Digitally powered 'learning to earning' for displaced young people and adolescent girls and young women

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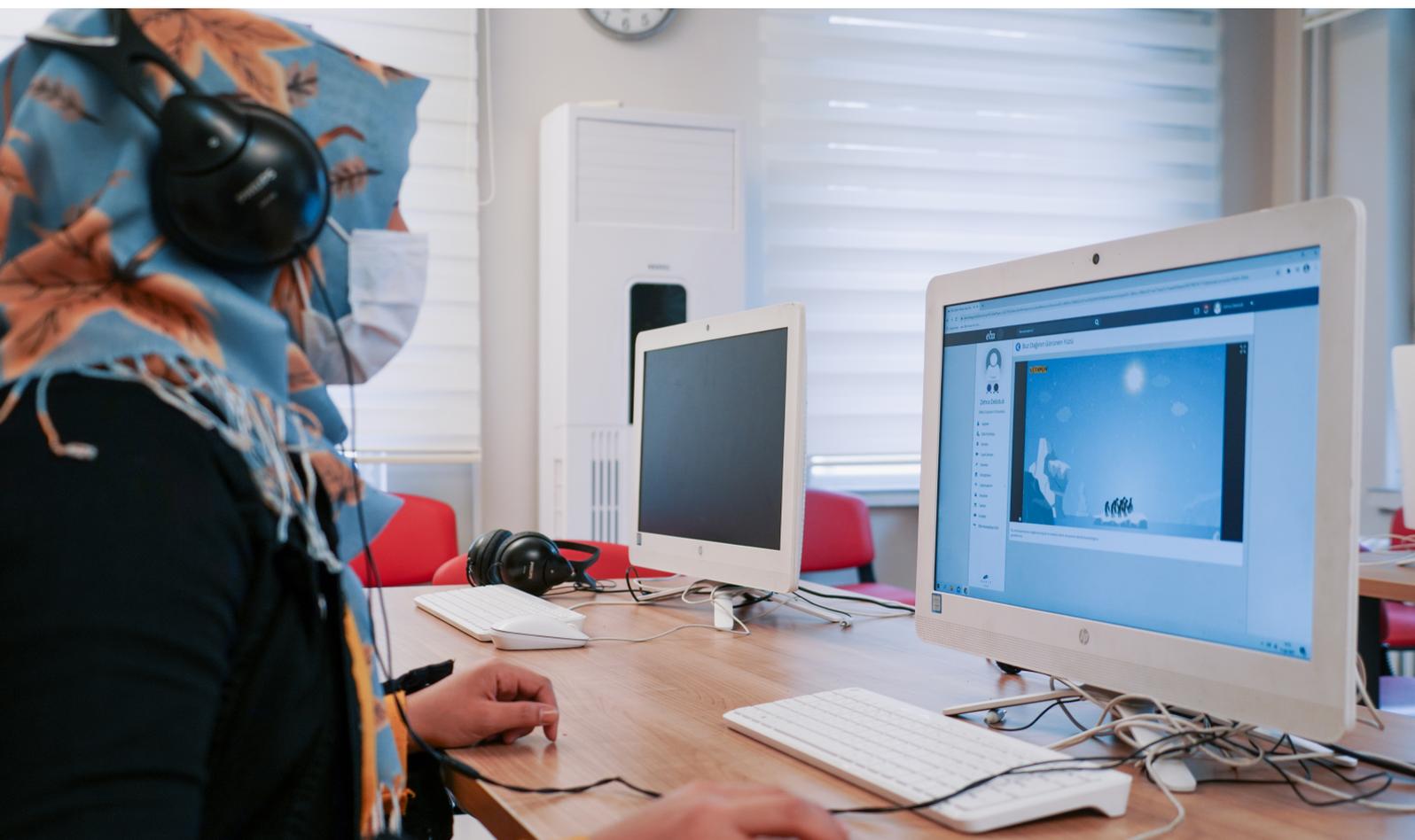
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About this publication

This report was written in 2022 and early 2023 to inform the learning agenda of PROSPECTS, a multi-year (2019–2023), multi-stakeholder partnership funded by the Government of the Netherlands, working together with the International Finance Corporation (IFC), International Labour Organization (ILO), United Nations High Commissioner for Refugees (UNHCR), United Nations Children's Fund (UNICEF) and the World Bank.

PROSPECTS aims to help transform the way governments and other stakeholders, including the private sector, respond to the displacement crises in eight countries in the Middle East, North Africa and Horn of Africa (Egypt, Ethiopia, Iraq, Jordan, Kenya, Lebanon, Sudan and Uganda).

This report aims to connect policymakers and practitioners with research and evidence on policy and programme solutions to support the inclusion, self-reliance and protection of displaced children and families. It synthesises evidence on how digitally powered learning to earning for displaced young people, adolescent girls and young women can be further developed and scaled.

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Key messages

Technology presents incredible new potential in opening 'learning to earning' pathways for traditionally marginalised groups, such as displaced young people, adolescent girls and young women. In 2022, there were an estimated 17.9 million forcibly displaced people in East Africa, the Horn of Africa and Great Lakes and 15.7 million in the Middle East and North Africa (MENA – UNHCR, n.d.), the regions where this study is focused. Digital inclusion is often a priority, with refugees spending up to a third of their disposable income to stay connected (UNHCR, 2016).

Developing and scaling digitally powered learning for displaced populations can provide alternative opportunities to those who have lost access public schooling, with information and communication technology (ICT) holding great promise to leverage innovative online, offline and blended learning in settings providing formal, non-formal and informal education. While technology can support the development of a range of learning, **digital skills need special emphasis** with 68% of young people globally not on track to obtain the digital skills they will need and large disparities between high- and low-income countries (The Education Commission and UNICEF, 2022), and 9 out of 10 occupations expected to demand digital skills in the near future (Van Eerd and Guo, 2020).

Inclusion in the digital economy can bring tremendous dividends to the socioeconomic integration and well-being of refugee and displaced populations. A technology-driven digital transformation of the labour market requires that transferrable, entrepreneurial skillsets and the development of advanced digital literacy. Digitally powered earning offers critical work options, especially for refugees who are, on average, up to six times more likely to be unemployed than non-refugees (British Council, 2018).

However, **a persistent gender digital divide results in unequal access to and use of ICT.** Women in numerous countries have been found to be 25% less likely than men to know how to leverage ICT for basic purposes (EQUALS and UNESCO, 2019). Yet, women who have some secondary education or who have completed secondary school are six times more likely to be online than women with only primary education or less, suggesting a strong correlation between education and women's online presence (World Wide Web Foundation, 2015).

The evidence on digitally powered learning to earning coalesces around a few themes. In terms of learning, common themes explored in the literature include accessibility and associated cost, the appropriateness and quality of content and effectiveness, and the gender divide in digital use. In terms of earning, typical themes are skills for work, labour market access and the gig economy and digital entrepreneurship. While these themes are prominent, there is very little data on whether interventions on either digitally powered learning or earning have achieved their goals in terms of educational outcomes and job placements.

There seems to be little attention to the pathways between learning and earning. Although these connections are often implicit, nearly all interventions reviewed for this report are dominant

in one domain or the other, with limited focus on linking the pathways between the two. Evidence therefore suggests that interventions do not always operationalise learning to be connected to earning, and vice versa.

While some digital learning to earning initiatives for displaced young people, adolescent girls and young women do exist in the East African and MENA regions, many are still at a pilot stage, are often internationally financed, and have limited integration into national education offers or scaling across the labour market.

The rapid evolution of the field alongside limited rigorous evidence highlights a need for continuous evaluation and adaptation of practice, along with greater efforts in learning. A range of learning questions have been suggested in this report, such as on building a better understanding of baseline and digital literacy levels, innovation and linkages to market opportunities, how to counter gender digital divides, collection of disaggregated data, and sustainable funding models.

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Acronyms/Glossary

A4AI   Alliance for Affordable Internet

CTA   Community Technology Access

CWTL   Can't Wait to Learn

ESA   East and Southern Africa

ICT   information and communication technology

IDP   internally displaced person

ILO   International Labour Organization

INEE   Inter-agency Network for Education in Emergencies

LGBTIQ+   lesbian, gay, bisexual, trans/transgender, intersex, queer/questioning

MENA   Middle East and North Africa

MOOC   massive open online course

NEET   not in employment, education or training

OECD   Organisation for Economic Cooperation and Development

OER   Open Education Resources

Pi4L   Raspberry Pi for Learning Initiative

SDG   Sustainable Development Goal

SIR   Solidarity Initiative for Refugees

TBB   Talent Beyond Boundaries

TIGER   These Inspiring Girls Enjoy Reading

TVET   technical and vocational education and training

UNESCO   United Nations Educational, Scientific and Cultural Organization

UNHCR   United Nations High Commissioner for Refugees

UNICEF   United Nations Children's Fund

Executive summary

This report explores how digitally powered learning to earning for displaced young people, adolescent girls and young women (especially refugees, but also internally displaced and those in host communities) can be further developed and scaled.

It considers a range of evidence and interventions in East Africa and the Middle East and North Africa regions to identify key issues and evidence gaps and propose a set of critical questions needing further exploration.

Digitally powered learning to earning

'Digitally powered learning to earning' refers to technology-enhanced pathways that enable young people to move easily from education to productive and decent work. While drawing on conceptualisations of 'school-to-work', we use the term 'learning to earning' in recognition of multiple formal, non-formal and informal education experiences and non-linear labour market trajectories – often including periods of employment, irregular work and unemployment or economic inactivity – experienced by young people aged 15–24. The digital emphasis recognises that, while traditional learning to earning pathways exist, new opportunities have been created through the emergence, growth and ubiquity of digital tools and platforms supporting skills development, job matching and online work.

Why focus on displaced young people, adolescent girls and young women?

This new potential of technology is particularly important in opening learning to earning opportunities to more traditionally marginalised groups, such as adolescent girls and young women and displaced young people. Within this group, the forcibly displaced need particular attention due to a dramatic rise in numbers and exacerbation of gender disadvantages brought about by crisis and conflict. With limited educational opportunities and facing multiple challenges in transitioning to the world of work, digital transformations open new opportunities to address barriers and take advantage of emerging learning to earning pathways.

Scope of this study

Contributing to the PROSPECTS Learning Partnership, this report supports an aim of connecting policymakers and practitioners with research and evidence to support the inclusion, self-reliance and protection of displaced children and families. Its geographic scope mirrors that of PROSPECTS and covers eight countries in MENA and the Horn of Africa (Egypt, Ethiopia, Iraq, Jordan, Kenya, Lebanon, Sudan, and Uganda). Evidence and experience from beyond these countries is also drawn upon, and the findings may also be relevant for other contexts engaging in digitally powered learning to earning for displaced young people, adolescent girls and young women. None of these groups are mutually exclusive, and there is therefore considerable overlap in findings and recommendations.

State of the evidence

This report includes an extensive literature review and identifies 17 digitally powered learning to earning interventions that were either used by or targeted to displaced young people, adolescent girls and young women in the focus

regions. The analysis shows that evidence remains scarce on what an enabling ecosystem looks like and 'what works' to expand digitally powered learning to earning opportunities in general, let alone specific evidence regarding our population groups of interest. Across the initiatives reviewed, evaluations are few and often still in the preliminary stages. This means that initiatives' ability to achieve success in facilitating the learning to earning pathway remains unclear. Equally, while it is possible to draw to some extent on practitioner experience, many questions remain on how best to support learning to earning pathways for these groups. The current rapid evolution of the field alongside limited rigorous evidence highlights a need for continuous adaptation and greater efforts to evaluate and learn from interventions.

Digitally powered learning

While a range of digital learning initiatives are emerging for displaced young people, adolescent girls and young women in the East Africa and MENA regions, they are still limited in scale compared to more traditional formal and non-formal education offerings. Many are at the pilot stage, are often internationally financed, and there has been limited integration into national education offers. Overall, digitally powered learning initiatives are often focused on equipping users with language skills.

Box 1 Types and examples of digital learning solutions

Hardware and software
The Instant Network Schools programme equips selected schools and community in a few countries in the African continent with a 'digital box' that includes a set of computer tablets, solar-powered batteries, a satellite or mobile network, and a suite of content and online learning material.

Digital content
Programmes such as 'Can't Wait to Learn' provide game-based educational learning delivered digitally. Other programmes, e.g., TIGER (These Inspiring Girls Enjoy Reading) and Worldreader, provide access to Open Education Resources (OER) or e-books to enable self-paced learning.

Teacher professional development
The Teachers for Teachers Project in Kenya facilitates teacher training in person with additional mentoring over mobile phone. The Raspberry Pi for Learning Initiative (Pi4L) in Lebanon contains online courses for teachers.

Digitally powered earning

There are also promising digital initiatives in these regions that aim to increase the employability of displaced young people, adolescent girls and young women. These tend to prioritise building the digital skills of those enrolled to enable further digital employment. Of the initiatives reviewed, most focused on digital platforms for job-matching and online skills courses.

Box 2 Types and examples of digital earning approaches

Digital skills
The Community Technology Access (CTA) centres in Uganda work with young refugees to acquire the skills in coding, programming and ICT maintenance they need for self-employment.

Broader job skills
Edraak in Jordan provides an Arabic-language massive open online course (MOOC) platform to help build skills through job-ready programmes and entry into the labour market.

Linkage to employers
Talent Beyond Boundaries (TBB) in Jordan and Lebanon maintains an online talent catalogue with profiles of over 25,000 registered professionals who are refugees to match them to employment opportunities in Canada, the UK and Australia.

Start-up accelerators
Orange Digital Centre Coding School and its associated FabLab Solidaires as well as Orange Fab and Innovation Village in Uganda function as an incubator actively working alongside different stakeholders in Uganda's start-up ecosystem.

Critical issues

Despite the limited evidence on digitally powered learning to earning, certain key thematic areas emerged from the literature. These were confirmed and elaborated through regional consultations. In terms of learning, these themes included accessibility and cost, content and effectiveness, and the gender divide in digital use. In terms of earning, skills for work, labour market access and the gig economy and digital entrepreneurship were the main themes. Although connections between learning and earning are often implicit, most interventions sat predominantly in one domain or the other, with limited data available to explore the pathways between the two. Evidence within each of these themes coalesced around a set of critical issues.

Questions and considerations

Through consultations, a range of themes that are important to explore further were identified, including teaching and learning, market opportunities, gender and inclusion, providers and financing. A range of learning questions were developed to highlight areas where there is need for further research and evaluation. These include:

- How do baseline and digital literacy levels change pathways in digitally powered learning to earning?
- What innovations can be built into digitally powered learning so that displaced young people, adolescent girls and young women learners graduate with linkages to market opportunities in host communities, i.e., mentoring, internships, credentialling?
- In what ways can approaches strengthen equity and inclusion in digitally powered learning to earning counter gender digital divides?
- What are the best indicators, methods and tools to collect reliable disaggregated data on digitally powered learning to earning for displaced young people, adolescent girls and young women?

