

Digital Jobs for Youth with Disabilities

February 2021



The COVID–19 pandemic has had massive ramifications for the digital economy. The digital transformation of work and education that was already underway before the crisis is accelerated as governments, firms, and workers seek ways to minimize human interaction to stem transmission. There is a growing recognition of the importance of digital work opportunities and telework. Businesses are increasingly adopting digital tools to stay afloat. Recent development in digital work opportunities also presents an opportunity to ramp up efforts to include youth with disabilities. The inclusion of persons with disabilities is an essential part of the World Bank Group’s Jobs and Economic Transformation agenda. However, youth with disabilities face many barriers to accessing the new digital opportunities, including lower access to the internet and smartphones, inherent biases in digital platforms, stereotypes, and infrastructure limitations.

This Thematic Note highlights five strategies that programs have used to overcome challenges and increase access to youth with disabilities in digital jobs. These include incorporating disability-sensitive design in training programs, providing accessible environments, exploring the gig economy and outsourcing jobs, using opportunities of digital entrepreneurship and e-commerce, and engaging private sector employers. The note highlights different case studies and discusses factors that would be necessary for scaling.

1. INTRODUCTION

1.1 YOUTH WITH DISABILITIES: CONTEXT

Youth with disabilities¹ are among the poorest and most marginalized of the world’s youth. There are between 180 and 220 million youth with disabilities worldwide². Youth with disabilities face many disadvantages as individuals with disabilities are more likely to live in poverty, including in developed countries³. Nearly 80 percent of these youth live in low- and middle-income countries⁴.

Youth with disabilities experience more adverse socioeconomic outcomes than youth without disabilities. These include less education, lower employment levels, and higher poverty rates and are far more likely to be *unemployed, underemployed, or economically inactive*. According to the [Disability Data Review](#), **youth with disabilities have lower literacy levels than youth without disabilities** (Figure 1) and an estimated 18 percentage points between the two groups' average literacy rates.

¹ For the purpose of this series, the concept of “disability” will be defined as is consistent with the UN Convention on the Rights of Persons with Disabilities (CRPD) (Art. 1), Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.

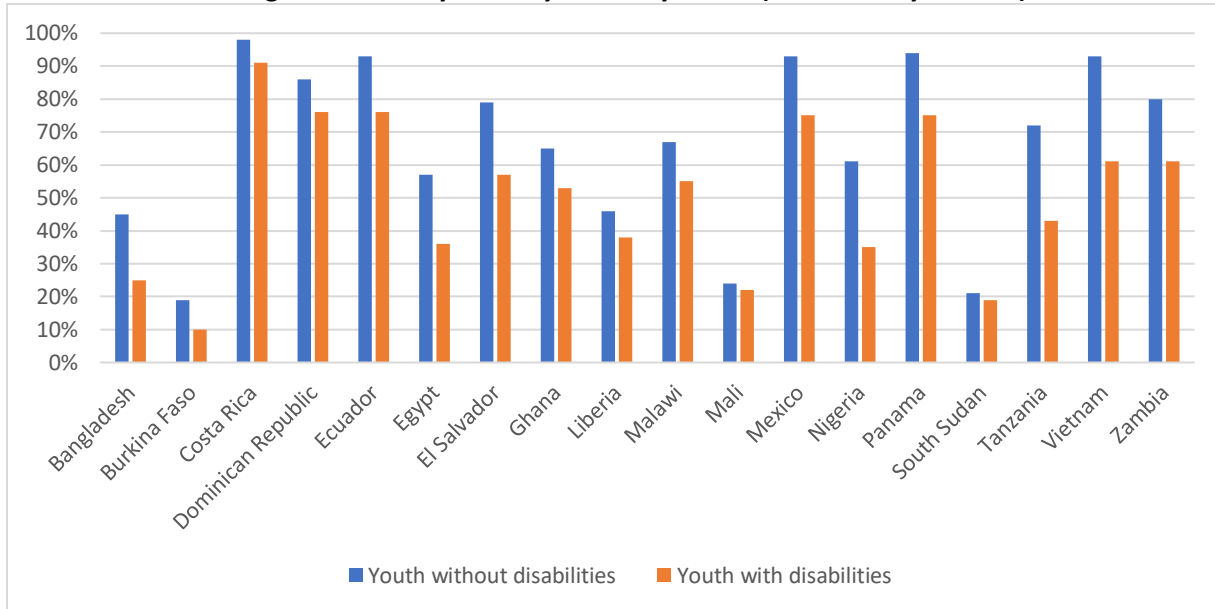
² <https://www.un.org/development/desa/youth/youth-with-disabilities.html>

³ Fact Sheet: Youth with disabilities–

<https://social.un.org/youthyear/docs/Fact%20sheet%20youth%20with%20disabilities.pdf>

⁴ <https://www.un.org/development/desa/youth/youth-with-disabilities.html>

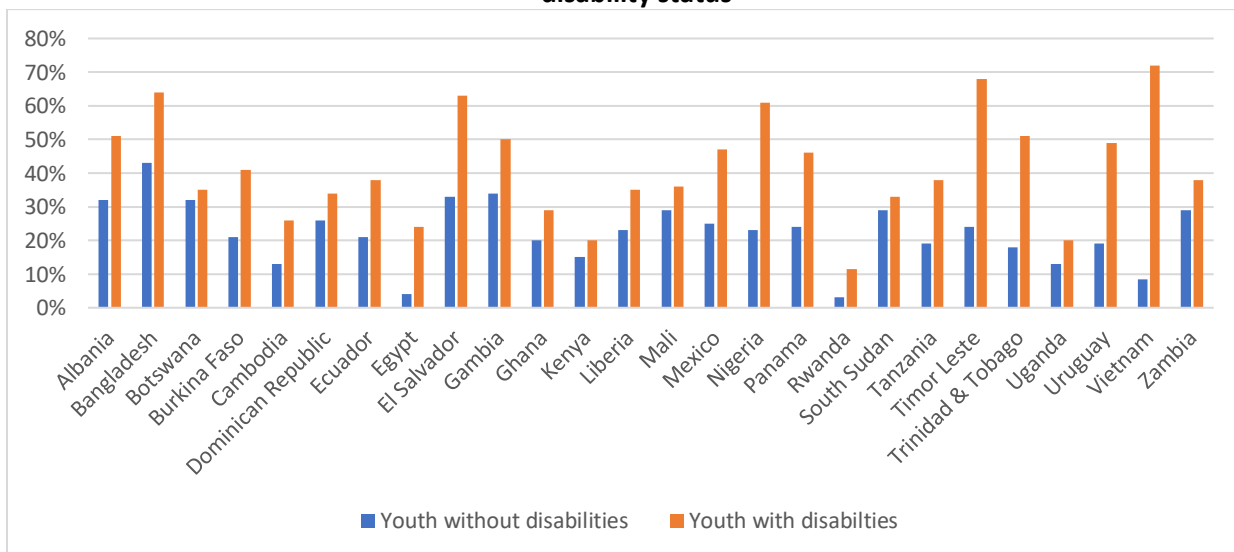
Figure 1: Literacy rates by disability status (at least 25 years old)



Source: [Disability Data Review](#)

Youth with disabilities are twice as likely to be not in education, employment, or training (NEET) (Figure 2). Recent [estimates](#) found that out of the 40 countries surveyed, Vietnam had the highest proportion of young people who are not enrolled in school/training and are not working (72%), and a wide gap (64 percentage points) between youth with and without disabilities.

