Roadmap for Inclusion

A Collaborative Digital Skills
Training Model for Young Adults with
Developmental Disabilities

MOODY'S | **Cooke**
FOUNDATION | School and Institute

Abstract

This paper presents a roadmap to guide educators and business to create a collaborative digital skills training program with the goal of improving employment among a broader segment of young adults with disabilities than has been realized through existing neurodiversity initiatives.

To identify new talent, a growing group of IT companies and other businesses have created neurodiversity inclusion initiatives to recruit people with disabilities; over the last 10 years, companies such as SAP, Microsoft and DXC (formerly Hewlett Packard) have developed these programs, and their growth continues to gain traction. While initially focused on recruiting people with autism, the potential for people with a variety of disabilities, including developmental disabilities, to fill support roles in several IT and Information Management support jobs, is now being considered. This white paper examines the need for a digital skills for the workplace program for people with developmental disabilities. Cooke School and Institute and Moody's Foundation are proposing a new collaborative workforce model that combines a digital skills training program with applied internship experiences to prepare young adults with developmental disabilities to take on IT and Information Management support roles. This model can be adapted and used to suit the needs of a wide variety of young adults with developmental disabilities, preparing some for a range of entry-level digital jobs (e.g. assistant / support staff) using basic productivity software programs, while having the potential to identify prospects for more advanced IT skill development (e.g., junior software developer, network administrator support staff). In order to fully realize the benefits of inclusion—financial independence for workers, positive shifts in workplace culture, and innovation arising from diverse perspectives—educational institutions and business partners must work together.

ABOUT COOKE SCHOOL AND INSTITUTE

The Cooke School and Institute is a non-sectarian, non-profit private provider of special education services in New York City, offering a school for students ages 5 through 21, with teacher coaching and training services. Cooke School divisions include the Lower School, Middle School and Upper School (K-12) and Transitions, a program for adults ages 18-21. Cooke also has an active Alumni Association. The Cooke Institute partners with UPK, public, non-public and charter schools to impact the learning of some 6,000 students through its teacher coaching and training activities. Cooke envisions a world in which all people with special needs are included as valued members of their communities, leading independent and purposeful lives.

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Maddie

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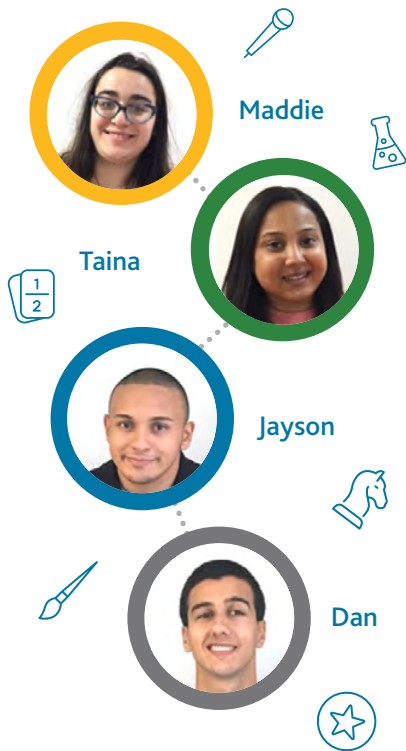
Dan

Meet Maddie, Taina, Jayson and Dan: four young adults who attend the Cooke School and Institute, a school for students (Kindergarten to age 21) with special needs. Many of these students have been with Cooke since they were young children. As they progressed through high school, they may have needed additional support for learning tasks, but in the end, they were more similar to other teenagers than they were different. They progressed through every milestone—first crushes, senior prom, cheerleading practice, first jobs. Their parents will tell you that they spent too much time on their phone, asked for too much money to buy sneakers and ate enough pizza for two lifetimes!

Now, as young adults, they want what all young adults want: a future. They want a job, an apartment, a social life. But, even though they share a dozen or more similarities with other young adults across New York City, they face one exceptional hurdle in their quest for independence. They are all people with disabilities, and they will all struggle to find a job that allows them to showcase their own particular talents.

The transition from high school to college or work is very different for young adults with disabilities than it is for their peers without disabilities. High school graduation

is typically a time of great promise, when students contemplate their post-secondary options. They ask themselves: Should I go to college? Should I take a year off and travel? Should I get a job and start to build a career? How about a trade school or going into the military? Most high school graduates have at least one of these options as they transition to adulthood. For students with disabilities, the path to independence is much more daunting. Once a person with a disability ages out of special education, usually by age 22, they typically lose the safety net of the educational system and government benefits that protect a child's right to a free, appropriate public education.

They enter a time in their life where there is fear and uncertainty about the future as they approach what some have called the "Disability Cliff."[1] The "Disability Cliff" refers to the gap in government entitlement services and educational options once a child ages out of special education and enters a more complex system of government services for adults. It is at this precarious moment, that many people with disabilities face some of their harshest obstacles, but it's also a time when businesses and post-secondary educational institutions potentially stand to gain the most from fostering inclusion.

Young adults with disabilities face an uncertain future as they struggle to be included in the typical post-secondary pursuits (e.g., travel, college, work) of their peers without disabilities.

The Disability Cliff

To help offset some of the effects of the disability cliff, educational institutions like Cooke have created programs that teach life skills and provide opportunities to develop career readiness during high school and beyond. Since its inception more than 30 years ago, Cooke has been dedicated to one central goal: fostering independence among people with special needs. To accomplish that goal, Cooke partners with educators, businesses, advocates, nonprofits and social service agencies to bring real-world work experiences to its students. Through a unique internship program, all Cooke students (from grade 9 through age 21) rotate through a series of work environments and job tasks to identify and refine their talents in a variety of areas, including clerical / data entry, retail, food service, child care, maintenance and

animal care. Maddie, Taina, Jayson and Dan have worked as interns for major companies, including Moody's, New York University and the Strategic Group, where they use digital skills they learned at Cooke to do data entry and clerical tasks that support their organization's products and services. They bring a positive outlook and sense of enthusiasm to their internship, and look forward to going to work; the days they spend at their internship are their favorite days of the week!

What do the employers think of their Cooke interns? Brett Rogoff, CEO of Strategic Group, a marketing company, hired his company's first intern, Lydia, who now works as an Office Coordinator in their Chelsea office. When talking about organizations that have made a commitment to employees with special needs, he says, "It's not only 'yes it feels good,'

it's way beyond that. It sends the message that you care about diversity, you care about the community around you, you care about making people's lives better, and when you do that, you send the message to your own employees from a motivational and inspirational standpoint."

Partnering with businesses to provide real-world work experiences has been invaluable in preparing Cooke students for life after school. Cooke's partnership with Moody's grew out of a shared commitment to diversity and inclusion. As part of its corporate social responsibility program, Moody's works with educational partners, like Cooke, on a three-pronged vision that includes empowering people with financial knowledge, working toward environmental sustainability and creating opportunities to ensure that young people reach their potential.[2] Through its long-standing support of Cooke's programming, Moody's has had a lasting impact on the capacity of Cooke students to achieve new work readiness goals and expand their potential to live more independent lives.

Moody's began a discussion with Cooke program staff about partnering to take a deeper look at the potential for employment in digital skills and technology jobs for people with special needs. Given the rise in neurodiversity initiatives among tech giants such as SAP, Microsoft and DXC (formerly Hewlett Packard), we wondered if it would be possible to design a digital skills for the workplace program within Cooke that would open the door to new opportunities for our graduates to enter the workplace. In particular, we wanted to examine a range of IT and Information Management Support roles that would allow students to master basic digital skills (productivity software skills) as well as determine the potential for more advanced IT skill development as part of their educational training and applied internship opportunities.

We envisioned a model program that would focus on:

1 | Digital skill acquisition in both Google and Microsoft applications, with potential for identifying candidates for advanced IT skill development.

2 | Curated internship experiences that would apply these skills on the job.

We hoped it would be a win-win situation: businesses would help develop a ready source of new talent for IT support roles, and Cooke would provide an educational pathway to teach students marketable skills that would support their quest to get a job. "Neurodiversity in the workplace is a growing and necessary component of companies' diversity and inclusion strategies," said Lori Tansley, Managing Director, Finance Transformation Office at Moody's. "Moody's is proud to partner with Cooke School and Institute to develop programs that promote a viable career pipeline in IT support roles for people with intellectual disabilities."

What follows is a roadmap for the creation of a new digital skills job readiness program. In this white paper, we'll explore the progression of neurodiversity and inclusion initiatives in IT and discuss our vision for extending their reach by proposing a new model. Our model combines digital skills training with real-world job experiences through a unique education / business collaborative model with the goal of training students to learn digital skills for a variety of job tasks (across industries) to better prepare them for employment.

Executive Summary

To explore the growth of neurodiversity initiatives within the IT industry, Cooke partnered with Moody's to conduct a year-long research project about these latest recruitment trends, and to explore whether there was a career readiness pathway that would guide young adults with developmental disabilities toward employment and community inclusion.

Research shows that the goals and scope of neurodiversity initiatives are greatly influenced by a company's culture, and that these initiatives are being used in a variety of ways to influence a global conversation about the nature, goals and vision for diversity and inclusion programs within the workplace.[*]

Findings on neurodiversity initiatives indicate that:

IT giants such as SAP, Microsoft and DXC Technology have created highly-specialized recruitment programs aimed at securing new talent (mostly among potential recruits with autism), in the areas of software development and testing, cybersecurity and data analytics.

