

Adult Learning and Education in Digital Environments: Learning From Global Efforts to Promote Digital Literacy and Basic Skills of Vulnerable Populations

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Abstract: The pervasive role of digital technologies in adult learning and education (ALE) was a prominent theme throughout the deliberations of the Seventh International Conference on Adult Education (CONFINTEA VII) held June 15-17, 2022 in Morocco. CONFINTEA VII embodied the worldwide interest in digital technologies through the use of a hybrid format with appointed delegates participating both virtually and on site. To highlight the importance of digitalization and digital skills, CONFINTEA VII not only devoted a plenary session to “Adult Learning and Education in Digital Environments,” but discussions about the role of digitalization and the need to support adults in developing digital skills also permeated other sessions such as “Preparing

Adults for the Future of Work.” CONFINTEA VII sessions discussed challenges that vulnerable populations have in accessing digital tools and strategies for providing more equitable access and professional development to address this digital divide. This article describes learnings from CONFINTEA VII and related efforts at the national, regional, and local levels to support adult learners’ use of digital technologies to develop their literacy, numeracy, and occupational skills and the resources that are critical to those efforts. Also discussed is the need for data, research, and monitoring to understand how digital technologies can be effective in adult learning and education and in preparing adults to embrace a culture of lifelong learning.

“CONFINTEA VII IS A STIMULUS FOR A MORE CONCERTED EFFORT IN THE UNITED STATES TO COALESCE AND MAKE LIFELONG LEARNING AN INTEGRAL PART OF OUR LIVES.”

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Digital technologies are ubiquitous in the daily lives of individuals worldwide. To communicate, maintain our health and welfare, engage in work, and function in society requires us to have sufficient digital skills to use a range of technologies. However, because of lack of access to education or broadband, many individuals have not developed their digital skills and are often at a disadvantage in obtaining the resources and information necessary to address their most basic needs. At a global level, rapid advances in digitalization are challenging the operation of systems and services in education, health, transportation, communication, and commerce, among others, and affect the types of data that are produced and transmitted about those services. The challenges and opportunities associated with rapidly growing technologies suggest it is critical that countries have an infrastructure to support those technologies and provide education and resources to help individuals develop their digital skills so they can use technology to enhance their lives.

The role of digital technologies and digitalization in the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Member States' policies and local practices was a key theme throughout the deliberations of the Seventh International Conference on Adult Education (CONFINTEA VII) held June 15-17, 2022, in Morocco. More than 1,000 delegates from 142 UNESCO Member States and representatives of civil society, social partners, the United Nations, intergovernmental agencies, youth, and the private sector attended the hybrid conference hosted by the Kingdom of Morocco and UNESCO. The delegates discussed how the transformative power of adult learning and education (ALE) and lifelong learning can be used in the context of global challenges such as the climate crisis, rapid technological development, low levels of adult literacy,

citizenship development, and the changing nature of work. To highlight the importance of digital skills and digitalization, CONFINTEA VII included the plenary session "Adult Learning and Education in Digital Environments," and the need to support adults in developing digital skills was addressed in other plenary sessions.

Furthermore, the Marrakech Framework for Action (MFA), which specifies the key areas of action required to achieve the vision developed during CONFINTEA VII, includes principles concerning the critical role of technology in ALE and in promoting all learners equal access to learning in digital environments (UNESCO, 2022a).

This article examines the role of digital skills and digitalization in CONFINTEA VII's deliberations on ALE and lifelong learning. Described are learnings from CONFINTEA VII and related efforts at the national, regional, and local levels to support adult learners' use of digital technologies to develop their literacy, numeracy, and occupational skills and the resources that are critical to those efforts. Also discussed is the need for data, research, and monitoring to understand how digital technologies can be used effectively in ALE and in preparing adults to embrace a culture of lifelong learning.

Context for Digitalization and Digital Skills in ALE

CONFINTEA VII's deliberations began with reflections on the key global efforts to promote ALE and lifelong learning that had occurred since CONFINTEA VI in 2009. Those efforts included

The commitment of the international community to the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), greater recognition by the international community of the need to promote lifelong learning, as exemplified by SDG 4 "to ensure inclusive and equitable quality education and promote lifelong learning opportunities

for all,” the report of the International Commission on the Futures of Education, improved global ALE monitoring through the five Global Reports on Adult Learning and Education, the Global Education Monitoring Report and other initiatives, including the Global Alliance for Literacy within the Framework of Lifelong Learning, and steps taken towards the integration of ALE in the global education agenda and architecture. (UNESCO, 2022a, p.1)

