

Crossing the Borders of Disabilities: Providing Research-Based and Technology-Delivered Information and Materials for Educators of Students with Disabilities

A Paper Submitted to the XIV World Congress of Comparative Education Societies  
Istanbul, Turkey

Dr. Naomi Tyler and Dr. Pearl Sims  
Peabody College of Vanderbilt University

May 20, 2010

Crossing the Borders of Disabilities: Providing Research-Based and Technology-Delivered Information and Materials for Educators of Students with Disabilities

Dr. Naomi Tyler and Dr. Pearl Sims

### **Introduction**

The number of children with disabilities around the world has been estimated to be around 150 million and this number is growing rapidly due to increasing poverty, armed conflict, child labor, violence and HIV/AIDS (UNESCO, 2009). This situation is particularly bothersome given that the foundational principles of education as a human right have been laid for decades starting with the Universal Declaration of Human Rights in 1949. The Convention on the Right of the Child (UN, 1989), The Jomtien World Conference on Education for All (1990) and UNESCO's Salamanca World Conference on Special Needs Education (1994) passionately challenged nations to envision inclusive education as the cornerstone of human rights for all children, especially those with disabilities.

The Salamanca Statement and Framework for Action on Special Needs Education defined this human right as meaning, "the right for every child to attend schools that can accommodate all students regardless of their physical, intellectual, social, emotional, linguistic or other conditions. This includes children who have disabilities and who are gifted, street and working children, children from remote or nomadic populations, children from linguistic, ethnic or cultural minorities and children from other disadvantaged or marginalized areas or groups" (paragraph 3). In 2006, the UN adopted the International Convention on Rights of Disabled People that inspired many

governments and international development agencies to turn their attention to the goal of building more inclusive learning environments for children with disabilities.

Unfortunately, these efforts have been thwarted by a lack of “high quality, internationally comparable data on disability that is important for the planning, implementation, monitoring, and evaluation of inclusive policies.” (Mott, 2007) The lack of quality data results in an absence of any single correct definition of disability and limits a clear understanding of the nature and severity of disabilities across nations. Without quality data the path for creating more inclusive school environments can be wrought with difficulties.

However, the lack of quality data is only one barrier to standing in the way of successfully building more inclusive educational environments. Some of these barriers, first discussed at The Dakar World Education Forum (2000), include socio-economic factors which place learners at risk, attitudes toward students with disabilities, and inadequate and fragmented professional development for educators of students with disabilities. All nations, to some extent, share these barriers and The United States is no exception.

### **Special Education in the United States**

Only in the last thirty-five years or so have students with disabilities in the United States been included in public schools. In the early 1970s, the U.S. Congress studied the educational participation rates of students with disabilities and found shocking statistics: One million children with disabilities were excluded entirely from the public school system, even as more than four million additional children with disabilities were receiving inadequate services. Families were forced to use their own resources to find

external services and provide adequate support (Smith & Tyler, 2010). As a result, Public Law (PL) 94-142, the Education for All Handicapped Children Act (EHA), was passed in 1975, assuring students with disabilities a number of educational rights, including a free appropriate public education and an individualized educational program (IEP) with needed related services in the least restrictive environment.

Over the years, the services available to students with disabilities have increased and expanded, so that now these children receive their educations in their neighborhood schools, with far better outcomes than in the past. Many now finish high school with the skills necessary to obtain employment or to continue on in higher education. However, there is always room for improvement.

Apprehensions still exist about the quality of the education that these students receive, particularly in general education settings. In 2007, 57% of students with disabilities spent more than 80% of their school day in general education settings (U.S. Dept. of Education, 2008). Many view this positively, as evidence of high expectations that (hopefully) translate into positive learning outcomes. Current legislation such as the Individuals with Disabilities Education Improvement Act of 2004 (IDEA '04)—the most recent reauthorization of the EHA—and the No Child Left Behind Act have required more accountability for the education of students with disabilities through access to the general education curriculum and inclusion in district- and state-wide assessments. As such, general education teachers are increasingly expected to use evidence-based practices and programs, and they feel increased pressure to produce positive academic and behavioral gains among their students. Nevertheless, most general educators receive minimal training on working with students with disabilities. Consequently, and despite