Government and social service agencies have partnered to create post-secondary college opportunities for people with intellectual disabilities, and job training programs designed for adults with a variety of disabilities.

Family and friends of people with disabilities have created small businesses, embarking on entrepreneurial projects that tailor employment to the needs and talents of those individuals.

As businesses, nonprofits and government agencies document the benefits of hiring neurodiverse employees, awareness grows about the positive outcomes that can be derived, both in terms of productivity and workplace culture. Businesses are working together to share information on Autism @ Work programs, discuss results of their neurodiversity initiatives and foster growth in new programs.[3]

Inclusion of individuals with disabilities in the workforce is becoming a business priority that is often aligned with corporate accountability.[4] Related to these trends in neurodiversity is the rise of corporate social responsibility as an important catalyst that can support these initiatives.

[*]Given the impact of the 2020 healthcare crisis, the implementation of the Digital Skills for the Workplace Model will likely need to be adapted to meet a variety of changes to workplace culture and structure (e.g., remote workforce, financial restructuring, changes in hiring practices).
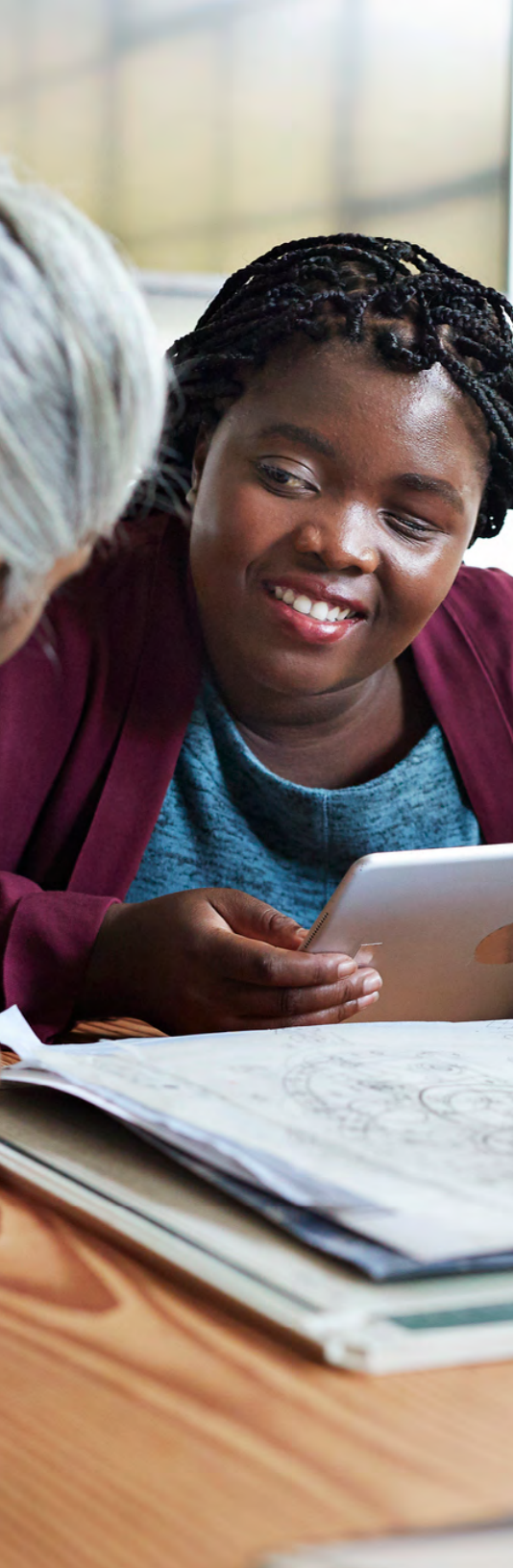
The last 10 years have seen a steady growth in the number of neurodiversity initiatives, and the IT industry continues to make inroads into building the capacity of business to recognize the unique talents of individuals with disabilities like autism and ADHD. The larger question is how to capitalize on these programs, these shifting mindsets and workplace benefits, so that more people with disabilities can access a greater variety of college and work options. As these changes take hold, collaboration between educators and industry leaders—like the Cooke / Moody's partnership—will be needed to take full advantage of the core values of inclusion and neurodiversity that hold promise to spark innovation and productivity for future business growth.

Based on this research, and years of experience and expertise in transition planning for young adults with disabilities, Cooke has developed a new digital skills for the workplace model that would incorporate a digital skills training program with a curated internship experience to prepare young adults with special needs to gain entry-level employment. Throughout this white paper, we will utilize an exemplar for this model to illustrate how a digital skills for the workplace program could work at an educational institution, such as Cooke.

The Digital Skills for the Workplace Program Model:

Creates a digital skills training program to teach Google and Microsoft applications and provide internships to help students use their newly-acquired digital skills (beginning with applied productivity software) in a variety of entry-level jobs, while identifying potential candidates to progress to more advanced IT skill acquisition.

Combines essential components identified by both education and business as important for success in digital skills / IT jobs (e.g., soft skills, digital / technical skills, real-world work experience).

Calls for employers (with jobs and talent needs) to provide ongoing feedback on the training and preparation of students, while educators design and teach critical hard and soft skills to support employment readiness.

Creates a balance between business-centric and employee-centric approaches by answering the question: How can we strive to achieve the best of both worlds by designing training around real-life jobs (business-centric), while providing person-centric supports for people with special needs (job coaching, flexible schedules)?

Provides onboarding and on-the-job support to educate potential employers and support corporate internship sites as they strive to be more inclusive of staff with disabilities.

The Digital Skills for the Workplace Model

The Digital Skills for the Workplace Model

DIGITAL SKILLS TRAINING PROGRAM

» Google / Microsoft Office applications
» Curated internships
» Sample target job titles: IT Support Assistant, CRM Database Coordinator

INSTRUCTION IN ESSENTIAL SKILLS

» Soft skills
» Digital / Technical skills
» Real-world work experience

ONBOARDING AND ON-THE-JOB SUPPORT

» Training for corporate partners on inclusive practices and accommodations

ONGOING FEEDBACK BETWEEN EMPLOYERS AND EDUCATORS

» Employers provide feedback on training and student preparation
» Educators modify curriculum and provide instructional support to meet student needs

Technology + Unemployment: Two Trends Collide

The chances of a person with a disability entering the workforce is greatly diminished if they don't find a job before age 21.

A recent article in *Education Week* asked the question: "How can schools build a strong foundation for the digital literacy skills that are required in real jobs?"[5] The article, which cited data from a Brookings Institution report titled *Digitalization and the American Workforce* (2017), examined the digital tasks done by four workers at Christiana Care Health System in Delaware, to determine the extent to which they needed digital literacy skills to do their jobs. Brookings found that between 2002 and 2016, the amount of computer-based work required of cooks in institutional cafeterias increased nearly 700 percent, and across many other jobs, the need to understand and use a variety of digital tasks also increased greatly. Whether it's understanding predictive analytics in industrial kitchens to process patient food orders via specialized software, using apps to access schedules to clean patient rooms, or using digital speech-to-text systems to transcribe patient notes, technology has woven its way through most jobs within the healthcare system, not to mention other industries.[6]

Schools are aware of the importance of teaching a structured sequence of digital literacy skills, but for a school like ours, which serves students with special needs from ages 5-21 years, the question of how to best position our graduates to enter the workforce is complicated by the added challenges they face as "differently-abled" job candidates.

While technology use is exploding across many industry sectors, providing new opportunities for people with technical skills to advance in the job market, the picture for people with disabilities, especially those with intellectual disabilities, is bleaker. Understanding the factors that contribute to unemployment is rarely a simple scenario, and for people with disabilities, the picture is particularly complex. For one, examining the unemployment rate, which is based on the number of people actively seeking jobs, obscures important nuances, like the fact that many people with disabilities have stopped looking for work, and / or work part-time.

Alternatively, a look at the employment rate for people with disabilities illustrates how few are able to gain entry into the world of work.

Workers employed in 2019[7]

19% of workers with disabilities

66% of workers without disabilities

32% Hired for part-time work[8] **17%**
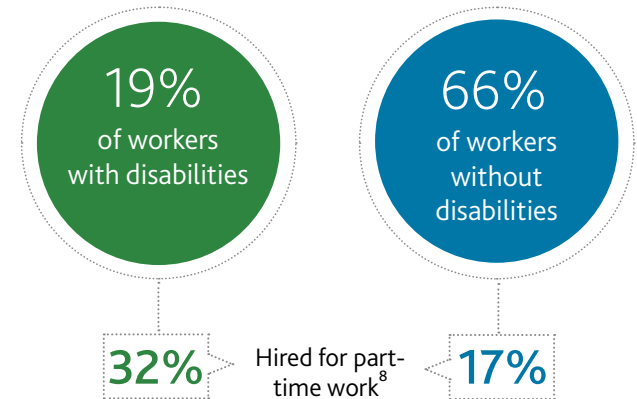
Data from the Bureau of Labor Statistics

Neurodiversity can be defined as *"an understanding that neurological differences are to be honored and respected, just like any other human variation, including diversity in race, ethnicity, gender identity, religion, sexual orientation, and so on."*[13]

While these employment rates are sobering, there is one caveat: starting work as early as high school is a good predictor of success in staying employed in one's 20s. A National Autism Indicators Report from Drexel University found that approximately 90% of youth with autism, who had a job during high school, continued to work through their early 20s, compared to only 40% of people who did not work during high school.[9]

Age is a predictor of whether a person is engaged in competitive employment.[10] A national survey that examined how people with intellectual disabilities achieved their current employment status found that if a person with a disability didn't find a job in a competitive setting before age 21, their chances of entering the workforce were diminished.[11]

The question becomes how can we use the surge in demand for workers with digital skills to ameliorate the high unemployment rate for people with disabilities, especially those with intellectual disabilities? To help answer that question, we had to look at past approaches to employment and ways that corporations and social service organizations are currently addressing workforce needs.