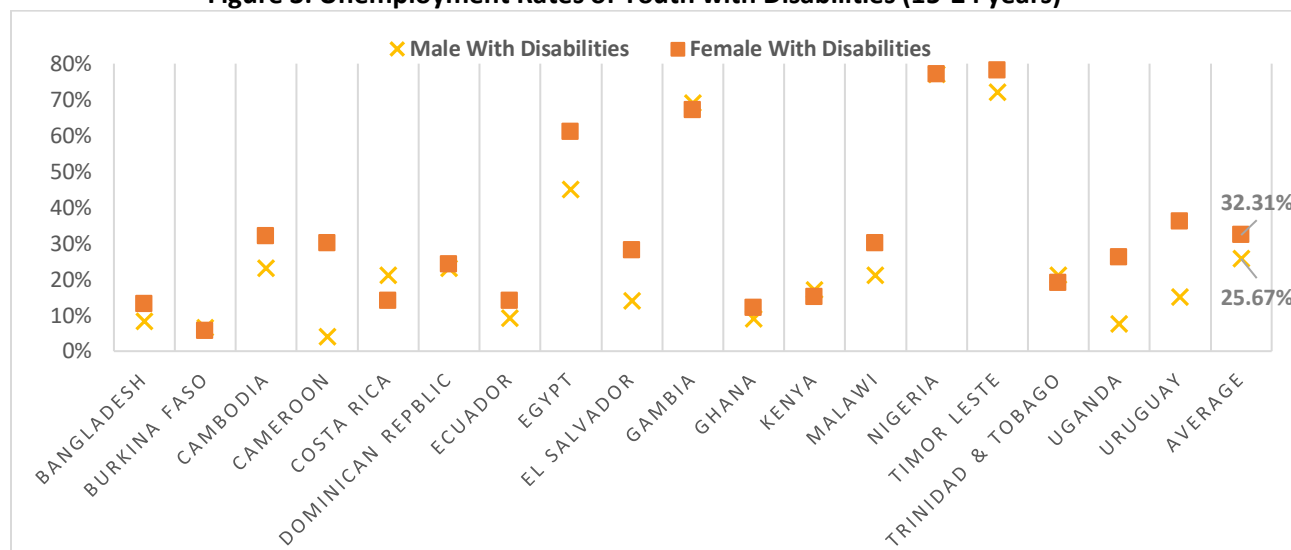
Figure 2: Proportion of youth (aged 15-24 years) not in education, employment, or training by disability status



Source: [Disability Data Review](#)

Low participation rates in education, training, and other factors detailed in sections below lead to high unemployment rates for youth with disabilities, averaging around 28% in some developing countries (Figure 3). In some countries of the Asia- Pacific region, the unemployment rate for people with disabilities is over 80%⁵. Young women with disabilities face higher unemployment rates than youth men with disabilities (32% and 25% respectively⁶).

Figure 3: Unemployment Rates of Youth with Disabilities (15-24 years)



Source: [Disability Data Review](#)

Additionally, households with members with disabilities generally have lower incomes than other households and are at a significantly higher risk of living below the poverty line⁷. In some instances, where parents and family members take on caregiving roles (mostly women), they are often required to give up employment or sustainable livelihood activities due to limited government support. Additional costs related to their family members’ disability also have a bearing on the household.

Thus, it is harder for youth with disabilities to benefit from development and escape from poverty. This exclusion of persons with disabilities from the labor markets has both a social and an economic cost, which is estimated to be between 3 and 7 percent of GDP⁸.

1.2 YOUTH WITH DISABILITIES FACE UNIQUE CHALLENGES IN ACCESSING JOBS

Youth with disabilities experience a double burden when entering the labor force. They face obstacles that young people face in entering labor markets and face additional infrastructural, institutional, and attitudinal barriers related to their disability. They are often at a disadvantage and enter the labor market with a skills deficit and a lack of previous work experience. In instances where they are employed, they are more likely to be in low-paid jobs with poor career prospects and working conditions. Common

⁵ ILO, 2002

⁶ Source: https://www.disabilitydataportal.com/fileadmin/uploads/lcdp/Documents/report-web_version.pdf

⁷ (Loeb & Eide, 2004; Hoogevan, 2005)

⁸ [The price of exclusion : The economic consequences of excluding people with disabilities from the world of work](#)

challenges faced by youth with disabilities in accessing jobs – employment and entrepreneurial activities– are summarized below (Table 1).

Table 1: Common challenges faced by youth with disabilities in accessing jobs

<p>Inaccessible physical and digital infrastructure</p>	<ul style="list-style-type: none"> • Barriers in classrooms, workplaces, shared-use areas such as toilets and cafeterias (including a lack of signage, navigation). Digital tools, platforms, and other technology products and services often exclude youth with disabilities. • Due to lack of accessible public transportation, youth with disabilities often face additional out-of-pocket costs to access skills programs. • Measures to address barriers usually only consider persons with physical/mobility disabilities.
<p>Training design & implementation</p>	<ul style="list-style-type: none"> • Youth with disabilities are often placed in skills training programs in segregated settings where the curriculum is not linked to labor market requirements⁹, making them less marketable to employers. The trades that are often taught are not responsive to the labor market requirements. Programs often make limiting assumptions about capabilities of people with disabilities. • The criteria for admitting training candidates, such as age, minimum educational qualifications, and previous work experience, often inadvertently discriminate against candidates with disabilities. • Trainers need to be trained and equipped to differentiate their strategies and accommodate different learning types in their classrooms/training. Trainers who are not certified in these adapted approaches may perpetuate stereotypes and cause further alienation/harm to persons with disabilities. • Training programs are typically in urban areas, often distant from where people with disabilities live and disconnected from accessible transport. • Lack of reasonable modifications to performance assessment and evaluation procedures may inadvertently prevent trainees from demonstrating their learning and capacity.
<p>Lack of inclusive business development services</p>	<ul style="list-style-type: none"> • Persons with disabilities are often denied the ability to open bank accounts, loans, and startup capital due to inaccurate assumptions about their productivity. Financial institutions often lack disability sensitivity and training and accessible frontline staff materials. • Support services, including web-based services, may not be available in accessible formats such as Braille and sign language. • Premises where support is provided may not be accessible. Accessible transportation options may be limited or expensive, restricting persons with disabilities from meeting new clients, discovering new products, etc. • Funders face pressures to move quickly onto the next case rather than provide longer-term support to those assisted (a ‘tick-box culture’). • Access to new markets to grow their businesses: It might take more work for an entrepreneur with a disability to win over potential clients because of stigma and a lack of faith in a disabled entrepreneur's abilities
<p>Stigmatization</p>	<ul style="list-style-type: none"> • Societal norms, stereotypes, and prejudices, including those held by immediate family members, negative productivity assumptions, and in some instances, low self-esteem. Negative perceptions of employers that youth with disabilities are less productive than their non-disabled peers and require additional assistance may create concerns about initial hiring costs (e.g., building ramps, accessible IT). • However, studies have shown that most accommodations do not impose significant financial costs to the employer and that person without disabilities

⁹ [Labor Market inclusion of people with disabilities, ILO, 2018](#)

	use and benefit from supportive workplace policies and practices ¹⁰ . Youth with disabilities are given little room for error and are quickly labeled unemployable.
Intersectionality	<ul style="list-style-type: none"> • The intersection of disability with other identities such as gender, ethnicity, indigenous identity, and migrant or refugee status can compound the disadvantages youth face in accessing jobs. • Educated young women with disabilities are reported to take a longer time to find a job¹¹.

1.3 OPPORTUNITIES FOR YOUTH WITH DISABILITIES IN DIGITAL JOBS

Technological advances have given rise to a growing digital economy, creating new forms of work and digital job opportunities (Box 1). Large companies are increasingly contracting smaller firms in other countries to perform entire business processes and functions. The digital ‘gig’ economy is an important and growing source of new digital jobs characterized by flexible work arrangements and supported by platforms such as [Upwork](#) and [Amazon Mechanical Turk](#). COVID–19 pandemic has also contributed to increased digital opportunities and a growing recognition of telework and remote opportunities. The digital transformation of work and education already underway before the crisis is being accelerated as governments, firms, and workers seek ways to minimize human interaction to mitigate viral transmission.

Box 1. What are digital jobs and digital skills?¹²

All work that uses, or is made possible by, ICT may be considered “digital work”—a broad definition that encompasses most jobs in advanced economies. “Digital work” is not just about careers within the ICT industry. There is a growing demand for digitally skilled workers outside the ICT industry. Digital jobs exist across all sectors, but they vary in how much they rely on technology.

Broadly, there are three types of digital jobs:

- **ICT-intensive jobs** directly created through the ICT sector and intensively using ICT, such as mobile app development.
- **ICT-dependent jobs** that cannot be performed without technology, such as online freelancing work and customer call centers.
- **ICT-enhanced jobs** that use digital technologies but could be performed without ICT, such as accounting and graphics design.

For youth to successfully perform digital work, they must develop digital skills. Digital skills exist on a continuum, ranging in level from basic to advanced:

- **Advanced Digital Skills:** necessary to create, manage, test, and analyze ICTs, related to application development, network management, machine learning, big data analysis, among others.
- **Intermediate Digital Skills:** job-ready skills needed to perform work-related functions, such as desktop publishing, digital graphic design, or social media management.
- **Basic Digital Skills:** generic ICT skills required that relate to the effective use of ICT, including performing web searches, sending emails, or using professional online platforms.

Additional work-relevant skills that youth need to succeed in the digital economy include cognitive skills, socio-emotional skills, and foundational literacies.

