

PIPEline to Career Success for Students with Disabilities

A Collaborative Implementation of Research-Based Strategies through Career Pathways

I. Executive Summary

Students with disabilities (SWD) are more likely than their peers without disabilities to experience significant barriers to postsecondary education and training, as well as competitive employment. In addition, SWD tend to have less access to rigorous academic programming, as well as career and technical education (CTE) pathway opportunities in middle and high school. Further, these students tend to experience higher dropout rates and lower graduation rates, significantly minimizing their options for successful long-range careers. The impacts of these disparities are far-reaching: many SWD are left economically dependent on others and unable to fully participate as contributing members of the communities in which they live.

A collaboration of Delaware state agencies and national organizations that serve SWD will modify a proven change process to increase positive educational and employment outcomes for SWD to address these disparities. The National Alliance for Partnerships in Equity's (NAPE) Program Improvement Process for Equity™ (PIPE) has been successfully implemented with school districts across the country to close gender gaps in CTE career pathways leading to nontraditional career fields. PIPE engages teams of educators, community members, and other stakeholders to: use data to conduct a performance and participation gap analysis; learn about the research literature on root causes for these gaps; conduct action research to identify the root causes in play at their institution; select and implement an aligned intervention that directly addresses the identified root causes; and evaluate their success.

This iterative process will be applied to the context of SWD to increase the enrollment, matriculation, graduation, and transition to postsecondary education and competitive employment of SWD through CTE career pathways. Initially, a team of subject matter experts and instructional designers will modify the PIPE curriculum and tools and create new tools in the context of SWDs. A pilot will be conducted in Delaware schools to implement the PIPEline to Career Success for Students with Disabilities (PIPEline) project, to determine its efficacy, and to inform modifications or refinements before scaling to national, state, and local stakeholders.

II. Background of Sponsoring Organizations

Delaware Department of Education, CTE and STEM Workgroup

The Delaware Department of Education (DDOE) has shaped extensive school reform, including the alignment of academic and technical skills within a comprehensive model of career and technical education. This model reflects the needs of the state and regional economies and creates a systemic process for career preparation. The DDOE CTE and STEM Initiatives workgroup is responsible for supporting Delaware's career pathways system which includes secondary and postsecondary programs as well as registered apprenticeship. Delaware's career pathway system reflects demand-driven occupations and includes opportunities for students to participate in work-based learning and attain early college credit and industry recognized credentials.

Delaware Department of Education, Exceptional Children Workgroup

The DDOE Exceptional Children Resources workgroup group provides leadership to ensure that Delaware delivers an equitable and effective system of education for young children and youth with disabilities. The group ensures that the interests of young children and youth with disabilities are represented in all aspects of Delaware's education reform. The group also supports the state's reading and language arts initiatives from pre-school through high school. The Exceptional Children Resources workgroup supports districts and charter schools to design special education and related services to meet each student's unique needs as they prepare for further education, employment, and independent living.

Delaware Department of Labor, Division of Vocational Rehabilitation

The Delaware Department of Labor (DDOL) Division of Vocational Rehabilitation (DVR) has more than 75 years of experience with helping individuals with disabilities prepare for, obtain, and maintain employment. DVR provides individualized services to employers and people with disabilities and develops career pathways that link qualified employees to jobs resulting in greater independence and a more inclusive workplace. A core tenant of the DVR service model is helping youth with disabilities to prepare for life beyond high school. DVR provides a variety of services to students in middle and high school including career exploration, work-based learning, planning for postsecondary education and training, pursuit of employment, and independence.

Delaware Health and Social Services, Division of Developmental Disabilities Services

The Delaware Health and Social Services (DHSS) Division of Developmental Disabilities (DDDS) supports 4,000 Delawareans with intellectual and developmental disabilities to live active and productive lives. Services and supports are offered according to individual need: 25% receive services in residentially supported settings and the remaining 75% are supported in their own home. DDDS applies a person-centered planning approach to help individuals explore and assert their own individuality with the belief that people with disabilities and the community benefit when they are collectively engaged. The DDDS recognizes the potential of school-aged youth and applies resources to support their transition into adulthood.

Delaware Health and Social Services, Division for the Visually Impaired

The DHSS Division for the Visually Impaired (DVI) advances education, business and community outreach, training, work experience, and technology to strengthen the capacity of the agency, consumers, and the community. DVI works to ensure that Delawareans who are blind or visually impaired become and remain employed, independent, and self-sufficient. DVI provides education services through direct and consultative special education supports relating to vision loss reaching all school districts and educational settings. Teachers deliver itinerant services to 262 students, who may have only a visual impairment or additional disabilities, and range in age from birth through 21 for which the cognitive levels of students served range from severely impaired to gifted and talented.

National Technical Assistance Center on Transition

The National Technical Assistance Center on Transition (NTACT) is a Technical Assistance and Dissemination project funded by the U.S. Department of Education's Office of Special Education Programs and the Rehabilitation Services Administration. NTACT's purpose is to assist state education

agencies, local education agencies, state vocational rehabilitation (VR) agencies, and VR service providers to identify, implement, and evaluate evidence-based and promising practices to ensure students with disabilities graduate prepared for success in postsecondary education and employment.

National Alliance for Partnerships in Equity

The National Alliance for Partnerships in Equity (NAPE) implements four lines of business: professional development; technical assistance; research and evaluation; and public policy. NAPE's mission is to build educators' capacity to implement effective solutions for increasing student access, educational equity, and workforce diversity. NAPE's equity programs include the Program Improvement Process for Equity™ (PIPE) and Micromessaging to Reach and Teach Every Student™ (Micromessaging). PIPE works with school-based teams including administrators, teachers, counselors and staff to change institutional culture. Micromessaging works with teachers and faculty to change the culture of the classroom. In 2016, over 7,000 educators participated in these programs impacting 900 schools in 41 states.

Tilson & Diaz Solutions, Inc.

