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# Building Digital Literacy and Skills to Reflect the Needs of the Job Market

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## EDITORIAL

Welcome to the tenth edition of the *Skills4Dev* Knowledge Digest! This issue discusses policies to build digital literacy and skills, as well as complementary interventions for their application in the job market.

**Advancements in digital technology are impacting how firms operate, creating new business models and opportunities, and affecting workforce needs and occupational profiles.** The digital economy is growing six times as fast as its traditional counterparts and is estimated to reach up to 25 percent of GDP globally ([Strategy & Middle East](#), 2022). According to the [Future of Jobs Report](#), 83 million jobs will be displaced by 2025, while 69 million jobs will be created; and 44 percent of workers' skills will be disrupted in the next five years ([World Economic Forum](#), 2023). In this constantly evolving digital landscape, the traditional employer-employee relationship and full-time employment are decreasingly becoming the norm. The traditional placed-based employer-employee relationship is being challenged, as various modalities of gig work are becoming commonplace, whether location or online-based, including microwork for poor and vulnerable groups. Globally, almost one quarter million youth are engaged in online gig work and the trend is increasing. The Online Labor Index (OLI) indicates a 41 percent increase in demand for gig work between 2016 and Q1 2023 ([S4YE](#), 2023).

Such rapidly evolving job market is affecting the content of labor demand, with employers now increasingly requiring at least some degree of digital and 21st century skills from new hires. A recent report by the National Skills Coalition analyzed 43 million online job postings in the United States to assess demand for digital skills and found that 92% of jobs required some type of digital skills ([National Skills Coalition, 2023](#)). Now more than ever, it is necessary for workers to have, at the very least, basic “digital skills” and “digital literacy” and, in most cases, intermediate to advanced digital skills. In addition, cognitive skills, such as analytical thinking and creative thinking, and the skills “to continuously learn” remain the most sought-after ones by employers when navigating the evolving workplaces. However, inequality and inequities in technology access, or *the digital divide*, alongside challenges to accessing digital education and skilling initiatives, persist.

**A first role for policymakers is to develop systems that can dynamically assess digital skill needs and gaps, and inform the provision and content of skills development programs.** Traditional surveys of employers help to identify workforce requirements, but typically stop short of providing information with the level of granularity needed to inform skills development programs. Such approaches can be complemented with big data analyses of Online Job Vacancies (OJVs), which allow to identify the specific technical skills that are in-demand across occupations. Such data-driven approach allows for real-time, dynamic insights and enables policymakers and employment offices to tailor strategic workforce planning, and educators to adapt training programs ([ILO, 2020](#)). For instance, since 2015 the European Centre for the Development of Vocational Training ([Cedefop](#)) analyzes and systematizes OJVs to identify skill gaps, and such information is meant to inform re-skilling and up-skilling programs, and to inform career guidance to job seekers.

**Second, providers of digital skills training need to adjust the content to ensure it addresses the needs of employers, tailoring it to either the global market or the local economy.** Evidence shows that once a skills gap analysis is conducted, tailoring training programs accordingly is a key success factor of training programs (Stöterau, Kemper, Ghisletta 2023). For instance, when analyzing the [LinkedIn’s data on skills in MENA countries](#), programming languages such as Bootstrap, JavaScript stood out as the most characteristic skills found in Morocco, Lebanon, Jordan, and Egypt, whereas Qatar and the United Arab Emirates ranked Microsoft Azure as the number one most found skill. These skills needs differences can also differ within the same country; for example, in Lebanon, mobile phone repairment is demanded, however the skills needed for this job in the capital Beirut, where individuals have higher purchasing power, seem to focus more on the repairment of smartphones; however, in the north of the country, i.e., the poorest area, smartphone use is much lower, and therefore, skills needed would focus more on non-smartphone repairment. Such

context-specific approach remains relevant also for the delivery of digital skills. In fact, skills-based hiring is particularly on the rise in industries where talent acquisition is more challenging for firms, such as in tech companies. In general, firms are increasingly looking for confirmation of skills acquired rather than university diploma ([Sigelman, M., Fuller, J., Martin, 2024](#)).