Neurodiversity: An Opportunity for Inclusive Hiring

If we are to change public perception about the benefits of hiring people with disabilities, we must understand the potential skills and strengths they bring to the workplace. Neurodiversity, a term popularized by Harvey Blume in a 1998 article in *The Atlantic,* has become an important construct for changing perceptions about how people with disabilities contribute to society.[12]

Over the last five years, industry leaders and workforce developers have referenced the ideals of neurodiversity as motivation for creating new recruitment and retention programs aimed at bolstering employment among people with disabilities. Most of these initiatives have developed within the IT industry, and most have sought to recruit a select pool of individuals with autism. Shifting perceptions among corporations around the world have facilitated the development of recruitment programs that foster workplace inclusion by modifying recruitment practices, providing on-the-job mentorship and training,

and reimagining management practices and styles. In so doing, tech giants like SAP, Microsoft and DXC Technology, have carved out a niche market of highly-skilled workers to do a variety of technical jobs, including software engineering, project management, robotics, cybersecurity and data analysis. It has been rumored that much of the IT innovation resulting from Silicon Valley can be attributed to people on the autism spectrum, but recently companies have made the recruitment of people with autism more transparent by creating a job recruitment path that makes it easier for them to present themselves as attractive candidates and get the job.[14] Tech companies have reported some impressive returns on their investment, including higher levels of productivity, greater employee loyalty and retention, and an alignment between the talents of some people with autism (pattern recognition, facility for repetitive tasks) and the day-to-day tasks associated with certain IT jobs.[15]

Entrepreneurship and the Autism Advantage

Social enterprise businesses have sought to "flip the switch" by asking: *What benefits can be derived from including individuals with autism in the workplace?*

On another front, organizations like Rising Tide Car Wash (a family-run, social enterprise business that provides people with autism an opportunity to build a career) have sought to "flip the switch" by asking, what benefits can be derived from including individuals with autism in the workplace? The organization works with individuals with disabilities and their loved ones, to build businesses using an entrepreneurial model that capitalizes on what they call "The 7 Autism Advantages."[16] Those advantages range from following processes and rules, to having an eye for detail, to reducing turnover by persisting in jobs with repetitive / monotonous tasks.

Businesses like Invictus Enterprises, a nonprofit that offers culinary classes and real-world job experiences to help people with autism and developmental disabilities learn work readiness skills, are partnering with schools like Cooke.[17] To capitalize on one of the "7 Autism Advantages"—following processes and rules—Invictus uses touch-screen-enabled laptops donated by Microsoft, along with specialized software, to segment production processes into sequential steps with visual cues that students can follow with ease. They use this technology to create what they call "curated employment," integrating technology tools to reconfigure production tasks in the kitchen to make them more accessible to people with disabilities. Their first venture, a natural dog biscuit called *No Bones About It*, is made by bakers drawn from their cooking classes, including students from Cooke's transition program for 18 to 21-year-olds.[18] Using technology tools allowed students to work independently and streamlined production by focusing student work on only the most

essential tasks needed to make the dog biscuits. As a result of the boost to productivity, Invictus was able to sell more biscuits and branch out to new products. They also secured a partnership that will move their new business into food packaging for a product sold by one of the largest grocery store chains in the U.S.

Entrepreneurial-based employment for people with disabilities typically starts with resourceful family members who identify a potential startup project for their son or daughter. These businesses are usually small-scale operations that don't have a huge effect on employment. However, this does not mean they lack impact; their value lies in their ability to reimagine the contribution and work skills of people with disabilities and to spread the word about the benefits of including people with all types of disabilities to further a company's mission and productivity. Companies like Invictus Enterprises have also embraced the use of IT tools to modify work tasks so they are accessible to more people. To keep pace with the market, ramp up production of their dog biscuit product, and help student bakers achieve success, Invictus Enterprises created a digital cookbook (displayed in formats that aid both auditory and visual learners) that uses communication software specifically designed for bakers with special needs. Envisioning a pathway to employment, and facilitating it with the use of smart business practices and technology, is the true success story in some of these entrepreneurial endeavors.

Another social enterprise, Ultra Testing, provides IT testing services using employees with autism. Seventy-five percent

Envisioning a pathway to employment, and facilitating it with the use of smart business practices and technology, is the true success story in some of these entrepreneurial endeavors.

of their employees are on the Autism Spectrum, and engage in software quality assurance testing, including website evaluation and smartphone applications. Ultra Testing has worked for a number of top-tier clients, including advertising agency Droga5 (website accessibility testing) and the Webby Awards (website functionality testing). Ultra Testing has also reported some impressive results from the hiring of people on the Autism Spectrum, attributing a reported increase in bug detection rates of 55%, to the "deep technical skills and heightened abilities" of its team of testers and quality engineers.[19]

Getting these social enterprise projects off the ground takes vision and creative thinking, but the reported benefits have been well-documented, and in some cases unexpected. Including a diverse group of workers in a business setting has benefits to increasing overall productivity, but there are also intangible benefits, like cultivating a culture of equity that permeates the workplace.

Neurodiversity in the IT Industry:
SIX EMPLOYMENT TRENDS

Cooke and long-time partner Moody's, decided to dig deeper into one growing segment of neurodiversity workplace initiatives—those within the IT industry. Since 2013, a growing number of tech companies have created neurodiversity initiatives to aid in their recruitment and retention of employees with autism. Much has been written about the confluence of tech skill ability among people with autism living in tech enclaves like Silicon Valley. At the same time, a growing list of attractive work

characteristics, including company loyalty, persistence with repetitive tasks, and a proclivity to find anomalies and debug computer programs, has been identified among some people with autism, and held in considerable value by the IT industry. As part of a year-long research project, Cooke and Moody's set out to explore these neurodiversity initiatives, and other ways in which people with a variety of developmental disabilities could be included in these initiatives.

Our interest in these IT neurodiversity initiatives sparked a series of exploratory research questions:

How has the concept of neurodiversity helped spur employment for people on the Autism Spectrum, as well as those with other disabilities?

If one argues that neurodiversity helps us understand that human behavior spans a continuum when it comes to how we think, communicate, interact and problem solve, how can this understanding help us provide new work opportunities for a wide range of people with disabilities?

Do the existing neurodiversity initiatives have the capacity, and interest, to utilize the talents of people outside the autism community, to include people with Down syndrome, ADHD, Cerebral Palsy and Learning Disabilities?

Would it be feasible to expand the current crop of neurodiversity programs to include the young adults served by schools such as Cooke, and what types of technical skills would serve young adults with disabilities best when seeking employment in the tech industry, and outside it?

Cooke and Moody's conducted research between May 2018 and March 2019 to examine:

» IT neurodiversity initiatives

» Entry-level IT and Information Management, Data Analyst / Data Management and Programmer support jobs

» Existing technology certification programs that train people with disabilities for IT jobs

The goal was to examine the ways in which neurodiversity was influencing the workplace and to seek opportunities to partner with other organizations to consider the viability of creating a fully inclusive digital skills training program.

In addition to a review of the literature on neurodiversity within the tech industry, Cooke met with a variety of companies, educational / social service agencies and governmental entities, to examine the extent to which their workforce initiatives and reforms were having an impact on the employability of people with disabilities. From this research, we noted the following trends and patterns among the approaches that organizations were taking to employ people with disabilities:

Neurodiversity in the IT Industry: 6 Employment Trends

- Diversity and inclusion add great value
- Employment models and job roles vary
- Promising business outcomes reported
- New recruitment and onboarding practices developed
- Internship programs vital to workplace readiness
- Soft skill development essential for success

(See Appendix A for more details on each of the six employment trends, as well as other highlights culled from the research.)

Some social service agencies and educational institutions have started job search activities by identifying the skills of a person with a disability and matching them with an existing job or creating a new one.

Recruitment:
ORGANIZATION-CENTRIC VS. EMPLOYEE-CENTRIC

Each of the neurodiversity initiatives and programs we researched was created through its own generative process, but most were organized around a goal that was dictated by the needs of employers. In the case of the Autism @ Work neurodiversity IT initiatives, the job development activities begin with the job role itself. A job search arises out of a need to fill a particular job, and through the neurodiversity initiatives, candidates who can perform those job tasks are recruited. Some companies have revised their recruitment practices by modifying their assessment methods to be more inclusive of individuals with autism (see Appendix A discussion of Specialisterne). Government and social service agencies have led with business goals as well—for example, offering IT training in coding or cyber security and then helping those who pass IT certification exams find an existing job in cybersecurity or software design from among their business partners.