- What are the key features of funding models that support successful digitally powered learning to earning initiatives? How can donor funding, national financing and forms of user fees contribute to sustainability?

Ways forward

Through review of evidence and experience for this report, a set of ten promising actions have been identified.

Overall and cross-cutting

1. Co-design and engage with users of learning to earning initiatives to develop, deliver and evaluate digitally powered learning to earning pathways.
2. Differentiate digitally powered learning to earning offerings to recognise the diverse needs of displaced young people, adolescent girls and young women and account for varied foundational and digital skill sets.
3. Consciously develop digitally powered pathways for transitions from learning to earning by explicitly indicating how interventions will achieve these and how they will be measured.
4. Blend in-person and digitally powered components of learning to earning initiatives for greater traction.
5. Support digital literacy and transferable and entrepreneurial skills for displaced young people, adolescent girls and young women to improve both employment prospects and socioeconomic integration.
6. Build in rigorous evaluation through baseline to endline measures and continuous review to gain insight on effectiveness of digitally powered learning to earning.

For displaced young people

7. Pay attention to specificities of infrastructure, particularly mobile, available in different locations in implementing digitally powered learning to earning for displaced young people.
8. Align digitally powered learning to earning content to national policies and curricula, ensuring accreditation and credentialling for refugees and displaced young people within host countries.

For adolescent girls and young women

9. Address the gender digital divide by first establishing the nature and extent of difference in digital access and use and designing digitally powered learning to earning initiatives explicitly to reach adolescent girls and young women
10.   Raise awareness to counter and prevent online gender-based violence, working with local actors to tackle this.

Table 1 Critical issues in digitally powered learning to earning

	Theme	Critical issues
Learning	**Accessibility and cost**	● Defining access and use of the internet includes issues of affordability and costs, ownership and shared use of devices, digital literacy and frequency of use and online presence. ● Mobile technology has gained popularity over and above broadband because it offers low-cost, less-complicated alternatives for accessing online content. ● Thought should be given to the infrastructure required for the type of access (i.e., 3G, 4G, other), typical mobile devices, general level of digital skills and IT expertise available.
	Content and effectiveness	● OER offer advantages for displaced young people such as access and availability, cost-effectiveness, adaptability and ease of dissemination. ● Non-formal digitally powered learning to earning pathways have a limited focus on digital skills and need greater attention. ● Technology offers opportunities to mitigate displacement's negative impacts on linguistics skills and literacy levels in both mother tongue and host country languages. ● Teacher training is one of the main areas of focus for technology-education solutions in crisis settings
	Gender divide in digital use	● Gender norms in home and host countries contribute to the persistence of a gender digital divide, informing unequal access to and use of ICT. ● Education and digital skills are strongly correlated, as women and girls with some secondary education are six times more likely to be online than those with only primary education. ● Concerns over online safety for adolescent girls and young women, as well as physical safety and restrictions on mobility, are some of the main reasons behind the gender digital divide.
Earning	**Skills for work**	● Competencies for labour market entry for displaced young people include digital skills, transferable skills (life skills, 21st century skills, soft skills and socio-emotional skills), job-specific skills, entrepreneurial skills and foundational skills. ● Advanced digital skills improve labour market opportunities and foster socioeconomic integration, yet most displaced young people are not on pace to obtain these. ● The digital skills gap has significant gender aspects, with males far more likely than females to be on track to gain these skills.
	Labour market access	● Digital-based work expands labour market access for refugees and displaced young people beyond low-skilled, informal employment where opportunities are often concentrated. ● Displaced young people can face hostility from host communities and are considered as competitors for employment opportunities, including in the digital sphere. ● Adolescent girls and young women face compounded challenges, with an absence of family networks and lack of childcare, that the flexibility of digital work can help overcome.
	Gig economy and digital entre-preneurship	● Digital entrepreneurship and participating in the gig economy can provide displaced young people alternatives to traditional work and circumvent the barriers of formal employment. ● For adolescent girls and young women, this can overcome restrictions on mobility and help balance family obligations. ● Digital gig work for displaced populations can overcome some barriers but still be challenging due to irregularity, banking restrictions and increased risk of abusive conditions.

1 Introduction

Record numbers of forcibly displaced people and protracted situations of displacement have made economic resilience and self-reliance a topical issue, particularly for young people. By the end of 2021, some 89.3 million people worldwide were forcibly displaced, the highest number in history (UNHCR, 2022). Among this group and in communities that surround them, adolescent girls and young women confront additional challenges both in acquiring education and skills and in transitioning to decent quality work.

More and more, technology is being used to provide education, training and job opportunities, particularly in humanitarian and displacement settings. The Covid-19 pandemic significantly accelerated the use of digital technologies in support of learning to earning, including solutions focused on displaced young people, adolescent women and young girls, driving a shift to online training and work on an unprecedented scale, albeit not universally.

This report explores how digitally powered learning to earning for displaced young people, adolescent girls and young women – especially refugees, but also the internally displaced and those in host communities – can be further developed and scaled.

It takes a wide scope and considers evidence and existing interventions to identify key issues and evidence gaps and propose a set of critical questions needing further exploration.

1.1 Digitally powered learning to earning

'Digitally powered learning to earning' refers to technology-enhanced pathways that enable young people to move easily from education to productive and decent work. While drawing on conceptualisations of 'school-to-work' (Alam and de Diego, 2019), the term 'learning to earning' is used here to recognise the multiple formal, non-formal, and informal education experiences and non-linear labour market trajectories, often including periods of employment, irregular work and unemployment or economic inactivity, experienced by young people aged 15–24. The digital emphasis recognises that, while traditional learning to earning pathways exist, new opportunities have been created through the emergence, growth and ubiquity of digital tools and platforms supporting skills development, job matching and online work.

Critical to broader development efforts, the Sustainable Development Goals (SDGs) affirm the importance of digitalisation in their achievement in related areas, with SDG 4 on quality education highlighting training in the use of information and communication technology (ICT) (target 4b), SDG 5 on gender equality mentioning ICTs as enabling women's empowerment (target 5b), and SDG 9 on industry, innovation and infrastructure including access to ICTs and affordable internet (target 9c).

Box 3 Key definitions used in this report

Adolescent girls and young women
Females aged 10–24 years. Depending on context, this may also include slightly older women (25–29) based on risk and needs in a context (The Global Fund, 2018).

Digitally powered learning to earning
Technology-enhanced pathways that enable young people to move easily from education to productive and decent work. This involves an ecosystem where 'digital skills and knowledge support the development of digitally literate children and adolescents who can use and understand technology, search for, and manage information, communicate, collaborate, create, and share content, build knowledge, and solve problems' (UNICEF, 2021a).

Forced displacement
A migratory movement which, although the drivers can be diverse, involves force, compulsion or coercion. This term is used to describe the movements of refugees, internally displaced persons (IDPs), asylum seekers, and, in some instances, victims of trafficking (IOM, 2019).

Young people
Period of transition from the dependence of childhood to adulthood's independence, often referred to a person between the ages of leaving compulsory education and finding their first job. This typically refers to persons between the ages of 15 and 24 years, but can vary by context (UN, n.d.).

Youth on the move (YOTM)
Umbrella term that brings together a series of categories of young people including those who migrated (e.g., to pursue better life opportunities, to look for work or education or to escape exploitative or abusive situations at home, or because of other protection needs), have been displaced by conflict and natural disasters or climate shocks, within or across borders, are in transit or returned, or have irregular legal status (Huxley et al., 2017).

Mobile learning
Learning of any type designed to take place via a personal handheld electronic device, such as a smartphone. Such learning is not confined to the classroom or home but can take place anywhere and anytime, often including synchronous or asynchronous interaction with teachers and other learners (Lewis and Thacker, 2016).

Open Education Resources (OER)
Teaching and learning materials, course modules and entire courses in digital formats that are placed in the public domain or online and openly licensed. Teachers and learners can legally and freely copy, use, adapt and share these resources for their own purposes (Latchem, 2018).

1.2   Displaced young people, adolescent girls and young women

The potential of technology is important in opening learning to earning opportunities to traditionally marginalised groups, such as displaced young people, adolescent girls and young women. In recent years, the number of refugee children has risen dramatically – by 132% between 2010 and 2021 (UNICEF, 2022a). Gender disadvantages are exacerbated in such contexts, with more than twice as many girls in crisis-affected contexts as out of school compared to global averages (Naylor, 2021). Less than half of refugee children who start primary school make it to secondary school, with a gender disparity in favour of boys at 36% compared to only 27% of adolescent girls enrolled at the secondary level of education (Naylor, 2021).

Displaced young people, adolescent girls and young women transitioning to the world of work face multiple challenges. Globally, 500 million young people are unemployed, underemployed, or working in the informal sector, with 255 million (21%) young people in lower and middle income countries (75% women) not in employment, education or training (NEET) (UNICEF, 2019a). Adolescent girls and young women face further hurdles in the labour market, including higher unemployment rates, underemployment and low wages (Haberland et al., 2021). Compounding these challenges, estimates show that refugees are up to six times more likely to be unemployed than non-refugees (British Council, 2018).

With digital transformation permeating ever more facets of society, new opportunities are opening up to address barriers and shift from traditional learning to earning pathways and harness innovation to the benefit of refugees (Kumar et al., 2019). Increased use of technology for education (EdTech), expansion of online training and job platforms, and technology-enabled work and entrepreneurship all show promise (ILO, 2020; Tauson and Stannard, 2018), with the Covid-19 pandemic having significantly accelerated adoption (Amankwah-Amoah et al., 2021).

At the same time, the Covid-19 pandemic has exacerbated need, with estimates that associated learning losses for this generation will amount to a loss of some US$17 trillion in lifetime earnings (World Bank, UNESCO and UNICEF, 2021).

1.3   Regional context and trends

Education levels are worryingly low across sub-Saharan Africa, with 9 out of 10 primary-age children unable to read or understand a simple text and the lowest participation rate in tertiary education globally (World Bank, 2022). NEET rates in the region are worryingly high; for young people aged 15–19, this is approximately 20–30%, and increases for young people aged 20–24 to above 40% (UN Women, 2022). For adolescent girls and young women in the region, limited education and unemployment opportunities too often lead to risk-taking behaviours and compounded vulnerabilities (Iwelunmor et al., 2020). The highest NEET rate for young women aged 20–24 is 68% in Ethiopia, where there is also staggeringly high displacement. Across Africa, there are around 30 million refugees, IDPs and asylum-seekers, which represents almost one-third of the world's refugee population. Africa is the continent with the youngest population worldwide and over a third of displaced children live in sub-Saharan Africa (3.9 million or 36%) (UNICEF, 2022b). Moreover, East and Southern Africa (ESA) is home to six of the top ten countries on the continent in terms of hosting numbers of refugees: Uganda, Sudan, Ethiopia, Kenya, South Sudan and Rwanda (UNHCR, 2022).

In MENA, one in five children are not in school and, of those in school, only half meet minimum benchmarks for reading, maths and science. There is little sense that education prepares one for the future, with 8 in 10 young Arabs concerned about the quality of education in their country (ASDA'A BCW, 2022). Youth unemployment rates (for those aged 15–24) are among the highest in the world, with close to one-third in North Africa and more than one-fifth of young people in the Arab states lacking formal work (UNICEF, 2022c). Adolescent girls and young women are 1.5 times more likely to be out of school than boys of the same age and at approximately 40% across the region have a higher unemployment rate than boys and young men (UNICEF, 2019a). These gaps are intensified by conflict, with MENA being home to 58% of the world's refugees and nearly half of the world's IDPs, more than one-third of the region's young people live in fragile and conflict-affected countries (ibid).

Harnessing new pathways in digitally powered learning to earning is clearly a significant need in both regions. The possibilities are many, with the digital transformation able to open important new opportunities for displaced young people, adolescent girls and young women. The ESA region has dramatically improved its communication infrastructure in recent years, with 4G now reaching more than half the population, and boasts the highest mobile money use in the world (AU Commission and OECD, 2021). In MENA, 73% of young people in Arab states were thought to have used the internet in 2020 (Farley and Langendorf, 2021). However, in both regions, a digital gender gap holds back adolescent girls and young women: in sub-Saharan Africa, women are 30% less likely to own a smartphone than men and, in MENA, women are 12% less likely than men to use the internet (Farley and Langendorf, 2021; GSMA, 2022).

1.4 Critical moment for evidence

It is a critical moment for the education, skills and learning-to-earning agenda. In some cases, preliminary learning and evidence on this agenda has been produced, along with initial proposals for future research, policy and programming: e.g., *Talent on the move* (UNICEF, 2021b); *Unlocking the power of digital technologies to support 'learning to earning' for displaced youth* (UNICEF, 2021a); *What we know about the gender digital divide for girls: a literature review* (UNICEF, 2021c); *Barriers and opportunities for refugee women to engage in the digital economy* (IFC, 2021); *Digital refugee livelihoods and decent work: towards inclusion in a fairer digital economy* (ILO, 2021a). Beyond this, the broad experiences of policy makers and practitioners are equally important to capture.

There is a need to consolidate key evidence, building on existing work to better understand what is known and where gaps remain. This information can inform the increasing appetite to develop and scale ecosystems of digitally powered, blended learning and earning opportunities accessible to displaced young people, adolescent girls and young women.

Yet, comprehensive evidence on what an enabling ecosystem looks like and 'what works' to expand access to digital and blended learning and earning opportunities remains scarce, hindering the development of integrated policy and programming in this area. There is also limited evidence-based knowledge among practitioners, such as education or jobs platform developers, on how to support the learning-to-earning pathways of displaced young people, adolescent girls and young women. This report seeks to address these gaps.

2   Scope of study

2.1   Research questions

The objective of this evidence review is to compile and synthesise existing evidence in a comprehensive manner to answer the central research question:

How can digitally powered learning-to-earning for displaced young people, adolescent girls and young women be further developed and scaled?

Two overarching themes guide the structure of the literature review and are identified as follows:

- **Digitally powered learning**
- **Digitally powered earning**

2.2   Methodology

Evidence for the review was gathered through three approaches:

- through a review of published and grey literature (see Appendix 1 for detailed sources, search strings and themes)

- a series of consultative workshops attended by regional experts working in education and employment for displaced populations and adolescent girls and young women in both the ESA and MENA regions, as well as through discussions and feedback
- examination of 17 key initiatives (identified through literature review as well as consultative workshops) in the learning to earning space in ESA and MENA regions .