**One way to ensure that the content of digital skills programs is well-aligned with the rapidly evolving private labor demand is to partner with tech industry leaders.** [Evidence](#) from various meta-analyses show that programs implemented by the private sector, or in strong partnerships with the private sector, seem to perform better in producing labor market outcomes. Tech leaders such as [Microsoft](#), [Oracle](#), [IBM](#), [Amazon Web Services](#), and others have the knowledge to design the content of short-term digital skills courses that match the needs of the private sector companies that already use their products (e.g., cloud services, software). Their course content is updated regularly, some of them as often as every two weeks, to ensure alignment with the latest development of their technological products. Policymakers and service providers can take advantage of such training content to establish new courses without high prior investments. Offering courses that allow to obtain certifications provided by tech industry leaders is also important, as these are highly valued by employers ([Pearson VUE, 2021](#)). In fact, for some training programs, training completion alone may not be enough, and certification could be important to signal skills acquisition ([Stöterau, Kemper, Ghisletta 2023](#)).

**A World Bank team recently piloted the delivery of digital skills training for vulnerable youth in Lebanon, through strategic partnerships with the tech industry.** In 2022, the World Bank partnered with a [local private sector entity and community](#) to launch [Forward MENA](#), an employer-focused digital skills development program. The initiative focuses on addressing employer needs by providing market-relevant digital skills trainings, linked to industry certification. It targets both the flow of workers (i.e., partnering with schools and universities) and the flow (working age population for up- and re-skilling). It relies on partnerships at various levels, with local employers for jobs and skills needs, academic institutions to raise awareness on today's job market needs, local NGOs to reach vulnerable youth, and tech companies for training content and certification. A [market study](#) was first conducted in the planning phase defining the skills and training needs but also highlighted that employers value certifications to make hiring decisions. Then, one of the evaluated activities aimed at partnering with [SimpliLearn](#) to deliver three digital skills training courses to fill the most in-demand jobs.

**Early results of the pilot are promising and yielding the first lessons learned for scaling-up.** At the end of the training, a three-month post-completion survey was conducted with beneficiaries

and results were compared to the baseline. The analysis shows that the program led to an 18% increase in the employment rate amongst beneficiaries, earnings increased by 94% of the average annual salary before the training, and the unemployment rate amongst beneficiaries dropped by 18.50% after training. The project's training component resulted in an economic rate of return (ERR) of 50% ([Walker and Robalino](#) (2017) methodology, [Skilling Up Lebanon ICR, 2023](#)). Some of the elements of success include the efficient delivery system and the focus on market-oriented skills. The project scale-up will now be subject to a full-fledged impact evaluation.

We would like to hear from you! Please send us your ideas, suggestions, questions, or collaboration opportunities at [skillsgsg@worldbankgroup.org](mailto:skillsgsg@worldbankgroup.org). Learn more about what the GSG can do for you at the end of this digest.

Happy Reading!

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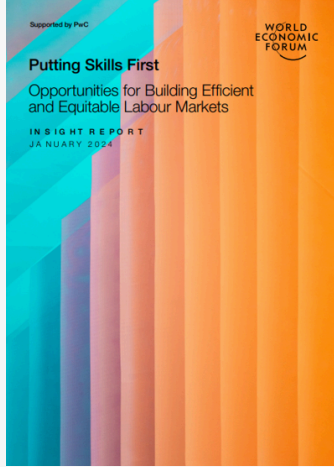
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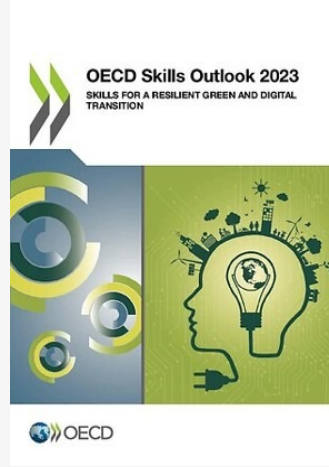
**FEATURED WORKS ON BUILDING DIGITAL SKILLS AND TRAINING INTERVENTIONS**



