Evidence-Based Practices and Predictors in Secondary Transition: What We Know and What We Still Need to Know

Prepared by:
David W. Test, Catherine Fowler, and Paula Kohler
National Secondary Transition Technical Assistance Center
Originally Prepared: April, 2010
Revised: January, 2013

This document was produced under U.S. Department of Education, Office of Special Education Programs Grant No. H326J050004 and H326J110001. Marlene Simon-Burroughs served as the project officer. The views expressed herein do not necessarily represent the positions or polices of the Department of Education. No official endorsement by the U.S. Department of Education of any product, commodity, service or enterprise mentioned in this publication is intended or should be inferred. This product is public domain. Authorization to reproduce it in whole or in part is granted. While permission to reprint this publication is not necessary, the citation should be: National Secondary Transition Technical Assistance Center (2010). Evidence-Based Practices and Predictors in Secondary Transition: What We Know and What We Still Need to Know, Charlotte, NC, NSTTAC.

A special thank you to Sharon Richter, James White, Allison Walker, Valerie Mazzotti, April Mustian, Kelly Kelley, Dawn Rowe, La'Shawndra Scroggins, Jennifer Cease-Cook, Audrey Bartholomew, Ozalle Toms, and Shaqwana Freeman for their assistance in conducting the NSTTAC literature reviews.

Executive Summary

As a U.S. Department of Education, Office of Special Education Program federally-funded technical assistance and dissemination center, the National Secondary Transition Technical Assistance Center (NSTTAC; #H326J050004 and H326J110001) goals are to:

Assist states with collecting, reporting, and using Indicator 13[1] **data to improve transition services**

Percent of youth with IEPs aged 16 and above with an IEP that includes appropriate measurable postsecondary goals that are annually updated and based upon an age appropriate transition assessment, transition services, including courses of study, that will reasonably enable the student to meet those postsecondary goals, and annual IEP goals related to the student's transition services needs. There also must be evidence that the student was invited to the IEP Team meeting where transition services are to be discussed and evidence that, if appropriate, a representative of any participating agency was invited to the IEP Team meeting with the prior consent of the parent or student who has reached the age of majority. (20 U.S.C. 1416(a)(3)(B))

Conduct Knowledge Development Activities on policies and practices related to transition of students with disabilities to postsecondary education and the workforce and analyze Part B of State APRs to determine current status of appropriate postsecondary goals and implementation of transition services that support, or create barriers, to improved performance.

Provide Technical Assistance and Dissemination Activities by providing a continuum of technical assistance activities on developing appropriate postsecondary goals and implementing transition services to ensure students with disabilities are college and career-ready.

Provide Leadership and Coordination Activities to expand collaborative partnerships to business organizations to promote employment of individuals with disabilities and expand work-based learning experiences for students with disabilities.

As a result, one of the NSTTAC's tasks has been to identify the evidence-based practices for the field of secondary transition. To do this, NSTTAC conducted a two part review of literature. In Part I, evidence-based practices based on quality experimental (both group and single subject designs) studies were identified (Test, Fowler, Richter, White, Mazzotti, Walker, Kohler, & Kortering, 2009). However, while the evidence-based practices were designed to teach students specific transition-related skills, to date, the experimental literature has not attempted to measure the impact of these skills on post-school outcomes. As a result, in Part II, the review was expanded to include rigorous correlational research in secondary transition to identify evidence-based predictors that are correlated with improved post-school outcomes in education, employment, and/or independent living (Test, Mazzotti, Mustian, Fowler, Kortering, & Kohler, 2009).

What We Know

Evidence-Based Practices

Initially, Test, Fowler, et al. (2009) identified 32 evidence-based practices in secondary transition. Since then, NSTTAC has begun organizing identified evidence-based practices by the intervention implemented, rather than the skill taught. This restructuring, combined with annual updates to the literature review, has resulted in identifying 64 evidence-based practices to teach

26 different skills. The 64practices have been categorized using Kohler's Taxonomy for Transition Programming. Of the 64 practices, 6 are in the area of Student-Focused Planning, 57 are in Student Development, 1 in Family Involvement, and 3 in Program Structure. No evidence-based practices have been identified in the area of Interagency Collaboration. The following Table lists each of the practices.