decades of mainstreaming and inclusion, general education teachers' perceptions about working with children with disabilities have changed very little since the passage of PL 94-142. They often report feeling inadequately prepared to effectively teach students with disabilities (Futernick, 2007; Hammond & Ingalls, 2003) and they admit a lack of confidence in their abilities to provide a responsive education to all of their students (Burns & Ysseldyke, 2009; Cook, Tankersley, & Landrum, 2009; Foley & Ralabate, 2008). These concerns are especially prevalent among new teachers, more than half of whom report that the small amount of their college coursework that did address special needs students proved of little help when they were eventually confronted with actual classroom situations (National Comprehensive Center for Teacher Quality [NCCTQ], 2008).

Interestingly, concerns also exist about the quality of special education services. Educational research has identified effective behavioral and instructional interventions for use with students with disabilities (Lloyd, Forness, & Kavale, 1998; Forness, Freeman, & Paparella, 2006). Teacher training programs provide extensive coursework, practica, and student teaching opportunities that focus on effective practices for students with disabilities (Brownell et al., 2005). Yet evidence suggests that special education teachers may be skeptical of research-validated methods (Jones, 2009) and do not frequently employ evidence-based practices in the classroom (Boardman et al., 2005). A mismatch between research and practice in the classroom can negatively affect students' learning, a situation that is, unfortunately, exacerbated by a shortage of qualified personnel. The teacher attrition and turnover rates are higher for new special education teachers than for general education teachers (Boe et al., 2008), caused in part by the

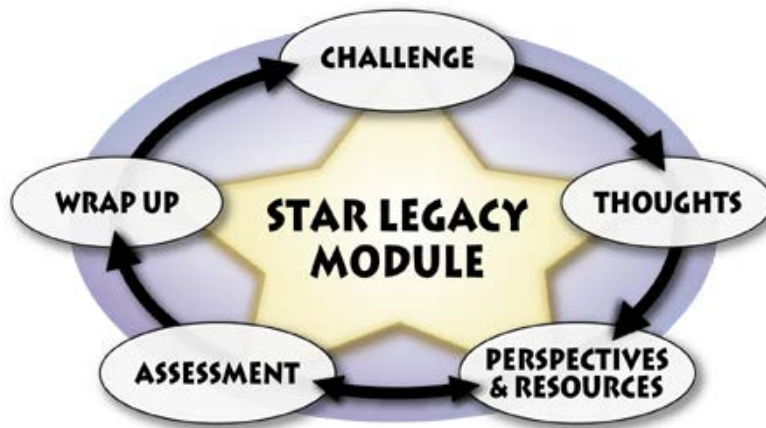
unique challenges faced by special education teachers (i.e., unsupportive work environments, increased paperwork) (Billingsley, 2004; Brownell et al., 2002; Zabel & Zabel, 2001). These high attrition rates, coupled with an inadequate supply of new teachers, have resulted in a chronic and long-term shortage of special education teachers (McLeskey, Tyler, & Flippin, 2004). Given these challenges, it is not surprising that recent evidence indicates that the receipt of special education services can have a negative or nonsignificant effect on student's academic and behavioral outcomes (Lane et al., 2005; Morgan et al., 2010).

### **The IRIS Center Modules**

At the most recent turn of the century, the U.S. government decided to create a large, national center to address concerns associated with the training of general education personnel. In 2001, the IRIS Center was awarded five years of funding to provide free, online resources about working with students with disabilities in inclusive settings. Initially, the Center's target audience was university faculty in the areas of general education, educational leadership, school counseling, and school nursing. The Center's mission was to create course enhancement materials for use in pre-service preparation programs to improve the knowledge and skills of future educators. Because the Center's resources were available at no cost via the Internet, others in the field soon discovered them: state and district personnel, school leaders, and special education personnel. In response to this expanded interest, the federal government awarded a second five-year cycle of funding in 2006, with an expanded workscope to include a) professional development providers who conduct inservice trainings to practitioners, and b) special education faculty in colleges and universities.