## [Putting Skills First Opportunities for Building Efficient and Equitable Labour Markets](#)

World Economic Forum |  
Report | 2024 | Global

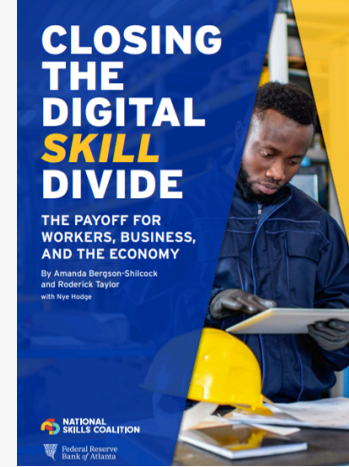
This report identifies **five specific opportunities for intervention** where the gains from **skills-first solutions** are most likely for employers and workers alike. It also highlights a diverse set of **Skills First “Lighthouses”**, selected by an independent expert panel. The report concludes by offering key takeaways regarding success factors in implementing skills-first approaches.



## [OECD Skills Outlook 2023: Skills for a Resilient Green and Digital Transition](#)

OECD | Report | 2023 | Global

This edition of the Skills Outlook highlights the importance of supporting individuals in **acquiring a wide range of skills, at varying levels of proficiency, to promote economic and social resilience**. The report acknowledges the role of attitudes and dispositions in enabling skills development and effective skills use.



## [Closing the Digital Skill Divide: The Payoff for Workers, Business, and the Economy](#)

Amanda Bergson-Shilcock and  
Roderick Taylor with Nye Hodge |  
Report | 2023 | USA

This report takes a **first-ever look at the demand for digital skills in the U.S. economy**, as measured by a dataset of 43 million “Help Wanted” ads posted during 2021. Among the findings, there is an overwhelming demand for digital skills in the labor market, with 92 percent of job ads requiring digital or likely digital skills.

**ESSENTIAL READING**





## [Future of Job Report 2023](#)

World Economic Forum |  
Report | 2023 | Global

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This fourth edition of the series continues the analysis of employer expectations to provide new insights on how socio-economic and technology trends will shape the workplace of the future. It offers **insights into the labor markets transformations** and unpacks how businesses are expecting to navigate these changes from 2023 to 2027, **leveraging a unique cross-sectoral and global survey of Chief Human Resources, Chief Learning Officers and Chief Executive Officers** of leading global employers and their peers.



## [The Impact of Vocational Training Interventions on Youth Labor Market Outcomes: A Meta-Analysis](#)

Stöterau, J. et al. | Preprint Paper  
| 2022 | Global

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This paper synthesizes the empirical evidence of **youth-targeted vocational training interventions on labor market outcomes**. Findings reveal that vocational training has an economically meaningful impact on youth labor market outcomes. Also, country income level does not predict effect size magnitude. Finally, the time-profile and mechanism of successful trainings differ between High-income countries and Lower-/Middle-income countries.



## [Trends Mapping Study: Digital Skills Development in TVET Teacher Training](#)

Gita Subrahmanyam | Report |  
2022 | Global

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The purpose of this study is to **map trends and challenges in the training of TVET teachers and trainers in the context of digitalization**, and to identify successful innovative TVET teacher training efforts. The study builds on the **UNESCO-UNEVOC Study on the Trends Shaping the Future of TVET Teaching** and complements its enquiry on the digital skills required by TVET teachers and trainers to fulfil their role in preparing learners for the future of work.