The methodology of the literature review draws on ODI's previous work in these areas and adopts a thematically related search strategy. The UNICEF report Unlocking the power of digital technologies to support 'learning to earning' for displaced youth (2021b: 7) defines the digitally powered/ enabled learning-to-earning ecosystem as one where:

> digital skills and knowledge support the development of digitally literate children and adolescents who can use and understand technology, search for, and manage information, communicate, collaborate, create, and share content, build knowledge, and solve problems.

2.3 Geographic scope and examples

The geographic scope of this report covers eight PROSPECTS¹ countries spanning MENA, East Africa and the Horn of Africa: Egypt, Jordan, Lebanon, Iraq, Sudan, Ethiopia, Uganda, and Kenya. This report ecognises the regional differences (e.g., size of displaced populations, national policies, programmes, initiatives, and policy frameworks that address their needs for education and employment).

While the review draws primarily on examples from the selected countries, evidence from other country contexts is at times included, to the extent that it provides relevant and/or interesting documented policies, programmes or initiatives which could provide useful learning as part of this study. In terms of targeted groups, this research is concerned with two main categories: displaced young people and adolescent girls and young women, particularly refugees and host communities. This review recognises that these groups are not mutually exclusive, and there will be considerable overlap in evidence, findings and recommendations.

Seventeen digitally powered learning to earning interventions were identified that were either used by or targeted to displaced young people, adolescent girls and young women in the focus regions. Six are in East Africa, nine in the Middle East and North Africa and two span both regions. Overall, digitally powered learning initiatives were often focused on equipping users with language skills, while earning initiatives focused on digital platforms for job-matching and at times online skill courses. Except for War Child Holland's 'Can't Wait to Learn' in Sudan and Lebanon, most initiatives lacked accompanying evaluations that could highlight either success in learning outcomes and/or job placements for refugees and other displaced young people, adolescent girls and young women.

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1   PROSPECTS is a multi-year (2019–2023), multi-stakeholder partnership funded by the Government of the Netherlands, working together with the International Finance Corporation (IFC), International Labour Organization (ILO), United Nations High Commissioner for Refugees (UNHCR), United Nations Children's Fund (UNICEF) and the World Bank. By bridging economic, social, development and humanitarian action, PROSPECTS amplifies existing programmes, takes advantage of synergies and complementarities in mandates, and provides a platform to test and scale new approaches that have transformative potential. PROSPECTS aims to help transform the way governments and other stakeholders, including the private sector, respond to the displacement crises in eight countries in the Middle East and North Africa and in the Horn of Africa (Egypt, Ethiopia, Iraq, Jordan, Kenya, Lebanon, Sudan and Uganda).

3   Digitally powered learning

Displaced young people and adolescent girls and young women face tremendous challenges in continuing their education. Joynes and James (2018) list several barriers that inhibit the education trajectories of displaced populations: (1) the lack of specific educational policies and frameworks in host countries to absorb and integrate new arrivals into all levels of education, (2) scarce funding and budget allocations available for public schools, (3) the language of instruction and medium of delivery, (4) complex administrative procedures and registration requirements, (5) classroom size and pupil/teacher ratio, (6) teacher training, (7) restrictions on mobility, and (8) poor school infrastructure and equipment. In 2021, the UNHCR report *Coming together for refugee education* showed that less than half of refugee children who start primary school make it to secondary school. The report finds that in 2019, 31% of refugee children enrolled at the secondary level, with a gender disparity in enrolment in favour of boys (36% compared to 27% for adolescent girls). The impact of the Covid-19 pandemic may widen the gender gap as the report estimates that 50% of refugee girls in secondary school may not return when the schools return to face-to-face teaching (Naylor, 2021).

The findings of an Education Cannot Wait (2022) report confirm this prediction and show that about 222 million children and adolescents (from one year before the primary school age till the end of the theoretical age of secondary education) were affected by crises globally. Of these, about 78.2 million (54% females, 17% with functional difficulties, 16% forcibly displaced) are out of school. On learning outcomes, the data shows that 119.6 million out of the 222 million are in school

but not achieving minimum proficiency in reading or mathematics compared to only 24.2 million in pre-primary or attending primary/secondary school and achieving the minimum proficiency levels for mathematics or reading.

The growing numbers of displaced children of school age and the failure of public schooling to absorb them have led to renewed interest in using ICT to deliver digital learning content and meet their educational needs. The use of ICT in educational settings has been enshrined in the global development agenda. UNESCO recognises the potential of ICT in education to build 'a world without boundaries where technologies support education to build inclusive knowledge societies' (cited in Latchem, 2018). The SDGs affirm that 'to achieve the goal of inclusive and equitable quality education and lifelong learning by 2030, ICT – including mobile learning – must be harnessed to strengthen education systems, knowledge dissemination, information access, quality and effective learning, and more efficient service provision.'

We understand ICT according to the UNESCO's definition (cited in Latchem, 2018):

> a broad term encompassing radio, television, the Internet and the Web, satellite and Wi-Fi systems, mobile telephony, computer hardware and software, audio- and video-conferencing, virtual reality, social media, wikis, 3D printers and so on

In its recommendations, the World Bank (2016: 5) contends that ICT holds 'great promise' to meet the educational needs of displaced populations by leveraging innovative ways, such as the use of

mobile devices in educational settings, to provide formal, non-formal and informal education. Lewis and Thacker (2016: 4) list the benefits of ICT for creating ecosystems of digitally powered learning to earning for refugees and displaced populations as: (1) providing a curriculum and records system that can follow children on the move, (2) reaching those unable to attend school, (3) linking digital content to the national curricula of students' home country or their country of refuge, and (4) certifying educational achievement.

Other studies found that ICT holds the potential, if used efficiently, to: (1) geographically map displaced populations and understand their needs, (2) improve pedagogical practices and teachers' training, and (3) provide accreditation and monitor students' progress (Joynes and James, 2018; Mendenhall et al., 2015).

The development and scaling of ICT-based solutions to meet the educational needs of displaced populations, especially displaced young people, adolescent girls and young women, is riddled with challenges. Evaluating the usefulness, quality and efficiency of ICT-enabled teaching and learning solutions for displaced populations requires careful attention to issues of accessibility and equity, pedagogy, monitoring, evaluation and student assessment.

This section offers a closer look and critical attention to trends, policies and initiatives at the global, regional and national levels relevant to understanding the effectiveness of using ICT to support and deliver digital learning content. It consists of three sections: Section 3.1 will begin by exploring the potential of ICT-based teaching and learning to meet the needs of displaced populations and adolescent girls and young women. It will explore issues of accessibility and costs of access, covering infrastructure,

connectivity and the cost of internet access in host countries. It will pay close attention to questions related to existing infrastructure to scale digitally supported teaching and learning, the use of mobile devices to deliver education for displaced populations, and digital literacy. Section 3.2 will address the design and development of digital education and modes of delivery. It will cover access to content, language and teacher training and development. Section 3.3 will take stock of data and evidence on the gender digital divide. It will investigate issues related to equity and equality concerning digital access, usage, and skills. Moreover, it will seek to show the role of safety in shaping access, presentation and activities in online spaces. It will pay attention to the risks of online gender-based abuse/violence and the efforts to end online abuse and exploitation.

While a range of digital learning initiatives are emerging for displaced young people, adolescent girls and young women in our regions of focus, they are still relatively limited in scale in comparison to more traditional formal and non-formal education offerings. Many are still at pilot stages, are often internationally financed, and see limited integration into national education offers. Overall, digitally powered learning initiatives are often focused on equipping users with language skills.

Box 4 Types and examples of digital learning solutions

Hardware and software
The Instant Network Schools programme equips selected schools and community in a few countries in the African continent with a 'digital box' that includes a set of computer tablets, solar-powered batteries, a satellite or mobile network and a suite of content and online learning material.

Digital content
Programmes such as 'Can't Wait to Learn' provide game-based educational learning delivered digitally. Other programmes e.g., TIGER (These Inspiring Girls Enjoy Reading) and Worldreader, provide access to Open Education Resources (OER) or e-books to enable self-paced learning.

Teacher professional development
The Teachers for Teachers Project in Kenya facilitates teacher training in person with additional mentoring over mobile phone. The Raspberry Pi for Learning Initiative (Pi4L) in Lebanon contains online courses for teachers.

3.1 Accessibility and costs

Developing and scaling digital ecosystems for learning and teaching using ICT for displaced populations can provide alternatives to those who have lost opportunities to access public schooling. The UNHCR (2016: 12) estimates that 86% of the world's refugees reside in low-income countries where the public schooling systems fail to absorb them. In many crisis and conflict-affected settings the current infrastructure

(i.e., public schools, learning centres) are either demolished or repurposed for military or humanitarian occupation (Burde et al., 2015: 16). Most public school operate in what's referred to in the literature as double shifting which means 'establishing two or more shifts for different cohorts of learners to make better use of available space' (World Bank, 2016: 11). This type of operation can dramatically deteriorate the existing infrastructure and learning outcomes for students and put strain on teachers and school administration. Mendenhall et al. (2015: 114) found that some classes in a refugee context in Kenya 'had to rotate sets of books among pupils, and in some classes, no one had a text'. They observed that teachers and school administrators often mentioned the lack of learning materials and funding to maintain school equipment as significant constraints to the education of displaced populations. Moreover, displaced populations, especially young people, adolescent girls and young women, face other challenges such as financial barriers to paying for additional costs (i.e., transportation costs, books and learning materials), unsafe routes to and from school, limited opportunities for income and the domestic division of labour (Hunt et al., 2017; Joynes and James, 2018).

ICT technologies in education offer a range of online, offline, and blended solutions that can be geared towards meeting the educational needs of displaced populations, especially the most vulnerable groups such as young people and adolescent girls and young women. In recent years, particularly after the school closure during the Covid-19 pandemic, many countries have embraced digital learning and online collaboration to compensate for the loss in learning due to the disruption in school and university attendance. The OECD (2020a: 1) observes several digital and online

solutions introduced globally during this period. For example, training for teachers and school principals to work remotely (China, Italy, UK), online classes deployed at scale (China), and task forces of practitioners, administrators, counsellors and teachers to support parents and students (USA). In refugee settings, the Instant Network School programme, implemented by UNHCR and Vodafone, provides schools in refugee camps in Kenya, Tanzania, South Sudan and the Democratic Republic of Congo with equipment, tools and digital educational materials (Ashlee et al., 2020).[2] UNESCO (2018) cites preliminary data from the programme suggesting increased enrolment and retention rates indicating that school settings within camps can benefit from digital support. Results of War Child Holland's Can't Wait to Learn e-learning programme (see Box 5) highlight key features to be considered in programming, though the cost per child is significant (Topham, 2019).

Box 5 Can't Wait to Learn in Sudan and Lebanon

Can't Wait to Learn (CWTL) is a curriculum-aligned learning programme delivered on a tablet. It employs a serious gaming approach and non-specialist facilitators to address some of the many challenges of access to quality education in conflict-affected settings. CWTL was first developed in Sudan for children living in areas without any formal education infrastructure. A quasi-experimental study indicated significantly greater learning gains in numeracy among children who were offered lessons using CWTL five days per week over a period of six months than among a comparison group that received state-provided nonformal education (War Child Holland, Ahfad University for Women, and TNO, 2016). The study was conducted with children aged 7–9 who had never been to school and were living in the states of White Nile, North Kordofan, and Al Qadarif.

In Lebanon, the CWTL game design is based on a learner-centred sociocultural approach. This is achieved by engaging with meaningful, competency appropriate, and contextually relevant content. To promote relatedness, the game world and its characters were co-created with out-of-school children in Lebanon, which resulted in an experiential learning interface that reflects children's realities and dreams. Interaction with these characters and instructional videos that are narrated by children are designed to increase the contextual relevance of the game, to engage emotional and cognitive processes, and to help children grasp the learning objectives (Sarama and Clements, 2002; Sitzmann, 2011). In Lebanon, early results saw: significant improvements in numeracy, psychological symptoms and self esteem; positive reported experiences with the programme; increased motivation among the children; and overall ease of implementation.

Turner et al. (2022)

2 Selected schools and community centres are equipped with a 'digital box' that includes a set of computer tablets, solar-powered batteries, a satellite or mobile network, and a suite of content and online learning material. Each INS is run by a local coach who provides in-service training and support for learners and teachers. Daily logs of INS use are recorded and uploaded to a global platform which helps to track utilisation, flag challenges and identify areas for re-design or capacity building

The shift towards greater reliance on distance learning and online and/or blended learning (face-to-face and online) has reshaped the global topography of education. Online education or e-learning has seen exponential growth in content, users, platforms and popularity. For example, the data obtained from Coursera's Impact report (2021) shows that the total number of registered learners increased from 44 million in 2019 to 71 million in 2020 and 92 million in 2021. In terms of new course enrolments, the numbers reported in 2019 (76 million) have more than doubled in 2020 (143 million) and continued to increase by 32%, reaching 189 million in 2021. Most notably, the report highlights a rapid growth rate in numbers of learners and new enrolments from the Middle East (39% and 38% respectively) and Africa (43% and 50%). For example, Lebanon was the second country with the highest growth rate of new learners (97%) in 2021.

In the context of displaced populations, online education is often prescribed as an antidote to overcome some barriers that inhibit education trajectories (Lewis and Thacker, 2016). Furthermore, it is suggested that online education holds the potential to alleviate the burden on public schooling in host countries by providing an alternative to/or complementing face-to-face teaching and learning and curriculum (Joynes and James, 2018).

Connectivity and device access is necessary for digitally enabled online teaching and learning, but limited in the case of most displaced children and young people. Overall, there is a digital gap in access to the internet in both MENA and East Africa regions. According to the GSMA data (2019), internet penetration across the MENA region reached 47%. In Africa, the estimates show the lowest internet penetration rate among populations at 39%, and in countries such as

Eritrea and Madagascar the percentage can be less than 10%. In terms of coverage, GSMA (2019) data shows that most MENA countries have significant mobile internet coverage gaps, particularly in geographically large countries such as Egypt, and around 60 million people were still not covered by a mobile network in 2019.

The use of mobile technology to access the internet has gained in popularity in both regions as it offers low-cost, simple alternatives to access online content. Farley and Langendorf's (2021) study shows that mobile technology is the preferred method of accessing the internet across the MENA region. An estimated 67% of the population in the region used the internet through a mobile device in 2021, while only 9% accessed it through a fixed broadband connection. This phenomenon includes displaced populations. For example, an earlier survey conducted in 2015 in the Za'atari Refugee Camp in Jordan found that 86% of young people's own mobile handsets and 83% own SIM cards (Maitland and Xu, 2016). The use of mobile technology by displaced populations is well documented in literature. Rutkin (2016) describes the use of mobile phones by refugees as a 'lifeline' to navigate through unknown geographical and linguistic terrains. Gillespie et al. (2016) found that refugees rely primarily on mobile translation applications to ask for directions during their journeys and their initial integration into host countries. A GSMA (2019) survey conducted in Jordan (urban refugees), Rwanda (Kiziba refugee camp) and Uganda (Bidi Bidi refugee settlement) shows that two-thirds of refugees are active mobile phone users, and the top three uses of mobiles are making calls, using SMS service and mobile money transactions. For instance, 44% of refugees in Bidi Bidi use mobile phones to send or receive money transactions.