Evidence-Based Practices	Skills Taught
Using Backward Chaining to teach:	Functional life skills
Using Check and Connect to teach:	Student participation in the IEP meeting (potential)
Using Community-Based Instruction to teach:	Banking Skills (potential) Grocery Shopping Skills (moderate) Integration Skills (moderate) Purchasing Skills (moderate) Safety Skills (moderate) Communication Skills (potential) Employment Skills (moderate) Community Integration (moderate)
Using Computer-Assisted Instruction to teach:	Food Preparation and Cooking Skills (moderate) Grocery Shopping Skills (moderate) Job Specific Skills (potential) Student Participation in the IEP Meeting (potential)
Using Constant Time Delay to teach:	Banking Skills (potential) Functional Life Skills (moderate) Leisure Skills (potential) Job Specific Skills (moderate) Food Preparation Skills (moderate)
Using Extension of Career Planning Services after Graduation to teach:	Increased Finance Skills
Using Forward Chaining to teach:	Functional Life Skills (moderate)
Using Least to Most Prompting to teach:	Food Preparation and Cooking (moderate) Communication Skills (potential) Functional Life Skills Grocery Shopping Skills (potential) Purchasing Skills (potential) Safety Skills Specific Job Skills (potential)
Using Mnemonics to teach:	Job Application Skills (potential) Academic Skills (strong)

Using Most to Least Prompting to teach:	Functional Life Skills (moderate)
Using the "One More Than" Strategy to teach:	Counting Money (potential) Purchasing Skills (moderate)
Using Peer-Assisted Instruction to teach:	Academic Skills (strong)
Using Progressive Time Delay to teach:	Purchasing Skills (potential) Safety Skills (potential) Functional Life Skills (moderate)
Using Published Curricula to teach:	Student Involvement in the IEP (strong)
Using Response Prompting to teach:	Preparation and Cooking Skills (moderate) Grocery Shopping Skills (moderate) Home Maintenance Skills (moderate) Laundry Tasks (moderate) Leisure Skills (moderate) Purchasing Skills (moderate) Social Skills (moderate) Employment Skills (moderate)
Using the Self-Advocacy Strategy to teach:	Student Participation in the IEP Meeting (moderate)
Using the Self-Determined Learning Model to teach:	Goal Attainment (moderate)
Using the Self-Directed IEP to teach:	Student Participation in the IEP Meeting (moderate)
Using Self-Management Instruction to teach:	Academic Skills (strong) Social Skills (moderate) Job Specific Skills (moderate)
Using Self-Monitoring Instruction to teach:	Functional Life Skills (potential)
Using Simulations to teach:	Banking Skills (potential) Purchasing Skills (moderate) Social Skills (moderate)
Using Simultaneous Prompting to teach:	Functional Life Skills
Using Technology to teach:	Academic Skills (strong)
Using Total Task Chaining to teach:	Functional Life Skills (moderate)
Using Training Modules to teach:	Parent Involvement in the Transition Process (moderate)
Using Video Modeling to teach:	Food Preparation and Cooking Skills (moderate) Home Maintenance Skills (moderate)
Using Visual Displays to teach:	Academic Skills (strong)

Using "Whose Future Is It Anyways" to teach:	Self-Determination Skills (moderate) Student Knowledge of Transition Planning (moderate)

Evidence-Based Predictors

Additionally, NSTTAC had initially identified 16 evidence-based predictors of post-school employment, education, and independent living success from the correlational research (Test, Mazzotti, et al.,2009). With additional correlational research being conducted, a 17th predictor has been identified (2013).
These predictors include:

Predictors/Outcomes	Education	Employment	Independent Living
Career Awareness	X	X	
Community Experiences		X	
Exit Exam Requirements/ High School Diploma Status		X	
Inclusion in General Education	X	X	X
Interagency Collaboration	X	X	
Occupational Courses	X	X	
Paid Employment/ Work Experience	X	X	X
Parent Expectations	X	X	
Parental Involvement		X	
Program of Study		X	
Self-Advocacy/ Self-Determination	X	X	
Self-Care/Independent Living	X	X	X
Social Skills	X	X	
Student Support	X	X	X
Transition Program	X	X	
Vocational Education	X	X	
Work Study		X	

Note: X= correlational evidence exists; empty boxes=no correlational research has been found.