¹⁰ Schartz, Hendricks & Blanck, 2006; Schartz, Schartz, Hendricks & Blanck, 2006.

¹¹ Roggero et al. 2005.

¹² S4YE (2018). Digital Jobs for Youth: Young Women in the Digital Economy.

Ensuring youth with disabilities can participate and benefit from the digital jobs is critical. Teleworking and remote distributed work opportunities through the internet can facilitate new opportunities for youth with disabilities¹³. This is especially important in communities with significant physical barriers to work and for young women with disabilities. Flexibility in managing time and place of work can greatly benefit some persons with disabilities, thus improving their work-life balance. It offers opportunities for some that might not be able to work full time or at set times. Persons with disabilities with different education levels can access digital jobs since some require high skills and others are entry-level jobs (Box 1). Thus, digital jobs experience can also help youth with disabilities establish a work history and develop a professional network for future opportunities. The emergence of new assistive technology has shifted the human-task interface parameters in ways that can re-balance the playing field towards persons with disabilities.

While digital jobs offer many new opportunities for youth with disabilities, there are also challenges. It is important to consider the *technology, social and policy* challenges related to digital jobs. These include but are not limited to lack of accessibility of digital tools and other infrastructure, online platforms' biases, lack of adequate social protection measures, and risks of isolation¹⁴. In the sections below we detail these issues and also share possible solutions which practitioners and policymakers could consider while designing inclusive digital jobs strategies.

¹³ [Bridging the Disability Divide through Digital Technologies](#), 2016, Deepti Samant Raja, World Bank

¹⁴ Sec 2.6 details these challenges

2. WHAT WORKS: INCLUSION OF YOUTH WITH DISABILITIES IN DIGITAL JOBS

To stimulate digital youth employment, practitioners must understand the demand drivers¹⁵ for digital jobs, in addition to the supply of available skills for youth with disabilities to perform those jobs. S4YE’s flagship report, [Digital Jobs for Youth: Young Women in the Digital Economy](#), states that by mapping the drivers of digital jobs, policymakers can better target investments for different youth populations. E.g., microwork for rural youth with disabilities with limited digital skills may be prioritized, whereas digital entrepreneurship may be a better option for college-educated youth with disabilities.

This thematic note will build on previous work and focus on strategies to make digital jobs opportunities inclusive for youth with disabilities. The section describes a few examples of approaches led by development organizations, nonprofit organizations, private sectors, and governments that have attempted to support youth with disabilities in digital jobs. Five main types of strategies¹⁶ have been identified in this note. Table 2 lists these strategies.

Table 2: Five strategies for inclusion of youth with disabilities in digital jobs

Design disability-sensitive training programs	<ul style="list-style-type: none"> • Incorporate a multi-mode/ blended approach to skills training • Include an enhanced social-emotional skills component • Include post-placement and transition support • Designing peer training support can be effective • Work with educational institutions to develop comprehensive approaches
Provide accessible environments	<ul style="list-style-type: none"> • Use recent developments in assistive technology solutions • Partner with technology companies and co-develop products with youth with disabilities
Explore gig economy and outsourcing jobs	<ul style="list-style-type: none"> • Remote gig jobs and business processing outsourcing jobs can help youth with disabilities circumvent many social and economic barriers • Digital gig platforms need to be proactive about disability inclusion
Use opportunities provided by digital entrepreneurship and e-commerce	<ul style="list-style-type: none"> • The right ecosystem can help youth with disabilities start and grow their businesses, creating more jobs (and growth) in the economy • Use tech solutions for providing experience with life-like situations • Use supplier diversity programs to improve access to markets for entrepreneurs with disabilities
Engage private sector employers	<ul style="list-style-type: none"> • Programs need to work closely with private sector employers to understand their needs, strengthen relationships, and reduce misconceptions • Work with different levels of the private sector, i.e., leadership teams, hiring managers, and HR teams, to make them disability confident • Apprenticeship and internship opportunities can create low-cost and low-risk ways to enable employers to test working with youth with disabilities • Small and Medium Enterprises (SMEs) may need community-based solutions, innovative networking, and tailored support

¹⁵ [Digital Jobs for Youth: Young Women in the Digital Economy](#) identifies four drivers of demand for digital jobs: (a) Public Sector, (b) Private Sector, (c) Online Outsourcing, and (d) Digital Platforms for Improving Livelihoods.

¹⁶ **NOTE:** The interventions and examples are not exhaustive and do not follow any criteria such as geography.

2.1 Design disability-sensitive training programs

Demand-led training and upskilling programs with appropriate accommodations are critical for youth with disabilities to enter the digital jobs market.

Incorporate a multi-mode/ blended approach to skills training

A blended approach that combines online and classroom training can provide a convenient and accessible alternative to in-person training programs. This approach provides youth beneficiaries with the flexibility to complete assignments while still fulfilling other demands on their time. It also helps familiarize youth with technology, an essential skill for accessing better digital jobs. This is particularly important to ensure young women's participation who face a disproportionate household and care responsibilities burden. On the other hand, incorporating classroom training in centers that offer reliable computer and internet access may help those with limited ICT access at home to overcome access barriers. A blended approach can also reduce transportation (Box 2) that is often inaccessible, especially for rural youth with disabilities.

Box 2. A blended approach to training delivery

Training for Business Process Outsourcing (BPO) jobs: [Digital Data Divide \(DDD\)](#), a global social enterprise linking marginalized youth with digital jobs, recruits and trains youth to work as data management operators to deliver BPO services to their clients. DDD recruit's youth from disadvantaged areas (10% of whom are youth with disabilities) to undergo business education, social-emotional and technical skills training. The training combines in-classroom face-to-face learning (70%) and online learning (30%). This provides youth with the flexibility to complete assignments according to their schedules, reduce expenses while also developing team building and communication skills through in-person group activities.

Pivoting to an online delivery model has become even more critical during COVID-19 to allow for continued learning of youth beneficiaries in hard-to-reach areas and increase the scope and scale of training programs (Box 3).

Box 3. Pivoting to online training for youth with disabilities during COVID

[Youth 4 Jobs \(Y4J\)](#), a 45-day digital skills-training program targets young men and women with speech, hearing, and vision disabilities between 18 and 20 living in rural areas in India. The organization pivoted to online training as a response to COVID. 1) The team adapted its earlier training program by providing **a mix of live and pre-recorded content**. WhatsApp, Google Hangouts, and Zoom were used for the live sessions, while for the pre-recorded sessions, Facebook Private Groups were used. 2) **Assessments:** the first assessment done mid-way through the course and a second assessment at the end. These were conducted mainly through Google Forms and live video calls, and certificates were given to candidates once when they completed the course. More than 1000 youth have been trained and certified this way. 3) **Increased enrollment:** Girls, who would not come to the resource centers earlier, had enrolled more because of the relative safety of their homes.

Include an enhanced social-emotional skills component

Research shows that a lack of appropriate social-emotional skills training for persons with disabilities contributes significantly to their high unemployment rate¹⁷. Social-emotional skills are critical for getting

¹⁷ Park, E., Kim, J., & Kim, S. (2016). Meta-analysis of the effect of job-related social skill training for secondary students with disabilities. *Journal of Vocational Rehabilitation*, 44(1), 123-133. doi:10.3233/jvr-150785

and keeping a job as they affect crucial ‘work’ skills, including interviewing, managing productivity expectations, learning how to do tasks, and interacting with co-workers. Skills such as critical thinking, analytical capacity, emotional intelligence, and cognitive flexibility have become essential for all youth¹⁸. A recent study by the World Economic Forum showed that data-related jobs would be most in-demand in the coming years, where problem-solving skills will be critical¹⁹. These new opportunities will also require social and personal skills along with specific technical expertise.

Youth with disabilities often do not have opportunities and experiences to develop the necessary social-emotional skills. From [Enablecode’s](#) (a Vietnamese company that employs computing experts with disabilities) experience, machine learning developments have shifted the focus of digital skills training from intense technical curricula to a more context-based understanding of programming. Youth with disabilities who have been beneficiaries of charities often lack confidence when entering a workplace. Young women with disabilities need additional support to gain confidence. Enablecode’s participants are encouraged to join local social-emotional skills training programs. Those who complete these programs are then further trained in digital skills and supported with job placements.