Assessing access and use of the internet must look to issues of affordability and cost, ownership and shared use of devices, digital literacy and frequency of use and online presence. Alliance for Affordable Internet (A4AI, 2019) data shows that in Africa, the average price of mobile internet is more than three times higher than the affordability benchmark (1 GB mobile data for 2% or less of monthly income). For the MENA countries, the 2021 A4AI report shows that only Morocco was included in the top 10 for its 'affordability drivers index' among the 72 surveyed low and middle income countries around the world, with Jordan ranked 14th. Nonetheless, the cost of access to the internet must be understood relative to other socio-economic dimensions, such as income level.

For instance, even though most mobile operators offer data packages at low cost, the findings of the UNHCR (2016) report suggest that **refugees spend up to a third of their disposable income to stay connected,** prioritising this over clothing and health care and education. Furthermore, the type (i.e., smartphones, tablets) and maintenance cost add more dimensions to the access equation. For example, the same report shows that while 71% of refugee households own a mobile phone, only 39% have internet-enabled phones, and 61% cannot benefit from advanced applications developed for smartphones (UNHCR, 2016: 13). It is essential to take note of this data, considering that most of the online digital content is developed for advanced smartphones, which adds another stratification on access and use.

Digital literacy, ownership and control over devices dramatically impact the choice of device to access online digital content. According to an Inter-agency Network for Education in Emergencies (INEE) survey on the use of ICT in education in emergencies

(Dahya, 2016), mobile phones came last – after laptops, desktops and tablets – as hardware requirements for programs currently in use to address the education needs of displaced populations. The results of the survey point out that the low rates of mobile use in education in emergencies may be due to: (1) the lack of frameworks or parameters for the effective use of mobile phones in the classrooms; (2) familiarity and convenience in the use of laptops and desktops among teachers and practitioners; (3) pedagogical practices that exclude the use of mobile devices in the learning process.

Nevertheless, it can be argued that using mobile devices in the classroom can overcome the shortage of other solutions (e.g. laptops and desktops) at a low cost and with less complicated instalment requirements. For instance, an estimated 60% of students in Lebanon 'either do not have a computer or have to share it with at least three other family members', and only around 50% of students in Lebanon were connected to online learning (Farley and Langendorf, 2021: 2). Nonetheless, despite its shortcomings, the use of mobile phones in education settings holds the potential to create opportunities for learning that may not be feasible using other digital solutions.

Evidence from the literature shows the promise of mobile technology for displaced populations to access online learning content. For instance, Joynes and James (2018) observe the potential of two primary sets of media to meet the educational needs of displaced populations: first, the widespread use of personal smartphones, tablets and other handheld devices among refugees to facilitate mobile learning in formal and informal settings; second, the development of 'connected classrooms' software packages that combine portable hardware, ICT technologies and

digital learning content for use in classrooms. A prominent example to illustrate the effectiveness of mobile learning in the classrooms is the use of mobile literacy programmes. Comings (2018) assessed the impact of smartphone apps on teaching literacy to Syrian refugee children and other children who do not have access to face-to-face instruction in classroom settings. They report positive findings for both literacy and psychosocial wellbeing, and mobile technology can be scaled to provide adequate literacy learning opportunities to Syrian and other Arabic-speaking children.

In the future, 9 out of 10 occupations will demand digital skills (Van Eerd and Guo, 2020). Yet, **less than half of young people are not on pace to obtain the necessary digital skills** (The Education Commission and UNICEF, 2022). Fewer than one-third of young people in Eastern and Southern Africa, West and Central Africa, and South Asia have the digital skills needed to do fundamental computer-related tasks. This skills gap also has gender aspects, with males 30% more likely than females to be on track to gain digital abilities (ibid). Gender imbalances in many nations imply that more women than men are illiterate or have lower levels of education, and as a result, women frequently lack the digital skills or confidence required to work.

Assessing the effectiveness of mobile technology to facilitate access to digital learning for displaced populations requires asking questions about the type of infrastructure required (i.e., 3G), the type of mobile devices, the knowledge to run these apps and the expertise to maintain them. The UNHCR (2016: 12), for instance, found that the vast majority of refugees (93%) lived in places covered by at least a 2G mobile network, with 62% within reach of 3G mobile networks. But Farley and Langendorf (2021) found that despite 95%

of people in the Arab States living in a range of at least a 3G mobile internet signal, internet use in the region was only 66% in 2021).

In the context of education for displaced populations, this means designing content for the type of devices available and the existing infrastructure (noting that currently, most distance learning courses are designed for PCs rather than mobile phones) and the availability of offline content to reach those less able to access devices with fast internet. However, defining access should not be exclusively limited to issues of infrastructure and coverage but should also include issues of licensing and copyright, which will be discussed in the next section.

3.2 Content and effectiveness

The effectiveness of ICT in meeting the digitally powered learning to earning needs of displaced populations requires a critical look at pedagogical practices, curriculum design, teacher training and student assessment. A study by HEART (2014: 12) suggests that 'the effective use of any learning technology is bound up in pedagogy, curriculum, purpose, roles, and activities. If new technologies are introduced without changing any of the other aspects, nothing different is happening.' Lewis and Thacker (2016) list five main pathways by which ICT can provide educational solutions for refugees and displaced populations: (1) providing digital learning content; (2) delivering such content; (3) training and mentoring teachers; (4) facilitating school re-entry, and (5) improving the management of education information.

Beyond infrastructure, access to online digital learning content also means asking questions about available digital education resources, licensing, dissemination and copyright. In recent

years, Open Education Resources have gained popularity among educators to provide free and openly licensed digital content to displaced populations and teachers.

Non-formal digitally powered learning to earning pathways appear to have a limited focus on digital skills, which will need to be addressed if young people and adolescent girls and young women are to access opportunities. Accelerated and alternative education programmes are important strategies for enhancing learning and skills for children and young people who have been excluded from formal education. These initiatives can increase equitable access to learning opportunities for difficult-to-reach learners and give them non-formal pathways that have been validated and accredited (UNICEF, 2020). However, these programmes only have a limited focus on digital skills and there has been no documented change triggered by Covid-19. A recent INEE and AEWG (2022) survey showed that among all accelerated and alternative education programmes, few concentrate on digital skills. The influence of Covid-19 on the content was confined to health-related information campaigns and, in a few instances, the addition of digital skills training to enable students to access remote learning. However, the survey showed that most programmes claimed that Covid-19 had had no impact on the skills or content offered.

Box 6 Raspberry Pi for Learning as OER for Syrian refugees in Lebanon

UNICEF's Raspberry Pi for Learning (Pi4L) programme for Syrian refugees in Lebanon is an example of OER that replicates the functionality of the online version of Khan Academy in an offline environment and makes the content available to learners with limited internet connectivity The programme aims to provide displaced children and young people access to learning materials through games and programs designed for programming, arithmetic, and science education. The programming inherited from the Raspberry Pi builds on established models of technology education, including computer teaching, gaming, and creative digital production. Three learning tracks are optimised for students, and one is focused on teachers and teacher-trainers. Due to the high level of education in pre-crisis Syrian communities, such a project with specific science and technology learning outcomes could make a difference in this context.

A review by UNESCO of the programme, however, highlights limitations that impact uptake of the program by refugee population:

1. applications are not adequately contextualised to the needs of the beneficiary populations
2. concerns over the quality of content and adherence to national or international curricula and standards
3. lack of systemic and curriculum-oriented structure

UNESCO (2018: 44)

There are several advantages to using OER to meet the educational needs of displaced populations, including access and availability, cost-effectiveness, adaptability, and ease of dissemination (Lewis and Thacker, 2016). However, there are some limitations to the use of OER, such as the lack of orientation towards the national curriculum, the frequent need for structuring mechanisms and improving the instructional design in accordance with pedagogic principles, the language of available content, the type of resources, device compatibility, copyright infringement, and control over material (Joynes and James, 2018). The lack of control mechanisms means that there is a high risk of sharing harmful or misleading content (UNESCO, 2018). Furthermore, as the example below on Pi4L as OER for Syrian refugees in Lebanon (Box 6) shows, digital content is often designed outside the local context and may be loaded with values and beliefs that do not cohere with local ones (Dahya, 2016).

Box 7 Solidarity Initiative for Refugees in Kenya

Solidarity Initiative for Refugees (SIR) is a local community-based organisation established in 2016 by a group of young refugees with the goal of using technology to equip refugees in Kakuma on education access and livelihoods training using digital learning methods. The programme is divided into four layers: learning, mentorship, freelance and social business. The learning component involves basic ICT and digital literacy courses, programming and various online studies. The programme is free of charge and targets young people, primarily refugees between 15 and 34 years of age. The programme is designed to fill a gap among young people who would not enter tertiary education.

It is unclear how many of the participants in the programme have entered the job market. However, since 2016, SIR has equipped over 2,000 young refugees with skills for job linkage through partnering with organisations such as the Xavier Project, Source Network and Rebank. Some 80% of the beneficiaries are refugees, and the rest are host community young people, including people with disabilities (ILO, 2021b). Evidence shows the following challenges:

1. language barriers and difficulties with written and oral communication
2. completion rate, especially among female participants
3. a lack of budget to provide more support staff and operate a centre 24/7

ILO (2021b: 52)

The language of instruction and lack of linguistic skills strongly impact education trajectories of displaced young people. Several studies show that disruption in schooling caused by displacement negatively impact the linguistics skills and levels of literacy in the mother tongue, particularly among adolescents who often struggle to cope with the burden of learning the language of the host country's education system (UNESCO, 2018). Other studies point out that even after learning the host country's language, displaced adolescents often do not reach the

academic mastery to transition to formal post-primary levels of education (Dryden-Peterson et al., 2017). Furthermore, the requirement for advanced levels of written and spoken language competencies can potentially hinder their access to vocational training or higher education which in turn limit their earning trajectories (Gladwell et al., 2018), as can also be seen in the Solidarity Initiative for Refugees (SIR) programme in Kenya (see Box 7). This can have negative consequences such as an increased rate of discontinuation and dropout, disenfranchisement, isolation, loss of income and deteriorating mental health.

One way to tackle this barrier is to offer extensive face-to-face language classes to displaced populations upon arrival. However, access to these courses remains subject to multiple factors such as restrictions on mobility, household and childcare responsibilities, financial burden and limited chances to practice the language (Benseman, 2012). Benton and Glennie (2016) assert that using ICT has great potential to address some of the challenges associated with multilingual classrooms, allowing new arrivals to learn alongside their peers instead of being channelled into remedial classes.

Moreover, using ICT in educational settings can leverage the effectiveness of language classes by offering them online at low cost, such as with the Akelius programme in Greece and Lebanon (Karamperidou et al., 2020; Dreesen et al., 2021). In particular, mobile-assisted language learning apps gained tremendous popularity to help the displaced population in the acquisition to the language of host country. For example, the mobile application 'Ankommen', developed by the German Federal Office for Migration and Refugees, aims to support refugees' German language acquisition and provide information about life in Germany (UNESCO, 2018). Other examples include Duolingo and Babel, which do not mainly target refugees but can be used by displaced populations. The advantage of these apps is their cost effectiveness (many are free to use), simplicity and the fact that they do not require a high level of digital literacy.

Making digital content available in multiple languages is another way to facilitate access to online digital learning content and overcome language barriers. As discussed above, OER holds great potential for displaced people to access digital mobile learning and continue their education. However, most of the available content is in English or French, which may limit their ability to access more comprehensive content. For example, in the MENA region, the lack of relevant content in Arabic is a barrier for many people (Farley and Langendorf, 2021). One key area to overcome this challenge is to design and develop digital content in local languages (i.e., Arabic) that specifically addresses the needs of displaced young people, adolescent girls and young women. There are a few examples of digital OER in Arabic, such as from Nafham.com, which provides tailored courses in Arabic that adhere to the national curriculum. In the MENA region there are specific initiatives that recognise the centrality of language in achieving both learning and earning aims such the Akelius language course in Lebanon, Edraak in Jordan and the Hello Hope programme in Turkey (see Box 8).

Box 8 Digitally enabled language courses in Lebanon, Jordan and Turkey

Akelius digital language course in Lebanon
The Akelius Foundation has partnered with GenU to create a digital language course to help young people learn new languages through group or independent work. The digital learning application is free, includes no advertising and requires no prior user information. It can be accessed online via a web browser, or online and offline (when content is downloaded) through a mobile application on tablets or mobile phones.

Edraak in Jordan
Edraak is an Arabic-language MOOC platform to help build skills through job-ready programmes and entry into the labour market. In early 2020, the platform aimed to provide refugee and host community learners with access to free English placement tests that would place them into customised pathways towards mastering English.

Hello Hope in Turkey
The 'Hello Hope' mobile app was developed in collaboration with Turkcell, a leading mobile network operator. It aims to help Syrian refugees living in Turkey access vital information, services and language-learning resources.

However, for the Arabic language-enabled digital content, there is a pressing need for its content to be organised, curated and catalogued and to adhere to national curricula and/or teaching standards (Lewis and Thacker, 2016). Furthermore, students often report boredom where the material does not challenge them, translating into higher rates of dropout (Tauson and Stannard, 2018: 61).

Teacher training and development should be the cornerstone of efforts for scaling and developing digitally enabled ecosystems for displaced populations. According to a 2016 survey on technology and education in emergencies, teacher training ranked as one of the top areas of programmatic focus for technology-education solutions. Over half (52%) of respondents identified teacher training as one of the focus areas of their initiative (GIZ, 2016).

In many refugee settings, teachers are often untrained or inadequately trained to address the educational and psychological needs of displaced young people, adolescent girls and young women. A rapid needs assessment conducted by UNICEF and Save the Children (2012) in Lebanon found that schools were not well-prepared to provide mental health counselling for displaced young people, and neither schools administrators nor teachers knew exactly how to deal with the needs of displaced Syrians.

Lewis and Thacker (2016) identify two critical ways in which technology can lead to exponential benefits for teacher training and development. First, ICT programme designers can work with local authorities to strengthen teacher training and development. Second, ICT can serve teachers in a variety of ways, for example by helping teachers adapt their pedagogical practices to

become more active and engaging, tracking students' progress and monitoring learning, connecting with their peers to share materials

and advice, and providing access to psychological services to aid students suffering from post-traumatic stress.