Typically, people who could be categorized as having mild learning disabilities can take part in these training opportunities because they have achieved at least high school-level reading, writing and math skills.

On the other end of the spectrum, some social service agencies and educational institutions have started job search activities by identifying the job skills a person with a disability could bring to a job and then matching those skills to an existing job, or customizing a job. In a customized employment scenario, at a nonprofit such as Job Path, which supports people with developmental disabilities, a person with a disability would take part in an extensive interview to uncover job skills. Then, a job specialist would work with them to identify a job (or some tasks associated with a particular job), and approach a potential employer to see if they would consider adapting
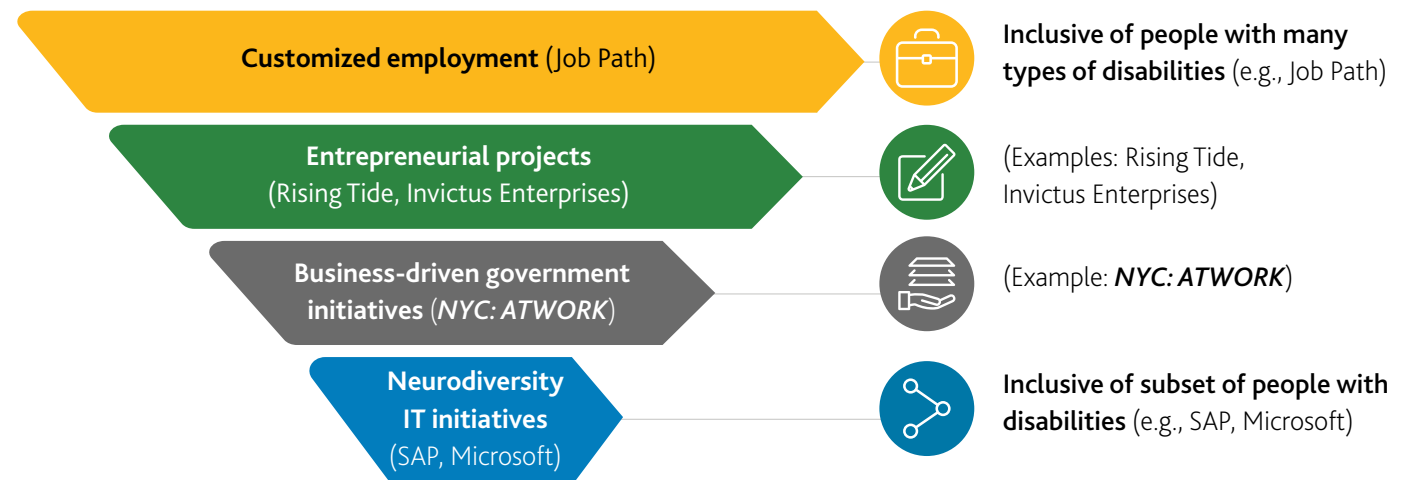
or customizing a position for that particular candidate.[20] This person-centered approach is time-consuming and requires many hours of manpower from a job specialist who can do the footwork to find suitable positions within the job market, but that time and effort can result in a match that truly capitalizes on a particular job candidate's strengths and talents.

Finding a middle ground between a business-focused recruitment initiative and a person-centric one is an important next step in increasing the number of people with disabilities who can follow a viable pathway to employment. As a school, our goal is to prepare students to be able to take advantage of post-secondary opportunities that interest them, and help them become valued members of society. For many of our graduates, that hopefully includes engaging in some type of paid employment. While autism-focused initiatives are one positive and innovative step toward more inclusion of people with disabilities in the workforce, we should

proceed with caution when attributing skills and talents to workers based on their diagnoses.

Research continues to highlight the benefits of adding neurodiverse talent to the workforce. While some have identified strengths by disability group (e.g., autism—problem solving, analytical thinking, retention of detailed information; dyslexia—inventiveness and creativity, pattern-spotting; ADHD—insightfulness, risk takers, ability to multitask and respond to changing environments), there are dangers in making generalizations based on a person's disability.[21] As music educator and author Stephen Shore states, "If you've met one person with autism, you've met one person with autism."[22] That adage is true for everyone, disabled or not; it reminds us that it is unwise to rely on stereotypes or to attribute a person's strengths to their diagnosis. A better approach would be to assume that every employee with a disability would manifest their own strengths when working in an environment that fosters inclusion and respects diversity.

The Workforce Development Funnel for People with Disabilities: Degrees of Inclusivity

Customized employment (Job Path) — **Inclusive of people with many types of disabilities** (e.g., Job Path)

Entrepreneurial projects (Rising Tide, Invictus Enterprises) — (Examples: Rising Tide, Invictus Enterprises)

Business-driven government initiatives (*NYC: ATWORK*) — (Example: *NYC: ATWORK*)

Neurodiversity IT initiatives (SAP, Microsoft) — **Inclusive of subset of people with disabilities** (e.g., SAP, Microsoft)

Overall, the more business-focused the recruitment initiative is, the more restrictive it tends to become, limiting the inclusivity of the opportunity for a broad segment of people with disabilities. For example, Job Path's customized employment program is far more inclusive of a range of people with disabilities than a large IT company's neurodiversity initiative — and we would expect this given the mission and goals of their respective organizations. The digital skills for the workplace model would expand the inclusiveness of current neurodiversity initiatives in IT by creating a hybrid model (that is both inclusive and connected to business) to prepare people with intellectual disabilities for a variety of IT support jobs.

As new recruitment initiatives are created, and we strive to determine which target jobs may be a good fit, we face challenges to preserve opportunities for the full spectrum of people with disabilities. Uncovering this information is an ongoing, generative process, and we must be mindful to preserve the ideals of employee-centric job development approaches, while scaling up to include as many people with disabilities as possible. Many Cooke students who work in clerical internships have been successful in learning data entry tasks. Rule-based repetitive tasks, such as data entry, can be mastered over time, in part because of their repetitive, rule-based nature. However, data entry work may be at risk for automation as major shifts in technology continue to impact the workplace. Will data entry jobs exist in the future in the same way they currently do? Will they be lost to automation, or will they evolve into other roles once automation is incorporated into a work process? These opportunities are hard to predict, and may only come to light once automated systems are put into place.

As outlined in a recent Brookings Institution report on Artificial Intelligence, automation will affect tasks in virtually all occupational groups in the future, but will have a "muted net impact" on total employment.[23] Alternatively, automation may play a role in job creation. Some jobs may be lost, but new job tasks may be uncovered as automation processes are introduced. [24] For example, the adoption of robotic process automation (RPA) and the use of software to perform repetitive tasks in accounting and finance, have the potential to create new job roles. Jobs in IT maintenance and monitoring may be created as computers take on new roles and tackle new tasks. Likewise, when new automated systems are initiated, documentation on controlling risk (for auditing purposes) may necessitate new data management tasks.

Overall, jobs that rely on rote skills, and / or are filled by workers without a college degree, are much more susceptible to automation. These include jobs in office administration (especially tasks that involve information collection and processing), construction, maintenance, production and transportation.

When it comes to building resiliency in the face of this automation, the Brookings Institution report recommends that companies, educational institutions and governments focus on the following:

Strategies

- Reskilling incumbent workers
- Expanding accelerated learning and certifications
- Making skill development more financially accessible
- Aligning and expanding traditional education
- Fostering uniquely human qualities[25]

Cooke has identified the need to provide new opportunities for digital skills development. Not only are digital skills applicable across industries, they function within many departments.

To align and expand traditional education, the report stresses the importance of developing digital skills to help workers collaborate using technology, including incorporating digital skills development into general education requirements and expanding digital educational offerings, to include the mastery of productivity software (e.g., Microsoft Excel, Salesforce), digital design programs and healthcare billing platforms.[26] The report also underlines the importance of internships and project-based learning to foster soft skill development and connect education with experiential learning. School-business partnerships are particularly useful in giving high school students exposure to industries of interest.[27]

This research project suggests that next steps need to focus on two important goals that represent a middle ground between recruitment practices that are business-centric and ones that are person-centric:

1 | The creation of training programs within schools that focus on targeted, tech skill development that intentionally connects to real-world work tasks.

2 | Collaboration between education and industry to provide authentic workplace environments to apply those newly-acquired skills.

Given the lack of opportunities for young adults with a broad range of disabilities, including developmental disabilities, educators (as well as nonprofits, social service agencies and industry leaders) need to think about ways to foster employment for all. Based on our findings, Cooke has identified the need to provide new opportunities for digital skill development, both within our existing digital literacy / tech curriculum and through the development of a new digital skills training sequence designed to enhance digital skills that are most applicable for entry-level jobs across a broad range of industries. Not only are digital skills applicable across industries, they function within many departments. For example, data entry may exist within a hospital's HR, finance, legal and medical records departments. As the need for data management continues to grow, utilizing digital skills to organize this data may offer new opportunities within multiple departments and across many different industries.

It is our intention to expand the scope and vision of what is possible for a neurodiversity program to achieve by broadening its purview to include people with a variety of developmental disabilities.