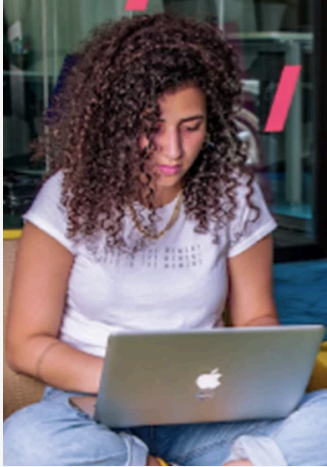
**WHAT'S BREWING AT THE WBG?**



## [Gina Mata and Gina Al-Umma: A Rights-Based Approach to Digital Skills Training for Women and Girls in FCV Settings](#)

Mboob, I. et al. | Report | 2023 |  
Nigeria

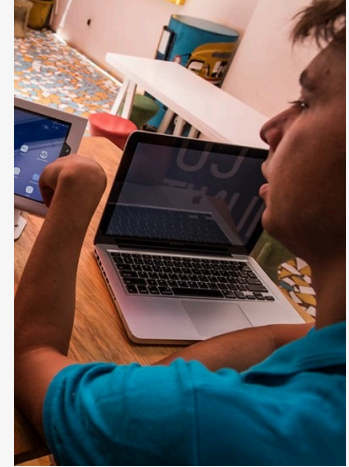
With support from the Digital Development Partnership and the Human Rights, Inclusion and Empowerment Umbrella Trust Fund, the World Bank has launched **Gina Mata, Gina Al-Umma, an inclusive digital skills training pilot in Northern Nigeria**. The pilot aims to apply a rights-based approach to digital skills training targeting disadvantaged girls and unemployed women in Northern Nigeria. Beneficiaries will receive digital skills and life skills training, along with access to the Internet and digital devices.



## [Skilling Up Lebanon: An Opportunity to Lower Unemployment Rates in Lebanon amid a Major Financial Crisis?](#)

Daher, M. et al. | Blog | 2022 |  
Lebanon

This initiative, co-launched by the Beirut Digital District Talent Development Hub and the World Bank Group, aims to develop a self-financed, private sector-led digital skills program to **increase access and improve the digital skills of children, youth, and workers in Lebanon**. It works closely with major employers in Lebanon to identify gaps in digital skills to then develop a series of micro-credential trainings linked to industry certification, enabling young Lebanese to find better employment opportunities.



## [Analyzing Digital Skills Gap in MENA Countries to Inform An Upskilling Initiative](#)

Elzir, A. et al. | Article | 2023 |  
MENA

Digital technologies are reshaping work and traditional jobs. The World Bank Human Development Practice Group collaborated with **LinkedIn** to study the labor markets in the Middle East and North African region, and to analyze **the most relevant and characteristic skills according to selected industries and occupations in the tech and digital sector**. This analysis works to inform policymakers, employers, the World Bank and its partners in developing tailored training programs for people to thrive in this digital age.

ADDITIONAL PUBLICATIONS

## [Learning to Build Back Better Futures for Education: Lessons from Educational Innovation during the COVID-19 Pandemic](#)

Fernando Reimers and Renato Opertti | Book | 2021 | Global

This book attempts to contribute to the development of operational strategies for change in education that will help prepare students for the future, while addressing the impact of the COVID-19 pandemic and making education systems more resilient to future disruption. It identifies and studies **examples of educational innovation that emerged during the pandemic and that present pathways for transformation.**

## [2021 Value of IT Certification | Employer Report](#)

Pearson VUE | Report | 2023 | Global

This report provides a deeper look at the **importance and impacts of IT certification for organizations.** More than ever, the IT community places a great deal of value on certification and credentialing. 60% of managers interviewed stated that job applications with IT certifications are significantly more likely to be reviewed.