Box 9 Teacher for Teachers project

The Teachers for Teachers project in Kenya incorporates professional teacher development approaches with a mobile mentoring element. The training in the Teachers for Teachers project is based on a curriculum that incorporates freely available training materials developed by the Teachers in Crisis Contexts Working Group, a network founded in April 2014 that comprises seven partner agencies – Finn Church Aid, International Rescue Committee, Norwegian Refugee Council, Save the Children, Teachers College at Columbia University, UNHCR and UNICEF – and works in close association with INEE. The training curriculum consists of five main competency pillars: (1) teachers' role and well-being, (2) child protection, well-being, and inclusion, (3) pedagogy, (4) curriculum and planning, and (5) subject knowledge. The onsite training is complemented by peer coaching and observation carried out by teachers who have completed the programme and received additional mentorship training.

While the programme lacks substantial evaluations of the degree to which the intervention has promoted learning, a review highlights positive teacher observations:

1. teachers find the discussion groups valuable because they can receive instantaneous advice on pressing problems
2. the coaching provides training on support beyond education issues (e.g., trauma among displaced children)
3. the coaching allows instant intervention in the event of health and safety concerns.

UNESCO (2018: 40)

3.3 The gender divide

At the outset, a distinction must be made between the digital divide and the gender digital divide. The first can be defined as (USAID, 2020):

> the distinction between those who have internet and/or mobile phone access and can make use of digital communications services, and those who are excluded from these services

while the gender digital divide means:

> the inequalities between men and women in terms of technology access and use.

Data from the *Mobile Gender Gap Report* (GSMA, 2021) shows that the digital gender gap has widened in recent years. The overall gender gap in mobile ownership remains largely unchanged since 2017. The report notes that 83% of women own a mobile phone and 58% use mobile internet.

However, it underscores that while there has been a slight increase in the number of women internet users, the digital gender gap persists. The report highlights that mobile phones are the primary way for men and women to access the internet in low- and middle-income countries, and that women are more likely than men to access the internet exclusively using a mobile device. Several factors lie behind the gender disparities, including geographical location (urban vs rural areas), digital literacy, mobile ownership, and control over use. The report also notes that while awareness of using mobile devices to access and use the internet has grown, the lack of literacy and digital skills remains a significant barrier for women using the internet.

The reasons behind the persisting gender gap vary by region and across contexts, but there are some similarities, such as gender norms, unequal access to resources and gender-based violence in online spaces.

In 2014, the UN Convention on the Rights of the Child acknowledged that access of adolescent girls and young women to ICT and the persisting gender digital divide needed attention to:

> intensify efforts to ensure the effective elimination of all forms of discrimination against girls and address gender stereotypes and social norms that limit girls' access and use of technology, including through awareness-raising programmes.

The most prominent and significant factor behind the persisting gender digital divide is the nature of gender norms in home and host countries. In general, it is often the case that host countries with the largest numbers of displaced population have tremendous gender gaps in education, economic and political participation.

According to the Global Gender Gap Index (2020), most countries in the MENA (except Tunisia and Israel) and East Africa have lower rates of women's participation in all domains of public life. A USAID (2020) report shows that a negative feedback loop exists where the 'gender inequality informs unequal access to and use of Information and Communication Technology (ICT), and the subsequent growth in ICT deepens gender inequality.' A recent GSMA (2021) survey in the MENA region indicates that discriminative social norms contribute to a high level of drop out among adolescent girls and lack of digital skills. For instance, while the gender gap in internet penetration is around 17% on average across the MENA region, the gender gap in ICT skills can reach as high as 25% in some countries. Similarly in sub-Saharan Africa, the gender gap in mobile ownership is 13% and mobile use to access the internet is 37%.

Displaced young people, adolescent girls and young women often find themselves affected by discriminatory gender norms like those of their home countries. This can mean gender norms and stereotypes disproportionality affecting their learning-to-earning trajectories, leading to a high level of dropout after primary education, forced domesticity and loss of opportunities to gain income (UNICEF, 2021). Disruption to education is one critical factor behind the gender digital divide. A study by the World Wide Web Foundation (2015) across nine low-income countries in Africa and Asia found that women who have some secondary education or who have completed secondary school are six times more likely to be online than women with only primary education or less, suggesting **a strong correlation between education and online presence among women**. For displaced young people, adolescent girls and young women, this becomes a vicious circle where the lack of secondary education is preventing

them from accessing online digital learning content that could enable them to continue their education and join the labour market. There is promise in programmes such as TIGER in Jordan (see Box 10).

Box 10 These Inspiring Girls Enjoy Reading

The TIGER programme in Jordan allows adolescent girls to access a wide range of open educational resources and courses on 8-inch colour tablets connected by Wi-Fi to a Raspberry Pi server. This allows them to experience self-paced learning that is aligned with school assignments. It is a 16-month programme implemented in six Community Learning Centres open after school, in the evenings and at weekends. TIGER teams use a multi-media digital library of open educational resources and a learning management system to enable them to plan, track and share their progress on their learning ladder.

The programme uses a combination of direct academic support, community service projects, strong trusting relationships between the coaches, the girls, and their families with the aim of making the TIGER girls a 'network of girl change makers' within the camp.

The loss of income can be a contributing factor behind a persistent gender digital divide. A study by Research ICT Africa (Deen-Swarray et al., 2012) shows a correlation between levels of income and the gender digital divide in most African countries. Gender-based discriminative practices such as unequal access to employment,

restrictions on mobility and income, and the gender pay gap translate into lower levels of disposable income which could be dedicated to affording basic technology to access the internet. Even though mobile technology offers access the internet at relatively low cost, the unequal distribution of opportunities to income and other financial barriers means that women, in particular displaced adolescent girls and young women, often find themselves less financially capable of owning, maintaining and using mobile phones, and ultimately contributing to the growing gender digital divide. The GSMA (2019b) survey in different refugee settings in Jordan and Uganda highlights the gender gap in mobile phone ownership and use among displaced populations. For instance, in Bidi Bidi (Uganda), women are 47% less likely than men to own mobile device. According to the report, cost of connectivity is a significant barrier that disproportionately affects women more than men and significantly contribute to the persisting gender gap.

Concerns over online safety for adolescent girls and young women, as well as physical safety and restrictions on mobility, are often seen as the main reasons behind the gender digital divide. In many contexts, displaced young people, adolescent girls and young women struggle to access public ICT facilities due to restrictions on their freedom of movement (i.e., Jordan), unsafe roads and lack of transportation from camps to ICT units. Most displaced populations reside in countries where there is limited to no protection safeguards against cyberviolence. Most countries across the MENA region do not have appropriate legislations or dedicated resources (human and technical) to counter cybercrimes and to ensure safe use of the internet (Aboul-Enein, 2017). Displaced populations, in particular young people and adolescent girls and young women, are among

the most vulnerable and the lack of protection safeguards renders them as easy targets for online violence, exploitation and abuse.

In general, adolescent girls and young women are disproportionately affected by online harassment and cyberviolence. According to the UN Broadband Commission's 2015 report, 73% of women have been exposed to or experienced some form of online violence. Additionally, the GSMA (2021) gender gap report highlights that concerns over safety and security are among the top three barriers to using the internet among women alongside literacy and affordability (for men, the top three barriers were literacy, affordability and relevance). The UN Broadband Commission's (2017) *Working group on the digital gender divide report* acknowledges that 'fears concerning safety and harassment are significant barriers that inhibit some women from benefiting from or even wanting to access the Internet.' The *Free to be online? Girls and young women's experiences of online harassment* report by Plan International (2020) includes data collected in 22 countries, and the qualitative data involved in-depth interviews with 18 young female activists from 16 countries. The report's findings show that more than half of girls surveyed from around the world have been harassed and abused online. One in four girls abused online feels physically unsafe as a result. Harassment comes in many different shapes, ranging from threats of physical or sexual violence to racist comments and stalking: of the 58% of girls who reported harassment, 85% said they had experienced multiple types of harassment, only 17% say they have faced only one type and 9% of girls said they have experienced every single type of harassment. Furthermore, the report shows that 42% of the girls who identified themselves as LGBTIQ+ and had experienced harassment said they get harassed because of it. Some 14% of girls who self-identified as having a

disability and had experienced harassment said, they get harassed because of it. Moreover, 37% of the girls who identified themselves as from an ethnic minority and had experienced harassment said they get harassed because of it.

Adolescent girls and young women are often the main targets for cybercrime, violence, bullying and online harassment. GSMA's *Connected women* report (2018) shows that mobile-related safety concerns are wide-ranging and include unsolicited harassing phone calls and text messages, cyberbullying, online harassment, mobile theft and feeling unsafe or uncomfortable when purchasing or topping up devices. Furthermore, the report explains that safety concerns are a significant driver behind the low levels of mobile phone ownership in low-and middle-income countries. For example, according to the report, across 19 low- and middle-income countries, 4% to 65% of women who do not own a mobile phone claimed that 'I am concerned that I would be contacted by strangers' was one of the main reasons stopping them from owning a mobile (versus 3% to 49% of men). At the same time, however, for all populations online (adults and children), Kumar and Schoenebeck (2015) note that a strong foundation in digital literacy (e.g. understanding privacy settings, scams, phishing, recognising suspicious links and when to share personal information) can contribute to general online safety.

Another study by GSMA (2015) found that in some countries, notably Egypt, India, and Jordan, it was expected that young women (but not young men), particularly in more rural areas, have their mobile access and use monitored and controlled by their families, who want to protect them from harassment and control their communication with men. Young girls' and women's access and use of the internet are often controlled and monitored

by a father, husband or brother or limited to 'walled gardens' containing only a limited selection of content – typically 'pink content' focused on women's appearances, dating, or their roles as wives or mothers (UNESCO, 2019).

In 2017, the Committee on the Elimination of Discrimination against Women (CEDAW) adopted a General Recommendation recognising that gender-based violence occurs in all spaces and spheres of human interaction, including technology-mediated environments, such as contemporary forms of violence occurring on the internet and digital spaces (UN, 2017). Several countries in the MENA region began taking a strict stance on online violence and bullying. Egypt introduced a bill to punish online bullying that considers bullying as a show of force or control by the offender or the abuse of a vulnerable victim, and it sets out punishments including imprisonment and fines.

It is critical to underscore that most laws and regulations do not take into account the needs and concerns of displaced populations. To date, there's not been any study to explore and address the significant of cyberviolence directed towards displaced young girls and women in refugee settings.

The lack of formal policies and strategies to counter gender-based violence in online spaces exacerbates families' control and monitoring over their daughters' use of the internet. This often translates into a lack of privacy, self-monitoring and victim-blaming for online activities. For example, a study found that not only do families often consider the use of the internet, in particular social media, to have a corrupting influence on their daughters but that adolescent girls and young women often self-monitor as they are more likely to be criticised in

relation to their online activities, the number and gender of their friends online, and their digital footprint (UNICEF, 2021). A Girl Effect and UNICEF report (2019) shows that nearly 50% of adolescent girls across a sample of six countries respond that they do not own phones because their parents are worried about their safety while online and about being contacted by strangers. Another report by Amnesty International (2018) found that the abuse women experience on Twitter leads them to reduce their engagement and interactions, and sometimes stop using it altogether.

4   Digitally powered earning

There is a growing interest in how the digital economy can provide decent work opportunities, especially for the most vulnerable groups of populations, such as displaced young people and adolescent girls and young women. The ILO adopts the definition of the digital economy proposed by the OECD (2020b) as incorporating

all economic activity reliant on, or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. It refers to all producers and

consumers, including government, that are utilizing these digital inputs in their economic activities.

The inclusion of refugee and displaced populations in the digital economy can yield tremendous dividends to their socioeconomic integration and well-being. Nevertheless, several challenges and barriers inhibit their abilities to participate actively in the digital economy. These encompass a variety of personal (skills and digital literacy) and infrastructural (labour laws, restrictions on mobility, registrations) factors.

Box 11 Types and examples of digital earning approaches

Digital skills

The Community Technology Access (CTA) centres in Uganda work with refugee young people to acquire skills in coding, programming and ICT maintenance needed for self-employment.

Broader job skills

Edraak in Jordan provides an Arabic-language MOOC platform to help build skills through job-ready programs and entry into the labour market.

Linkage to employers

Talent Beyond Boundaries (TBB) in Jordan and Lebanon maintains an online talent catalogue with profiles of over 25,000 registered professionals who are refugees to match them to employment opportunities in Canada, the UK and Australia.

Start-up accelerators

Orange Digital Centre Coding School and its associated FabLab Solidaires as well as Orange Fab and Innovation Village in Uganda function as an incubator actively working alongside different stakeholders in Uganda's start-up ecosystem.

This section will review the literature on the use of technology to facilitate the school-to-work transition among the displaced population and will pay special attention to the issues of displaced young people, adolescent girls and young women. It will closely interrogate the relationship between developing digital skills and access to employment in the digital economy and the role of digital platforms to help connect them with jobs. It will take stock of critical determinants, trends, policies and initiatives – at the global, regional, and national level – that are relevant to understanding the patterns of digitally enhanced employment and the development of skills needed for employment. Section 4.1 will explore the transitions from school to work and the development of digital technical and vocational skills. Section 4.2 will consider the use of digital platforms for employment facilities and access to work. Section 4.3 addresses the opportunities of engaging the gig economy and digital entrepreneurship and the challenges displaced young people face.

There are promising digital initiatives in these regions that aim to increase the employability of displaced young people, adolescent girls and young women. These tend to prioritise building the digital skills of those enrolled to enable further digital employment. Among the initiatives reviewed, most focused on digital platforms for job-matching or online skill courses.

4.1 Skills for school, life, and work

Entry into the competitive labour market in host countries relies on developing the necessary skillsets and competencies. The Unlocking the power of digital technologies to support learning to earning for displaced youth report (UNICEF, 2021a) categorises competencies and skills into four main categories:

1. **Digital skills and knowledge** support the development of digitally literate children and adolescents who can use and understand technology, search for, and manage information, communicate, collaborate, create, share content, build knowledge and solve problems.
2. **Transferable skills,** also known as life skills, 21st-century skills, soft skills, or socio-emotional skills such as problem-solving, negotiation, managing emotions, empathy, and communications can be seen as the glue that connects all skills and allows young people to become agile, adaptive learners and citizens equipped to navigate personal, academic, social and economic challenges.
3. **Entrepreneurial skills,** such as time management, goal setting, and financial literacy, are closely interrelated with other types of skills and support business and social entrepreneurship.
4. **Job-specific skills,** also known as technical and vocational skills, are associated with one or more occupations, such as carpentry, accounting or engineering and support the transition of older adolescents.

In addition to the importance of foundational skills such as literacy and numeracy, the *Global framework on transferable skills report* (UNICEF, 2019a) underscores the benefits of developing transferrable skills among displaced populations, especially young people and adolescent girls and young women, including:

- fostering the intrapersonal and interpersonal skills necessary for entry into the labour market
- coping with trauma and building resilience by socially and emotionally engaging with others in healthy ways
- preventing aggressive and conflict indication behaviour.