Although many resources are available on its Web site, the Center's signature product is its collection of *STAR Legacy* Modules, which are based on the highly respected work of the adult learning theorist John Bransford and his colleagues (Bransford, 2006; Bransford, Brown, & Cocking, 2008). Bransford's *How People Learn* (HPL) theory focuses on the development of learning environments that incorporate four overlapping "lenses" or perspectives: learner-centered, knowledge-centered, assessment-centered, and community-centered. Each of these lenses is incorporated into the *STAR* (**S**oftware **T**echnology for **A**ction and **R**election) *Legacy* cycle in the manner outlined below.

Figure 1. The IRIS *STAR Legacy Cycle*



*Challenge.* The cycle begins with a video that introduces a common dilemma or challenge faced by teachers or school leaders, an effective tool for initially engaging the user and creating interest in the topic (Barron et al., 1998; CTGV, 1997; Duffy & Cunningham, 1996; Kolodner, 1997; NRC, 2000; Reiser et al., 2001; Williams, 1992).

The *Challenge* is learner-centered, in that it encourages users to explore their own thoughts, perceptions, and prior knowledge about the topic. The *Challenge* transcript from a module on teacher retention is shown in Figure 2.

Figure 2. Transcript from *Supporting Beginning Special Educators: Tips for School*

*Leaders* video

**Narrator:** Dr. Jeff Monroe has been the Director of Special Education in the Montgomery County School District for the past five years. He is committed to the development of strong programs for students with disabilities and realizes how critical it is to have high quality teachers. It's been challenging, but Dr. Monroe is proud of the 50 teachers he has recruited into their district. As he looks through his records, however, he realizes that only 28 of those 50 are still teaching. Twenty-two have either left teaching or transferred to general education positions. He recalls several of the exit interviews that he conducted last year. The first was Anna, who started fresh from college three years ago at Heights Middle School.

**Flashback to Anna:** “I spent so much time just figuring out what I was supposed to be doing. There never was enough time for planning, with all the paperwork I was required to do for each student. My caseload kept increasing, and so many of the students were in general ed. classes. The general ed. teachers complained that I wasn't helping out in their classes enough. It was a scheduling and paperwork nightmare. I'd work 'til 9:00 most nights and still not feel good about how I was meeting each student's special needs. And it seems like the only times the principal even spoke with me was when there was a problem.”

**Narrator:** Dr. Monroe realizes there were others with similar stories. He recalls Michael was also hired fresh out of college. He'd really wanted to make a difference with students with emotional and behavioral disorders.

**Flashback to Michael:** “I couldn't believe how tough things were. Last year, that class went through five...*five*...different teachers! The kids had developed a kind of Teacher Turnover Game, you know, "How long will this guy last?" They'd actually make bets on how fast they could scare new teachers away! There were so many things I didn't know, with nobody to turn to for help. I just felt so...isolated.”



**Narrator:** As Dr. Monroe prepares this year's orientation, he thinks about the district's new hires. Christine is an idealistic first-time teacher who just graduated with honors in special ed. from a local college. She'll teach students with autism. Kevin was hired because there weren't any applicants qualified to work with students with emotional disorders. Kevin is certified as a PE teacher and is committed to children, but he's only completed two special ed. courses. As Dr. Monroe reviews the names of other new hires, he realizes the wide range of backgrounds that these beginning special educators bring to their positions.

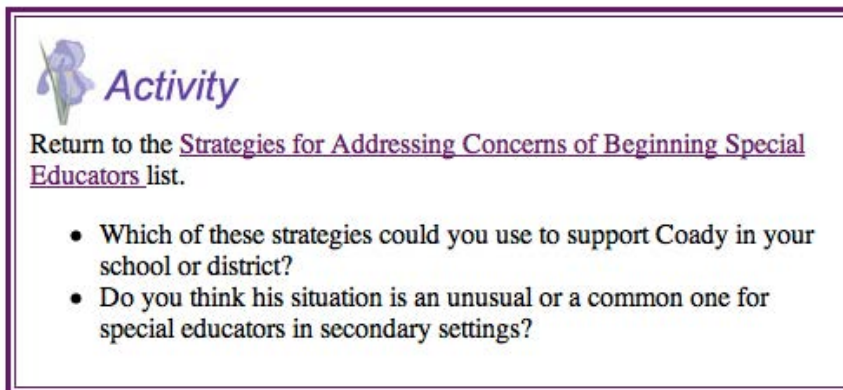
*Initial Thoughts.* Each *Challenge* video ends with a set of questions intended to elicit a user's initial thoughts on a topic—a learner-centered activity. As users brainstorm possible ideas or solutions to the *Challenge*, they tap their existing fund of knowledge about the topic. Concurrently, their perceptions—or misperceptions—are exposed. Whereas learning can be enhanced when it is based upon prior knowledge, it can be hindered when a user has incorrect information or misperceptions about the topic. The *Initial Thoughts* process not only helps learners begin to address the *Challenge* situation but it also allows faculty or professional development personnel to adjust their instruction based on the learners' needs. Community-centered learning occurs when module learners work together to address the *Initial Thoughts* questions. The *Initial Thoughts* questions for the *Challenge* scenario described above are:


