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

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EXECUTIVE SUMMARY

As a U.S. Department of Education, Office of Special Education Program federally-funded technical assistance and dissemination center from 2006-2015, the National Secondary Transition Technical Assistance Center (NSTTAC; #H326J050004 and H326J110001) one of NSTTAC's tasks was 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 these 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).

Since 2015, The National Technical Assistance Center on Transition (NTACT), funded by the U.S. Department of Education, Office of Special Education and Rehabilitation Services Administration (#H326E140004), has expanded its literature review efforts for secondary students with disabilities to inform the fields of secondary education and vocational rehabilitation. The resulting lists of evidence-based, research-based, and promising practices will assist State Education Agencies, Local Education Agencies, State VR agencies, and VR service providers to implement these practices to ensure students with disabilities, including those with significant disabilities, graduate prepared for success after high school.

WHAT WE KNOW

Evidence-Based Practices

Initially, Test, Fowler, et al. (2009) identified 32 evidence-based practices in secondary transition. Since then NSTTAC, and now NTACT have annually updated the literature review and expanded it to include journals in the fields of special education, vocational rehabilitation, career and technical education, and school completion. In addition, practices and predictors of post-school success are now classified as having evidence-based, research-based, or promising levels of evidence, in the post-school outcomes areas of Education, Employment, and Independent Living. See Appendix A for a brief, general description of each level of evidence. A more detailed description of each level can be found at: http://www.transitionta.org/sites/default/files/EP_Criteria_2016.pdf. As a result, there are currently 11 evidence-based practices, 47 research-based practices, and 73 promising practices. While Table 1 lists each of the practices, a description of each practice and predictor can be found at http://transitionta.org/system/files/effectivepractices/EBPP_Matrix_Links_Updated_11-02-16.pdf?file=1&type=node&id=1093.

Table 1. List of Practices by Level of Evidence and Outcome Area

Level of Evidence	Relevant Outcome Area	Practice
Evidence-based Practices	**Education**	o **Student-focused Planning Practices** o Published curricula to teach student involvement in the IEP o **Student Development (Academic, Employment, and Life Skills) Practices** o Graphic Organizers to teach reading comprehension o Self-Determined Learning Model of Instruction (SDLMI) to teach goal attainment o Strategy Instruction to teach math o Strategy Instruction to teach reading comprehension o Time Delay to teach science skills
	Employment	o **Student-focused Planning Practices** ▪ Published curricula to teach student involvement in the IEP ▪ Self-Determined Learning Model of Instruction (SDLMI) to teach goal attainment
	Independent Living	o **Student-focused Planning Practices** ▪ Published curricula to teach student involvement in the IEP o **Student-Development Practices** ▪ Constant Time Delay to teach food preparation skills ▪ Response prompting to teach food preparation and cooking skills ▪ Response prompting to teach home maintenance skills ▪ Self-Determined Learning Model of Instruction (SDLMI) to teach goal attainment ▪ Simulations to teach purchasing skills ▪ System of least-to-most prompts to teach functional life skills
Research-based Practices	**Education**	o **School Completion Practices** ▪ *Accelerated Middle Schools* for staying and progressing in school ▪ Assign adult advocate for dropout prevention ▪ *Check and Connect* for staying and progressing in school ▪ *High School Redirection* for school completion ▪ Provide academic support and enrichment for dropout prevention o **Student-focused Planning Practices**

		▪ *Self-Advocacy Strategy* to teach student involvement in the IEP meeting ▪ *Self-Directed IEP* to teach student involvement in the IEP meeting o **Student Development (Academic, Employment, and Life Skills) Practices*** ▪ Anchored Instruction to teach math ▪ Corrective Reading to teach reading skills ▪ Graduated Sequence of Instruction to teach math ▪ Graphic Organizers to teach science ▪ Mnemonics to teach math ▪ Mnemonics to teach science content ▪ Peer Tutoring to teach reading ▪ Peer Tutoring to teach science ▪ Peer Tutoring to teach social studies content ▪ Schema-Based Instruction to teach math ▪ Self-Management Instruction to teach math ▪ Self-Monitoring to teach reading ▪ Structured Inquiry to teach science content ▪ *Whose Future Is It?* to teach self-determination skills
	Employment	▪ **Student-Focused Planning Practices** ▪ *Self-Advocacy Strategy* to teach student involvement in the IEP meeting ▪ *Self-Directed IEP* to teach student involvement in the IEP meeting ▪ **Student Development Practices** ▪ Response prompting to teach employment skills ▪ Self-management instruction to teach specific job skills ▪ Simulation to teach social skills ▪ *Whose Future Is It?* to teach self-determination skills ▪ **Vocational Rehabilitation Collaborative Practices** ▪ Counseling and the working alliance between the counselor and the consumer ▪ Interagency collaboration ▪ **Vocational Rehabilitation Employment Practices** ▪ Supported employment ▪ **Vocational Rehabilitation Professional Training Practices** ▪ Impact of counselor education and consumer outcomes ▪ **Vocational Rehabilitation Service Delivery Practices**