The technology-driven digital transformation of the labour market means that **acquiring transferrable, entrepreneurial skillsets should be pursued in parallel with developing advanced digital literacy and the use of ICT technologies**.

UNESCO (2019: 15) defines digital literacy as:

> the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital devices and networked technologies for participation in economic and social life.

However, other studies broaden the definition of digital literacy. For instance, USAID (2020) suggests that digital literacy includes the skills to functionally use the internet and digital technologies and the knowledge of how to do so safely and securely and with trusted information and data protection. The UN Broadband Commission (2017) provides a more detailed definition of digital literacy and divides it into three tiers of digital skill levels as follows:

- first level (basic functional skills) that enable access and engagement with digital technologies
- second level (generic skills) that allow for meaningful and beneficial use
- third level (higher-level skills) that facilitate the use of digital technologies in empowering and transformative ways.

Emerging evidence shows that developing advanced digital skills improves displaced young people's opportunities to enter the labour market and fosters their socioeconomic integration. *The digital refugee livelihoods and decent work* report (ILO, 2021a) shows that digital skills training among Syrian refugees and vulnerable host community members in Lebanon increased self-confidence and social cohesion while motivating participants to continue their pathway of digital learning. Nevertheless, despite the mounting evidence of the positive correlation between building transferrable and digital skills to higher employability prospects among displaced young people, displaced populations often face tremendous barriers to acquiring these skills. The *Learning to earning* report (UNICEF 2021) highlights three main barriers faced by forcibly displaced young people to transition from school to work: (1) barriers related to developing relevant skills for work; (2) barriers related to connecting with the labour market; (3) barriers related to the availability of decent jobs and livelihoods. One example to illustrate the effectiveness of this approach is the ILO and UNHCR partnership project towards building digital skills for refugee and host community young people in Kenya and is underpinned by three interrelated outcomes (1) boosting market driven digital skills; (2) easing young people's transitions to jobs in the digital economy through enhanced labour market intermediation services; and (3) supporting digitally skilled young people to access quality jobs in the digital economy (ILO, 2021b: i).

Limited or restricted access to formal tertiary education for displaced young people, adolescent girls and young women puts a significant constraint on their ability to develop relevant digital and transferrable skills for the labour market. The *Inclusion of refugees in technical and vocational education and training* study (British Council, 2018) examines the inclusion of refugees in technical and vocational education and training (TVET) in five countries – Ethiopia, Jordan, Pakistan, South Africa, and the UK. It finds that (1) TVET for refugees exists in all the countries, but it is never universally available to all refugees, and donor agencies often provide

funding; (2) complicated and unclear refugee policy and bureaucratic practices in host countries create barriers which deny refugees access to TVET, though policymakers in some countries (i.e., Jordan) have more relaxed policies in order to enable refugees to access TVET; (3) the training on offer rarely takes account of refugees' prior learning, work experience, cultural practices, or aspirations for the future. The study recommends that policymakers, funders and education providers can develop and scale ICT solutions to adapt existing policies, funding systems and programmes to the needs of refugees.

The digitization of TVET and skills systems report (ILO, 2020) underlines the need for a unitary coherent strategy to drive the digitalisation of multiple TVET policies and actions at all levels of government. The report's case studies indicate that ICT holds a great promise to transform traditional apprenticeships into by facilitating more informal variants, as well as internships and other mentored-learning programmes. For example, institutions can offer virtual apprenticeships or internships that are conducted remotely, with students interacting with teachers and practitioners and collaborating with their cohorts solely through digital communication tools (ILO, 2020). Additionally, concerning cost-effectiveness, the report also underscores that the use of low-level or mature digital technologies such as ensuring that all classrooms and students have access to broadband, and making available tools to produce digital resources (such as authoring tools and OER repositories), instead of complex prices and sophisticated solutions, holds the most potential for transforming the TVET sector in the short term.

Access to higher education is another pathway through which displaced populations can develop the necessary skills to enter the labour market. Developing and scaling ICT solutions

contributes to creating digital ecosystems of connected learning. The UNHCR (2023) defines connected learning as using 'information technology to combine face-to-face and online learning to enable students living in remote areas to connect with top universities'. The *Refugee higher education and employability* report (GIZ, 2017: 7) points to some cross-cutting issues concerning the evaluation of the effectiveness and usefulness of ICT solutions to leverage access to higher education programmes for displaced young people and augment their employability prospects:

- All decisions regarding refugee higher education and employability should be situated within an understanding that refugees have multiple possible employment futures, and programmes should be designed accordingly.
- The validity of programmes has varied approaches and motivations regarding the link between higher education and employment and the importance of precise expectation setting with students.
- The difficulty of collaborating with potential private sector employers at significant scale.
- The lack of understanding regarding the long-term impact of higher education on refugee employability and the need to address this and build a systematic evidence base to inform good practice.

The growing gender gap in digital literacy and skills inhibits the socioeconomic integration of displaced adolescent girls and young women. Limited but growing evidence shows that the gender digital divide widens as mobile technology gets more sophisticated and expensive (Tyers-Chowdhury and Binder, 2021). Scheerder et al. (2017) point out that even though research is still at its early stage, recent data shows that the gender gap on the third level digital divide (higher-

level skills) is already severe. The *I'd blush if I could: closing gender divides in digital skills through education* report (EQUALS and UNESCO, 2019) found that women in numerous countries are 25% less likely than men to know how to leverage ICT for primary purposes, such as using simple arithmetic formulas in a spreadsheet. The report also estimates that men are around four times more likely than women to have advanced ICT skills such as the ability to programme computers. Inquiring whether the level of education contributes to the gender stratification, the report points out that among undergraduate students across 29 countries, early adopters of new technologies are overwhelmingly male.

Several reports show that adolescent girls and young women, regardless of their migration status, tend to report a lower level of understanding of the potential of the internet and a perceived lack of value (USAID, 2020). A USAID report shows that enormous gaps exist in the use of the internet. For instance, while numbers are roughly similar for voice calls (73% of girls and 74% of boys make calls), only 27% of girls use their phone for the internet (versus 46% of boys), 29% of girls use Facebook (versus 44% of boys), and 22% of girls use WhatsApp (versus 35% of boys) (USAID, 2020). However, that does not necessarily mean limited opportunities to access the digital economy among displaced populations, as a study by ILO (2021) shows that **displaced populations, especially young people, rely on social media to access job opportunities and to develop their social capital**.

The use of mobile and internet platforms is often limited by multiple factors such as lower levels of digital literacy skills, the lack of confidence in using advanced technology, and the lack of relevant content for their needs, including in local languages. An ILO (2021) study in two refugee settlements in Kenya and Uganda shows that age, gender and education influence digital access barriers: male, younger and more educated refugees were most likely to access smartphones and mobile internet. The most significant barriers have been structural inefficiencies of poor digital literacy and low skill levels, limited awareness about available digital opportunities, poor connectivity and electrification, and the high costs of mobile data and devices. Organisations working with refugees can address these by providing investment in infrastructure either directly or indirectly. For example, UNHCR's Community Technology Access (CTA) Centres in Uganda provided basic computer training classes and an internet café, run by the community. Betts et al. (2015) document that in Nakivale, the CTA was a hub of activity:

> A handful of innovators have managed to leverage their access to this centre and use the internet to trade products, find out local market prices or...use the space as an office. The training classes have also inspired a few students to start businesses copying music or providing printing and other computer services in the settlement.

4.2 Labour market access

Globally, recent estimates show that about 500 million young people are unemployed, underemployed, or working in the informal sector, and 255 million (21%) young people in low- and middle-income countries – three-quarters of them women – are not in NEET (UNICEF, 2019a). According to the ILO (2018), youth unemployment (estimated at 30% in 2018) in the Middle East and North Africa (MENA) region is among the highest globally, while the rate of female labour force participation was only 18% (13% among those aged 15–24).

Regarding refugee employment in the formal labour market and the right to work – and even though most host countries are signatory of international human rights laws and conventions that guarantee refugees the right to study, work or set up a business – statistics show that, on average, refugees are up to six times more likely to be unemployed than non-refugees (British Council, 2018).

In many refugee settings, there is often a lack of host government transparency when it comes to labour laws and low-level knowledge of their rights as refugees. Moreover, acquiring the legal status of refugee may be a deterrent among some displaced populations in fear of being sent to campus and having restrictions imposed on their mobility. This creates a high level of ambiguity regarding the specific details of a refugee's right to work within a specific context (World Bank, 2020). The ILO (2016) identifies various factors that influence refugees' capacity to access the labour market and find decent work. These include the socio-economic conditions of the host country, legislation and policies around the protection of refugees and the right to work, and other practical issues, such as language and administrative barriers. As a result, the reality is that refugee workers are often concentrated in low-skilled, informal employment or under-regulated sectors where they are susceptible to decent work deficits, discrimination and exploitation.

Legal frameworks and institutional policies to incorporate displaced population into the labour market constrain access to the formal labour market for displaced populations. Based on a sample of 20 countries hosting 70% of the world's refugees (including Jordan, Lebanon, Kenya, Sudan, and Uganda), the study by Zetter and Ruaudel (2016) finds a remarkable diversity in legal provisions and constraints on refugees' right to work across countries. The study observes

that, generally, there is a restrictive approach toward granting refugees the right to work, and most states are reluctant to ease their legal and institutional restrictions. Most refugees work in the informal sector and under much less satisfactory conditions than nationals. More recent studies in the area show that, in Jordan, Syrian refugees can gain occupations in certain sectors under the Jordan compact (Stave et al., 2021); in Kenya, a new law that would allow refugees to work has been under discussion since late 2022 (Halakhe and Miller, 2022); and in Uganda, while refugees have the right to work, there are implementation hurdles faced by refugees as well as lack of knowledge on the law among employers (Naylor, 2021).

Clemens et al. (2018) argue that granting refugees formal labour market access can create substantial benefits for refugees and their hosts, including reduced vulnerability and higher incomes for refugees, improved labour market outcomes, higher incomes for natives, and positive fiscal effects for host governments. Their study identifies the contextual factors that are most important in determining outcomes: the current extent of labour market access, skill and demographic profile of refugees; labour market characteristics; geographic location and concentration, policy choices, and the political context.

Bellamy et al.'s (2017) study on Syrian refugees in Jordan found that (1) the institutional environment is characterised by a high degree of government control and centralisation; (2) there is a lack of coherence in government processes; (3) lengthy approval processes for issuing work permits often discourage refugees and employers from seeking the legal route; (4) refugees often settle in areas of the country where poverty rates are highest; (5) refugees do not trust that work permits benefit them

personally and are deterred by the cost of renewing them. Other studies show that the lack of clear and comprehensive policies to integrate refugees into the labour market means that refugees often rely on informal means of accessing the labour market, making them vulnerable to exploitation and limiting their access to low-paying jobs in the informal sector (GIZ, 2017).

Refugees often face hostility from host communities and are seen as competitors for employment opportunities. Drawing from the experience of Syrian refugees in Jordan, a study by Mencutek and Nashwan (2021) describes how their integration in the labour market depends on the alignment of four perspectives: (1) the host state's, which materialises through legal regulations about refugee employment; (2) the refugee's, which refers to refugees' access to the labour market and challenges they face; (3) the host community's, which concerns their recognition, approval or reaction to refugee employment; and (4) the donor's, which is realised through development aid or other support to refugees' working rights. The findings suggests that refugee employment is often regarded with hostility by host communities as a competition for scarce job opportunities, while the approached of the police to this issue renders refugees, especially adolescent girls and young women, vulnerable to exploitation and discrimination. The Generation of Innovation Leaders (GIL – جيل) programme by UNICEF in Lebanon targets both refugee and host communities to address the problems of high unemployment rates among young people and constrained access to the knowledge economy, though at present there are no evaluations of digital components of the programmes in furthering job placements and incomes. In Kenya, the Refugee Employment and Skills Initiative worked with Somali and Kenyan young people and

women refugees in the Dadaab settlement and surrounding areas, building capacity to operate successfully on digital labour platforms such as Upwork. Online workers were then supported to upload their profiles onto online platforms and start bidding for work. The workers could access three months of mentorship and coaching to assist them in working online (ILO 2021b).

Box 12 The Meshwary (My Journey) Programme in Egypt

The Meshwary initiative, a partnership between UNICEF and the Egyptian Ministry of Youth and Sports, supports young people in their journey from infancy to adulthood by teaching them life and job skills to enter the workforce. The Meshwary initiative targets children and young people between the ages of 13 and 24, particularly those who come from underprivileged social groups, including refugees. The programme Meshwary trains girls and boys to gain vital economic and social skills, partnering with companies such as Hilton Hotels and Resorts to provide on-the-job training (UNICEF, 2019b). The programme has a specific focus on girls' empowerment. It is conducted in youth centres in 15 governorates across Upper Egypt, the Delta, and border governorates, and targets children and young people between the ages of 10 and 24.

An ILO (2018: 11) study shows the perspective in host communities and refugees in Jordan and Lebanon face a myriad of socio-economic pressures stemming from the refugee crisis, including: (1) competition for lower-skilled jobs between local workers, migrant workers and Syrian refugees and deteriorating working

conditions; (2) a rise in demand for consumer goods and services which exerts upward pressure on prices; (3) a decrease in access and quality of public services, including utilities, infrastructure, healthcare and education; (4) growth in informal employment, increased exploitation and unacceptable forms of work, particularly for women and children – including child labour, child marriage, trafficking and forced labour; and (5) rising social tensions and lower social cohesion in refugee and host communities. Even in countries where refugees are permitted to work, such as Uganda, social stigma and confusion about regulations make employers wary of hiring refugees (IRC, 2019). Consequently, programmes such as the Meshwary programme (see Box 12), which is conducted in conjunction with the Ministry of Youth and Sports in Egypt, is important in signalling the linkage between host country and refugees.

Displaced adolescent girls and young women in crisis and conflict-affected contexts face compounded challenges such as the gender norms in host countries, household and childcare responsibilities, lack of safe and reliable transportation, gender wage discrimination, sexual harassment, and cultural barriers. Recent evidence shows that the loss of family and social networks limits refugee women from working because of a lack of childcare support (Datta et al., 2020).

Access to digital labour market holds the potential to provide access to labour markets for displaced populations, potentially overcoming the limitations and constraints they face in host countries. McKenzie (2017) contends that interventions that connect workers with geographically distant opportunities are a promising approach to improving labour market outcomes. The use of digital technology holds considerable potential to reduce the rate of

unemployment among refugees by connecting them to jobs beyond the restrictive national context. Digital platforms such as Talent Beyond Boundaries aims to provide access to work to refugees and displaced populations across the world (see Box 13).