- Anna and Michael—the two teachers who left—both described feeling overwhelmed in their new positions. Are their feelings typical of those experienced by other beginning special education teachers? Why or why not?
- What were some of the problems that Anna and Michael experienced that might be unique to special education positions?

- What could administrators like Dr. Monroe be doing to support new hires like Christine, Kevin, and other beginning special educators during their early years?

*Perspectives and Resources.* Sometimes referred to as the “meat” of the module, this section contains the information necessary to solve the *Challenge* dilemma (knowledge-centered). Information is presented in a variety of formats (e.g., text, audio, video, interactive activities) to engage the learner and maintain his or her interest. Learning occurs by accessing small “nuggets” of information through carefully sequenced and scaffolded layouts; these informational nuggets quickly accumulate into a wealth of information. Learners can work through these resources independently (learner-centered) or with others (community-centered). Opportunities are also available to practice newly acquired skills and receive feedback (assessment-centered). Figure 3 shows an activity in the module that requires school leaders to apply newly-acquired information about beginning teacher support to a novel situation.

Figure 3. Sample module activity

A rectangular box with a purple border containing an activity prompt. It features a small purple flower icon to the left of the word "Activity" in a purple serif font. Below this, the text "Return to the [Strategies for Addressing Concerns of Beginning Special Educators](#) list." is written in a purple serif font. At the bottom, there are two bullet points in a black sans-serif font.

 **Activity**

Return to the [Strategies for Addressing Concerns of Beginning Special Educators](#) list.

- Which of these strategies could you use to support Coady in your school or district?
- Do you think his situation is an unusual or a common one for special educators in secondary settings?

*Assessment.* This portion of the cycle contains questions to assess whether a learner has achieved the objectives of the module and acquired the necessary information and skills (assessment-centered). Module users can move back and forth between the *Perspective and Resources* and *Assessment* sections if necessary, allowing them to access information that they are unsure of or to verify their answers.

*Wrap Up.* This final component of the cycle contains a summary of the module's main points. After it, learners have the opportunity to revisit their responses to the *Initial Thoughts* questions, to determine whether they still agree with those responses, and to make necessary changes based on their newly acquired knowledge. Learning theorists believe that this comparison of their *Initial Thoughts* and their final thoughts on the topic solidifies the learning process. The greater the disparity between these two sets of answers, the greater the learning that has occurred (learner- and knowledge-centered).

IRIS modules are developed in collaboration with nationally-recognized experts, often the same researchers whose studies validated an instructional or behavioral practice. The modules go through an extensive review process and are field-tested by faculty in college courses and by professional development providers during inservice trainings with school personnel. Feedback from the review and field-testing is incorporated to improve the modules.

### Resources for School Leaders

The IRIS Center has designed seven modules designed specifically for school leaders to help them improve educational and behavioral outcomes for *all* students, including struggling learners and those with disabilities. Three modules focus on school principal, Yolanda Flores, who is concerned about the standardized test scores of the students with disabilities in her school and wonders how she can improve their academic achievement.