Insights from those efforts were discussed during the CONFINTEA VII panels to inform the development of the areas of action for the MFA. For instance, Panel 2, “Adult Learning and Education within the New Social Contract for Education: Towards a Right to Lifelong Learning,” examined the *Reimagining Our Futures Together* report (International Commission of the Futures of Education, 2021) from the perspective of ALE. In discussing the two foundational principles set forth in the report—the right to education throughout life and education as a public endeavor and a common good—panel speakers agreed about the ways in which the COVID-19 pandemic and other factors have affected access to education and the progress of digitalization. Stefania Giannini (2022), Panel 2 moderator, remarked that the COVID-19 pandemic has “amplified exacerbated inequalities and accelerated the digital revolution,” while Sahle-Work Zewde (2022), Panel 2 speaker, stated that “technological and digital divides are widening and the right to education is denied for far too many of us.” Peggy Hicks (2022), Panel 2 speaker, raised the issue of how the COVID-19 pandemic has “exacerbated inequalities for vulnerable groups such as migrants, refugees, internally displaced people, indigenous peoples, and minorities, including their access to education” and concluded that “the challenges still remain in closing the digital divide, not only for people in less developed countries but also for older people, people with disabilities, and other vulnerable populations.”

In the *ICAE Spotlight Report for CONFINTEA VII*, Ireland reinforced the importance of digital access in ALE when he noted that the “discussions concerning a new inclusive understanding of education as a fundamental human right have pointed to the need to include access to the digital as a new dimension of this right given its importance for participating in education and for the exercise of citizenship” (Ireland, 2022, p.8).

Recognizing the critical role of digitalization and digital skills in ALE, the CONFINTEA VII delegates included two principles and priority areas in the MFA that address those topics. The presence of two principles in the MFA that explicitly call for actions involving the use of technology and development of digital skills heightens the importance of the role of digitalization and digital skills in ALE and reinforces the need to address inclusion and access in delivering ALE services.

Principle #18, which promotes equal access of all learners, including older adults, to digital environments, has implications for “how adults engage as active members of society and increases the importance of critical thinking, communication, empathy, and social skills when navigating online environments to counteract mis- and disinformation” (UNESCO, 2022a, p.4). This principle addresses the key considerations in using technology in ALE and signals the conditions and characteristics of teaching and learning that policymakers and educators should consider in their work.

Principle #20 in the MFA recognizes lifelong learning as the key to “addressing the challenges faced by humanity, from the climate crisis to technological and demographic change, in addition to those posed by the COVID-19 pandemic and the inequalities it has exacerbated.”

This principle calls for a holistic approach to ALE that would provide a range of services including formal, non-formal, and informal education; involve all sectors and fields; and deliver instruction to diverse learner groups using in-person, online, and blended learning

methods. Emphasized in this call to action is a learning environment that is inclusive and can address the needs of a range of adult learners for varied purposes, including preparing for work as well as contributing to individuals' well-being and the common good (UNESCO, 2022a, p.5).

Advancing Digitalization and Digital Skills in ALE

CONFINTEA VII deliberations addressed the promise and challenges of the use of technology in ALE, amplifying the need to support “high-quality and inclusion-driven digitalization of the education, training, and learning processes at an organizational and individual level,” as stated in the *European Agenda for Adult Learning 2021-2030* (Council of the European Union, 2021 November, p. 13). Advances in technology have changed the way that ALE is delivered, increasing access to education for some adults while magnifying the digital divide and digital gender gap for others. Although digitalization has created opportunities for sharing and collaboration through Open Education Resources and learning management systems, particularly in higher education and workforce training (Dougiamas, 2022; Maggioncalda, 2022), adult learners who are vulnerable or are older have found it challenging to access training to develop their digital skills and use digital tools to participate in ALE. The existence of barriers to adults' use of digital tools and the data that there are 773 million adults with low literacy worldwide, most of whom are women (UNESCO, n.d.), support the critical need to expand ALE opportunities for those individuals, including digital skills training and the use of digital learning modalities that are accessible and affordable. The *fifth Global Report on Adult Learning and Education (GRALE)* elaborated on the need to enable vulnerable adults to access ALE in noting the efficacy of using a holistic approach to serving vulnerable populations and providing policies and funding to support those efforts (UNESCO, 2022b).

Considerations About Digitalization in ALE

Deliberations during CONFINTEA VII and related events concerning the infrastructure, policies, and programs necessary to advance digitalization in ALE and meet the goals set forth in the MFA identified challenges and cautions in using technology tools in ALE delivery and raised concerns about the rapid digitalization in education. For instance, in Helen Dabu's analysis of the Transforming Education Summit that the United Nations convened in 2022 to accelerate the progress of achieving Sustainable Development Goal 4 related to education, she noted that there are risks and opportunities with rapid digitalization in ALE and that consideration must be given to the widening digital divide and gaps in adult learners' access to technology. Those risks can be addressed by having “inclusive learning options, pedagogies, and curricula that are made available in no-tech and low-tech modalities, such as through the media, radio and television, and self-learning modules, and those that promote mother tongue-based multilingual education.” (Dabu, 2022, p. 56). Along with those modalities and materials, the most vulnerable adult learners may also require supportive services and enhancements of their literacy, critical thinking, and soft skills. This perspective is similar to the call for holistic services to assist ALE learners engage and persist in their studies that was raised in multiple CONFINTEA VII panels and in the fifth GRALE report. Supportive services may involve assistance such as child care, transportation, and referral to local agencies to access assistance that can facilitate adult learners' participation in instruction and have been discussed as being critical to the success of vulnerable adults' participation in ALE.