Technology-based solutions like gamification can support the building of social-emotional skills. Innovative simulations could help provide a safe environment where learners can practice real-life scenarios, such as job interviews, and instantly see the impact of their decisions. Under its [Access to Livelihoods](#) program, Leonard Cheshire partnered with Accenture’s Skills to Succeed Academy to provide skills training to 13,000 youth with disabilities in South Asia and South Africa. The program offers 36 bite-sized, interactive modules with engaging and relatable characters. It focuses on building confidence to empower jobseekers to take ownership of their job search. The gamified curriculum helps develop problem-solving, critical thinking, creativity, collaboration, and leadership through a modular approach.

Include post-placement and transition support

Dedicated placement support through placement officers/job coaches are critical to support the transition process. Placement officers can advocate with employers and continue to support the relationship in the transition period. For example, [Digital Data Divide\(DDD\)](#) provides dedicated placement officers to liaise with employers to advocate for youth with disabilities after their placements and encourage youth. This also helps mitigate the risk of isolation and exclusion these youth might face in their initial placement period²⁰.

Continuous engagement with private employers can help businesses adapt their workplaces to be more accessible and inclusive. [V-Shesh](#), an Indian social enterprise that assists youth with disabilities in accessing digital skills training, also works with over 200 companies to help them become more disability-inclusive through— awareness and sensitization sessions, inclusion-focused consulting, diagnostics on readiness, access audits; inclusion assessments, and benchmarking.

¹⁸ [Making the future of work inclusive of people with disabilities](#), Fundación ONCE and ILO Global Business and Disability Network, 2019

¹⁹ Future of Jobs Report: 2018, WEF: http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf

²⁰ Concerns on the long-term sustainability of this approach need to be addressed at the program level—based on scope, the budget of the program, etc.

Designing peer training support can be effective

Peer training can be very helpful for youth with disabilities²¹. Peer training can help build confidence and manage stress factors²². Mentors and peer support groups can also help break down preconceived notions, challenge stereotypes, and increase training effectiveness. For example, in Cambodia, a home-based peer-training program, [Alleviating Poverty through Peer Training \(APPT\)](#), encouraged village entrepreneurs in rural villages to teach technical and business skills to persons with mobility and vision disabilities. 80% of participants started their own business as a result of this program.

Work with educational institutions to develop comprehensive approaches

Employability gaps in youth with disabilities are directly correlated to the lack of inclusive schooling and higher education. Training programs can work directly with educational institutes to reduce this gap. For example, [V-Shesh](#) provides access to digital skills training and basic education. The enterprise is working on school-based pilots to boost English language skills for deaf children using sign language and adapted materials. English comprehension is considered an asset for employment in India and can be a barrier for a deaf person to enter the labor market.

Similarly, more support and awareness building within higher education institutions is also necessary to lower dropout rates. Higher education institutes can become more inclusive by creating an office of accessibility with resources for students, developing a training program for faculty and staff, increasing access to instructional materials and technology, and developing a peer program for students with disabilities.

2.2 Provide accessible environments

The inaccessibility of traditional educational, employment, information, and social environments is a primary cause of marginalization for youth with disabilities. Programs working with youth with disabilities should assess the accessibility of their physical space and any online training tools to provide barrier-free access. Incorporating a universal design approach²³ will benefit trainees with disabilities as well as their peers without disabilities²⁴. This process can begin with accessibility audits (Box 4) of public transportation classrooms, restrooms, cafeterias, teaching materials (such as computers, headsets, materials in adapted formats such as Braille, sign language, audio), and emergency evacuation facilities.

Box 4. Accessibility audits

Workplace: Before placing youth in internships, [Save the Children](#), as part of a skills training program in Indonesia, conducts a workplace assessment to evaluate the readiness of employers to receive young interns with disabilities. The assessment focuses on physical spaces, facilities, and workplace policies. Specific examples of

²¹ https://www.iclife.eu/uploads/1/0/2/1/102130950/ic_life_output_2_buddy_system.pdf

²² https://www.iclife.eu/uploads/1/0/2/1/102130950/ic_life_output_2_buddy_system.pdf

²³ Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. An environment (or any building, product, or service in that environment) should be designed to meet the needs of all people who wish to use it. (Source: <http://universaldesign.ie/What-is-Universal-Design/>)

²⁴ For example, assisted doors are necessary for access for people with mobility impairments but they also benefit a person who is carrying a bulky item and is trying to open an exterior door.

workplace changes made due to the program include clearer signage and better lighting, modification to workspaces and schedules to increase flexibility, and more supportive instruction for persons with disabilities.

Training Centers: In its project focused on training youth with deafblindness in Uganda, [Sense International-Uganda](#) works with partner vocational training institutes to conduct a mandatory assessment of learning environments and suggests adaptation to reduce the risk of accidents and falls. Adaptations generally include adding walkways connecting dormitories, classrooms, workshops, ramps to replace staircases, and clear paths with gradual inclines to reduce fall risk along steep slopes.

The design approach used in the development of online and mobile tools must also be responsive to the users' specific types of disabilities and consider aspects such as digital literacy, attitudes towards technology, etc. (Box 5)

Box 5. Disability – sensitive digital design²⁵

User Interface Design: Text should be easy-to-read and well-spaced, and ideally in large font; Navigation should be clearly and consistently signposted throughout a page; White space should be utilized make text, images, and links easy to locate; Color palettes should be carefully considered to accommodate users with color blindness.

Alternative Text: All images should have accompanying captions and hover-over descriptions to explain the contents for users with visual impairments; All video content should have accompanying captions.

Alternative Audio: Audio versions of text content should be recorded to accompany the text for use by users with speech disabilities; Accompanying audio descriptions of videos should be produced, describing the content for users with visual disabilities.

Use recent developments in assistive technology solutions

Information Communication and Technology (ICT) solutions, identified as enablers in the United Nations Convention on the Rights of Persons with Disabilities (CRPD), help break traditional barriers to communication, interaction, and access to information for persons with disabilities²⁶.

Box 6. Common Terms²⁷

Accessibility: The characteristics of products, services, or environments designed to include persons with disabilities.

Web accessibility: Concrete examples of this could be to ensure that color contrasts are not a problem for users with vision disabilities; persons with dyslexia can get texts read aloud, or people with shaking or big thumbs can hit that buttons and links²⁸.

Assistive technology: Technology that has been specifically designed to help a person with a disability perform a task. Assistive technology alone does not guarantee access for persons with disabilities. Interfaces such as websites must be designed with accessibility in mind for people to be able to use them.

²⁵ Adapted from feedback received from [Every1Mobile](#)

²⁶ <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>

²⁷ Adapted from Understanding the mobile disability gap Insights on mobile phone access and usage by persons with disabilities in Kenya and Bangladesh, GSM, 2019 & [Partnership on Employment and Accessible Technology](#)

²⁸ The Web Content Accessibility Guidelines (WCAG) provide recommendations for making Web content more accessible

Digital technology facilitates persons with disabilities' participation in training and jobs by offering flexible and multiple modes of delivery and interaction, including text, audio, graphic, and touch gestures²⁹. Many assistive technologies and built-in accessibility features in mainstream digital technologies break long-standing access barriers (Table 3).

Machine learning and other A.I. can help fine-tune job matching processes. A combination of A.I. and augmented reality could improve on-the-job training and the effectiveness of learning systems (for example, automatically offer learning modules based on individual needs, just-in-time learning) for youth with disabilities³⁰. AI is also being used in digital job matching platforms to make them more intuitive and accessible. For example, Leonard Cheshire Disability is working with Microsoft AI to collect data to develop an algorithm that will help job seekers with disabilities on its digital jobs platform [JobAbility](#) to identify their interests and career goals in an accessible and intuitive way. Information gathered will reveal confidence issues that could be holding candidates' back from applying for roles or pursuing careers and provide a detailed profile of a candidate's skills beyond those gained in employment or training. It is important to note that such tools/ digital platforms can exacerbate traditional employment programs' biases if they are not designed in an inclusive way. *Section 2.6 below highlights some of these issues.*

Low-cost mobile applications can also help provide ongoing learning opportunities for youth with disabilities in hard-to-reach communities. [Educate!](#) in Rwanda has developed a distance learning model with multi-mode delivery– through written SMS and audio phone messages & radio– to make it inclusive. Using basic voice/SMS capabilities, this program can be delivered to youth with disabilities from low-income households who do not have access to expensive smartphones. Educate! has integrated a 1–on–1 mentorship component in the program to support youth in their unique learning needs. The mentor can tailor the lessons and support challenges the youth with disabilities might have.

Partner with technology companies and co-develop products with youth with disabilities

Having youth with disabilities involved in the innovation process can help co-develop better products and services³¹. For example, ILUNION Technology and Accessibility, a business project of [ONCE Social Group](#), offers technological and accessible solutions to create inclusive digital environments. More than half of its workforce is made of persons with disabilities. This process aims to build the confidence and motivation of youth with disabilities and offer greater insight into them in the private sector.