Tilson & Diaz Solutions, Inc. (TDS) collaborates across diverse stakeholder groups to conduct professional development, policy analysis, strategic planning, and program evaluation related to career and workforce development. The organization's founder, George Tilson, Ed.D. served for 24 years as senior vice president of TransCen, Inc., where he was a member of the Marriott Foundation team that conceptualized and implemented *Bridges from School to Work*, subsequently becoming the national director. He has co-developed and directed over 14 innovative demonstration and research projects, including a collaboration with MDRC and the Mathematica on the Youth Transition Demonstration project, funded by the U.S. Social Security Administration. He is co-author of the popular book *Working Relationships* and contributing author to *The Way to Work*.

III. Statement of Need

With the right support, the path to a meaningful career is accessible for all youth. However, youth with disabilities are more likely to experience significant obstacles to postsecondary education and training and employment than their non-disabled peers (Carter, Austin, & Trainor, 2011; Gonzalez, Rosenthal, & Kim, 2011; Horvath-Rose, Stapleton, & O'Day, 2004; Honeycutt, Thompkins, Bardos, & Stern, 2015; Newman, Wagner, Knoke, Marder, Nagle, Shaver, & Schwarting, 2011; Rangarajan, Fraker, Honeycutt, Mamun, Martinez, O'Day, & Wittenburg, 2009; Simonsen & Neubert, 2013; and Tilson & Hathaway, 2010). Without resources and the appropriate interventions and services, youth with disabilities are at risk of being left out of the promise of meaningful adult engagement (Tilson, 2015).

Various sources document the continuing discrepancy of employment outcomes for individuals with and without disabilities. An analysis of the American Community Survey found that between 2011 and 2016 75.4% of individuals without disabilities were employed compared to 34.6% of individuals with disabilities, nationally. In Delaware, these employment rates are 76.1% and 35.6%, respectively. The U.S. Department of Labor (USDOL; 2017) found that compared to 65.3% of individuals without disabilities, only 17.9% of individuals with disabilities were employed. The U.S. Department of Education (USDOE; 2010) found that the employment rate among youth with disabilities aged 17 to 21 was 57% compared to 66% for their peers without disabilities. Statistical analysis further verifies a marked difference in the employment prospects of youth with disabilities. In a study of a subset of 2,900 young

adults with disabilities from the 11,000 youth in the National Longitudinal Transition Study (NLTS-2) database, employment rates were reported as ranging from 40-60% (Sima, Wehman, Chan, West, & Luecking, 2015).

Related to career preparation, youth with disabilities are less likely than their peers to receive an academically rigorous curriculum in high school (Brown & Conley, 2007; Gregg, 2007). Among students with disabilities, the course failure and drop-out rates are nearly double the rates for students in the general education population (USDOE, 2012). This is especially troubling given recent evidence that students with disabilities are more likely to pursue two- (2) and four- (4) year postsecondary degrees if they receive instruction in general education classrooms in core subjects (Lombardi, Doren, Gau, & Lindstrom, 2013). In a national survey conducted by the Institute for Community Inclusion, findings indicated that only 50% of youth with disabilities attend four-year colleges or universities, 40% attend two-year colleges, and 10% attend trade/technical schools (National Council on Disability, 2012). Morningstar, et al (2017) point out that for these reasons it is especially important to define “college and career ready” for students with disabilities to ensure expectations are parallel to their peers without disabilities.

Recent results from the 2015 National Assessment of Educational Progress indicated in 12th grade math, only 9% of students with disabilities were proficient, while an additional 25% were at the basic level, and in 12th grade reading, 9% were proficient and 37% were at the basic level. As a result, it is not surprising that the national graduation rate for students with disabilities is only 63%, while it is about 83% for students without disabilities (IES NCES, 2017). In fact, recent data from the USDOE’s summaries of Indicators B-1 (graduation rates) and B-2 (drop-out rates) reported in 2016 (for FFY 2014), reported state graduation rates for students with disabilities ranging from approximately 25% to 85% (M=62.1%) and dropout rates from 0.5% to 22.7% (M=4.6%). Given these data, it is not surprising post-school outcome data for students with disabilities continue to remain low at 77.5% (USDOE, 2016) and indicate gaps between students with and without disabilities in postsecondary education and employment (Newman et al., 2011).

Through research it has been estimated that 85% of students with disabilities are able to master general education content if they receive adequate supports, including accommodations, modifications, and counseling (Mader, 2017). More importantly, when given demanding curricula and instruction, youth with disabilities tend to have fewer absences and have better postsecondary outcomes (Eisenman, Pleet, Wandry, & McGinley, 2011; Morningstar, et al, 2017). Further, studies show that course equity helps to develop positive relationships with diverse peers through participation in an inclusive classroom. (Pleet-Odle, 2016; Salend & Duhaney, 1999). These advantages carry over into the arena of CTE pathways:

“We find consistent evidence that students with disabilities who are enrolled in a concentration of CTE courses have fewer absences (by about 0.25 days), are more likely to graduate on-time (by about 4 percentage points), and are more likely to be employed after their expected graduation date (by about 3 percentage points) than students who are similar in other observable ways but who are not enrolled in a concentration of CTE courses.” (Theobald, et al, 2017, p. 31).

In 2017, a focus group of Delaware CTE teachers identified a number of factors impacting the matriculation into and successful completion of CTE career pathways of students with disabilities. Barriers to CTE enrollment and completion include: students lacking the fundamental academic skills to handle rigorous curricula; limited supports to students and teachers; too few authentic work-based learning experiences tied to classroom instruction; and systems/policy constraints. These barriers notwithstanding, respondents expressed enthusiasm for serving students with disabilities and identified numerous solutions including specific areas in which they felt training and coaching would better enable them to meet the unique needs of these diverse learners including strategies establishing Universal Design for Learning curricula and providing appropriate/effective accommodations and modifications for instruction and classroom management.

Further, CTE teachers surfaced collaboration with special educators as a key facet of their success in serving all youth. According to Test, Mazzotti, Mustian, Fowler, Kortering, & Kohler (2009), effective collaborating partners must gather and share new research, bridge gaps in implementation and understanding, and prioritize the needs of these students. Best practices and resources for collaboration and student development support self-determination, career exploration, culture, and course offerings of high school that lead to postsecondary education and training as well as employment. Unfortunately, many CTE teachers reported they either do not have co-teacher or paraprofessional partners, or in cases where they do, partner roles and responsibilities are often not clearly defined, partners are ill-prepared or ill-suited to work together, and there is a lack of coordinated planning.