What We Still Need to Know

Although these evidence-based practices and predictors have been identified based on high quality research, there continues to be a need for rigorous research to identify additional secondary transition evidence-based practices and predictors of improved post-school success.

For example:

1. There is a need for high quality group and/or single-subject experimental research that:

   Builds on NSTTAC's levels of evidence. Currently, only two evidence-based practices have a strong level of evidence (i.e., teaching life skills, teaching purchasing skills). High quality research is needed to move the remaining evidence-based practices from moderate or potential to strong.

   Focuses on the Taxonomy areas of Family Involvement, Program Structure, and Interagency Collaboration.

   Includes students representing all disability categories and various ethnicities. NSTTAC has included disability and ethnicity in reporting its findings when available in the studies reviewed.

   Collects longitudinal data on the effects of secondary transition practices on in-school and post-school outcomes.

   Investigates the effects of published secondary transition curricula on student in-school and post-school outcomes.

2. There is a need for high-quality multivariate correlational research that:

   Disaggregates data by disability category to identify predictors of post-school success for specific disability groups.

   Provides a more comprehensive understanding of in-school predictors of post-school success for students with disabilities.

   Can determine if predictor variables identified by NSTTAC hold up over multiple points in time.

   Uses National Longitudinal Transition Study-2 (NLTS2) data files as a resource.

[1] IDEA required that states have Part B State Performance Plans (SPPs) in place in December 2005, which evaluated their efforts to implement the requirements and purposes of IDEA Part B, and described how they would improve such implementation. States were also required to report in an Annual Performance Report (APR) to the public on the performance of each local educational agency located in the state on the targets in the state's SPP and to the Secretary on the performance of the state under the state's SPP. Indicator 13 is one of twenty Part B indicators for which states are required to collect data and set targets for improved performance with regard to SPPs and APRs. The following Web site provides more information on the SPP, APR and Part B indicators: http://www.ed.gov/policy/speced/guid/idea/bapr/index.html

References

Test, D. W., Fowler, C. H., Richter, S. M., Mazzotti, V., White, J., Walker, A. R., Kohler, P., & Kortering, L. (2009). Evidence-based practices in secondary transition. *Career Development for Exceptional Individuals*, *32*, 155-128. doi: 10.1177/0885728809336859

Test, D. W., Mazzotti, V. L., Mustian, A. L., Fowler, C. H., Kortering, L. J., & Kohler, P. H. (2009). Evidence-based secondary transition predictors for improving post-school outcomes for students with disabilities. *Career Development for Exceptional Individuals, 32*, 160-181. Doi: 10.1177/0885728809346960

A Final Note

Although the results have not been published yet, the *What Works Transition Research Synthesis Project* (Grant # H324W010005) was funded prior to 2005 by the Office of Special Education Programs (OSEP) to review and synthesize the past 20 years of research and advancements in the area of transition for youth with disabilities. The project office was located at the School of Education at Colorado State University.

Five syntheses were conducted that identified effective practices for increasing academic performance for secondary-level students with disabilities:

1. *The Effects of Visual Display Interventions on Academic Outcomes for Youth with Disabilities: A Systematic Review.* Jennifer R. Wolgemuth, Eric Trujillo, R. Brian Cobb, Colorado State University; Morgen Alwell, Appalachian State University
   The relationship between visual displays (the intervention) and academic performance (the outcome) for secondary aged youth with disabilities was explored in this systematic review. A total of seven studies intervening with 318 youth with learning disabilities, developmental disabilities, and hearing deficits were reviewed. The findings of this review support the efficacy of visual display interventions to improve reading comprehension, content learning, and problem solving for secondary youth with disabilities. A series of implications for practice are suggested as well as directions for the reader to locate more detailed descriptions of how these interventions might be implemented in secondary educational environments.

