the abstract without reference to concrete objects. This is where meta-cognitive strategies (or “thinking about thinking”) become appropriate. As puberty hits, a series of complex neuro-chemical changes take place in the brain, which makes students in adolescence prey to a number of risk factors including depression, violence, alcohol/drug use, and eating disorders. Because of these changes, priority needs to be given at this age to social and emotional learning. Education needs to take place in small learning communities, where students can feel a sense of belongingness and have a genuine connection with a mentor/teacher. The middle school model was initially developed to meet the special needs of early adolescence, but over time many middle schools have become larger and more impersonal. Learning at this time must be personal; students must understand how the learning done in the classroom is related to their own personal lives, memories, and feelings, or it will have little or no impact.

High School - Key Developmental Focus: Preparing to Live Independently in the Real World. During later adolescence, the frontal lobes of the brain (where executive functions reside) undergo a gradual process of maturation. This parallels developments in society, where adult responsibilities begin to be given to individuals after the age of 16 (e.g. they can legally marry, drive automobiles, open retirement accounts etc.).



Unfortunately, many high schools still treat older adolescents as children, requiring them, for example, to raise their hand if they want to go to the bathroom. Education at this level of development needs to involve learning out in the real world, through apprenticeships, mentor programs, internships, career academies, entrepreneurial enterprises, and volunteer positions in the community. If learning only takes place in the artificial confines of a classroom, and has as its primary goal preparing for college exams, many students will be deficient in the skills that they will need once they become independently functioning adults.

In conclusion, we've seen how a strong emphasis on academic learning and its measurement through standardized testing can undermine the true developmental goals of children and adolescents. Such artificial learning is at odds with how the brain develops over time, and often conflicts with the social, emotional, and creative needs of students at each level of schooling. Yet in spite of the evidence, educators and parents still continue to engage in Academic Achievement Discourse, and think of the best schools as those with the most rigorous curriculum and the highest test scores. What is necessary is that we learn to speak more Human Development Discourse, and allow these communications to drive efforts to make schooling more responsive to the true developmental needs of our children and adolescents. Educators, in their own particular educational



setting, can take action steps to help bring about a more appropriate education for their students. This might involve bringing in more play experiences for the early childhood educator, having more interactive learning experiences for the elementary school teacher, making learning more personalized for the middle school teacher, and giving students at the high school level more opportunities to assume adult roles in their learning. However it is achieved, we must strive to make our classrooms more developmentally appropriate, so that our students will be helped to become the mature human beings that our world needs in order to prosper.

¹ The information in this article is taken from Thomas Armstrong, The Best Schools: How Human Development Research Should Inform Educational Practice, Alexandria, VA: Association for Supervision and Curriculum Development, 2006.