The DDOE Exceptional Children's Resource workgroup envisions school to adult life transition within a career development framework. The Transition Career Development Framework (See Appendix I) depicts the many educational components related to career development critical to all students, beginning in early childhood and progressing through high school. These include: awareness of self; skill development; career exploration and assessment; career preparation; work habits and values; employability skills; and community-based career exploration. The Framework also depicts the transition service components that are mandated by federal and state law to ensure students with disabilities have access to the full range of options available to their non-disabled peers. The integration of rigorous academic and technical instruction, development of critical social and employability skills, provision of real world application of skills through authentic work-based learning experiences, and connections with critical supporting partners are all reflected in the Framework. This Framework will serve as the cornerstone for comprehensive planning with district-based teams as they progress through the PIPE professional development and technical assistance model.

Transition from high school to successful postsecondary outcomes for students with disabilities depends on a combination of rigorous academic instruction, technical skill-building, authentic work-based experiences, and career counseling (Solberg, Howard, Gresham, & Carter, 2012; Wagner, Newman, & Javitz, 2016). The national literature clearly points to key learning challenges faced by these students as well as the instructional challenges experienced by the educators charged with delivering these services. Therefore, a coordinated effort is called for to systematically identify obstacles (at individual, school, and district-levels), apply evidence-based best practices, and conduct thorough evaluations of process and student impact.

IV. Project Description

The PIPEline project will increase the successful enrollment, matriculation, graduation, and transition to postsecondary education and employment of students with disabilities through CTE. The Program Improvement Process for Equity™ (PIPE), a proven year-long professional development and technical assistance program model, will be applied to achieve these goals through district-based teams and statewide cross-team collaboration. Teams formed locally will include all partners involved in providing education and support services to students with disabilities. The essence of the PIPE intervention is the implementation of five integrated modules, operationalized for delivery in school settings (see Figure 1). These modules challenge and address the culture, climate, policies, and practices that hinder and fail to support students with disabilities.

Figure 1



Target Population. The PIPEline project aims to reach all students receiving special education services through Individual Education Programs (IEPs) or 504 plans under the Rehabilitation Act of 1973. This is a highly diverse group, the majority of which is comprised of students who have the goal of earning the Delaware high school diploma; however, this group also includes those students with significant disabilities who participate in the Delaware System of Student Assessment-Alternate assessments and receive the State of Delaware Diploma of Alternate Achievement Standards. The proposed model builds in the flexibility and scope of activities needed to effectively impact this extremely diverse group.

Curriculum Modification and Tool Development

In addition to its signature capacity-building and program improvement PIPE process, NAPE has developed a number of key tools used for instructional and curriculum modification and assessment, as well as professional learning. These tools have been designed and implemented widely throughout the nation for the purpose of increasing the success rate of females and males in non-traditional occupations. Therefore, one of the critical project activities will involve adapting these materials and strategies for increasing the success rate of diverse students with disabilities in CTE career pathways to include related work-based learning opportunities in authentic settings and dual-enrollment and post-secondary credit accrual, culminating in industry-recognized certifications and meaningful employment outcomes.

At the heart of the PIPE model and all related materials is the root cause analysis of the barriers faced by the target audience, as well as best practices for intervention as documented via up-to-date reviews of the literature. NAPE's literature review will be expanded to include the impact on academic and technical education, as well as, societal issues facing youth with disabilities. In addition to pinpointing the barriers and challenges, the literature review will identify evidence-based practices that address these challenges and show positive impact. Each district-based team will also contribute to this knowledge of strong practices. Under the facilitation of project staff and subject matter experts, district and statewide cross-team member input will be crucial to the process of making curriculum and tool modifications.

PIPE Pilot Implementation.

Five modules represent the essential components of the PIPE approach. As districts implement these modules, significant increases in enrollment, matriculation, graduation and transition will occur for students with disabilities. Further, educator practice and perception will increase through changes in institutional policies, teaching strategies, programs, and pedagogy influencing student self-efficacy and attitudes toward academic and career skill development.

Module 1: ORGANIZE – A diverse district-based team is established and complemented with support from various state agencies that provide services to students with disabilities. District and cross-team members attend professional learning focused on orientation to PIPE, collection of baseline data, and identification of additional team members that need to be recruited to ensure successful implementation. Team members include administrators, middle and high school teachers, transition coordinators, school and vocational rehabilitation counselors, staff from other partnering organizations who provide services to students with and without disabilities, and students with and without disabilities.

Module 2: EXPLORE – District-based teams analyze national, state, and school level student participation and performance data. Teams use summary statistics, graphic data charts, and data dashboards to document performance gaps of students with disabilities, identify improvement priorities, and share with statewide cross-team members.

Module 3: DISCOVER – District-based teams determine the most important and direct cause(s) of demographic participation and performance gaps. Team members identify and evaluate potential causes to select a critical root cause(s) as the focus of improvement efforts. The cornerstone resource for this module is a distillation of research literature on the barriers that students with disability face and the effective strategies that have been successful in removing these barriers. Team members collaborate to develop and implement the action research, share their current knowledge of the research literature, and analyze the results of the action research to identify the most salient root causes.

Module 4: SELECT – District-based teams align strategies with identified performance gaps and potential solutions. Teams review and evaluate the underlying logic of these solutions and the empirical evidence of their effectiveness in achieving performance results. The literature review is used to align root causes with strategies and to identify a solution with the greatest potential to eliminate the barriers for students with disabilities.

Module 5: ACT – District-based teams implement strategies and identify methods to evaluate solutions. Teams incorporate the evaluation tools into the implementation–evaluation cycle. Teams build an evaluation logic model that identifies objectives and outcomes (short-medium-long-term) and how they will measure those outcomes. As solutions are implemented, evaluation data is collected, analyzed, used to improve implementation quality and outcomes, and shared for cross-team collaboration.

The five modules are implemented over a school year. This includes four days of professional learning and monthly technical assistance meetings between project staff and district-based teams (see Figure 2, page 8).

These five modules follow a step-by-step approach to enhance implementation quality and also serve as the blueprint for implementation fidelity. In each school, the district-based team collaborates with project staff to ensure the PIPE intervention is implemented as intended. The professional learning framework that is used for PIPE implementation also increases the likelihood for strong implementation.