- *Accountability: High-stakes Testing for Students with Disabilities* (<http://iris.peabody.vanderbilt.edu/hst/challenge.htm>) presents information on legal requirements and accommodations for testing students with disabilities, in addition to highlighting considerations for interpreting performance data for this population.
- *Effective School Practices: Promoting Collaboration and Monitoring Students' Academic Achievement* (<http://iris.peabody.vanderbilt.edu/esp/chalcycle.htm>) focuses on the entire school population and highlights partnerships between general education and special education faculty that result in the creation of a 'collective responsibility' and shared high expectations for all students.
- *Accessing the General Education Curriculum: Inclusion Considerations for Students with Disabilities* (<http://iris.peabody.vanderbilt.edu/agc/chalcycle.htm>) highlights classroom considerations that promote access to the general education curriculum for students with disabilities.

As mentioned earlier, special education teacher attrition is a serious problem (Billingsley, 2004). Fortunately, there are specific actions that school leaders can take to

improve the working conditions for these teachers and improve retention rates. The two modules that address these issues are:

- *Supporting Beginning Special Educators: Tips for School Leaders* (<http://iris.peabody.vanderbilt.edu/beginteach/chalcycle.htm>) emphasizes the importance of administrative support for beginning special education teachers and demonstrates how teacher support can increase the teacher's effectiveness in the classroom.
- *Addressing the Revolving Door: How to Retain Your Special Education Teachers* (<http://iris.peabody.vanderbilt.edu/retention/chalcycle.htm>) highlights the key elements for school administrators who seek to support special educators and increase teacher retention.

Two other modules provide information on specialized topics:

- *RTI: Considerations for School Leaders* ([http://iris.peabody.vanderbilt.edu/rti\\_leaders/chalcycle.htm](http://iris.peabody.vanderbilt.edu/rti_leaders/chalcycle.htm)) provides information about ways to build support for RTI, factors that should be addressed when implementing RTI, and methods of collecting data and evaluating the effectiveness of the RTI approach. It also provides information on a five-stage change cycle that can be used when implementing any new practice or program in a school.
- *Fidelity of Implementation: Selecting and Implementing Evidence-Based Practices and Programs* (<http://iris.peabody.vanderbilt.edu/fid/chalcycle.htm>) discusses the importance of selecting evidence-based practices and programs. It

also examines actions that school personnel can take to increase the likelihood that the practice or program is implemented as it was designed.

### **Conclusion**

Educating university faculty and professional development providers about the most current research findings and the best evidence-based practices available for teaching students with disabilities is urgently needed if our educational spaces are to be more inclusive of all children. The IRIS Center seeks to model how technology can be used to make opportunities and resources available for all educators to develop the knowledge, pedagogy, and values that will ensure *every* child has access to education. The Center offers one example of how teachers and school leaders can learn to understand and embrace inclusivity as a tool for improving skills and as an instrument for transcending the borders that often keep children with disabilities from claiming their rights to education.

## References

- Barron, B. J., Schwartz, D. L., Vye, N. J., Moore, A., Petrosino, A., Zech, L., Bransford, J. D., & CTGV. (1998). Doing with understanding: Lessons from research on problem solving and project based learning. *Journal of Learning Sciences* (3&4), 271–312.
- Billingsley, B., (2004). Special education teacher retention and attrition: A critical analysis of the research literature. *The Journal of Special Education*, 38(1), 39-55.
- Boardman, A.G., Arguelles, M.E., Vaughn, S., Hughes, M.T., & Klingner, J. (2005). Special education teachers' views of research-based practices. *Journal of Special Education*, 39, 168-180.
- Boe, E.E., Cook, L.H., & Sunderland, R.J. (2008). Teacher turnover: Examining exit attrition, teaching area transfer, and school migration. *Exceptional Children*, 75(1), 7-31.
- Bransford, J.D. (2006, April). *Software Environments that Support New Designs for Collaborative Learning and Assessment*. Paper presented at the meeting of the American Educational Research Association, San Francisco, CA.
- Bransford, J., Brown, A.L., & Cocking, R.R. (Eds). (2008). *How people learn: Brain, mind, experience and schools*. Washington, DC: National Academy Press.
- Brownell, M., Ross, D.D., Colon, E.P., & McCallum, C. (2005). Critical features of special education teacher education: A comparison with general teacher education. *Journal of Special Education*, 38(4), 242-252.

Brownell, M.T., Sindelar, P.T., Bishop, A.G., Langley, L.K., & Seo, S. (2002). Special education teacher supply and teacher quality: The problems, the solutions. *Focus on Exceptional Children, 35*(2), 1-15.