Box 13 Talent Beyond Boundaries

TBB is a non-profit organisation committed to opening labour mobility pathways for refugees and other displaced people. TBB does not work on refugee resettlement but rather connects refugees with international employment opportunities so that they may work in countries where they can access full rights and stability (UNHCR, 2022).

Nichles and Nyce (2018) note that 'TBB has created an accessible electronic platform – the Talent Catalog, the first of its kind – in which refugees in countries of asylum can document their qualifications, skills and experience to share with international employers who are seeking to fill skills gaps.'

The ILO (2021c) global survey classifies digital labour platforms into two broad categories: online web-based and location-based platforms. On online web-based platforms, tasks or work assignments are performed online or remotely, whereas tasks on location-based platforms are carried out in person, for example taxi driving, delivery and home services (such as a plumber or electrician), domestic work and care provision. The findings show that:

- the past decade has seen a fivefold increase in the number of digital labour platforms, which are concentrated in a few countries

- on online web-based platforms, labour supply exceeds demand, placing downward pressure on earnings
- the global distributions of investment in digital labour platforms and platform revenues are geographically uneven
- digital labour platforms have also supported the growth of start-ups and the reorientation of some sectors
- survey findings indicate that most workers on digital labour platforms are highly educated and male.

Box 14 Defining digital livelihoods

The ILO defines digital livelihoods broadly to include at least four aspects of digital work and learning:

- Digital educational efforts and training in digital skills.
- Work practices on digital labour platforms and for remote employers, such as home-based freelancing and microwork.
- Work that makes use of digital skills but takes place locally outside of the digital economy.
- Small-scale digital entrepreneurialism uses digital tools and e-commerce platforms to run and grow businesses, often from home.

ILO (2021a)

Access to employment through digital platforms can facilitate entry for refugees into jobs. For example, IRC (2019) show that Syrian refugees in Jordan are limited to five economic activities designated as 'open sectors' under the Jordan Compact, including agriculture, construction, food and beverage services, manufacturing, and wholesale and retail trade. However, the opportunities provided by platforms are accompanied by challenges. For workers, these relate mainly to the regularity of work and income, working conditions, social protection, skills utilisation, freedom of association and the right to collective bargaining. There is also a gender divide in the types of jobs sought on digital platforms. The ILO global survey (2021c) shows that women are more likely than men to perform professional services (such as legal services, translation, writing and editing) and tasks related to business services or sales and marketing. Few women mentioned that they performed tasks related to technology and data analytics.

4.3 Gig economy and digital entrepreneurship

Digital entrepreneurship the gig economy can provide alternative ways to access the digital economy and to circumvent the barriers of formal employment. However, it is important first to understand the ecosystems of entrepreneurship within the contexts where most displaced population live and operate their business. Despite development in recent years, entrepreneurs, especially women, in the MENA region face multiple institutional, infrastructural, individual and socio-cultural barriers. For example, a World Bank (2019) report highlights legal and social constraints faced by small- and medium-sized enterprises run or managed by women in MENA countries. In particular, the MENA region has a gap of $16 million between the amount of credit that female entrepreneurs need and the amount of finance that they receive, and social norms limit women to engagement in sectors considered socially acceptable. Consequently, female-owned enterprises had smaller sales than those owned

by men and lagged in productivity, growth and firm size. MENA has the highest gender gap for entrepreneurship in the world: 12% of women are entrepreneurs compared with 31% of men, and the share of firms with female participation in company ownership is as low as 2.27%.

As it concerns refugees and displaced populations, *The policy guide on entrepreneurship for migrants and refugees* (UNCTAD, 2018) maps out six distinct priority areas to foster policy frameworks for displaced populations: producing an entrepreneurship strategy; improving the regulatory environment; enhancing skills around entrepreneurial education and forming a skill development policy; facilitating access to finances for individuals starting a business; facilitating technology exchange; and promoting awareness and networking among individuals.

The digital transition in the labour market can offer alternatives to displaced populations, especially women, to overcome restrictions on mobility and to balance the demands of family and work. For example, there are job-matching online platforms such as Duma in Kenya or Youth Agency Marketplace (YOMA) in Nigeria and Burundi which are open to all young persons in the country, though at present there is no data on the use of platforms by refugees and success rates in job placements through use of platforms.[3] In the MENA region, platforms such as the Employment Counselling System (ECSJO) in Jordan (developed by the ILO) enables Syrian refugees and vulnerable Jordanians to connect with employers and vice versa. Similarly, in Jordan, the 'Maharat Min Google' programme aims to provide digital skills training to vulnerable young people through

courses in digital fields such as web development, social media marketing and graphic design. Again, though, there is no evidence of impact available.

One of the most prominent findings of the ILO global survey (2021c: 22) indicates that on freelance platforms, the preference or need to work from home or for job flexibility is the chief motivator, while on microtask platforms, complementing pay from other income sources is the most crucial factor. In contrast, the main motivating factors for workers using competitive programming platforms are to improve skills and career opportunities. The preference or need to work from home or for job flexibility is significant for women in developing and developed countries alike. On location-based platforms, lack of alternative employment opportunities, job flexibility and better pay are the key motivating factors.

Hunt et al. (2017), in their study on Syrian women refugees, highlight that **home-based work may be an attractive option for refugees, and some forms of 'gig work' offer paid activities which can be carried out in the home.** Furthermore, engaging in the gig economy offers some promise to provide work by providing access to broader markets and overcoming social and cultural barriers. However, the study also highlights several challenges to making gig work more beneficial for refugees and displaced populations, including improving digital access and connectivity, especially in camps, providing skills training and worker protection mechanisms, and ensuring safety – especially for adolescent girls and young women. Other barriers include demanding capital and work permit

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3   Duma uses a mobile-based system to match job seekers with employers based on their skills, qualifications, and experiences while YOMA aims to facilitate job matching and provides information, advice and guidance; learning and skills; credentialing; peer-to peer networking and mentoring.

requirements by host countries, irregularity of work, restrictions on opening a bank account, lack of social protection and increased risk of working under precarious conditions, and weak bargaining power.

5   Gaps and research questions

5.1 Evidence gaps

The study has shown that there is a general lack of evidence on digitally powered learning to earning for displaced young people, adolescent girls and young women. Across the initiatives reviewed, evaluations are few and those that do exist are often still in the preliminary stages. Key gaps and limitations found include:

- **There is a substantial gap in data on digitally powered learning to earning for displaced populations.** The lack of reliable and accessible age and sex-disaggregated data remains a huge limitation for studies on the topic.
- **Lack of clear and straightforward policies for refugees and displaced populations limits socio-economic integration.** There is widespread experience of limited access to schooling and discriminatory and arbitrarily enforced labour regulations. Challenging environments in host communities are often exacerbated by ambiguity around what refugees and the displaced can do, as well as where, how and when they can access technology.
- **Cost effectiveness is yet another area where limitations on knowledge exist.** As is often the case, most digitally powered learning to earning interventions do not publish budget breakdowns and expenditures, with cost-benefit analysis lacking in the evaluation of programmes.

During the Africa and MENA consultations, there was further discussion to identify evidence gaps. There were some attempts as well to prioritise these, but with many of the gaps being valid across contexts, it proved difficult to reach consensus on the most significant ones. Nevertheless, the need to understand funding streams for digitally powered learning to earning, using cost-benefit analysis or other approaches, was the gap where there was most agreement that more research was needed.

Table 2 Evidence gaps in digitally powered learning to earning

Theme	Evidence gap
Teaching and learning	Lack of knowledge and evidence on how to make digital learning interactive, incorporating teamwork and application of skills, especially life skills/transferable skills.
	Data on what the baseline digital literacy levels of displaced young people are a challenge in design of programmes, especially the online components of blended programmes.
	Perspectives and approaches with teachers to support blended learning on skills.
Market opportunities	Gaps exist on what level or amount of training is more likely to lead to earning and the need for post-training support required for quicker and more informed transiting to the market.
	Need for digital earning that is realistic for training displaced young people and not competing with unemployed graduates.
	Connecting market assessments with young people's aspirations (future-ready jobs that enable upward mobility).
	Governance of digitally powered learning to earning, with approaches and planning that enables employers to inform on skills the market needs. How supply meets demand of skills?
Gender and inclusion	What constitutes clear and appropriate policies for refugees and displaced population socio-economic integration.
	Approaches to strengthen equity and inclusion in digitally powered learning to earning.
	Inadequate reliable data on disability.
	Institutional barriers causing difficulties for young refugees to access services and programmes (women and youth with disabilities face double disadvantage).
	Level and needs in relation to gender based violence in online spaces.
Providers	The role of private sector partnerships in addressing/responding to the socio-economic needs of young migrants and refugees
	Roles and responsibilities of various stakeholders in design, content and delivery.
	The link between how refugees and displaced people's presence is framed and durable policy solutions. If the authorities envisage that their presence is temporary, the space for learning to earning initiatives will be more limited.
Financing	Understanding funding streams and models (i.e. impact investors, donor funding, government support) for digitally powered learning to earning, with cost-benefit analyses
	Lack of investment case for (1) policy dialogue/policy makers and (2) awareness raising/public on the 'added value' of inclusion of refugees in national systems
	Priority investments in infrastructure and potential subsidisation of device and connectivity.

5.2 Questions and considerations

Although there was substantive evidence and consensus on the above points, the literature review and consultations highlighted key gaps in collective understanding on the features of digitally powered learning to earning pathways for displaced young people, adolescent girls and young women. As such, a set of learning questions to prompt future research and practice emerged. These questions and considerations highlight areas where there is need to conduct deeper evaluation and more clearly identify areas of impact.

Table 3 Questions and considerations for digitally powered learning to earning

Digitally powered learning	Digitally powered earning	Digitally powered learning to earning ecosystems
How do baseline and digital **literacy levels** change pathways in digitally powered learning to earning?	How can **private sector connections** be made for jobs that enable upward mobility and are cognisant of economic aspirations of displaced young people, adolescent girls and young women?	What are the best indicators, methods, and tools to collect **reliable disaggregated data** on digitally powered learning to earning for displaced young people, adolescent girls and young women?
What are the **perspectives of educators** toward use of digital technology? In what ways can teachers and others be skilled to facilitated blended learning?	What **digital earning opportunities are realistic for training** displaced young people, adolescent girls and young women that considers the needs of unemployed host community peers?	What is the role of **digital awareness campaigns** in building social cohesion between displaced young people, adolescent girls and young women and host communities?
What is the impact, potential and limitations digitally powered learning for different **skills that increase employability**, i.e., foundational, transferable, digital, job-specific, and/or entrepreneurial skills.	How can digital job opportunities be created that are **inclusive** of both displaced young people, adolescent girls and young women, as well as unemployed individuals in the host communities?	In what ways can approaches strengthen equity and inclusion in digitally powered learning to earning counter **gender digital divides?**
What **innovations** can be built into digitally powered learning, so that displaced young people, adolescent girls and young women learners graduate with linkages market opportunities in host communities, i.e., mentoring, internships, credentialling?	What are the **experiences** of displaced young people, adolescent girls and young women with disabilities and barriers they face in securing digital jobs in intersection with discriminating practices?	What are the key features of **funding models** that support successful digitally powered learning to earning initiatives in both learning and earning streams? How can donor funding, national financing and forms of user fees contribute to sustainability?

6   Ways forward

Evidence and experience on digitally powered learning to earning points to tremendous potential. Although there are currently only a small number of studies and a handful of documented interventions, it is clear the sector is rapidly evolving.

The central research question explored in this report was:

How can digitally powered learning-to-earning for displaced young people and adolescent girls and young women be further developed and scaled?

Purposefully taking a wide scope, this research reviewed available evidence on digitally powered learning to earning efforts in the East and Horn of Africa and MENA regions which reach displaced young people and adolescent girls and young women. It found that greater attention to evidence and evaluation is needed within programmes, including through independent impact evaluation, and identified a range of themes emerging from existing evidence.

For **learning**, themes of access and skilling, content and effectiveness, and the gender divide in digital use have had a fair amount of attention.

For **earning**, themes of skills for work, labour market access, and the gig economy and digital entrepreneurship have been prominent.

6.1   Main issues

Although connections between learning and earning are often implicit, most interventions sat predominantly in one domain or the other, with limited data available to explore the pathways between the two. But there is also some experience and learning that cuts across and captures the transition between the two life stages.

A major limitation in identification of issues has been the general paucity of evidence found in digitally powered learning to earning for displaced young people, adolescent girls and young women across both domains. Evaluations are few and far between across the initiatives examined, and those that do exist are often in their early stages. Significant gaps include a lack of reliable and accessible age and sex-disaggregated data, lack of clear and straightforward policies applicable to these groups, and essentially no data on cost effectiveness. Nevertheless, through the evidence that was available and discussions in regional consultations, some key issues emerged.

Digitally powered learning

Access and skilling. Mobile technology has gained tremendous popularity because it offers low-cost, simple alternatives to accessing online content. This is important for displaced people; even though most mobile operators offer data packages at low cost, refugees spend up to a third of their disposable income to stay connected, prioritising this over clothing and health care. However, the base of connectivity, electricity, and device access – necessary for digitally powered teaching and learning – is still limited for most displaced young people, adolescent girls and young women. The need for greater digital literacy across these groups is critical. Moreover, there is a lack of offline solutions, and blended learning combining both online and in-person learning is still not common. Enabling digitally powered

learning to earning must address issues of affordability and cost, ownership and shared use of devices, digital literacy and frequency of use and online presence, as well as support development of digital skills.

Content and effectiveness. Effectiveness of ICT to meet educational needs requires a look at pedagogy, curriculum, teacher training and student assessment (including credentialling, badging), as well as digital literacy levels of teachers and learners. Five main pathways in which ICT can provide educational solutions for refugees and displaced populations are (1) providing digital learning content; (2) delivering such content; (3) training and mentoring teachers; (4) facilitating school re-entry; and (5) improving the management of education information. These pathways are critical to keep in mind, whether via formal or alternative education opportunities. There are also challenges to consider in delivering different types of content relevant to learning to earning: for example, it is difficult to deliver soft skills training through ICT and delivering certain vocational training can also be expensive. Locally relevant solutions that take language, culture and context into account are critical. OER are cited in literature as one avenue through which free and openly licensed digital content can be made available online and offline for displaced populations and teachers. Teacher training and continuous professional development is widely considered a cornerstone in scaling digital learning ecosystems. This reaffirms a need for digitally powered solutions to be anchored and linked with real-life infrastructure (school setting/ICT centre) and 'teaching staff'.