Evidence of widespread use. Major components of PIPE have achieved widespread use. Between 2007 and 2018, PIPE was implemented in 43 states and 9,700 individuals have participated in professional learning. NAPE has conducted over

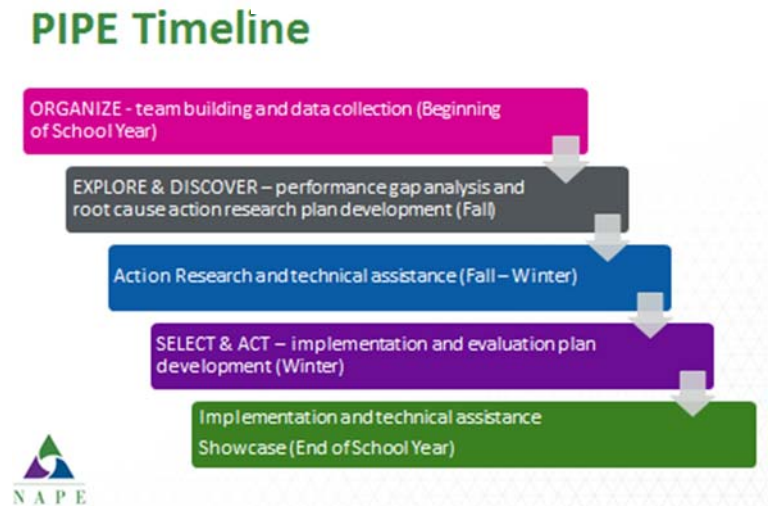
74 webinars with over 3,857 attendees focused on equity in CTE and STEM topic for secondary and postsecondary educators. The listserv has over 14,000 members who receive a monthly e-newsletter on current events and resources on equity in CTE and STEM. In FY 18 alone, 1,207 educators from 27 states have participated in PIPE training and PIPE initiatives have been implemented in over 96 schools.

Evidence of PIPE impact. Empirical evidence supports the correlation between PIPE implementation and increases in enrollment and completion of advanced courses in high school settings. An example of the promise of PIPE to address root causes of gender inequalities occurred in a school district of five high schools with 11,121 students (59% students of color and 48% students living in poverty). Enrollment data in three science-based advanced placement and four engineering courses were analyzed prior to and following PIPE implementation. In six of seven courses, the increase in the percentage of female students was substantial, ranging from 47% to 105%. In another high school, PIPE was applied to the context of increasing female enrollment in welding. After implementing strategies aligned with the identified root causes the enrollment grew from four to thirty-six females. The same level of female enrollment has been maintained for the past three years. Implementation of the PIPE model in the context of addressing barriers to success for students with disabilities will support the increase of students with disabilities enrolling, matriculating, graduating, and making the transition through CTE career pathways to postsecondary education, training, and employment.

V. Project Goal and Impact

The overarching goal of the PIPEline project is to increase the enrollment, matriculation, graduation, and transition to postsecondary education and competitive employment of SWD through CTE career pathways. In support of this goal, local educators and partners will build capacity to implement effective recruitment, instructional, and support strategies to foster CTE career pathway completion of students with disabilities through NAPE’s Program Improvement Process for Equity (PIPE).

Figure 2



The intended long-term impact is that students with disabilities who have exited schools as CTE career pathway completers will secure employment in meaningful career fields that reflect the training and support received through the PIPEline project.

VI. Leadership and Management

The following individuals and their respective organizations are committed to collaborate in implementing this project. The leadership team will provide the implementation support, define tangible deliverables, review progress, and evaluate the work plan.

Name	Title, Organization
Luke Rhine	Director, Career and Technical Education and STEM Delaware Department of Education
Project Role: Project Lead: spearhead project fundraising; ensure project team in place, with designated coordinator(s); promote the project, advise team, review project data, identify resources; provide policy and programmatic expertise; present project findings to state and national audiences.	
Mary Ann Mieczkowski	Director, Exceptional Children Resources Delaware Department of Education
Project Role: Project Lead: spearhead project fundraising; ensure project team in place, with designated coordinator(s); promote the project, advise team, review project data, identify resources; provide policy and programmatic expertise; present project findings to state and national audiences.	
Dale Matusevich	Education Associate, Exceptional Children Resources/Secondary and Transition programs, Delaware Department of Education
Project Role: Project Co-Coordinator: ensure fidelity of model is maintained; participate in selected site meetings and co-facilitate leadership meetings; review all data and reports and present findings to designated audiences; provide special education policy guidance; provide input into modification of the PIPE model for students with disabilities and targeted outcomes; collaborate with the external evaluator.	
Lisa Stoner-Torbert	Policy Advisor, Career and Technical Education and STEM Delaware Department of Education
Project Role: Project Co-Coordinator: ensure fidelity of model is maintained; participate in selected site meetings and co-facilitate leadership meetings; review all data and reports and present findings to designated audiences; provide CTE policy guidance; provide input into modification of the PIPE model for students with disabilities and targeted outcomes; collaborate with the external evaluator.	
George Tilson	President, Tilson and Diaz Solutions
Project Role: Project Co-coordinator: ensure fidelity of model is maintained; co-conduct root cause analyses; provide input into modification of the PIPE model for students with disabilities and targeted outcomes; participate in selected site meetings and co-facilitate leadership meetings; prepare selected reports; review all data and present findings to designated audiences; conduct professional learning activities; collaborate with the external evaluator.	
Jocelyn Langrehr	Deputy Director, Division of Vocational Rehabilitation Delaware Department of Labor