## [Defining the Skills Citizen will Need in the Future of Work](#)

Dondi, M. et al. | Article | 2021 | Global

The research, led by McKinsey Global Institute, identified a set of **56 foundational skills that will benefit all citizens** and showed that higher proficiency in them is already associated with a higher likelihood of employment, higher incomes, and job satisfaction. The need for manual and physical skills, as well as basic cognitive ones, will decline, but **demand for technological, social and emotional, and higher cognitive skills will grow.**

## [The Future of Work after COVID-19](#)

Lund, s. et al. McKinsey Global Institute | Report | 2021 | Global

This report on the future of work after COVID-19 is the first of three MGI reports that examine aspects of the postpandemic economy. It assesses **the lasting impact of the pandemic on labor demand, the mix of occupations, and the workforce skills** required in eight countries with diverse economic and labor market models: China, France, Germany, India, Japan, Spain, the United Kingdom, and the United States. Together, these eight countries account for almost half the global population and 62 percent of GDP.

## [The Feasibility of Using Big Data in Anticipating and Matching Skills Needs](#)

International Labor Organization | Report | 2020 | Global

This publication collects together the contributions presented during the ILO workshop “Can we use big data for skills anticipation and matching?”, which took place on September 2019 at ILO. The discussions during the workshop considered **the feasibility of using big data in the context of skills anticipation and matching, and the potential and the limitations of big data in skills analysis.**

## [Skills-Based Hiring: The Long Road from Pronouncements to Practice](#)



Sigelman, M. et al. | Report | 2024 | Global

More employers are prioritizing candidates' skills over traditional credentials. However, does eliminating degree requirements lead to increased hiring of candidates without degrees? This new report, based on a study of 11,300 roles at large firms, spanning at least one year before and after the removal of degree requirements, revealed that, **on average, firms only saw a 3.5 percentage point increase in the hiring of workers without a BA.**

### [Digitalization and Employment: A Review](#)

Charles, L. et al. International Labor Organization | Report | 2022 | Global

This report is a scoping review of the publicly available literature which examines the new labor market opportunities created by digital transformation. It identifies gaps and potential avenues for future research. It also explores **how some policies may be designed to offset the negative impacts of labor market transformation** on individuals and communities.

### [Why 'Digital Literacy' is Now a Workplace Non-negotiable](#)

Alex Christian | Blog | 2022 | Global

This article highlights the critical importance of digital literacy in today's workplace environment. It explores how **digital skills have become essential for career success and organizational competitiveness.** By discussing the evolving nature of work and the increasing reliance on technology, it emphasizes the necessity for individuals and businesses to prioritize digital literacy.

### [The Future of Education for Digital Skills](#)

EIT Digital Makers & Shapers | Report | 2021 | Global

This report is part of the EIT Digital Makers & Shapers report series. It tackles the issues of **digital skills and digital specialism considering the supply of broadly defined education and training** presented by both public and private institutions, identify the main gaps, and extract from them foresight scenarios.

### [Working Group on Education: Digital Skills for Life and Work](#)

Atchoarena, D. et al. | Book | 2017 | Global

The report underlines the importance of steadfast commitment to digital skills development; offers recommendations on supporting the sustainable and equitable development of digital skills for all stakeholders; and includes a collection of **case studies which examine how different organizations have forged digital skills for life and work across the world.**

### [Training Needs in the Further Education Sector – Digital Skills Report](#)

Education and Training Foundation | Report | 2018 | England

This is a report on survey-based research into the training needs of people who work in the further education (FE) sector and training organizations in England. The findings show that

institutions give a moderately high priority to training related to digital technologies, which resulted in a little over a quarter of FE staff receiving training in this area last year.

## [Demand-Driven Skills Training and Results-Based Contracting: Lessons for Youth Employment Programs](#)

World Bank | Report | 2020 | Global

This report reviews the literature, identifies project examples and derives lessons for the design and implementation of both Demand-driven training (DDT) and results-based contracting (RBC). This review aims to identify **the most effective ways to deliver these programs and provide general lessons on their design and implementation.**

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## Key resources to support the skills-related work within the WB community (World Bank staff only)



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[Thematic Knowledge Digest Archive](#)



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## CONTRIBUTORS

This knowledge digest is a product of the Skills Global Solutions Group, co-led by Education Global Practice and Social Protection & Jobs Global Practice. This edition has been coordinated by Judith Perez (Skills GSG Community Manager).

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