Technology companies that hire persons with disabilities stand to gain unique experience and skillsets, particularly product accessibility and usability³². Having employees with disabilities across departments helps ensure that the products and services that go to market are genuinely inclusive. And making things more accessible for persons with disabilities can translate into products and services from which everyone benefits³³. For example, SMS texting was developed for deaf persons to communicate, but when SMS offered an excellent new method for saving telecom bandwidth, it changed communication for everyone.

²⁹ Making the future of work inclusive of person with disabilities, 2019.

³⁰ [Use of Artificial Intelligence to Facilitate Employment Opportunities for People with Disabilities](#), The Employer Assistance and Resource Network on Disability Inclusion (EARN)

³¹ [Digital Skills Toolkit, ITU](#)

³² [Think Apprenticeships](#), Partnership on Employment & Accessible Technology (PEAT)

³³ [Getting to Equal 2018: The Disability Inclusion Advantage \(Accenture, 2018\)](#)

Table 3: Tech solutions for different types of disabilities

Type of Disability	Solutions supported by digital technology
Visual	<ul style="list-style-type: none"> • Braille integrated technology like braille enabled keyboard for typing or braille smartwatch-like, The Dot Watch helps blind users access digital information (SMS, emails) in Braille through touch sensors. The Dot Watch alarm consists of vibrations, which are very useful for individuals who are deaf-blind. • Speech-to-text software enables persons to use their voices to enter text into a word processing document like Google speech-to-text. • Screen readers software like TalkBack—Android screen reader software—read aloud screen content on touch and swipe gestures. • Overcoming mobility issues for blind users. For example, Microsoft’s Seeing A.I. app describes people, text, and objects for people with low vision. It can read a handwritten text, describe colors and scenes. Similarly, Aira, an MIT Solver, provides descriptions of surroundings in real-time. With Aira, a blind user wears smart glasses, which connects to an active video feed. An AI-based system routes the call to an agent who sees the blind user’s surroundings through the video and describes it to them in detail.
Physical	<ul style="list-style-type: none"> • Hands-free navigation and gesture-controlled interfaces assist persons with severe mobility issues in using digital devices. IntelliGaze is a tool that allows persons with mobility disabilities to operate their computer using eye control. Also, Windows Hello enables users to access devices with fingerprint, iris scan, or facial recognition rather than passwords, giving people with learning and physical disabilities greater ease to access while remaining secure. • Voice recognition and speech generation, like Dragon NaturallySpeaking (Dragon) and Google Voice Access, are useful for those people with physical disabilities who cannot enter instructions intended for computers with keyboards or touch screens. • Sip-and-puff systems are useful for people with paralysis or fine motor skill disabilities. With these, the user can operate a computer, a mobile device, or even a wheelchair with their mouth.
Cognitive	<ul style="list-style-type: none"> • Understanding social-emotional clues: Brain Power’s smart glasses help people with autism better understand emotions and social cues. The wearer of the Google glass type device sees and hears special feedback geared to the situation, such as coaching on facial expressions of emotions, looking at people, and even feedback on the user’s emotional state. • Supporting those with learning disabilities: Voice control systems such as Nuance allow users to dictate messages to be typed on computers and phones, particularly beneficial to people with learning disabilities such as dyslexia. It lets them express their ideas in papers without the frustration of written assignments.
Hearing	<ul style="list-style-type: none"> • Devices to help individuals alert to sound using visual support. Specially designed alarm clocks, smoke detectors, doorbells, timers, baby monitors, and phone alerting equipment can provide typically audible information in visual or form vibrations. • Captioning is essential to assist individuals who are deaf and hard of hearing with access to the media. TVs include settings for the user to enable closed captioning of programs that offer this feature. Closed captioning is also provided on many media devices. Logos with “cc” provided in TV guides or directly within the media program (i.e., YouTube) indicate when something is closed captioned. For example, Google’s DeepMind Division is using AI to generate closed captioning for deaf users.
Speech Disabilities	<ul style="list-style-type: none"> • Transcribing speech: Voiceitt is an app for people with speech disabilities, including those recovering from a stroke and brain injury and those with cerebral palsy, Parkinson’s, Down syndrome, and other chronic conditions. It learns speakers’ pronunciations over time, normalizing abnormalities in exportable audio and text.

2.3 Explore gig economy and outsourcing jobs

Remote gig jobs and business process outsourcing jobs can help youth with disabilities circumvent many social and economic barriers

Unlike traditional organizational work characterized by clear hierarchical structure and social institutions, online workplaces are based on self-organizing communities of many individuals producing goods and services over the internet. [Virtualahan](#), a social enterprise based in the Philippines, found that online jobs could improve the self-confidence and perception of families of youth with disabilities³⁴. E-lancing can help young women with disabilities establish a work history as sometimes they face societal or family pressure that discourages their entry into formal employment. Microwork can be especially helpful for remote populations with limited digital skills that face mobility constraints and local jobs access.

The impact sourcing model can provide a meaningful business-led approach to engage youth with disabilities (Box 7).

Box 7. Social Enterprises providing digital jobs opportunities for youth with disabilities

[Digital Divide Data\(DDD\)](#), [Enablecode](#), and [V-shesh](#) specifically target youth with disabilities to increase their access to digital job opportunities. [Enablecode](#) in Vietnam has developed a sustainable ecosystem that produces a complete and scalable solution for youth with physical disabilities. They outreach to several local CSOs providing food, shelter, and medical assistance to youth with disabilities and identify their most motivated and bright beneficiaries, who are further trained. Top graduates are employed by Enablecode, where they are given final work readiness and practical training. Others are offered suitable positions in business process outsourcing or jobs within their private sector partner network. It is economically self-sustaining, with employers funding training and providing outsourced programming work at Enablecode.

Digital gig platforms need to be proactive about disability inclusion

Programs could work with self-employment gig websites (e.g., Fiver and Freelancer), making their platforms accessible and targeting disabled freelancers in their campaigns. Incorporating user-friendly terminologies, designing interfaces using accessibility guidelines, and adding filters to select accessible tasks can help make online platforms more inclusive. BSpeak³⁵ is an accessible crowdsourcing marketplace that enables blind users in developing regions, like India, to earn money by transcribing audio files through speech. Blind users can navigate BSpeak using [TalkBack](#)—Android’s built-in screen reader software—that reads aloud screen content on touch and swipe gestures. BSpeak demonstrates that a simple user interface, voice input, and untimed tasks could make a crowdsourcing marketplace more accessible for low-income people with visual disabilities in resource-constrained settings.

³⁴ Eskelund, K., [Heeks, R., & Nicholson, B.](#) (2019). [Exploring an impact sourcing initiative for a community of people with disabilities: A capability analysis](#)

³⁵ [BSpeak: An Accessible Crowdsourcing Marketplace for Low-Income Blind People](#)

2.4 Use the opportunities provided by digital entrepreneurship and e-commerce

Programs and policies must use an integrated approach³⁶ to digital jobs to help young people fully leverage the potential benefits of digital e-commerce. An enabling environment for digital startups includes favorable regulations for access to finance, support for assistive technologies and inclusive platforms, and appropriate skills. Barriers to digital entrepreneurship tend to be higher for youth with disabilities – as digital inequality often mirrors offline or “analog” resource inequality³⁷. Youth with disabilities face challenges in identifying funding opportunities and convincing investors and lenders that they will be successful. Similarly, those with small or inefficient networks will also be ineffective at identifying resources.

The right ecosystem can help youth with disabilities start and grow their businesses, creating more jobs (and growth) in the economy.

In countries such as India, China, and the US, a well-developed ICT ecosystem allows small startups to benefit from outsourcing by large ICT companies and the public sector to small firms to provide services, apps, and other products. For example, Alibaba has taken proactive measures to make Taobao, its e-commerce platform, inclusive for people with disabilities. (Box 8). Statistics show that on Taobao, China's largest online shopping website, 174,100 online stores, selling about 11.66 billion yuan of goods from June 2018 to May 2019, are run by persons with disabilities³⁸.