Rather than targeting high-level tech jobs, which would not be aligned with the technical proficiency of most of our student body (and many other people with disabilities), we have sought to understand the range of technical and digital literacy skills that are embedded in many entry-level jobs. Given the way IT has become integral to so many work tasks, and across most industries, we have shifted the attention from exclusively focusing on IT industry jobs to a focus on a broad range of jobs that include technical tasks as an integral part of the job role. The training model we developed as a result of our research can be adapted to a variety of industries, including hospitality, food service and retail. What stands out as being essential, given the potential progress of automation, is the need for a core mastery of digital skills (that begins with productivity software), and a method for identifying candidates who can move on to more advanced technical and IT tasks (e.g., data analytics, IT / mobile / web design).[28]

It is our intention to expand the scope and vision of what is possible for a neurodiversity program to achieve by broadening its purview to include people with a variety of developmental disabilities. While the Autism @ Work programs have focused on a defined set of job roles (typically highly technical), future neurodiversity programs could focus on supportive and entry-level job roles that have lower-level technology tasks associated with them, but still serve an important function within an organization. While automation may have an impact on some entry-level IT job tasks, the use of inclusive, customized employment methods, such as job carving (where work duties are analyzed to identify specific tasks that might be assigned to an employee with disabilities), could be an effective process for identifying job tasks that are not susceptible to automation, especially in industries and / or companies for which automation is not widely adopted. Ensuring that people with disabilities are prepared and trained to undertake a variety of IT tasks is critical if they are to be viewed as viable candidates for entry-level and assistant-level positions.

What is the Best Route to Career Readiness and Employment?

So, what are some of the ways that education and industry have traditionally tried to improve employability among workers with disabilities? Two main approaches have dominated the conversation. The first approach (the **Educational Route**) tries to improve a student's future job prospects by ensuring their educational experience includes a clear and effective progression of learning academic content and life skills to facilitate their inclusion in future work and community engagement activities. Cooke's work takes an educational approach. For example,

Cooke's adaptive / life skills curriculum, internship program and vocational readiness curriculum helps high school and other young adult students progress through 10 workplace readiness skills. Educational programs like ours seek to develop and promote career readiness and vocational training to improve hard skills (e.g., digital literacy, math, reading and writing), and soft skills (e.g., communication, problem solving and workplace-appropriate behaviors). University programs such as AHRC's *Melissa Riggio Higher Education Program* and CUNY's (City University of New
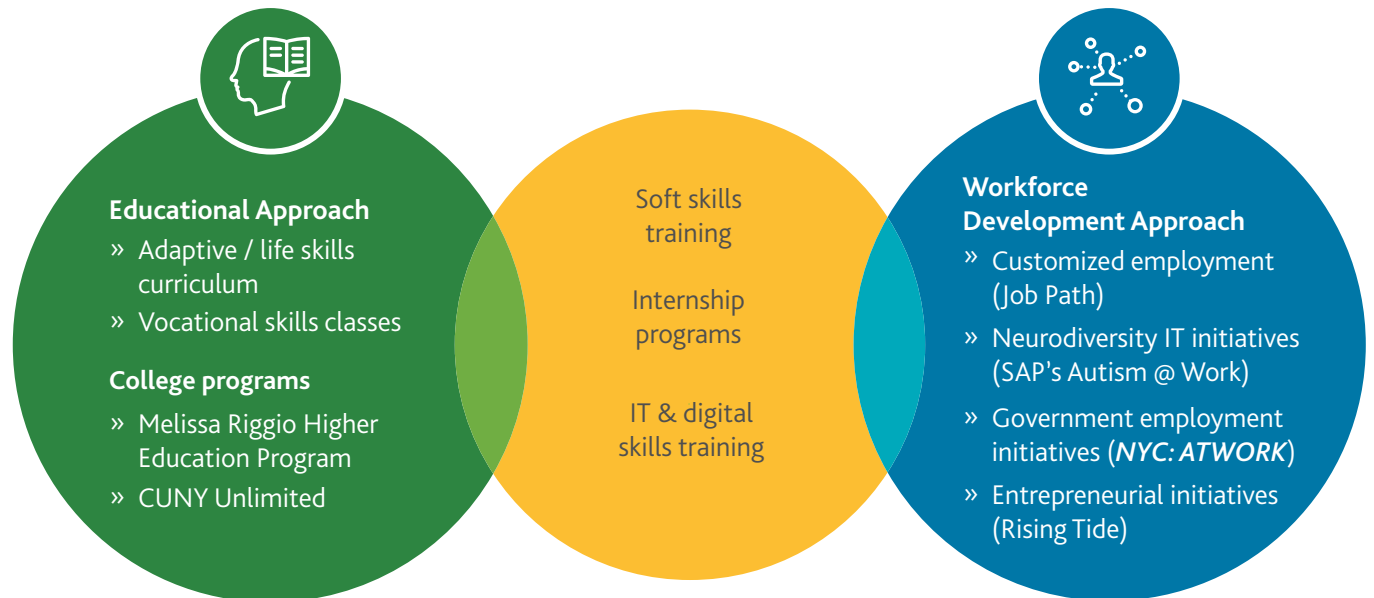
York) *Project Reach* and *CUNY Unlimited* programs are working to provide a college experience for young adults with disabilities, as they strive to reach their vocational and career goals.

The second approach (the **Workforce Development Route)** has been taken up by industry (particularly IT companies), which has changed recruitment and retention practices to attract new talent for specific, hard-to-recruit job roles. In addition, some employment programs, like Job Path's customized employment program, have influenced workforce development by carving out job tasks from existing job descriptions, and pairing individuals with disabilities with employers looking for their skills. Job Path, a NYC nonprofit, works to improve opportunities for employment by matching individuals with developmental disabilities with jobs that suit their specific talents, needs and skills.[29]

Both educational and workforce development approaches can have a positive effect on employment among people with disabilities. What's most interesting is what the approaches have in common. It turns out that the sweet spot for both approaches — the elements that both find essential — are soft skills (communication, teamwork), training in hard skills (IT and digital literacy) and internship experiences. While they overlap here, they take a different approach regarding employment. We have seen two decades of promoting a variety of workforce initiatives — customized employment, career unbundling and job carving, entrepreneurial projects and government initiatives — that foster inclusion and open the door to employment for people with disabilities. These efforts have had a positive, qualitative impact on the lives of people with disabilities, however the challenge remains to employ a greater percentage of the population of people with disabilities.

The Road to Career Readiness & Employment

Educational Approach
» Adaptive / life skills curriculum
» Vocational skills classes

College programs
» Melissa Riggio Higher Education Program
» CUNY Unlimited

Soft skills training

Internship programs

IT & digital skills training

Workforce Development Approach
» Customized employment (Job Path)
» Neurodiversity IT initiatives (SAP's Autism @ Work)
» Government employment initiatives (*NYC: ATWORK*)
» Entrepreneurial initiatives (Rising Tide)

The Digital Skills for the Workplace Model: Collaboration and Feedback Loop

Education, innovation and collaboration propels employment

Train young adults to **acquire work-ready skills** that are **intentionally connected to real-world** tasks

Collaborate with industry partners to provide **authentic workplace environments** to apply newly-acquired skills

# The Digital Skills for the Workplace Model

The outline and graphs below illustrate how the model for a digital skills for the workplace program could be applied in a school such as Cooke. As an example, we'll outline the structure, program elements, constituent groups and basic content that would be included to train students to acquire foundational productivity software skills applicable to a range of entry-level support jobs across industries. We'll also show how this collaborative model uses dynamic feedback regarding the successes and challenges of applying newly-acquired digital skills in authentic workplace environments. This feedback travels in real time, and in both directions, between educator(s) and business partner(s), to inform the program outcome.

Educators (Cooke, college / university partners):

» Establish the skill sets and training goals that will be achieved by the training program

» Assess the performance of student interns, using feedback from businesses and job coaches who accompany students to their workplace

» Provide professional development to educate business partners on how to facilitate diversity and inclusion

» Connect students with higher education institutions and additional training opportunities to promote continued credentialing for more advanced technical and IT skill building

Business Partners (corporations, nonprofits):

» Review and provide feedback on the training goals and skill sets targeted by the training program as they relate to specific internship opportunities and future job prospects

» Assess the performance of student interns (supervisors assess students during their internship)

» Collaborate with Cooke to educate employees on inclusionary work practices and develop new professional development opportunities for staff
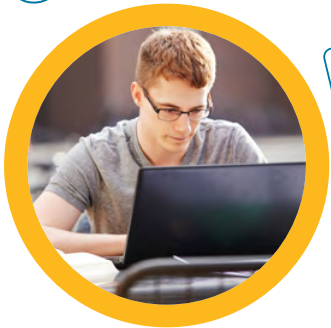
In addition to a lead educator, other educational partners are needed to provide opportunities for certification and expose students to technical resources, such as supplemental online software training programs.