Gender divide. Inequalities between men and women in digital use – in both internet and device access – have widened over the past decade with gender gap in internet user penetration rates favouring men and increasing in the least developed countries. The reasons behind the persisting gender gap vary by region and across contexts, but there are some common drivers such as cultural norms, unequal access to resources and perceived and real risks of gender-based violence in online spaces. The most prominent and significant factor behind this persistent divide is the gender norms in home and host countries. Disruption to education can also particularly affect girls' access to secondary education, whereas girls educated to that level are more likely to be online. Concerns over safety and restriction of movement are further reasons for the gender divide.

Digitally powered earning

Digital skills for work. Both digital and technical skills are part of entry into the competitive labour market in host countries. Evidence shows that developing advanced digital skills improves displaced young people's opportunities to enter the labour market and fosters their socioeconomic integration. Developed through a range of skill pathways, both formal and non-formal, gaps in TVET focused on digital skills have been raised as constraints. There is a need for a unitary coherent strategy to drive the digitalisation of TVET policies and actions at all levels of government. With differentiation in digital skills progressing in levels of sophistication, basic digital skills are increasingly developed by young people, but recent data shows that the gender gap on the higher-level skills digital divide is severe.

Labour market access. There are numerous barriers – legal, socio-economic, capacity – to refugees accessing formal employment. In many displacement settings, there is a lack of host government transparency when it comes to labour

laws and a low level of knowledge about the rights of refugees. Digital labour markets hold potential for displaced populations who have skills but they remain relatively unregulated with limitations in terms of payments and benefits. Interventions that connect workers with geographically distant opportunities beyond nationally restrictive contexts are a promising approach to improving labour market outcomes.

Gig economy and digital entrepreneurship. Access to employment through a digital platform can facilitate entry for displaced young people, adolescent girls and young women into job sectors beyond those available in the local context or the host country. Nevertheless, there is a gender divide in the types of jobs available and sought on digital platforms. An ILO global survey (2021c) shows that women are more likely than men to perform professional services (such as legal services, translation, writing and editing) and tasks related to business services or sales and marketing. Few women perform tasks related to technology and data analytics.

6.2 Promising actions

Despite regional and contextual specificities, there are many transferable lessons, particularly given the extended reach possible via technology. The evidence and experience reviewed for this report suggests the following promising actions that could be taken to advance digitally powered learning to earning for displaced young people, adolescent girls and young women. These are set out as overall widely applicable lessons, as well as select suggested actions for specific regions and groups.

Overall and cross-cutting

1. **Co-design and engage with users of learning to earning initiatives to develop, deliver, and evaluate digitally powered learning to earning pathways.** Depending on the initiative, relevant stakeholders might include government officials, education leaders, teachers, employers, and women's and young people's organisations. Consultations should also include local communities and build buy-in to avoid issues with host communities. Learning content should be co-created or adapted with local stakeholders to ensure language and local context are considered.

2. **Differentiate digitally powered learning to earning offerings to recognise diversities of need for displaced young people, adolescent girls and young women and to account for varied foundational and digital skill sets.** Conducting baseline assessment of target groups is a first step to guide design of features in digital components of interventions. Questions at a minimum should cover information on digital device access, levels of literacy and digital literacy, and key differences between displaced young people and host populations, between women/girls and men/ boys in the target groups, and other intersecting inequalities such as disability.

3. **Consciously develop digitally powered pathways for transitions from learning to earning by explicitly indicating how interventions will achieve these and how they will be measured.** From our review, there is a tendency for initiatives to focus either on education and skills or to serve as a job platform and not necessarily support full routes between the two. For instance, consideration can be made of adolescent girls' and young women's

current skills and labour aspirations and how these link to job markets. Further linking digital education and skills initiatives to internships and mentoring, both virtual and in person, can also strengthen these connections.

4. **Blend in-person and digitally powered components of learning to earning initiatives for greater traction.** Coupling face-to-face engagement alongside digital approaches can increase displaced young people's and adolescent girls' and young women's participation and accountability. This hybrid approach can also provide support on digital literacy and coaching/mentoring for entry into the labour market.

5. **Support the acquisition of digital literacy, alongside transferable and entrepreneurial skills, of displaced young people, adolescent girls and young women to improve both employment prospects and socioeconomic integration.** Despite mounting evidence of positive correlation between these competencies, displaced young people, adolescent girls and young women often face tremendous barriers to acquiring these skills. Non-formal initiatives in particular need to pay greater attention to these skill gaps to support access for the most marginalised.

6. **Build-in rigorous evaluation through baseline to endline measures, as well as continuous review, to gain insight on effectiveness for digitally powered learning to earning.** Periodic review and evaluation of programmes will provide data on what works and identify areas that require further attention. This should be done jointly with employers alongside donors and other financers.

For displaced young people

7. **Pay attention to specificities of infrastructure, particularly mobile, available in different locations in implementing digitally powered learning to earning for displaced young people.** Efforts to make access and use of digitally powered learning to earning initiatives should recognise the limited disposable income refugees and other displaced young people – and those in host communities – have to spend on the use of technology and seek to ensure affordable access to facilities and devices. Digital hubs and offline content can be helpful in this regard. With mobile ownership being widespread, more focus on access through mobile devices is also warranted.

8. **Align digitally powered learning to earning content to national policies and curricula, ensuring accreditation and credentialling for refugees and displaced young people.** For interventions targeting refugee young people, it is important they can gain qualifications that are recognised within the national system of the host country and are able to pursue higher education and gain jobs based on those qualifications. Attention to policy and regulatory changes is essential, as these do not always keep pace with rapid expansion of digital solutions and opportunities they offer.

For adolescent girls and young women

9. **Address the gender digital divide by first establishing the nature and extent of difference in digital access and use and designing digitally powered learning to earning initiatives explicitly to reach adolescent girls and young women.** This should include efforts to strengthen digital literacy for adolescent women and girls, given their low share of advanced digital skills. Involving female facilitators, mentors and role models, and ensuring that content is culturally sensitive and does not alienate women, can also make a difference.

10.   **Raise awareness to counter and prevent online gender-based violence, working with local actors to tackle this.** Limited mechanisms to address sexual harassment, cyberviolence, and bullying mean that adolescent girls' and young women's use of digital devices and content is often restricted by families. Targeted campaigns can highlight the prevalence of online GBV, what it looks like, how it can be identified, and steps that can be taken against it. Safe online and offline reporting spaces should be established where concerns can be raised. Safeguarding training is a must for teachers, facilitators and other staff.

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Appendix 1 Initiatives reviewed

Initiative	Countries of operation[4]	Brief description	Learning focused	Earning focused	Evaluation available
Instant Network School Programme	Kenya, Tanzania, Democratic Republic of the Congo, and South Sudan	Schools and community centres are kitted out with a 'digital box' including hardware plus content and online learning material.	X		No
Can't Wait To Learn	Sudan and Lebanon	In-class digital learning programme for children	X		Yes
Raspberry Pi	Lebanon	Online/offline OER	X		No
Solidarity Initiative For Refugees	Kenya	Familiarising refugees with digital skills needed for learning and earning	X	X	No
Akelius Course	Lebanon	Digital language learning course	X		No
Edraak	Jordan	Arabic language MOOC platform	X		No
Hello Hope	Turkey	Mobile based Turkish language learning course	X		No
Teacher For Teacher	Kenya	Professional teacher development course with mobile mentoring		X	No
TIGER	Jordan	OER for adolescent girls	X		No
Generation of Innovation Leaders (GIL)	Lebanon	Workshops and courses for refugees and host communities to enable entry into economy		X	No
Refugee Employment and Skills Initiative (RESI)	Kenya	Building capacity of refugees to engage with digital job platforms such as Upwork		X	No
Meshwary	Egypt	Life and job skills training		X	No
Talent Beyond Boundaries	Global	Global job platform focused on refugees and displaced population		X	No
Duma	Kenya	Online job marketplace		X	No
Youth Agency Marketplace (Yoma)	Nigeria and Burundi	Online job marketplace		X	No
Employment Counselling System Jordan	ECSJO	Online job marketplace		X	No
Mahaarat Min	Jordan	Digital skills training (e.g. web development) for job market		X	No

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4   As per information publicly available at time of review in mid-2022.

Appendix 2   Literature search terms and strategy

Selection of themes

For this research, search strings composed of keywords and terms (see Table I) will be utilized to survey current policy trends, multi-level perspectives (Global, Regional, National), policy directions, key opportunities and barriers in selected countries across the MENA and East Africa Regions (see part 1). The composition of search strings corresponds to the three themes, as identified above, and will primarily cover six main areas as follows:

1. Digitally supported learning for displaced young people, adolescent girls and young women
   a. Accessibility and cost
   b. Content and effectiveness
   c. Gender divide
2. Digitally enabled earning among displaced young people, adolescent girls and young women
   d. skills for work
   e. Labour market access
   f. The gig economy and digital entrepreneurship
3. Digitally empowered transitions
   g. digital ecosystems
   h. Programme examples

The search strings are classified under broader categories (i.e., gender, education, policy), where a set of keywords are identified in relation to each category.

Table 4 Search strings and keywords

Search strings / Keywords	String 1 (Gender)	String 2 (Legal)	String 3 (Education)	String 4 (Labour)	String 5 (Policy)
	youth	forcibly displaced persons (FDPS)	digital technology	youth programming	social inclusion
	young people	asylum seekers	transferrable skills	employment schemes	economic empowerment
	girls	refugees	distance/virtual learning	school-to-work transition	digital infrastructure
	women	vulnerable persons	infrastructure	ICTs	innovation and integration
	minorities	host communities	micro-learning/		
credits	access to networks	digital entrepreneurship			
	inequality	Egypt	Internet enabled	Gig economy	Socio-economic integration
	design	Jordan	App	Online platform	
	access	Lebanon	Ed tech	Gig work	

Digital divide	Sudan	DPL – digital personalised learning	Freelance
Online safety	Iraq	MOOCs	Innovation hubs
Digital inequalities	Ethiopia	TVET	Cyberviolence
	Uganda	Vocational learning	Safety
	Kenya	Apprenticeship	

The timeframe for searches of grey literature, academic journals and databases are set to focus on studies published between 2015 and 2022, although key publications (based on number of citations and/or uniqueness of empirical data) from before this date may be included. The rationale behind this timeframe takes into consideration the high rise in the number of refugees, mainly from Syria, Iraq and Yemen, which began around 2014. While the search will focus predominantly on literature written in English language, however, it may include policy documents and resources in Arabic.

The evidence review is not intended to be a rigorous systematic and/or evidence review due to time constraints, the scope of the assignment and limitations in existing data and evidence. It does, however, take stock of current trends, best practices and examples, and will build on previous studies in the field.

Search strategy

The literature review will set the foundations in developing a forward-looking learning agenda that identifies key evidence gaps. To achieve this goal, the literature review strategy will draw from multiple resources as follows:

1. **Grey literature:** This includes country and regional reports, working papers and studies by International Donor/Development Organizations such as (but not limited to): UNICEF, the World Bank, UNHCR, USAID, IOM, ILO, UNESCO, Gesellschaft für Internationale Zusammenarbeit GIZ, OECD, IFC, UNRWA, IMF, IDEA International, the European Commission, Plan International, UNOPS, AMERA International. In addition to this selection, the literature review will draw from a pool of policy analysis reports published by global think tanks such as (but not limited to): ODI, PwC, Carnegie Endowment for International Peace,

French Institute of International Relations (IFRI), Chatham House, Japan Institute of International Affairs (JIIA), International Development Studies (IDS), International Institute for Strategic Studies (IISS), Konrad-Adenauer-Stiftung (KAS), Friedrich-Ebert-Stiftung (FES), Brookings Institution, American University in Beirut (AUB), American University in Cairo (AUC), the Economist Intelligence Unit (EIU).

2. **Peer-reviewed academic journals:** Journal of Refugee Studies, Mashriq & Mahjar: Journal of Middle East Migration Studies, International Journal of Refugee Law, International Migration, Journal of International Migration and Integration, Refugee Survey Quarterly. Other sources will be consulted as deemed necessary. Full list of academic journals, please see Appendix 1.

3. **Global benchmarking and index:** Global Gender Gap Index, World Factbook, UNHCR's Refugee Population Statistics Database, International Migration Studies & Statistics – OECD, Scopus Review, Education Resources Information Centre (ERIC), Global Knowledge Index, Global Innovation Index, Global Peace Index, Global Democracy Index, Global Entrepreneurship Monitor, Doing Business Index.

The list is not intended to be exhaustive and is subject to changes/addition/amendments in consultation with the project lead in ODI, project partners and relevant stakeholders.

Table 5 Journals searched

Journal	Domain	2020 Journal Impact Factor	SSCI category rank
Asia Pacific Journal of Education	Educational research	1.057	233
Australasian Journal of Educational Technology	Educational technology	3.067	76
British Educational Research Journal	Educational research	2.752	94
British Journal of Educational Technology	Educational technology	4.929	19
Comparative Education Journal	International and comparative education	2.453	119
Comparative Education Review (CER)	International and comparative education	1.896	170
Compare: A Journal of Comparative and International Education	International and comparative education	1.817	176
Computers & Education	Educational technology	8.538	3
Educational Researcher	Educational research	4.854	20
Educational Research Review	Educational research – systematic reviews	7.803	4
Educational Technology Research and Development	Educational technology	3.565	55
Economics of Education Review	Education economics	2.238	136
Education and Information Technologies	Educational technology	2.917	84
Education Economics	Education economics	1.38**	10410**
Harvard Educational Review	Educational research	2.935	81
Information Technology for Development	ICT in Development	4.25	N/A*
International Journal of Educational Development	Education and international development	1.74	184
International Journal of Educational Research	Educational research	1.31	165
Journal of Computer Assisted Learning	Educational technology	3.862	45
Journal of Development Economics	International development	3.875	N/A*
Journal of Development Studies	International development	2.21	N/A*
Journal of Human Resources	Microeconomics	5.485	N/A*
Journal of International Development	International development	1.821	N/A*
Journal of Learning for Development	Education and international development	N/A	N/A
Journal of the Learning Sciences	Educational research	5.171	13

Journal of Research on Technology in Education	Educational technology	2.043	159
Journal of Teacher Education	Teacher professional development	5.357	10
Learning, Media and Technology	Educational technology	4.682	26
Oxford Review of Education	Educational research	2.055	158
Professional Development in Education	Teacher professional development	2.689	100
Prospects	Educational research	0.67**	19354**
Research Papers in Education	Educational research	2.642	104
Review of Educational Research	Educational research	12.565	1
Studies in Educational Evaluation	Educational research	1.953	166
South African Journal of Educational Research	Educational research	0.979^	239
Teachers and Teaching: Theory and Practice	Teacher professional development	2.306	129
Teaching and Teacher Education	Teacher professional development	3.272	65
Technology, Pedagogy and Education	Educational technology	2.529	112
The International Review of Research in Open and Distributed Learning	Educational research	2.747	96
World Development	International development	5.278	N/A*