Box 8. Alibaba's package of measures to increase inclusion.³⁹

- **Financial support:** Alibaba provides discounts to sellers with disabilities, saving about \$1500 every year for them in-store setup, promotion, and management.
- **Training:** The Rural Taobao project provides different trainings to persons with disabilities like online shopping security, rural purchasing agent skills, village service station operations, after-sales service, and trial operations of Rural Taobao Partners, which have greatly enhanced business operations skills of disabled people.
- **Web Accessibility:** There is a dedicated information accessibility team that makes continuous improvements on the e-commerce website.
- **Support for sellers with visual disabilities:** In 2018, Alibaba Damo Academy and Tsinghua University rolled out the mobile phone film Smart Touch for visually impaired people, a low-cost screen film to improve interaction efficiency and user experience.

Use tech solutions for providing experience with life-like situations

For example, **business simulations have the potential to train youth with disabilities on entrepreneurship skills.** These have been used extensively to train workers in financial industries,

³⁶ Datta, N., Angela Elzir Assy, Johanne Buba, Sara Johansson de Silva, Samantha Watson, et al. (2018a). Integrated Youth Employment Programs: A Stock take of Evidence on What Works in Youth Employment Programs. Washington, DC: World Bank Group

³⁷ The Missing Entrepreneurs 2019, POLICIES FOR INCLUSIVE ENTREPRENEURSHIP, OECD and EU: <https://www.oecd-ilibrary.org/docserver/3ed84801-en.pdf?expires=1590853661&id=id&accname=guest&checksum=2144DD2FA1F037B05802F8816C613F94>

³⁸ http://www.xinhuanet.com/english/2019-07/16/c_138230612.htm

³⁹ Summarized from [Alibaba Disability Support Report](#)

hospitality, and management and provide persons with disabilities with the opportunities to experience personalized learning close to the real-life business development process (Box 9).

Box 9. Business simulations for training youth with disabilities on entrepreneurship skills

Youth Business International and IDB Lab launched the Digital Accelerator in 2018 in Latin America and the Caribbean to support members to improve their services to entrepreneurs using digital technology. The program led to 'The Digital Entrepreneur Experience Simulator' (DEES), a digital tool in which an entrepreneur can experience a personalized virtual journey closely related to their real-life entrepreneurship process. They can develop skills, access information to define their business idea, and interactively test the idea through a range of games and challenges. DEES has potential for youth with disabilities and other vulnerable populations who cannot access in-person training and business support services.

Accessible mobile applications for financial transactions may enable entrepreneurs with disabilities to mainstream their operations and improve efficiency. For example, in 2018, [Safaricom](#), the largest mobile operator in Kenya, partnered with the Dot Incorporation to make [M-Pesa](#) (Safaricom's mobile phone-based money transfer service, payments, and micro-financing service) inclusive of those with virtual disabilities. Using the [Dot Braille Watch](#), an innovation that displays SMS in braille, persons with visual disabilities can read all their M-Pesa notifications, conduct financial transactions, and interact with telebanking personnel.

Use supplier diversity programs to improve access to markets for entrepreneurs with disabilities

This can be done by giving preference to companies owned by entrepreneurs with disabilities and employing persons with disabilities. Such policies can ensure that youth entrepreneurial ventures of those with disabilities can sustain and have enough business to grow, especially in the initial years⁴⁰. The Government of Kenya's [Public Procurement Regulatory Authority](#) has the [Public Procurement and Asset Disposal Act of 2015](#), which mandates that 30% of procurement is from women, youth, and disability-owned businesses⁴¹. Private sector engagement in supplier diversity programs can also improve access to markets for youth with disabilities (Box 10). For example, [Humanity and Inclusion \(HI\)](#) support refugee microentrepreneurs with disabilities living in Kakuma, Kenya. They work with "lead business partners," or SMEs in Kakuma and the host community, to improve their supplier diversity policies and practices. This is done to ensure they have enough business and a reliable flow of capital.

Box 10. Examples of private sector engagement in supplier diversity programs

- Supplier diversity programs are run by many multinational corporations globally, who intentionally source from "minority-owned" businesses. For example, Google runs a small business supplier diversity program that includes disability-owned small businesses.
- Organizations like Disability: IN that certify "[Disability Owned Business Enterprises](#)" and link these small businesses to bigger companies (like Fortune 500) to diversify their supply chains.

⁴⁰ <https://www.brookings.edu/blog/africa-in-focus/2013/11/04/creating-jobs-for-kenyas-youth-is-a-preferential-public-procurement-policy-the-answer/>

⁴¹ The act specifically states, "(10) Despite subsection (2) or any other provisions of this Act, every procuring entity shall ensure that at least thirty percent of its procurement value in every financial year is allocated to the youth, women and persons with disability."

2.5 Engage private sector employers

Programs need to work closely with private sector employers to understand their needs, strengthen relationships, and reduce misconceptions about the potential of youth with disabilities in digital jobs.

Several studies show that people with disabilities can be just as productive and dependable as workers without disabilities⁴²(Box 11). Even though leading companies like Cisco, Hewlett Packard Enterprise, Microsoft, and SAP have launched programs to recruit and train job candidates with disabilities, only 4% of businesses have declared a commitment to including persons with disabilities in their workforce⁴³. That is why programs like the [Information Technology Training Program \(ITTP\) for People with Disabilities](#) in Vietnam work closely with employers to understand the specific skills they need and strengthen relationships. ITTP forms business advisory councils to strengthen relationships between ITTP and employers, which meets two to four times per year to allow employers to provide input on curriculum design, offer suggestions to job placement, and fund-raise scholarships. Further, ITTP works with private-sector employers to reduce stigma for hiring persons with disabilities and educates employers on accommodating employees with disabilities in the workplace.

Box 11. Why hiring youth with disabilities is also good for business⁴⁴

- **Return on investment:** Research⁴⁵ indicates that employees with disabilities tend to have better retention, low absenteeism rates, and are loyal, reliable, and motivated.
- **Marketing and innovation:** Many companies find that employing people with disabilities increases their understanding and ability to serve their customers with disabilities.
- **Workplace diversity and culture:** People with disabilities contribute to an organization's success by bringing unique perspectives and experiences to the workplace.
- **Social responsibility:** Private sector employers that demonstrate social responsibility are more competitive, attracting more employees and customers.

Work with different levels of the private sector, i.e., leadership teams, hiring managers, and HR teams, to make them disability confident.⁴⁶

Programs would need to work with employers to promote their understanding of how equal opportunity policies can be put into practice through, for example, assessing physical and system barriers through an accessibility audit, working with HR and IT teams to remove any obstacles, and providing company staff training. Sometimes hiring processes may inadvertently prevent youth with disabilities

⁴² (Du Pont 1993; Zadeck & Scott-Parker 2003)

⁴³ [Annual Report of the Return on Disability Group](#), 2016

⁴⁴ Adapted from Good for Business: Promoting Partnerships for to Employ Persons with Disabilities, Leonard Cheshire and Humanity & Inclusion

https://d3n8a8pro7vhmx.cloudfront.net/handicapinternational/pages/1479/attachments/original/1509138403/GoodForBusiness_Oct2017_Web.pdf?1509138403

⁴⁵ Good for Business: Promoting Partnerships for to Employ Persons with Disabilities, Leonard Cheshire and Humanity & Inclusion

⁴⁶ Disability Confident is the name of a campaign initiated by the U.K. Department for Work and Pensions (DWP) designed to help companies become more willing to employ staff with disabilities, by offering advice and breaking down unhelpful work-related myths. Here the term is used in a broader sense to advance practices that encourage employers to remove barriers to recruiting and retaining employees with disabilities.

from demonstrating their full capacity. [Leonard Cheshire Disability](#) has worked closely with Amazon in India to make its hiring more inclusive. A significant change was brought about by Amazon's move to a *competency-based* hiring system rather than a *qualifications-based* system that left the youth with disabilities disadvantaged because of low education levels. Enhanced by inclusive human resource practices, supply chain accessibility audits, Amazon in India has now hired around 800 youths with speech and hearing disabilities.

Co-creating training initiatives with employers can encourage employers to remove barriers to recruiting and retaining employees with disabilities (Box 12). Such programs provide a low-risk environment for recruiting managers to observe and engage with youth with disabilities closely.

Box 12. Working with the private sector to make them 'disability confident'

[V-Shesh](#) in India has developed a 'Train and Hire' model where they partner with private sector employers on disability-inclusive hiring, especially for entry-level digital jobs for youth with disabilities. Together with employers, they develop short-term, job-linked trial-based training programs where the employer with recruitment needs is involved in all program stages. V-Shesh conducts appropriate training and provides regular reports to the employer partner. As part of the training, employer representatives also lead a few sessions on types of available roles. At the final stage, the employer interviews and makes offers to trainees who meet the hiring requirements. They manage trainee expectations from the start by clarifying that a job offer is not always guaranteed after the training

Programs can also align their work with ongoing global initiatives on inclusivity (Box 13) to dialogue with private sector employers and influence their policies. Programs can also partner with advertising agencies offering pro-bono or reduced-price work for social issues to develop cost-effective campaigns at local levels.