Name	Title, Organization
Project Role: Policy Advisor: ensure project leadership is well-informed of state and federal mandates vis a vis DVR, DOL, and workforce development; provide input into modification of the PIPE model for students with disabilities and targeted outcomes.	
TBA	Transition Specialist, Division of Vocational Rehabilitation Delaware Department of Labor
Project Role: Field Liaison/Content Expert: ensure DVR transition team is in place as part of district-based teams, including transition counselors and Pre-Employment Career Counselors; provide oversight and advise teams to ensure active participation by all members; identify potential resources within DVR and in the community; provide input into model implementation; promote the project; review all data and reports; assist with project evaluation and present findings to designated audiences.	
Sandra Miller	Deputy Director, Division for the Visually Impaired Delaware Health and Social Services
Project Role: Policy Advisor: ensure project leadership is well-informed of state and federal mandates vis a vis DVI and DHSS; identify potential resources within DVI and in the community; provide input into PIPE model modifications and implementation; assist with project evaluation and present findings to designated audiences.	
Deb Bradl	Senior Social Services Director, Division for the Visually Impaired Delaware Health and Social Services
Project Role: Field Liaison/Content Expert: ensure DVI/VR involvement in all meetings to provide input and feedback; ensure language and access to courses is in accessible format for the visually impaired/blind students; keep project leadership informed of WIOA requirements; ensure that DVI/VR transition counselors are active and informed members of the site teams in the schools; review all data to inform upper management at DVI/DHSS; identify resources.	
Marissa Catalon	Title, Division of Developmental Disabilities Services Delaware Health and Social Services
Project Role: Field Liaison/Content Expert: ensure DDDS involvement in all meetings to provide input and feedback; ensure language and access to courses is in accessible format for students with intellectual disabilities; keep project leadership informed of WIOA and other DDDS programs requirements; ensure that DDDS community and employment navigators are active and informed members of the site teams in the schools; review all data to inform upper management at DDDS/DHSS; identify resources.	
Mimi Lufkin	Chief Executive Officer, National Alliance for Partnerships in Equity
Project Role: Project Lead Advisor: ensure leadership team members and field stakeholders fully understand all components of the model; co-conduct root cause analyses; advise on course correction; review all data and present findings to designated audiences; conduct professional learning activities; disseminate findings through NAPE network, with eye towards replication and securing ongoing funding; coordinate the activities of the external evaluator.	

Name	Title, Organization
Paula Kohler	External Evaluator, National Technical Assistance Center on Transition
<p>Project Role: Project Advisor: provide national perspective and content knowledge of innovative, scalable approaches, and models to bridge education and work and increase economic mobility for students with disabilities; conduct formative and summative project evaluation; assess activities, outputs, and intended outcomes; provide feedback for continuous improvement.</p>	

VII. Project Timeline

Timeline	2017		2018				2019				2020		2021		2022
Activity	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1 Q2	Q3 Q4	Q1 Q2	Q3 Q4	Q1 Q2
Convene Leadership Team	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Convene Project Team	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Develop proposal	X	X	X	X											
Identify and get commitment from additional collaborators		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Curriculum Modification and Tool Development															
Modify PIPE curriculum to SWD context				X	X										
Develop root causes/strategies literature review				X	X										
Create action research toolkit				X	X										
Establish data routine				X	X										
Pilot Implementation															
Recruit three pilot schools				X	X										
Recruit additional schools								X					X		
Finalize site MOU				X	X			X			X		X		
Conduct Organize training					X				X			X		X	
Conduct Explore/Discover training						X				X		X		X	
Conduct technical assistance meetings with site teams						X	X	X	X	X	X	X	X	X	X

Timeline	2017		2018				2019				2020		2021		2022
Activity	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1 Q2	Q3 Q4	Q1 Q2	Q3 Q4	Q1 Q2
Conduct Select/Act training							X				X		X		X
Conduct Showcase								X			X		X		X
Evaluation/Sustainability/Scale															
Collect evaluation data					X	X	X	X	X	X	X	X	X	X	X
Implement sustainability and scaling plan									X	X	X	X	X	X	X
Complete annual report										X	X		X		X

VIII. Project Evaluation

The PIPEline logic model guides both formative and summative evaluation of this project. The evaluation will determine if the intended activities and outputs have led to the intended outcomes. Formative evaluation activities will assess implementation and completion of proposed activities and deliverables. These efforts will ensure the leadership team is making appropriate progress on the implementation timeline and production of deliverables, while guiding the team to make any course corrections or adjustments needed to ensure success. Summative evaluation activities will determine if project activities and outputs result in the desired effects and will also identify any unintended outcomes, both positive and negative. Evaluations will be conducted by an external evaluator to ensure there is no evaluation bias.

PIPE Logic Model as Applied to Students with Disabilities

The overall goal is to increase the enrollment, matriculation, graduation, and transition to postsecondary education and competitive employment of students with disabilities through CTE career pathways. In support of this goal, local educators and partners will build capacity to implement effective recruitment, instructional, and support strategies to foster CTE pathway completion of students with disabilities through NAPE's Program Improvement Process for Equity.

Project Objectives:

Increase the number of students with disabilities who:

1. Enroll in CTE career pathways;
2. Participate in related work-based learning experiences in authentic employment settings;
3. Earn college and career credentials in CTE career pathways;
4. Graduate from high school as a CTE career pathway completer and/or for students who receive a Diploma of Alternate Achievement Standards, documentation of employer-vetted career competencies;

5. Continue their education and training beyond high school; and
6. Enter in-demand employment.

Project Inputs:

1. Experts with knowledge of research-based approaches to increase SWD enrollment, participation and success in CTE;
2. Skilled transition practitioners and researchers;
3. PIPE professional development providers with expertise in working with SWD;
4. Collaborating agencies and organizations that serve SWD;
5. Business and industry partners;
6. Current literature review that reflects unique needs and opportunities for SWD;
7. PIPE curriculum modified for SWD context;
8. Data from all participating state and district partners; and
9. Funding for the initiative.

Project Activities:

1. Identify local sites motivated and able to provide requested data and commitment of a complete district-based team, based on objective selection criteria;
2. Gather baseline data relevant to measuring intended outcomes;
3. Deliver PIPE training;
4. Lead development of local implementation plans linked to measurable outcomes;
5. Provide technical assistance and support for local site implementation and statewide cross-team collaboration;
6. Assist in data collection and analysis regarding implementation progress and student outcomes; and
7. Disseminate project findings.

