Guiding Principle 5:
Students bring strengths and experiences to learning.

Every student learns. Although no two students come to school with the same culture, learning strengths, background knowledge, or experiences, and no two students learn in exactly the same way, every student's unique personal history enriches classrooms, schools, and the community. This diversity is our greatest education asset.

Research Summary

The authors of the groundbreaking work *How People Learn: Brain, Mind, Experience, and School* (Bransford, Brown, & Cocking, 2000) found that students' preconceptions may clash with new concepts and information they learn in school. If those preconceptions are not addressed, students may fail to grasp what is being taught or may learn only to pass a test. In other words, a student might enter kindergarten believing the world is flat because he or she has seen a flat map. Despite the presentation of geographic names and principles, the student still maintains the fundamental preconception about the shape of the world. Developing competence—or in this case, a knowledge of the shape of the world—requires that students have a deep foundation of factual knowledge, a context or conceptual framework to place it in, and the opportunity to explore how it connects to the real world. Ultimately, a metacognitive approach—one that pushes students to think about their own thought processes—can help them take control of their own learning.

As educational research on how people learn advances, so does our approach to teaching and learning. Strategies to advance teaching and learning are constantly evolving into new and innovative ways to reach learners. When a teacher uses students' interests, curiosity, and areas of confidence as starting points in planning instruction, learning is more productive. Teachers who are cognizant of these issues—and reflect on how to use them as strengths upon which they can build—ensure that all students have access to the content. Areas to consider are student strengths, gender, background knowledge, and connections to the home environment.

Building on Student Strengths

Teaching to students' strengths can improve student engagement (Sternberg, 2000, Sternberg & Grigorenko, 2000). Many students have strengths that are unrecognized and neglected in traditional schooling. Students in underrepresented minority groups have culturally relevant knowledge that teachers can use to promote learning. Sternberg et al. (2000) found that conventional instruction in school systematically discriminates against students with creative and practical strengths and tends to favor students with strong memory and analytical abilities. This research, combined with Sternberg's earlier (1988) research showing that teaching for diverse styles of learning produces superior results, suggests that capitalizing on the various strengths that all students bring to the classroom can positively affect students' learning. When students are taught in a way that fits *how* they think, they do better in school (Sternberg, 2000; Sternberg & Grigorenko, 2000). Sternberg and O'Hara (2000) found that when students were taught in a way that incorporated analytical thinking, creative thinking (creating, imagining, and inventing) and practical thinking (applying, implementing, and putting into practice)—students achieved at higher levels than when taught using conventional instructional methods.

Gender Considerations

Changing instruction might help alleviate the gender gap in literacy achievement. Research conducted by Sax (2005) reveals that boys fall behind girls in reading and writing early on and never catch up. Sax (2007) found that this dynamic plays a role in higher high school dropout rates for males, particularly black males. The college graduation rate for females approaches twice that of males in Hispanic and black populations. Many classrooms are a better fit for the verbal-emotive, sit-still, take-notes, listen-carefully, multitasking girl (Sax, 2005). The characteristics that boys bring to learning—impulsivity, single-task focus, spatial-kinesthetic learning, and physical aggression—often are viewed as problems.

Researchers such as Blum (1997) have identified more than 100 structural differences between the male and female brains. Altering strategies to accommodate more typically male assets—for example, the use of multimodal teaching (discussed on pages 10-11 of this report); the use of various display formats, such as printed material, videos, presentations, and computers; and an interactive learning environment to appeal to different learning styles—can help bridge the gap between what students are thinking and what they are able to put down on paper. Sadik's (2008) research suggests that using multimodal instructional strategies like digital storytelling—allowing students to incorporate digital cameras, creative and editing tools, computers, and other technology to design multimedia presentations—deepens students' learning.

Background Knowledge

Bransford et al. (2000) note in *How People Learn*, learning depends on how prior knowledge is incorporated into building new knowledge, and thus teachers must take into account students' prior knowledge. Jensen's (2008) research on the brain and learning demonstrates that expertise cannot be developed merely through exposure to information. Students must connect the information to their prior knowledge to internalize and deepen their understanding. Teachers can connect academic learning with real-life experiences. Service learning, project-based learning, school-based enterprises, and student leadership courses are some examples of how schools are trying to make the curriculum relevant. The key to making the curriculum relevant is asking the students to help connect the academics to their lives; this approach gets students actively engaged in their learning, which builds a stronger connection and commitment to school. Bell (2010) suggests that strategies such as project-based approaches to learning can help ensure that content and skills are taught together and connected to prior knowledge, which helps students understand how to develop and apply new skills in various contexts.