Program Elements

To capitalize on the commonalities between successful educational and workforce development approaches, the program would incorporate the following essential elements:
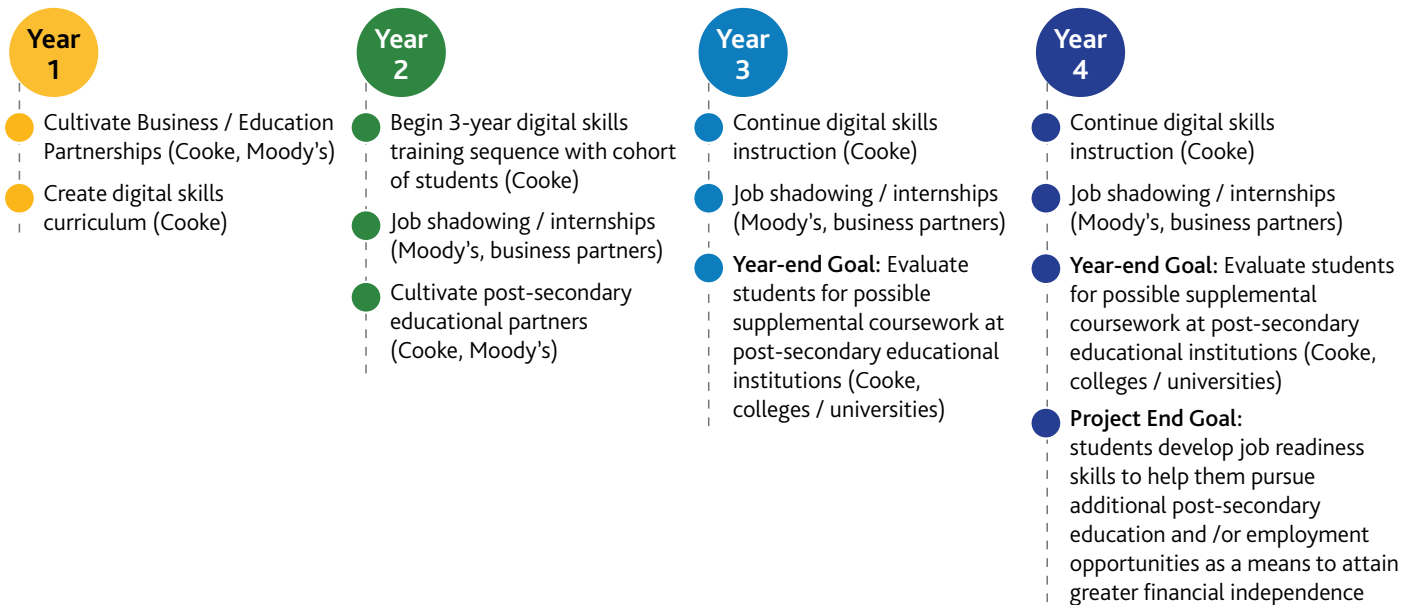
» Digital Skills Training (e.g., Google and Microsoft apps, cloud-based software, computer set-up and configuration)

» Soft Skills Training (e.g., communication, teamwork, taking initiative)

» Applied Learning (e.g., curated internships, job shadowing)

» Collaboration and ongoing (bidirectional) feedback between educators and business partners (e.g., onboarding workshops, job coach support for students, internship performance evaluations)

» Alignment between digital skills training and target jobs (e.g., entry level IT Support Assistant, CRM Database Coordinator)

Program Components and Constituent Groups

This model is a highly collaborative one, with interconnected programmatic activities that involve the participation of several important constituent groups.

A lead educational institution, such as Cooke, is needed to design the curriculum, provide digital skills instruction, recruit business partners, support students with job coaches and facilitate onboarding and inclusion at internship host sites. Business partners are not merely placement sites for internships, they are a vital link to examine the ways in which digital skills learned in class are applied on the job in real-world workplace scenarios, team projects and problem-solving situations. The relationship is reciprocal, providing businesses the chance to advance their diversity and inclusionary hiring goals, while engaging staff in new professional development opportunities.

Digital Skills for the Workplace Model: Program Components and Constituent Groups

Year 1
- Cultivate Business / Education Partnerships (Cooke, Moody's)
- Create digital skills curriculum (Cooke)

Year 2
- Begin 3-year digital skills training sequence with cohort of students (Cooke)
- Job shadowing / internships (Moody's, business partners)
- Cultivate post-secondary educational partners (Cooke, Moody's)

Year 3
- Continue digital skills instruction (Cooke)
- Job shadowing / internships (Moody's, business partners)
- **Year-end Goal:** Evaluate students for possible supplemental coursework at post-secondary educational institutions (Cooke, colleges / universities)

Year 4
- Continue digital skills instruction (Cooke)
- Job shadowing / internships (Moody's, business partners)
- **Year-end Goal:** Evaluate students for possible supplemental coursework at post-secondary educational institutions (Cooke, colleges / universities)
- **Project End Goal:** students develop job readiness skills to help them pursue additional post-secondary education and /or employment opportunities as a means to attain greater financial independence

Program Structure and Content

For the purposes of this example, students would be included in the program after being identified (in their senior year of high school) as demonstrating interest and digital skill readiness for further training in digital and technology skills. Students would progress through a program that begins in their senior year of high school and continues through the first two years of the Cooke Transitions program, a program for young adults (ages 18-21). The first phase of the program model would serve to provide comprehensive training in foundational digital and IT skill development (e.g., productivity software skills), however students with the potential to move on to advanced IT skill development would be identified and connected to partner higher education institutions. Alliances and collaboration with partner post-secondary institutions could lead to matriculation and continued credentialing. Students would progress through the following five curricular components:

The program's timeline and content could vary depending on the work readiness goals and target jobs that are identified.

Digital Skills / Technical Skills:

1 | General computer basics and digital literacy tasks

2 | Google certification course (e.g., G Suite certification)

3 | Productivity software skills (e.g., Microsoft Office, Google apps)

Internships and Work Readiness:

4 | Internships (on-the-job problem solving & applied learning)

5 | Job shadowing

A Student's Journey through the Digital Skills for the Workplace Program

What would a student's journey look like as they progress through this program? Students would travel along the following pathway (steps):

Pathway:

Cooke's model for a digital skills for the workplace program would seek to help students develop the technical skills needed to gain employment in several entry-level jobs.

1. Faculty at the lead educational institution (e.g. Cooke) would assess student interest and affinity for tech skills via interest surveys, high school internship placement performance, teacher reports and skill acquisition during digital skills classes (e.g. coding class).

2. Students identified as well-qualified candidates for a two-year digital skills program would be enrolled in the program.

3. Students would initially work through Google Suite skills (and achieve certification) before taking Microsoft Office classes.

4. Concurrently, students would be placed on a curated digital skills internship track, to use their newly-developing digital skills on the job. Students would focus on applying hard (digital) and soft skills (communication, problem solving) under the guidance of job coaches.

5. Additional educational partners would provide supplemental coursework and / or online training, as needed, to round out the acquisition and application of digital skills, and to provide community-based educational enrichment.

6. Teachers would help prepare students to sit for outside certification exams (Google certification and MS Office), and vocational rehabilitation staff would provide career-planning services.

7. Business partners would provide ongoing feedback regarding the job performance of interns and would mentor students as they develop their digital skills within the context of a specific job. The lead educational institution would work with business partners to facilitate inclusive hiring opportunities by offering workshops on the benefits of inclusion, workplace diversity and the onboarding / job accommodations needed to increase the recruitment of people with developmental disabilities. Additional educational partners (online training companies, higher education institutions) could lead to matriculation and continued credentialing.

Steps 3, 4, 5, 6 and 7 would take place concurrently and serve to inform the process as students move from training to applied learning. For example, educational partners might provide supplemental coursework and / or online learning in Microsoft Office, or business partners would share feedback on how well student interns are grasping the tasks associated with their jobs. If a business partner wanted to hire a particular student, vocational rehabilitation staff from the educational institution could facilitate onboarding by providing training to HR teams and managers regarding on-the-job support systems and potential accommodations.

In order to be successful in uncovering the full potential of young adults with disabilities, and the neurodiversity initiatives that strive to include them, we must remember that neurodiversity requires an inclusive mindset.

Conclusion:

As educators, corporations and government agencies continue to develop new opportunities and avenues for inclusion, their most significant contributions can be best achieved when they work together. The young adults Cooke serves, who face huge obstacles to employment, need greater support and collaboration between education and business in order to gain access to new work opportunities.

As a result of this research, Cooke and Moody's are developing a Digital Skills for the Workplace Model. Cooke's iteration of a program based on this model would initially target foundational digital skills (productivity software skills) to be used across a variety of industries. However, one of the benefits of an education / business partnership is that adaptation could take place in a systematic way; the training program could be responsive to changes in workforce trends and have the potential to identify students for advance skill development. For example, educational organizations interested in using this model could focus on a variety of other entry-level job titles and tasks, as dictated by the student population they serve and the business collaborators they connect with. Alternative targeted jobs could include: Library Assistant, Inventory / Order Processing Assistant, Administrative Assistant / Office Coordinator or CRM Database Coordinator. Students with the potential for additional IT skill development, could go on to matriculate at partner institutions of higher learning to develop technical skills to fulfill roles such as Software Tester or Network Administrator. These jobs require post-secondary education and specialized learning that is beyond the scope of Cooke's high school curriculum.

A commitment to diversity and inclusion is needed, whether educators are preparing their students for their first steps toward independence through employment, or industry leaders are looking for talented employees to satisfy their customers' needs. For example, Moody's CSR works to improve diversity and inclusion through a variety of partnerships with schools and nonprofits around the world, which includes helping create and expand mentorship initiatives, skills development programs, internships and other educational opportunities for students ages 15-24. As research shows, fostering workplace inclusion can have a positive impact on neurodiverse and neurotypical employees alike. Positive shifts in workplace culture can result from this broadening of perspective regarding how to: handle work tasks, work collaboratively on projects and bring new innovation to internal systems, as well as to constituent services.