Burns, M.K., & Ysseldyke, J.E. (2009). Reported prevalence of evidence-based instructional practices in special education. *The Journal of Special Education, 43*(1), 3-11.

Cognition and Technology Group at Vanderbilt (CTGV). (1997). *The Jasper Project: Lessons in curriculum, instruction, assessment, and professional development*. Mahwah, NJ: Lawrence Erlbaum Associates.

Cook, B. G., Cameron, D. L., & Tankersley M. (2007). Inclusive teachers' attitudinal ratings of their students with disabilities. *The Journal of Special Education, 40*, 230-238.

Duffy, T. J., & Cunningham, D. (1996). Constructivism: Implications for the design and delivery of instruction. In D. H. Jonassen (Ed.), *Handbook of Research for Educational Communications and Technology* (pp. 170–198). New York: Macmillan.

Education for All Handicapped Children Act (EHA) PL 94-142

Foley, B. & Ralabate, P. (2004). *IDEA and NCLB: The intersection of access and outcomes*. Retrieved May 15, 2009 from

<https://hems.nea.org/specialed/ideanclbintersection.html>

Futernick, K. (2007). *A possible dream: Retaining California teachers so all students learn*. Sacramento: CSU Center for Teacher Quality.

Individuals with Disabilities Education Improvement Act of 2004. PL 108-446.



Hammond, H., & Ingalls, L. (2003). Teachers' attitudes toward inclusion: Survey results from elementary school teachers in three southwestern rural school districts. *Rural Special Education Quarterly*, 22, 22-30.

Jones, M.L., (2009). A study of novice special educators' views of evidence-based practices. *Teacher Education and Special Education*, 32(2), 101-120.

Kolodner, J. L. (1997). Educational implications of analogy: A view from case-based reasoning. *American Psychologist*, 52(1), 57-66.

Mott, D. (2007). *Measuring Disability Prevalence*. Disability & Development Team of The World Bank, 18.

National Research Council (NRC). (2000). *How people learn: Brain, mind, experience, and school (Expanded Edition)*. Committee on Developments in the Science of Learning. J. D. Bransford, A. L. Brown, & R. R. Cocking (Eds.), with additional material from the Committee on Learning, Research and Educational Practice. Commission on Behavior and Social Sciences and Education. Washington, DC: National Academy Press. [Online]. Available from <http://www.nap.edu/html/howpeople1/>.

Lloyd, J.W., Forness, S.R., & Kavale, K.A. (1998). Some methods are more effective than others. *Intervention in School and Clinic*, 33(4), 195-200.

Forness, S.R., Freeman, S.F.N., & Paparella, T. (2006). Recent randomized clinical trials comparing behavioral interventions and psychopharmacologic treatments for students with EBD. *Behavioral Disorders*, 31, 285-296.

McLeskey, J., Tyler, N.C., & Flippin, S.S. (2004). The supply of and demand for special education teachers: A review of research regarding the chronic shortage of special education teachers. *Journal of Special Education, 38*, 5-21.

No Child Left Behind Act of 2001. PL 107-110.

Reiser, B. J., Tabak, I., Sandoval, W. A., Smith, B. K., Steinmuller, F., & Leone, A. J. (2001). BGuILE: Strategic and conceptual scaffolds for scientific inquiry in biology classrooms. In S. M. Carver & D. Klahr (Eds.), *Cognition and instruction: Twenty-five years of progress* (pp. 263–305). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Smith, D.D., & Tyler, N.C. (2010). An introduction to special education: Making a difference (7<sup>th</sup> edition). Pearson: Upper Saddle River, NJ.

U.S. Department of Education, Office of Special Education Programs. (2008, July). *Students served under IDEA Part B*. Retrieved from [www.ideadata.org](http://www.ideadata.org)

Williams, S. M. (1992). Putting case-based instruction into context: Examples from legal and medical education. *The Journal of the Learning Sciences, 2*(4), 367–427.

Zabel, R.H., & Zabel, M.K. (2001). Revisiting burnout among special education teachers: Do age, experience, and preparation still matter? *Teacher Education and Special Education, 24*(2), 128-139.