Connections to the Home Environment

Cochran-Smith (2004) emphasizes family histories, traditions, and stories as an important part of education. Often, children enter school and find themselves in a place that does not recognize or value the knowledge or experience they bring from their homes or communities. This situation can create a feeling of disconnect for students—a dissonance obliging them to live in and navigate between two different worlds, each preventing them from full participation or success in the other. Districts and schools can alleviate this dissonance by valuing and taking advantage of the unique experiences that each student brings to the classroom. Emphasizing connections to parents and community, recognizing and utilizing student strengths and experiences, and incorporating varied opportunities within the curriculum can help alleviate this dissonance.

Ferguson (2001) points out that it is particularly important to establish connections that not only bring the parents into the school environment but also encourage school understanding and participation within the community. Social distinctions often grow out of differences in attitudes, values, behaviors, and family and community practices (Ferguson, 2001). Students need to feel their unique knowledge and experience is valued by the school, and parents and community members need to feel they are respected and welcome within the school.

Although much attention has been paid to No Child Left Behind (NCLB) requirements for annual achievement tests and high-quality teachers, the law also includes important requirements for schools, districts, and states to organize programs of parental involvement and to communicate with parents and the public about student achievement and the quality of schools. Epstein (2005) offers perspectives on the NCLB requirements for family involvement; provides a few examples from the field; suggests modifications that are needed in the law; and encourages sociologists of education to take new directions in research on school, family, and community partnerships.

Probing Questions

- What are some ways that you currently use students' background knowledge to inform instruction?
- Does your experience teaching boys to read and write concur with the research? What ideas do you have to address the achievement gaps related to gender?
- What are ways you can uncover, acknowledge, and use students' backgrounds and strengths to enhance learning?
- What are some strategies for valuing and taking advantage of the unique experiences that each student brings to the classroom?

Resources

A good resource still valid today is *Making Assessment Work for Everyone: How to Build on Student Strengths*. See the SEDL website to download this resource: http://www.sedl.org/pubs/tl05/.

A short, easy-to-digest article from Carnegie Mellon University is titled *Theory and Research-Based Principles of Learning*. The article and full bibliography are at http://www.cmu.edu/teaching/principles/learning.html.

References

Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. *The Clearing House*, 83(2), 39–43. Retrieved June 3, 2011, from http://teacherscollegesj.org/resources/publications/PBL%20for%20the%2021%20Century.pdf

Blum, D. (1997). *Sex on the brain: The biological differences between men and women*. New York: Viking.

Bransford, J. D., Brown, A. L. & Cocking, R. R. (Eds.). (2000). How people learn: *Brain, mind, experience, and school* (Expanded ed.). Washington, DC: National Academy Press.

Cochran-Smith, M. (2004). Walking the road: *Race, diversity, and social justice in teacher education*. New York: Teachers College Press.

Epstein, J. (2005). Attainable goals? The spirit and letter of the No Child Left Behind Act on parental involvement. *Sociology of Education*, 78(2), 179–182.

Ferguson, A. A. (2001). *Bad boys: Public schools in the making of black masculinity*. Ann Arbor: University of Michigan Press.

Jensen, E. P. (2008). A fresh look at brain-based education. *Phi Delta Kappan*, 89(6), 408–417.

Sadik, A. (2008). Digital storytelling: A meaningful technology-integrated approach for engaged student learning. *Educational Technology Research and Development*, 56(4), 487–506.

Sax, L. (2005). *Why gender matters: What parents and teachers need to know about the emerging science of sex differences*. New York: Doubleday.

Sax, L. (2007). *Boys adrift: The five factors driving the growing epidemic of unmotivated boys and underachieving young men*. New York: Basic Books.

Sternberg, R. J. (1988). *The triarchic mind: A new theory of human intelligence*. New York: Viking.

Sternberg, R. J. (2000). Wisdom as a form of giftedness. *Gifted Child Quarterly*, 44(4), 252–259.

Sternberg, R. J., & Grigorenko, E. L. (2000). *Teaching for successful intelligence*. Arlington Heights, IL: Skylight Training.

Sternberg, R. J., Grigorenko, E. L., Jarvin, L., Clinkenbeard, P., Ferrari, M., & Torff, B. (2000, Spring). The effectiveness of triarchic teaching and assessment. *NRC/GT Newsletter,* 3–8. Retrieved June, 3, 2011, from http://www.gifted.uconn.edu/nrcgt/newsletter/spring00/spring00.pdf

Sternberg, R. J., & O'Hara, L. A. (2000). Intelligence and creativity. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 611–628). New York: Cambridge University Press.

Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.