These changes may require a change in perspective—a new way of seeing that allows us to glean the strengths and unique talents of each individual. Once we change perspective, we must dedicate ourselves to collaboration that will build a bridge between the educational journey and the pathway to employment. Only by valuing the true spirit of neurodiversity, and seeking the rewards of collaboration, will we reap the benefits that people with disabilities can offer within the workplace. Some have tried to quantify these benefits—loyalty, persistence, innovation, positive attitude—but in the end, the entire point of neurodiversity is that the benefits are boundless. Tapping into that boundless potential should be the goal of all educators and industry leaders alike.

About the Companies

THE COOKE SCHOOL AND INSTITUTE

The Cooke School and Institute is a non-sectarian, non-profit private provider of special education services in New York City, offering a school for students ages 5 through 21, with teacher coaching and training services. Cooke School divisions include the Lower School, Middle School and Upper School (K-12) and Transitions, a program for adults ages 18-21. Cooke also has an active Alumni Association. The Cooke Institute partners with UPK, public, non-public and charter schools to impact the learning of some 6,000 students through its teacher coaching and training activities. Cooke envisions a world in which all people with special needs are included as valued members of their communities, leading independent and purposeful lives.

LEARN MORE AT **cookeschool.org**.

ABOUT MOODY'S

Moody's (NYSE: MCO) is a global integrated risk assessment firm that empowers organizations to make better decisions. Our data, analytical solutions and insights help decision-makers identify opportunities and manage the risks of doing business with others. We believe that greater transparency, more informed decisions, and fair access to information open the door to shared progress. With over 11,200 employees in more than 40 countries, Moody's combines international presence with local expertise and over a century of experience in financial markets.

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MOODY'S FOUNDATION

Established in 2002, Moody's Foundation directs the corporate philanthropy activities of Moody's Corporation, which include employee giving programs and Moody's Corporate Social Responsibility (CSR) program. The CSR program works globally and strategically by focusing on three core areas: empowering people with financial knowledge, activating an environmentally sustainable future and helping young people reach their potential. Moody's employees play an integral role in driving the company's CSR progress through their volunteer efforts, contributions of pro bono expertise, giving and board service on behalf of nonprofit organizations worldwide.

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Diversity and Inclusion Add Great Value

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Soft Skill Development Essential for Success

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Neurodiversity in the IT industry: 6 Employment Trends

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3

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4

1 Diversity and Inclusion Add Great Value

The rise of neurodiversity initiatives within the tech world was sparked by the ideals of a Danish Foundation called Specialisterne.[30] Founded in 2004 by a parent of a person with autism, the foundation fosters employment opportunities for people with autism by revising recruitment practices to target the hiring of talented "specialists" (i.e. people with autism who demonstrate skills, such as attention to detail, innovative thinking, loyalty and honesty, task accuracy). In 2012, Specialisterne USA collaborated with IT industry leaders at SAP and Microsoft to create autism employment programs. Their goal: "to enable 100,000 jobs for neurodiverse people in the United States by 2025."[31]

Because many of the early IT neurodiversity initiatives sprang from Specialisterne's mission, their focus has been on improving employability among people with autism, specifically those with autism who have valuable, high-level analytic skills that fit nicely with the needs of the tech world (e.g., software coding and debugging, quantitative analysis, fraud analysis). The philosophy of creating inclusive assessment methods and recruitment practices to identify the special talents of people with autism has guided the work of Specialisterne, and their impact can be most acutely felt in their partnerships with IT companies looking to recruit a highly-skilled workforce.

The DXC Dandelion Program is one early Autism @ Work program developed by DXC (formerly Hewlett Packard) Australia, in 2015. Their description of the program reflects their expectation of success in realizing benefits derived from inclusion: "The DXC Dandelion Program is an example of the potential for collaborative work between private companies and governments to provide employment opportunities to individuals with autism. It is an innovative, supported work program designed to provide an alternate pathway to employment, and one that is sorely needed, given the established high rates of unemployment amongst people with autism. These individuals, despite having specific needs and requiring some supports, also bring a set of unique skills that can provide a competitive advantage in the workplace. The Dandelion Program recognizes these strengths."[32]

In 2015, when the Dandelion Program partnered with PricewaterhouseCoopers to create an evaluation report regarding its pilot (an initial cohort of 11 employees), it found that the project had an economic impact through a range of benefit channels, including:

Benefits to **individuals** through higher earning capacity

Benefits to **family members / caregivers** by freeing up their capacity

Benefits to **government** through lower welfare expenditure and higher taxation revenue

Benefits to **business** through increased participation and productive capacity[33]

Specialisterne fosters employment opportunities for people with autism by revising recruitment practices to target the hiring of talented "specialists."

One of the unique features of the autism-hiring programs is the way in which benefits manifest themselves across a landscape of inter-related dimensions.

A second report, published by the Dandelion Program in 2017, used initial qualitative and survey research done in conjunction with La Trobe University, to examine potential benefits of the program to individuals, family members, organizations, innovation, productivity and performance and the broader economy.[34]

Reported benefits included:

Individual benefits: sense of purpose and meaning in life; empowerment and contribution; financial independence; supporting family; self-belief; self-esteem; pride

Family benefits: financial independence; adaptive skills (e.g. using transportation independently); motivation; communication; relationships; quality of life

Organizational benefits: (measured by employee engagement survey given to co-workers) belief in the value of the Dandelion Program; no increase in workload or additional responsibilities as a result of the program; inclusion perceived as an important facet of work culture

Innovation, productivity and performance benefits: Dandelion participants created innovations that saved time; deep engagement in their work; capable of producing work of a high standard

Government benefits: based on the employment of 38 individuals in the Dandelion Employment Program, the Australian Federal Government could realize potential savings of AUD $1.4 million

Bottom line

The growth of IT neurodiversity initiatives is gaining momentum, in part because of research findings that suggest broad benefits. One of the unique features of the autism-hiring programs is the way in which benefits manifest themselves across a landscape of inter-related dimensions; the impact of the benefits can be realized across social / emotional, community, financial and productivity / performance channels. These programs have both a social impact and a business impact.

The Autism @ Work Employer Roundtable has seen impressive growth in its membership; this year, the number of companies that joined the roundtable grew from 5 to 15 organizations, and includes IBM, Ford, Fidelity Investments, Ultra Testing, Willis Towers Watson, and Travelers Insurance. [35]

2 Employment Models and Job Roles Vary

The success of an initial group of companies (EY, Microsoft, SAP, and JPMorgan Chase), and their desire to share lessons learned from their new programs, led them to create the Autism @ Work Employer Roundtable in partnership with Disability:IN (a nonprofit that supports business disability inclusion). The Roundtable recently published an Autism @ Work Playbook to share collective learnings, approaches and insights culled from their autism-focused hiring initiatives. The guide lays out the process for creating an Autism @ Work program — from creating a business case to deciding on program scope and employment models, to recruiting and sourcing talent, interviewing and training, and retention and career development. [36]

The initial Autism @ Work programs began by reflecting on four key considerations: scope, program design, planning and pilot execution. There was variation in the initial target job roles, the size of the pilot programs and the program leaders. For example, many firms recruit for software engineers, data scientists, and cybersecurity specialists, but some identified other job roles, including human resources, finance, marketing and fraud analysis. Most of the programs offer full-time employment and internships, with few offering part-time work.

In order to acquire talent and support onboarding and the transition to work in the most successful way, the initial group of autism-focused initiatives realized the need to leverage both internal and external resources. Internal resources, such as HR staff and supervisory staff / managers were just as important as external resources, such as government and local nonprofits that supported vocational rehabilitation. Talent acquisition, onboarding, manager training, new hire training and job coaching services were needed to operate successful programs, and companies realized they couldn't work in isolation.

In addition to these business initiatives, some government agencies have also utilized a business-centric approach to foster employment for people with disabilities. The NYC Mayor's Office for People with Disabilities (MOPD) created a three-year, business-driven initiative called *NYC: ATWORK* designed to connect 1,500 individuals with disabilities with full- or part-time employment, tracking retention for one year. [37] Boasting an impressive list of business partners that includes: TWA, Northwell Health and Uniqlo, MOPD has created targeted recruitment opportunities in the retail, government, IT and hospitality industries. MOPD is facilitating recruitment for entry/mid-level positions as varied as clerical associates, computer service technicians, procurement analysts and auto service workers.

MOPD has also unveiled the abilITy Cisco Academy (produced in partnership with the Institute for Career Development) to provide a six-month Cisco cybersecurity training course, a three-month paid internship, and job placement assistance to adults with disabilities, to increase the number of disabled adults employed in this lucrative industry. [38] The selection of a Cisco certification program in Network Administration and Security means that participants will be trained for high-paying cybersecurity jobs with a sought-after credential, offering a measure of job security. The initiative is likely to improve job prospects for people with physical disabilities, mild learning disabilities and some with developmental disabilities.

These programs have both a social impact and a business impact.

Bottom line

Each neurodiversity program has its own generative start-up process, and the population it targets for recruitment may be based on a variety of factors, including internal and external resources and partners, initial cohort size, hiring needs, the need to train existing managers and teams, and program staff structure. Business and government are seeing the value of partnership, resulting in creative alliances and collaborations.