Project Outputs:

1. PIPEline implementation in local education agencies (LEAs);
2. District and statewide cross-team establishment;
3. PIPEline professional development materials specific to recruiting, enrolling, and supporting SWD in CTE career pathways;
4. PIPEline professional development events specific to recruiting, enrolling, and supporting SWD in CTE career pathways;
5. LEA root-cause analysis findings;
6. LEA PIPEline implementation plans;
7. Effective strategies implemented to close participation, achievement, and employment gaps of SWD;
8. SWD referrals to DVR, the DDDS, and DVI;
9. Data collection, analyses, and reports relevant to formative and summative evaluations; and
10. Dissemination materials that provide evidence through a rigorous data set to encourage other national, state, and local stakeholders to replicate the model.

Intended Project Outcomes:

1. Increase CTE educators' knowledge of the root cause research-based literature on SWD;

2. Increase CTE educators' knowledge of strategies to recruit, enroll, and support SWD in CTE career pathways;
3. Increase the number of CTE educators who collaborate with special educators through transition planning and development of transition IEPs;
4. Increase the number of SWD with IEPs that reflect high quality, meaningful content as well as approved course accommodations and modifications;
5. Increase the number of SWD referred to and receiving support services from DVR, the DDDS, and DVI;
6. Increase the number of SWD who access early college and career opportunities through CTE career pathways (e.g., dual enrollment or other advanced college coursework, coordinated on-the-job training);
7. Increase the number of SWD who earn an industry recognized certificate, license, credential, and/or for students with significant disabilities, documentation of employer-vetted competencies;
8. Increase the number of SWD who transition to post-secondary education; and
9. Increase the number of SWD entering meaningful employment in chosen career fields that meet employer demands.

Project Impact:

The intended long-term impact is that students with disabilities who have exited schools as CTE career pathway completers will secure employment in meaningful career fields that reflect the training and support received through the PIPEline project.

IX. Evaluation Design

The evaluation plan is designed to answer evaluation questions aligned with the PIPEline logic model:

1. Are activities regarding knowledge development, technical assistance, and PIPEline implementation progressing as proposed?
2. Are the project outputs developed as proposed?
3. Has the PIPEline project resulted in the anticipated outcomes?

Incorporated into the evaluation design are elements adopted by NTACT based on Thomas R. Guskey's (2000) model for collecting and analyzing qualitative and quantitative evaluation data to assess impact at six levels: Level 1-participants' reactions; Level 2-participants' learning; Level 3-organization support and change; Level 4-implementation of new knowledge and skills; Level 5-student learning outcomes; and Level 6-use of evaluation findings for program and project improvement. This model includes the evaluation of specific elements identified in research as essential for learning, application of learning, and organizational support for program improvements.

Evaluation of project activities, outputs, and outcomes at critical Levels 1-6 illustrates a commitment to a cycle of continuous improvement, as well as the recognition that effectiveness of the PIPEline model must be assessed across multiple levels. Upon review of evaluation findings, the leadership team will extend or modify project activities as a means of accountability to all stakeholders.

Evaluation Timeline

Timeline	2017		2018				2019				2020		2021		2022
Evaluation Activity	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1 Q2	Q3 Q4	Q1 Q2	Q3 Q4	Q1 Q2
Collect statewide baseline data on SWD outcomes	X	X	X	X	X										
Collect local baseline data on SWD outcomes					X				X			X		X	
Implement PIPE pre survey to participants					X				X			X		X	
Implement Module evaluation surveys						X	X	X		X	X	X	X	X	X
Implement PIPE post-survey to participants								X			X		X		X
Collect and analyze completed PIPE Implementation plans and Showcase results from site teams								X			X		X		X
Collect and analyze SWD outcome data									X	X		X		X	
Collect implementation satisfaction data from pilot site participants						X		X			X	X	X	X	X
Collect implementation satisfaction data from Leadership Team						X			X			X		X	
Complete annual project evaluation report				X				X			X		X		X

Timeline	2017		2018				2019				2020		2021		2022
Evaluation Activity	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1 Q2	Q3 Q4	Q1 Q2	Q3 Q4	Q1 Q2
Collect sustainability and capacity building survey data from pilot site participants											X		X		X
Complete final evaluation report															X

X. Sustainability Plan

This initiative represents a statewide collaboration between the Delaware Department of Education; the Delaware Department of Labor; the Delaware Department of Health and Social Services; the National Technical Assistance Center on Transition, the National Alliance for Partnerships in Equity; and Tilson & Diaz Solutions. National, state, and non-profit partners who serve students with disabilities will be encouraged to participate in the development and investment of this initiative. District-based teams will engage partners across various industry sectors, community-based organization, and state agencies to align support services for youth with disabilities. The depth and breadth of this collective impact initiative will create a culture of commitment that will support a sustainable investment.

Delaware was cited as an emerging national and international leader in CTE and preparing young people for life after high school in a 2017 case study entitled, “Propelling College and Career Success: The Role of Strategic Partnerships in Scaling Delaware Pathways” released by Jobs for the Future (JFF) and in a 2017 book entitled, “Learning for Careers” published by the Harvard Education Publishing Group. The Delaware Pathways initiative represents a unique collaboration of state agencies, school districts, businesses, higher education, community-based organizations, and national advisory groups that have partnered to create a connected service model for youth and adults, with a specific focus on serving students with disabilities and at-risk youth.

Delaware Pathways has created a statewide career pathway system which spans secondary and postsecondary education, aligns with employer needs, and provides high-quality education, training, and support services for youth and adults. Students who complete a career pathway attain a secondary school diploma or its equivalent, earn an industry-recognized credential, certificate or license that holds value in the labor market, and have the opportunity to complete an Associate or Bachelor’s degree program. School systems that implement career pathways are supported with both federal (Perkins) and state CTE funds. Career pathways are aligned with Delaware’s school accountability model through the Every Student Succeeds Act (ESSA), as well as the Individuals with Disabilities Education Act (IDEA) to ensure special education and related services to students with disabilities are supported. In addition, the Workforce Innovation and Opportunity Act (WIOA) also supports students with disabilities as job seekers to access employment, education, training, and support services. All funding sources can be leveraged to

engage school systems in future development and implementation of the PIPEline model to better serve students with disabilities through a robust career pathways system.