		▪ Services to a target group
	Independent Living	▪ **Student-Focused Planning Practices** ▪ *Self-Advocacy Strategy* to teach student involvement in the IEP meeting ▪ *Self-Directed IEP* to teach student involvement in the IEP meeting ▪ **Student Development Practices** ▪ Community based instruction to teach purchasing skills ▪ Community based instruction to teach safety skills ▪ Computer-assisted instruction to teach food preparation and cooking skills ▪ Computer-assisted instruction to teach grocery shopping skills ▪ Constant time delay to teach functional skills ▪ One-more-than strategy to teach purchasing skills ▪ Progressive time delay to teach functional life skills ▪ Response prompting to teach grocery shopping skills ▪ Response prompting to teach laundry tasks ▪ Response prompting to teach purchasing skills ▪ Response prompting to teach social skills ▪ Simulations to teach social skills ▪ Simultaneous prompting to teach functional life skills ▪ System of least-to-most prompts to teach food preparation and cooking skills ▪ System of least-to-most prompts to teach purchasing skills ▪ System of least-to-most prompts to teach functional life skills ▪ Total task chaining to teach functional life skills ▪ Video modeling to teach food preparation skills ▪ Video modeling to teach home maintenance skills ▪ *Whose Future Is It?* to teach self-determination skills
Promising Practices	**Education**	o **School Completion Practices** ▪ Career Academies for school completion ▪ *Job Corps for school completion* ▪ *JOBSTART for school completion* ▪ Social and Behavior Intervention Programs for dropout prevention ▪ Talent Search for school completion ▪ *Twelve Together for staying in school* o **Student-Focused Planning Practices**

		▪ *Check and Connect* to promote student participation in the IEP meeting ▪ Computer-assisted instruction to teach participation in the IEP process ▪ *Whose Future is it?* to teach student knowledge of transition planning o **Student Development Practices** ▪ Computerized Concept Mapping to teach social studies content ▪ Cover, Copy, Compare to teach math ▪ Graphic Organizers to teach math ▪ Mnemonics to teach social studies content ▪ Morphological Instruction to teach reading ▪ Peer-Assisted Instruction to teach math ▪ Simultaneous Prompting to teach math ▪ Supplemental Materials to teach social studies content ▪ Technology to teach reading comprehension ▪ TouchMath © to teach math
	Employment	o **Student-Focused Planning Practices** ▪ *Check and Connect* to promote student participation in the IEP meeting ▪ Computer-assisted instruction to teach participation in the IEP process ▪ *Whose Future is it?* to teach student knowledge of transition planning o **Student Development Practices** ▪ Community based instruction to teach employment skills ▪ Computer-assisted instruction to teach specific job skills ▪ Constant time delay to teach specific job skills ▪ Extended career planning services to teach finance skills ▪ Mnemonics to teach completing a job application ▪ System of least-to-most prompts to teach communication skills ▪ System of least-to-most prompts to teach job specific skills o **Vocational Rehabilitation Organizational Practices** ▪ Data driven ▪ Employer relations ▪ Excellent Service, Every Consumer, Every Time (E-3) ▪ "Incubator units" ▪ Organizational skills enhancement ▪ Rapid response and internal service specialized coordinators, counselors, and caseloads

		▪ Share point ▪ Strong business model o **Vocational Rehabilitation Service Delivery Practices** ▪ Acquired Brain Injury (ABI) Program ▪ Career exploration services ▪ Choose to Work (CTW) ▪ Community Rehabilitation Program (CRP) Certification ▪ DARSforce ▪ Embedded Training Programs (ETP) ▪ Essential elements of service delivery ▪ Individual Placement and Support (IPS) ▪ Maryland Seamless Transition Collaborative (MSTC) ▪ Soft skills training ▪ Utah Defendant Offender Workforce Development Taskforce (UDOWD) ▪ Valforce ▪ Work incentive planning and benefits counseling o **Vocational Rehabilitation Environmental and Cultural Factors** ▪ Organizational culture ▪ Increasing visibility and communication/constituent relations ▪ Agency leadership ▪ Partnerships ▪ Rehabilitation counselor and unit autonomy ▪ Resources ▪ Return on investment ▪ Service integration and business model ▪ Staff training and development ▪ Support for innovative and promising practices ▪ Working alliance and client-centered services o **Other Vocational Rehabilitation Promising Practices** ▪ Empowerment and customer self-concept
	Independent Living	o **Student-Focused Planning Practices** ▪ *Check and Connect* to promote student participation in the IEP meeting ▪ Computer-assisted instruction to teach participation in the IEP process