Box 13. Some global initiatives to sensitize private sector employers

- Global business networks such as [The ILO Global Business and Disability Network](#), [Disability Hub Europe](#), and [Business Disability Forum](#) work on increasing awareness among private sector players and providing business tools to become more inclusive.
- *Programs can also work with campaigns to confront private-sector beliefs and misconceptions. For example, Leonard Cheshire has supported the global [#InvalidOpinions](#) campaign to target stereotypes that prevent persons with disabilities globally from entering and progressing in the workplace.*

Apprenticeship and internship opportunities can create low-cost and low-risk ways to enable employers to test working with youth with disabilities.

Such internships also allow youth to gain vital experience, which can help them get full-time jobs later. For example, [Leonard Cheshire](#) has created a paid summer work program in the U.K., [Change 100](#). The program is designed to support university students and recent graduates with physical, sensory, mental, or learning disabilities. Private-sector employers like Barclays, BMW, and Whirlpool provide digital opportunities in Data Analysis, I.T., and Software Development. Many of these opportunities allow remote working, helping those with mobility issues. Using group work and self-learning modules, the program work with youth on topics such as goal setting, networking, managing your disability in the workplace, and disclosure.

Small and Medium Enterprises (SMEs) may need community-based solutions, innovative networking, and tailored support

SMEs may need more support to develop inclusive hiring policies. In Tunisia, [Education for Employment](#) has partnered with [Humanity & Inclusion](#) for capacity building of SME private-sector employers through workshops, site visits, and continued support to enable more workplace inclusivity. EFE builds the capacity of private-sector employers 1) through workshops to make them aware of needs and accommodations they would need to make after employing youth with disabilities, and 2) provides the support and mentorship during this process to facilitate these changes. They organize site visits for private sector employers to other companies to meet employed persons with disabilities to hear about their experiences. They are also working with local government agencies that facilitate job placement programs to ensure they consider the needs of persons with disabilities when sourcing and recruiting applicants so that the entire hiring process is more inclusive from end-to-end.

2.6 KEY CHALLENGES

In designing digital jobs programs for youth with disabilities, practitioners need to consider related *social, policy and technology* challenges and build provisions to safeguard the most vulnerable. Some such challenges are listed below.

- **Lack of adequate and accessible social protection.** Wages in platform-based jobs and startups tend to be lower than those in traditional jobs and there is greater career insecurity. Most microwork and gig jobs come without additional benefits such as health insurance. Digital jobs programs for youth with disabilities need to be supplemented with ways to support to cover out-of-pocket expenses like setup costs to access online jobs (e.g., purchasing accessible and assistive technologies), personal caregiving needs, insurance, etc. Several European Union countries are now considering the inclusion of gig workers under social protection mechanisms to provide additional support.
- **The risk of emotional isolation may be more pronounced in remote/online jobs.** Social media can be mobilized to create much-needed networks and relationships among youth with disabilities. (e.g., online chat rooms, online forums, and instant messenger) to address concerns of isolation caused due to home-based work. WhatsApp peers support groups were used to positively affect [Leonard Cheshire's](#) youth influencing pilot [2030 and Counting](#) to find solutions to shared challenges. Using the social network approach helped youth partner with other youth with disabilities with similar skills and share experiences.
- **Sometimes digital platforms also exacerbate biases of traditional employment programs.** AI recruitment programs may negatively interpret disability disclosure due to past employment patterns that discriminate against persons with disabilities⁴⁷. Programs that use facial and body language recognition may screen out or be unable to process information from persons with disabilities with atypical facial features or disability-related body movements. For example, facial recognition programs used for biometrics-based digital identification have generated processing

⁴⁷ Making the future of work inclusive of people with disabilities. ILO Global Business and Disability Network and Fundación ONCE (2019).

errors when used for persons with Down’s syndrome⁴⁸. These can become unintended consequences of digital job processes if conscious attention is not paid to their inclusion impacts.

- **Much more needs to be done to make digital infrastructure more accessible.** Globally, households including persons with disabilities have lower internet ownership rates, mobile phones, computers, and landline phones than households without members with disabilities⁴⁹. In cases where youth with disabilities own a mobile phone, mobile accessibility features still rely on smartphones, which are expensive and have a lower penetration rate⁵⁰. Additionally, women with disabilities report lower access to mobile data than men with disabilities⁵¹. The affordability of mobile data, broadband internet, and electronic devices is another barrier for youth with disabilities in low and middle-income countries. Affordability of assistive technologies is a key issue. High costs can prevent people with disabilities, who are often low-income earners, employers, and training organizations from acquiring assistive technologies.
- **In some instances, mobilizing support from the families and communities of youth with disabilities is critical.** Many families overprotect their youth with disabilities, limiting their independence and leading to lower self-esteem. This attitude prevents youth with disabilities from reaching their full potential. One outreach approach can be to work with the grassroots workers or organizations (E.g., a district union of persons with disabilities) in a target area and providing them with information. These structures are often influential and are in a good position to help reach out to youth with disabilities and encourage them to participate (Box 14). Economic groups such as Self-Help Groups with persons with disabilities as members are also a good point of contact. The ILO’s [Disability Equality Training \(DET\)](#)⁵² is a useful tool that can be used to challenge these beliefs and promote a real understanding of the advantages of inclusion to all parties⁵³.

Box 14. Increased enrolment through community engagement

The Alternative Livelihood and Skills Development (ASLD) Training is a part of the World Bank’s Jamaica Integrated Community Development Project. This training was provided to at-risk youth in urban communities to improve their employability. While the training did not specifically target youth with disabilities, an interim evaluation report indicates that youth with disabilities benefitted from this program. One reason for this positive but unintended impact is that the project was designed in very close engagement with the community members who were hired as “data collectors” and played a critical role in community outreach and identifying possible beneficiaries. As a result, the program has now worked with the Jamaica Association for the Deaf and Jamaica Council of Persons with Disabilities and provided specific guidance for data collectors to strengthen their outreach and modify the design of community gatherings to support opportunities for all, and especially include youth with disabilities

⁴⁸ Guidance note on disability and identification. 2020. The World Bank Group.

⁴⁹ McClain-Nhlapo, C., & Raja, D.S. (Forthcoming). A New Frontier: Digital Technology Driving Disability-Inclusive Development. In M.A. Stein and J. Lazar, *Accessible technology and the developing world*. Oxford University Press.

⁵⁰Smartphones represent only 34 percent of total mobile connections in Sub-Saharan Africa and 52 percent in the Middle East and Northern African countries.

⁵¹ McClain-Nhlapo & Raja (forthcoming).

⁵²How to make sure that women with disabilities can participate effectively in mainstream women’s entrepreneurship development activities, 2008, ILO: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_106558.pdf

⁵³ DET aims to ensure that mainstream programs on entrepreneurship development skills include women and men with disabilities.

- **Understand the impact of the intersection of constraints:** The intersection of disability with other identities such as gender, ethnicity, race, indigenous identity, and migrant or refugee status can compound the disadvantages of youth with disabilities. Programs focusing on different interventions need to recognize and address the multiple disadvantages that individuals with disabilities may face in accessing services and markets.

Box 15. Women with disabilities

- **Gender-based violence:** Recognizing that women with disabilities are disproportionately survivors of Gender-Based Violence (GBV) in comparison to their non-disabled peers (some estimates say they are ten times more likely to face GBV⁵⁴), safeguarding & protection concerns should be part of the program design. For example, USAID supported a project in India⁵⁵ focused on women with disabilities in rural areas. In addition to economic activities, the project also focused on rights advocacy, GBV, and access to health information for women with disabilities in rural communities. The project established a network of four Gender Disability Resource Centers (GDRCs) in different regions in India, which served as a central hub for information on schemes and services, engagement with policymakers at the local and national levels, and capacity building of community stakeholders on economic issues as well as GBV and health for women with disabilities.
- **Caretaking and time burden:** Women, in general, are more likely to do unpaid labor than men; they are also more likely to take on the role of primary caretaker in the household. This increases the time burden and sometimes the financial burden on women, directly impacting their ability to enter waged work, which programs should consider. For example, Humanity & Inclusion in a livelihood project in the Philippines called iRestore had provided services like free child care to women with disabilities entering vocational training, cash for work schemes, and support them to become entrepreneurs.