The DDOE's Exceptional Children's Resources was one of a select group of states receiving five years of intensive consultation from the National Technical Assistance Center on Transition (NTACT). In addition, the DDDS receives support from the Centers for Medicaid and Medicare Services to implement its one-of-a-kind "Pathways to Employment" initiative. Further, Delaware has garnered national attention for its unique MOU between DDDS and the DDOE, as well as the braiding of funding to support the statewide Early Start to Supported Employment project. The DVR has been recognized by the *Council of State Administrators of Vocational Rehabilitation* for its creative approach to providing Pre-Employment Transition Services (PRE-ETS) through the WIOA and the DVR works in tandem with DDOE to operate Project SEARCH with three major Delaware employers.

Delaware is well-positioned to leverage past successes and expand services to more effectively serve all youth. The sponsoring organizations have received national recognition for their individual and collective work in building an equitable services model to achieve meaningful outcomes for youth. All organizations have demonstrated responsible funding practices, with third-party evaluations demonstrating the effectiveness of both practice and cost efficiency. Federal and state budget allocations continue to support a comprehensive system of career pathways that link education and workforce development efforts for all students. And the Delaware Pathways team has demonstrated capacity to braid both private and public resources as evidenced by raising more than \$6 million of direct private capital in addition to reallocating more than \$2 million in public money to support the Delaware Pathways initiative since 2016.

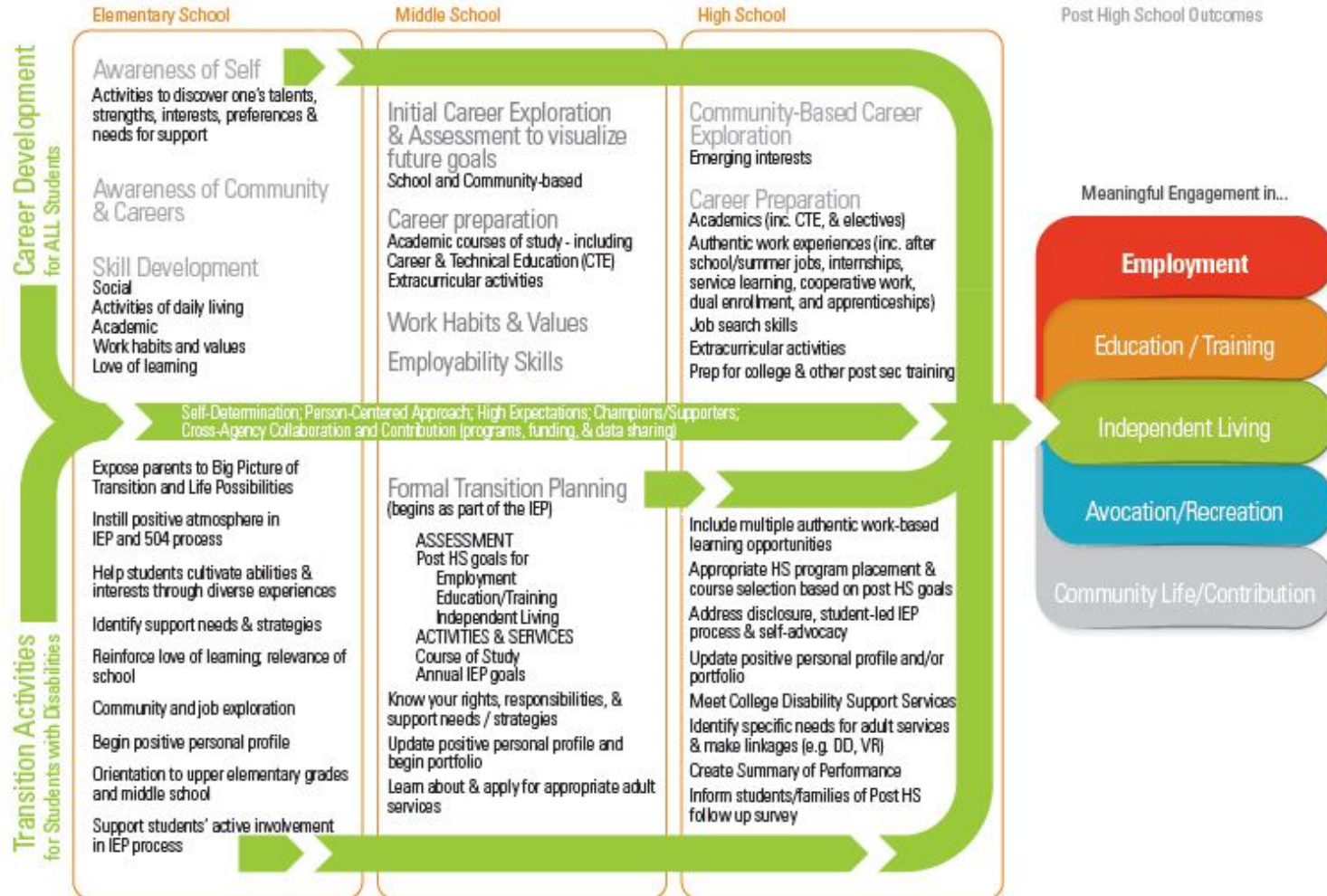
With an eye to sustainability, national and state partners will be engaged to raise capital for project development, implementation of a pilot-based model, evaluation, and demonstration for scale. Specifically, partners will be sought from the recipients of the New Skills for Youth phase one and two grants, NAPE member states, and states using ESSA, IDEA and WIOA funding to improve the employability of SWD. Corporate and private foundations with funding priorities for SWD will also be approached to partner in the scaling of the effort in targeted communities. Funds to continue operating this model will be sourced through sponsoring organizations and partnering local education agencies in Delaware and elsewhere in the nation.

The sponsoring organization's approach to development includes attracting a diverse set of funders to develop and pilot the proposed instructional model. Initial work will lay the foundation for future public policy to be developed and expanded; outreach to likeminded states and regions; articulating and applying lessons learned; conducting rigorous evaluation; sourcing data models for knowledge transfer; and disseminating critical information about the project.