		▪ *Whose Future is it?* to teach student knowledge of transition planning o **Student Development Practices** ▪ Backward chaining to teach functional life skills ▪ Community based instruction to teach banking skills ▪ Community based instruction to teach communication skills ▪ Community based instruction to teach community integration skills ▪ Community based instruction to teach grocery shopping skills ▪ Constant time delay to teach banking skills ▪ Constant time delay to teach recreation and leisure skills ▪ Extended career planning services to teach finance skills ▪ Forward chaining to teach functional life skills ▪ One-more-than strategy to teach counting money ▪ Progressive time delay to teach purchasing skills ▪ Progressive time delay to teach safety skills ▪ Response prompting to teach leisure skills ▪ Self-management to teach social skills ▪ Self-monitoring to teach functional life skills ▪ Simulations to teach banking skills ▪ System of least-to-most prompts to teach communication skills ▪ System of least-to-most prompts to teach grocery shopping ▪ System of least-to-most prompts to teach safety skills

Evidence-Based Predictors

Initially, NSTTAC identified 16 evidence-based predictors of post-school employment, education, and independent living success from the correlational research (Test, Mazzotti, et al., 2009). Since then, two additional studies have been published about the predictors. First, Rowe, Alverson, Unruh, Fowler, Kellems, and Test (2013) conducted a Delphi study designed to develop operational definitions and program characteristics for each predictor of post-school success identified by NSTTAC. These can be found in the *Predictor Implementation School/District Self-Assessment* located at: http://www.transitionta.org/sites/default/files/Predictor_Self-Assessment2.0.pdf. Next, Mazzotti et al., (2015) identified four new predictors (i.e., parent expectations, youth autonomy/decision-making, goal setting, travel skills) bringing the total number of predictors to 20. See Table 2 for a list of predictors.

Table 2. List of Predictors by Outcome Area

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

Predictors/Outcomes	Education	Employment	Independent Living
• Career Awareness	X	X	
• Community Experiences		X	
• Exit Exam Requirements/High School		X	
• Goal-Setting	X	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	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	
• Travel Skills		X	
• Vocation Education	X	X	
• Work Study		X	
• Youth Autonomy/Decision-Making	X	X	

WHAT WE STILL NEED TO KNOW

Although these evidence-based, research-based, and promising practices and predictors have been identified based on high quality research, a need for rigorous research to identify additional secondary transition evidence-based practices and predictors of improved post-school success still exists. For example:

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

   - builds on NTACT's levels of evidence. Currently, only 11 of the 131 practices meet the criteria to be evidence-based. High quality research is needed to move the remaining practices to the evidence-based practice level, as well as identify practices to teach many other transition skills.
   - includes students representing all disability categories and various ethnicities. NTACT has reported disability and ethnicity in 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.

- disaggregates results for students with disabilities if conducted with "all" students.

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.
   - determines if predictor variables identified by NTACT hold up over multiple points in time.
   - uses Propensity Score Modeling.

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Appendix A. Descriptors of Levels of Evidence

Level of Evidence

Evidence-based Practices
• Based on group experimental, single-case, and correlational research which:
  o used rigorous research designs
  o demonstrated a strong record of success for improving outcomes
  o have undergone a systematic review process
  o adhered to quality indicators related to specific research design

Research-based Practices
• Based on group experimental, single-case, and correlational research which:
  o used rigorous research designs
  o demonstrated a sufficient record of success for improving outcomes
  o may or may not have undergone a systematic review process
  o may or may not adhere to quality indicators related to specific research design

Promising Practices
• Based on group experimental, single-case, correlational, or qualitative research:
  o demonstrate limited success for improving outcomes
  o may or may not have undergone a systematic review process
  o may or may not adhere to quality indicators related to specific research design

Unestablished Practices • Based on anecdotal evidence or professional judgment • Could include evidence from rigorous research studies which demonstrate *negative* effects