2. *The Effects of Mnemonic Interventions on Academic Outcomes for Youth with Disabilities:* A Systematic Review. Jennifer R. Wolgemuth and R. Brian Cobb, Colorado State University
   The relationship between mnemonic instruction and academic performance for secondary aged youth with disabilities was explored in this systematic review. A total of 19 studies intervening with 621 youth with learning disabilities, emotional and behavioral disorders, and mild developmental disabilities were reviewed. The findings of this review strongly support the efficacy of mnemonic interventions across study methods, educational settings, student ages, and disabilities in the improvement of academic performance, typically measured by recall of word meanings or factual information. However, the studies reviewed either lacked in participation diversity or failed to conduct subgroup analyses. It is unknown whether mnemonics instruction differentially affects female or ethnic students. A series of detailed implications for practice is discussed and the reader is referred to specific literature providing detailed descriptions of mnemonic interventions.

3. *The Effects of Technology-Based Interventions on Academic Outcomes for Youth with Disabilities.* James J. Dugan, R. Brian Cobb, Colorado State University; Morgen Alwell, Appalachian State University
   The relationship between technology-based interventions and academic performance for secondary aged youth with disabilities was explored in this systematic review. A total of 39 studies intervening with 1,491 youth with behavioral disorders, emotional disorders, learning disabilities, and moderate and severe disabilities were included. These studies matched the intervention, outcome, and sampling selection criteria for the review, and met minimally

acceptable standards of internal and external validity for research design and methodology. The findings of this review strongly support the efficacy of technology-based interventions across treatment types, educational settings, and disability categories in the improvement of academic achievement. Detailed implications for special education practice in secondary school environments are presented, rival explanations for the findings are examined, and future research topics are suggested.

4. *The Effects of Self-Management Interventions on Academic Outcomes for Youth with Disabilities.* Jennifer R. Wolgemuth, R. Brian Cobb, James J. Dugan, Colorado State University.
   The relationship between self-management (the intervention) and academic performance and classroom behavior (the outcomes) for secondary aged youth with disabilities was explored in this systematic review. A total of 17 studies intervening with 88 youth with behavioral disorders, attention deficit/hyperactivity disorders, learning disabilities, and developmental disabilities were reviewed. The findings of this review st4rongly support the efficacy of self-management interventions across educational environments, disability types, ages, and genders in the improvement of academic performance and correlates of academic achievement (classroom behavior). A series of more detailed implications for practice are suggested as well as directions to the reader to locate more detailed descriptions of how these interventions might be implemented in their secondary educational environments.

5. *Effects of Academic Peer Assistance Interventions on Academic Outcomes for Youth with Disabilities: A Systematic Review*. Marc A. Winokur, R. Brian Cobb, James J. Dugan, Colorado State University.
   The relationship between academic peer assistance (the intervention) and academic performance and classroom behavior (the outcomes) for secondary aged youth with disabilities was explored in this systematic review. A total of 14 studies intervening with 165 youth with behavioral disorders, emotional disorders, learning disabilities, and moderate and severe disabilities were included. These studies matched the intervention, outcome, and sampling selection criteria for the review, and met minimally acceptable standards of internal and external validity for research design and methodology. The findings of this review strongly support the efficacy of peer assistance interventions across treatment types, educational settings, and disability categories in the improvement of academic content achievement and social and behavioral outcomes. Detailed implications for special education practice in secondary school environments are presented, rival explanations for the findings are examined, and future research topics are suggested.

The completed syntheses are located at: http://www.nsttac.org/content/what-works-transition-research-synthesis

Next, in collaboration with the National Drop-out Prevention Center for Students with Disabilities, the *What Works in Transition Research Synthesis Project* conducted a meta-analysis of cognitive-behavioral interventions and programs interventions. The purpose of the study was to identify interventions that carried a sufficient level of scientific evidence so as to be considered effective under the What Works Clearinghouse's standards of evidence-based practices. This systematic review, entitled "The Effects of Cognitive Behavioral Interventions on

Dropout for Youth with Disabilities," summarized scientifically-based research studies produced in the past two decades from three distinct perspectives: (a) cognitive-behavioral interventions, (b) dropout or dropout-related outcomes, and (c) samples of secondary-aged youth with disabilities. It explored the relationship between cognitive-behavioral interventions/therapies and dropout outcomes and violent verbal or physical aggression for secondary-aged youth with disabilities. The synthesis on Cognitive Behavioral Interventions as a dropout prevention strategy for students with disabilities can be found at the website of the National Dropout Prevention Center for Students with Disabilities:http://www.ndpc-sd.org/knowledge/research_syntheses.php