APPENDIX I

Transition a career development conceptual framework

Developed by George Tilson, Ed.D., Tilson & Diaz Solutions, in collaboration with Delaware Department of Education



REFERENCES

- Brown, R., & Conley, D. (2007). Comparing state high school assessments to standards for success in entry-level university courses. *Educational Assessment, 12*, 137-160.
- Carter, E., Austin, D., & Trainor, A. (2012). Predictors of postschool employment outcomes for young adults with severe disabilities. *Journal of Disability Policy Studies, 23*(1), 50-63.
- Eisenman, L., Pleet, A., Wandry, D., & McGinley, V. (2011). Voices of special education teachers in an inclusive high school: Redefining responsibilities. *Remedial and Special Education, 32* (2), 91-104.
- Gonzalez, R., Rosenthal, D., & Kim, J. (2011). Predicting vocational rehabilitation outcomes of young adults with specific learning disabilities: Transitioning from school to work. *Journal of Vocational Rehabilitation, 34*, 163-172.
- Gregg, N. (2007). Underserved and unprepared: Postsecondary learning disabilities. *Learning Disabilities Research & Practice, 22*, 219-228.
- Guskey, T. (2000). *Evaluating Professional Development*. Thousand Oaks, CA: Corwin Press, Inc., 94-207.
- Horvath-Rose, A., Stapleton, D., & O'Day, B. (2004). Trends in outcomes for young people with work disabilities: Are we making progress? *Journal of Vocational Rehabilitation, 21*, 175-187.
- Honeycutt, T., Thompkins, A., Bardos, M., & Stern, S. (2015). State differences in the vocational rehabilitation experiences of transition-age youth with disabilities. *Journal of Vocational Rehabilitation, 42*, 17-30.
- Institute for Education Sciences-National Center for Education Statistics. (IES-NCES, 2017). Common Core of Data: Public high school 4-year adjusted cohort graduation rate (2014-2015). Retrieved from: Retrieved from https://nces.ed.gov/programs/coe/indicator_coi.asp
- Lombardi, A., Doren, B., Gau, J., & Lindstrom, L. (2013). The influence of instructional settings in reading and math on postsecondary participation. *Journal of Disability Policy Studies, 24*, 169-179.
- Mader, J. (2017) How teacher training hinders special-needs students. The Atlantic. Retrieved from <https://www.theatlantic.com/education/archive/2017/03/how-teacher-training-hinders-special-needs-students/518286/>
- Morningstar, M., Lombardi, A., Fowler, K, & Test, D. (2017). A college and career readiness framework for secondary students with disabilities. *Career Development and Transition for Exceptional Individuals, 40* (2), 79-91.
- National Council on Disability. (2012). Section 2: Cross-system focus to improve outcomes across the lifespan for people with ID/DD. Retrieved from <http://www.ncd.gov/publications/2012/Apr222012/section2/#S221>
- Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., Schwarting, M. (2011). *The Post-High School Outcomes of Young Adults with Disabilities up to 8 Years After High School. A Report from the National Longitudinal Transition Study-2 (NLTS2)* (NCSE 2011-3005). Menlo Park, CA: SRI International. Available at www.nlts2.org/reports/
- Pleet-Odle, A. (2016) *Included with the End in Mind: Integrating Efforts to Improve Outcomes for Youth with Disabilities*. New York: Fresh Eyes Editorial Services.
- Rangarajan, A., Fraker, T., Honeycutt, T., Mamun, A., Martinez, J., O'Day, B., & Wittenburg, D. (2009). *The Social Security Administration's Youth Transition Demonstration projects*. Washington, DC: Mathematica Policy Research.

- Salend, S., & Duhaney, L. (1999) The impact of inclusion on students with and without disabilities and their educators. *Remedial and Special Education, 20* (2), 114-126.
- Sima, A., Wehman, P., Chan, F., West, M., & Luecking, R. (2015). An evaluation of risk factors related to employment outcomes for youth with disabilities. *Career Development and Transition for Exceptional Individuals, 38*, 89-100.
- Simonsen, M., & Neubert, D. (2013). Transitioning youth with intellectual and other developmental disabilities: Predicting community employment outcomes. *Career Development and Transition for Exceptional Individuals, 36*, 188-198.
- Solberg, S., Howard, K., Gresham, S. & Carter, E. (2012). Quality learning experiences, self-determination, and academic success: A path analytic study among youth with disabilities. *Career Development and Transition for Exceptional Individuals, 35*(2), 85-96.
- Test, D., Mazzotti, V., Mustian, A., Fowler, C., Kortering, L., & Kohler, P. (2009). Evidence-based secondary transition predictors for improving post-school outcomes for students with disabilities. *Career Development for Exceptional Individuals, 32*, 160-181.
- Theobald, R., Goldhaber, D., Gratz, T., & Holden, K. (2017). *Career and technical education, inclusion, and postsecondary outcomes for students with disabilities*. Seattle, WA: Center for Education, Data & Research.
- Tilson, G. (2015). "Supporting Teenagers with Mental Health Issues." Presentation at the Konferanse Inkluderings-Kompetanse, Oslo, Norway, August 28, 2015.
- Tilson, G. (2017). *Transition: A Career Development Conceptual Framework*. Takoma Park, MD: Tilson & Diaz Solutions, Inc.
- Tilson, G., & Hathaway, S. (2010). *Learning to achieve: A review of the research literature on employment experiences and outcomes for youth and adults with learning disabilities*. Retrieved from <http://lincs.ed.gov/publications/pdf/L2AWorkforceLitReview2010.pdf>
- U.S. Department of Education. (2010). *29th annual report to Congress on the implementation of The Individuals with Disabilities Education Act, 2007*, Volume 1. Washington, DC: Author.
- U.S. Department of Education (2012). *The condition of education 2012* (NCES 2012-045, Indicator 33). National Center for Education Statistics. Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=16>
- U. S. Department of Education. (USDOE; 2016). Part B State performance plan/annual performance report 2016 indicator analyses. Retrieved from <https://osep.grads360.org/#communities/pdc/documents/12827>
- U. S. Department of Labor. (USDOL; 2017). *Persons with a disability: Labor force characteristics - 2016*. Retrieved from <https://www.bls.gov/news.release/disabl.nr0.htm>
- Wagner, M., Newman, L., & Javitz, H. (2016). The benefits of high school career and technical education (CTE) for youth with learning disabilities. *Journal of Learning Disabilities, 49*(6), 658-670.