⁵⁴ <https://www.unfpa.org/news/five-things-you-didnt-know-about-disability-and-sexual-violence>.

⁵⁵ The project titled 'Building the capacity of women with disabilities in India: promoting the right to health and advancing zero tolerance for violence' was implemented by Shanta Memorial Rehabilitation Centre

3. Scaling⁵⁶ solutions for inclusion of youth with disabilities in digital jobs

The inclusion of persons with disabilities is an essential part of the World Bank Group's *Jobs and Economic Transformation* agenda. Three out of the six policy commitments under the International Development Association (IDA19) funding⁵⁷ package (Box 16) focus on Jobs and Economic Transformation for persons with disabilities. They emphasize the need for accessible digital financial services, improvement for skills for persons with disabilities, and entrepreneurship development to ensure Bank operations include persons with disabilities in a systematic manner.

Box 16. Jobs and Economic Transformation (JET) IDA19 policy commitments that include persons with disabilities

- At least **50% of the entrepreneurship/MSME** projects incorporate digital financial services/entrepreneurship & address constraints facing women & persons with disabilities.
- At least **15 countries** to improve skills considering the differential constraints facing young women and men and persons with disabilities.
- IDA will conduct **20 pilots** in 'economic transformation IDA projects' to estimate indirect and/or induced jobs where feasible; jobs reporting will be disaggregated by the poorest quintile, gender, fragility, and conflict, disability, and youth.

To close gaps and create digital jobs opportunities for youth with disabilities, practitioners and policymakers should commit to scaling interventions and programs. They need to work alongside persons with disabilities in developing scalable solutions. Some factors that would be important in designing solutions at scale are mentioned below.

3.1 Make mainstream workforce programs more inclusive

An overarching issue that needs to be addressed is that mainstream programs should include youth with disabilities. Programs dedicated towards persons with disabilities often have limitations⁵⁸. These include but are not limited to the : significant gaps between skills provided and demands of the labor market, challenges of accountability, quality, further exclusion and separate development and the self-fulfilling nature of low expectations about what youth with disabilities can do. Research indicates that dedicated centers can often reach only small numbers of persons with disabilities and are not scalable.

In designing inclusive strategies, there will be a need to assess the unique requirements for trainees with disabilities and provide complementary support services and programs to bridge the gaps they face. This is known as the **Twin Track approach in disability-inclusive development** (Box 17).

Box 17. The Twin-Track approach to disability inclusion⁵⁹

The twin-track approach, also highlighted in the [World Bank's Disability Inclusion and Accountability Framework](#), involves two ways of advancing disability inclusion:

⁵⁶ "Scaling up" refers to deepening and/or spreading development benefits of an intervention, increasing participation of vulnerable populations previously excluded, and trying to replicate, sustain, and adapt program results in different contexts.

⁵⁹ Summarized from [World Bank's Disability Inclusion and Accountability Framework](#) & Key issues on promoting employment of persons with disabilities (ILO,2020)

Mainstreaming of disability: This track focuses on systematically including disability-related issues in a program. This would mean that all planning, communications, activities, and events take measures to ensure persons with disabilities are included on an equal basis with others. Disability-specific components can be part of such activities.

Disability-specific: This track involves independent projects that are specifically targeted to benefit and empower persons with disabilities.

A suggested evolution pathway for special disability-focused programs is to become centers that advise and support the broader inclusion of persons with disabilities. In some cases, specialized programs can be a step towards developing more inclusive mainstream programs. There are many encouraging developments in national policies in low- and middle-income countries like India, Bangladesh, Malaysia, and Costa Rica. The importance of disability inclusion in skills development programs is being recognized (Box 18).

Box 18. Mainstreaming through National policies

- In Malaysia, under the [OKU Talent Enhancement Program \(OTEP Scheme\)](#) for persons with disabilities, employers may obtain 100% financial assistance to send employees with disabilities for training in selected training programs.
- In India, the [Rights of Persons with Disabilities Act, 2016, Art 19](#), states that the government shall formulate schemes and programs including the provision of loans at concessional rates to facilitate and support the employment of persons with disabilities, including for vocational training; and that these shall provide for the inclusion of persons with disabilities in all mainstream formal and non-formal vocational and skill training schemes and programs.
- In Costa Rica, the inclusive employment program [Empléate Inclusivo](#) assists persons with disabilities who are seeking employment through job counseling services, training options, and job placement support. The program has been incorporated into the government's National Employment and Production Strategy and its 2015-2018 National Development Plan. It includes persons with disabilities in technical training courses in skills areas in high demand in the labor market.

3.2 Build partnerships among key stakeholders

Programs can benefit from collaboration with other services, organizations, and agencies whose mandates and roles are linked to promoting the employability and employment of persons with disabilities. Cross-sectoral solutions are often required to scale initiatives and reduce fragmentation at the institutional level. In India, the [Skills Council for Persons with Disability](#), which involves the Ministry of Social Justice and Empowerment, the National Skill Development Corporation (NSDC), and the Confederation of Indian Industry (CII), focuses on setting standards and arranging industry-relevant skill training for persons with disabilities and provides employers of persons with disabilities with direct influence on training policy. Involving employers in developing qualification frameworks can potentially make them more agile and aligned with market needs.

It is vital to establish partnerships with and learn from Organizations of Persons with Disabilities (OPDs) from the inception and design of jobs programs and enhance outreach to youth with disabilities.

⁵⁸ Questions on Disability and Work: Key issues on promoting employment of persons with disabilities, ILO

⁵⁹ Summarized from [World Bank's Disability Inclusion and Accountability Framework](#) & Key issues on promoting employment of persons with disabilities (ILO,2020)

Programs should work with specialized institutions dedicated to training persons with disabilities to become centers that advise and support the inclusion of persons with disabilities in skills systems more widely. Sometimes training centers for persons with disabilities have adapted their role by opening to trainees without disabilities too. This is called 'reverse integration.' In some cases, specialized training programs can be a step towards developing more inclusive mainstream programs. Community-Based Rehabilitation (CBR) programs⁶⁰ that primarily serve rural populations can serve as essential linkages for youth with disabilities.

3.3 Leverage infrastructure projects for scaling up job creation

As governments increase internet connectivity investments, digital infrastructure, and rural broadband, it is essential to embed an explicit jobs agenda in those large public infrastructure projects. For example, the World Bank's [Kosovo Digital Economy Project](#) (KODE), which aims to expand high-speed broadband coverage in remote areas, one of its project components is exclusively designed to support the training of young people, especially women, to access new online work opportunities. Integrating a jobs lens in digital infrastructure projects will maximize the economic impact on local livelihoods and create more jobs opportunities closer to home for vulnerable youth with disabilities. In the same way, promoting e-service centers and digital ambassadors in rural areas can reduce access barriers for youth with disabilities. For example, customer service centers in India, which are government sponsored I.T. centers in rural areas, also provide skill training for persons with disabilities to become data entry operators.

3.4 Make future of work inclusive of persons with disabilities

Opening new opportunities for persons with disabilities to work from home, even post COVID-19. COVID-19 recovery plans that include digital measures should also ensure the inclusivity of people with disabilities. More flexible working could open new jobs for people with disabilities. When designing and implementing alternative working arrangements, appropriate investments need to be considered to make the home environment more accessible. In telework, digital content must be made accessible, and, where needed, sign language and accessible meeting formats provided. Some workers with disabilities will need access to adaptive software or equipment they had in the workplace or further adjustments in their new work environment. Employers' organizations can guide their members on how to support employees with disabilities through relevant working arrangements. For example, the *Specialized Training & Disability Centre of the Employers' Federation of Ceylon* (Sri Lanka) has developed policy recommendations for post-COVID to ensure reasonable accommodations for persons with disabilities working in offices and at home.

⁶⁰ CBR programs work at the community level and serve as frontline service providers for PwDs, particularly in rural and remote areas. Modern CBR programs incorporate comprehensive and multisectoral services including disability awareness and sensitization, rehabilitation, access to assistive technology and adaptations, and livelihoods development programs.

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S4YE is a multi-stakeholder coalition that aims to provide leadership and resources for catalytic action to increase the number of young people engaged in productive work. S4YE's partners include the World Bank Group, Accenture, The Rockefeller Foundation, Mastercard Foundation, Microsoft, Plan International, International Youth Foundation (IYF), Youth Business International (YBI), RAND Corporation, the International Labour Organization (ILO), the Governments of Norway and Germany, and the UN Envoy for Youth. The S4YE Secretariat is housed in the Jobs Group within the Social Protection and Jobs Global Practice at the World Bank Group.

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