3 Promising Business Outcomes Reported

Neurodiversity pilot programs have reported a host of benefits derived from the recruitment of people with autism, particularly in the areas of productivity and innovation. Many of these results are still preliminary, and often based on small numbers of employees who participated in pilot programs or have been employed for a relatively short period of time in some of the early programs.

In 2013, when SAP first announced its intention to hire people with autism in partnership with Specialisterne, part of its rationale was the way in which bringing new talent to SAP would spark innovation. "With Specialisterne, we share

a common belief that innovation comes from the 'edges.' Only by employing people who think differently and spark innovation will SAP be prepared to handle the challenges of the 21st century.[39]"

When Ernst & Young evaluated their neurodiversity pilot program, they expected to see positive impacts on people and brand, but the largest impact was on innovation. An evaluation of work quality, efficiency and productivity showed that nine months into the pilot, overall quality, efficiency and productivity between neurodiverse and neurotypical account support professionals were comparable, but

The positive outcomes that come from hiring people with disabilities like autism, along with the development of corporate social responsibility, may spur more companies to shift their thinking about how to construct a productive work team.

within the first month, neurodiverse employees excelled at innovation. The metrics for this included identifying process improvements that reduced the time for technical training by half and resulted in faster rates of learning in how to automate processes, compared to the neurotypical account professionals they trained with. As a result of this efficiency, they used their downtime to create training videos to help all professionals learn automation more quickly.[40]

Findings from a pilot program launched in 2015 at JPMorgan Chase & Co. show that "after three to six months, workers with autism in the Mortgage Banking Technology division were doing the work of people who took three years to ramp up—and were even 50 percent more productive.[41]" Overall, the Autism @ Work employees were 48 percent faster and as much as 92 percent more productive.[42] James Mahoney, global head of Autism at Work at JPMorgan Chase attributed this productivity to a variety of factors, including strong visual acuity, attention to detail and exceptional concentration abilities.[43] Since 2015, JPMorgan's program has grown to over 150 employees in eight countries, with a retention rate of 99%.[44]

In addition to benefits in innovation and productivity, anecdotal comments by managers at companies with neurodiversity initiatives suggests that managers who work with neurodiverse employees experience a shift in thinking that results in the managers exploring ways to leverage the talents of all employees, with greater sensitivity to a worker's needs.[45]

The rise of corporate social responsibility is an important catalyst that supports many of the corporate neurodiversity initiatives. In fact, studies conducted among millennial employees show that 64 percent of them will not take a job if a company doesn't have strong corporate social responsibility values, and 88 percent say their job is more fulfilling when they have a chance to make a positive impact on social and environmental issues.[46] The positive outcomes that come from hiring people with disabilities like autism, along with the development of corporate social responsibility, may spur more companies to shift their thinking about how to construct a productive work team, one that will have a greater impact on the world around them.

Bottom line

Deriving business benefits: productivity and efficiency, innovation, employee training, improved work processes, meeting the demand for talent and improved manager performance (e.g., better manager-employee communication) resulted in the expansion of the initial pilot programs at SAP, EY and JPMorgan Chase. These benefits are in addition to those derived from creating a culture of inclusion and having a social impact.

Training helps create a more inclusive work environment, and can include autism awareness training for managers, as well as technical and soft skill training for new recruits.

4 New Recruitment and Onboarding Practices Developed

As neurodiversity initiatives start to gain traction in the IT industry, company execs have sought ways to learn from one another about the benefits of restructuring hiring practices, supervision and management protocols, and retention strategies. Disability:IN has created an Autism @ Work Roundtable.[47] Companies that have run an autism-based work initiative for one year can join the roundtable. A roundup of Autism @ Work programs shows they typically have a well-formed, pre-screening plan and a modified assessment program to aid with recruitment and uncover talent that may be overlooked using traditional recruitment methods (often modeled along the lines of Specialisterne's assessment protocols). The Autism @ Work Playbook guides companies through the process of recruiting and sourcing talent, designing an appropriate interview and selection process, training considerations, onboarding and support circles and retention, and career development.[48]

Training for both new recruits and existing managers and supervisors working with neurodiverse employees is a key component of most autism-focused hiring programs. The goal is to give all workers the best opportunity to become effective collaborators. Reports from leading firms indicate that providing autism awareness training to managers and employees has a spillover effect in helping them become better managers for all employees.[49]

Bottom line

Business leaders are discovering the benefits of adaptation by trying new recruitment practices, creating innovative onboarding programs and giving employees access to job coaches and mentoring systems.

5 Internship Programs Vital to Workplace Readiness

Research shows there is a narrow window in which most young adults need to get their first job in order to secure sustainable employment and future career growth. A national survey found that adults with intellectual disabilities fared better in the employment market if they demonstrated higher adaptive behaviors (e.g., self-care, communication skills, leisure skills, social skills) and were able to live in a group home rather than with their families.[50] Both are indicators of the level of independence a person has achieved, and one of the main reasons why Cooke School and Institute's mission is

to foster independence. The integration of adaptive services that focus on preparing students for independence in their homes, workplaces and communities, is a vital educational goal.

Additionally, work experiences have to start early. The same survey found that for every decade over the age of 21, the odds of an individual with an intellectual disability being employed in a competitive setting were 1.3 times less likely.[51] Competitive employment is skewed toward

Working in a variety of job settings, while doing a variety of tasks, helps students refine their interests, strive to acquire new skills and find a place for their ideas and work within the larger community.

younger workers. The average age at which young adults with intellectual disabilities attained their first competitive job was 19.7 years.[52] This means that if people with intellectual disabilities don't enter the work pipeline early, their chances of securing employment, at some later time, are diminished. It's critical that young adults learn adaptive skills, alongside opportunities to work. For example, Cooke's comprehensive adaptive skills curriculum helps students learn how to achieve independence by participating in everyday tasks in real-life settings, such as a grocery store, bank, restaurant or apartment lab. Cooke pairs this adaptive skill-building with an internship program that begins in 9th grade; students have a new internship every year until they reach age 21 (in both Cooke's high school program and its young adult transition program).

Cooke students have utilized technology during internships at Moody's, New York University and Strategic Group. Most of the internship work has involved using digital tools (e.g., Excel spreadsheets and PowerPoint slides) to organize data as clerical support staff. The use of technology is typically not at a high level, but students develop a facility for skills, like data entry, through successive internships. For example, Dan, a student interning at Strategic Group, found he gravitated toward clerical tasks, such as creating PowerPoint slides and doing data entry. "I like clerical work, especially typing, which makes me feel calm. I think that working at NYU helped me know that I like clerical work." Neurodiverse candidates are by their very nature, diverse. Traditionally, young adults with developmental disabilities have found employment in low-skill / low-paying job sectors, including food service,

maintenance and retail, but Cooke alumni continue to indicate their aspirations to achieve greater proficiency in fields such as technology, to acquire entry-level jobs that serve an office support role. A survey among Cooke alumni found that 43 percent had an interest in developing skills in the area of technology, and 44 percent wanted to further develop their vocational skills (e.g., time management, resume and interview support). Internships are a valuable pathway toward upskilling and vocational readiness. For one Cooke alumna, an internship at Strategic Group led to a job as an office coordinator.

The Autism @ Work initiatives hire mostly full-time workers and interns for inclusion in their program. Some programs, like the Neurodiversity at Work Internship Program at Freddie Mac, design an internship around a candidate's skills, pairing interns with interested business divisions. Freddie Mac partnered with the Autistic Self Advocacy Network to create a 16-week, paid internship program, and since 2012, the company has hired nine out of its 17 interns as full-time employees.[53] Recent intern positions include IT Generalist, Loan Processing Senior, Business Process Associate and Quantitative Analytics Associate.

Bottom line

The path to employment often begins before students transition out of high school. First job acquisition needs to take place early (18-21 years) to optimize the opportunity for ongoing employment.

⑥ Soft Skills Development Essential for Success

Soft skills are essential to being successful in the workplace, and it's predicted that as businesses rely more heavily on artificial intelligence and machine learning, the value of innovative thinking, collaboration and other soft skills will increase.[54] IT companies, such as SAP, have embedded the acquisition of soft skills into their hiring practices, devoting a week of training in soft skills to their Autism @ Work recruits.[55] In 2016, the Society for Human Resource Management (SHRM) conducted an Entry-Level Applicant Job Skills Survey among HR professionals randomly selected from their membership.[56] The findings revealed that soft skills, such as dependability, integrity and teamwork, ranked highest.[57]

These soft skills are often overlooked in our current educational system, perhaps because they are difficult to teach in isolation and are often best facilitated through applied learning, such as within a collaborative group project or during an internship. Because they are critical to both adaptive skill development and employability, Cooke has integrated lessons on 10 workplace readiness skills (e.g.,

teamwork, response to supervision, problem solving/critical thinking, taking initiative and communication skills) into its transition coursework and internship program. Using a Workplace Readiness Assessment (WRA) tool, adapted from the Department of Labor, every student is accompanied to their internship site by a Community Inclusion Assistant (a job coach) who helps them acclimate to the workplace and build soft skills through the WRA.

> **Bottom line**
>
> The use of soft skills is critical to success in the workplace. Integrating soft skills development into vocational programs helps teach these skills in context and has the potential to make a difference in the hiring process as a valuable skill set that human resource managers will notice.

Teaching soft skills in applied settings, such as during an internship, is essential to fostering mastery.

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