Another aspect of technology that was mentioned during CONFINTEA VII is the “fourth industrial revolution” (4IR). In his analysis of the MFA, Ivor Baajes raised the issue of the relationship between adult education and the 4IR, which is associated with disruptive

technologies, including artificial intelligence, and is shaping educational frameworks and educational reforms. Baajes noted that digitalization and digital learning are key parts of those new technologies and, based on his work in ALE in Africa, it is likely that adult educators and adult learners have limited access to those technologies. This assumption about access to technology raises a question of whether IR4 can or should play a role in addressing poverty and inequality, specifically in the delivery services for adult learners (Baajes, 2022).

The concerns that ALE stakeholders have about the technology tools that can best assist ALE learners, particularly those who are most vulnerable, develop their skills suggest that the implementation of emerging technologies in ALE will require exploration, experimentation, and data collection to determine which types of technology can be best used by adult learners and under what conditions.

Policies, Initiatives, and Programs in ALE and Workforce Development

The CONFINTEA VII deliberations provided an opportunity for delegates to report on their progress in addressing the SDGs and describe current and planned activities to implement the action steps in the MFA. The rapid growth of digitalization has prompted activities at the national, country, and local levels to increase adult learners' access to technology, to expand the use of technology in ALE and workforce development, and to use technology to share data to support ALE, among other activities. The descriptions that CONFINTEA VII delegates provided about their policies and initiatives to support technology and recent reports of local technology-related activities in ALE suggest there are key elements to consider in designing and implementing those activities. Described next are examples of policies, initiatives, and local programs that involve the use of technology to support ALE learners and the key elements of design and implementation that they illustrate.

Policies and Initiatives

CONFINTEA VII deliberations on “Preparing for the Future of Work” included national and country-level efforts to facilitate the use of digital technologies in strengthening adult learners' skills, to provide opportunities for adults to participate in reskilling activities to improve their employment and advancement opportunities, and the use of digitalization in developing systems for sharing data. In those efforts, leaders in agencies and organizations had a vision of the potential of technology to enhance existing education practices to facilitate adults' development of digital skills, literacy skills, and job-related skills to increase their economic and overall well-being and to develop new solutions for cross-agency sharing of data that involved collaboration and coordination across agencies. For instance, the International Labor Organization (ILO) convened its members in December 2021 to discuss skills and lifelong learning as possible priorities for the organization. ILO members set priorities to provide flexible learning options, such as blended models, and to ensure equitable access to skills development so that individuals can access digital equipment and materials. The ILO also determined to leverage the digitalization of skills development in ALE including technical and vocational education (Reddy, 2022).

To expand opportunities for retraining and reskilling in response to the COVID-19 pandemic, the government of Indonesia created a Pre-Employment Card Program that uses a web-based platform and digital G2P (government to the people) payments to “develop work skills, promote employment, sustain families, and promote financial digital inclusion” (Abdul Latif Jameel Poverty Action Lab, 2023). Launched in 2020, the program is part of Indonesia's social protection policy and has expanded from its initial structure of seven platforms, 150 training providers, and 1,000 training courses to serve 16.4 million people. This program, which is being evaluated and has shown initial positive results, is expected to be part of Indonesia's “normal

scheme” during 2023 ([Coordinating Ministry for Economic Affairs, 2023](#)).

The strengthening of the cross-sharing of data has been a goal of the government of Sweden. To address this goal, the government created a reform package in which nine agencies were tasked to develop a digital infrastructure for lifelong learning to ensure that data from the education sector and data from the labor market sector could work together. The nine government agencies will monitor and evaluate the schedule going forward ([Persdotter, 2022](#)).

ALE Services and Professional Development Supporting Vulnerable Learners

CONFINTEA VII delegates’ reports on activities underway in their countries to increase adults’ access to and use of digital tools in ALE and recent studies of the role of technology in literacy and education for refugees, migrants, and internally displaced persons ([UNESCO, 2022c](#)) point to the key elements of ALE services that can provide an infrastructure for vulnerable adults’ learning, particularly in using technology. ALE programs often use a combination of strategies to address the specific challenges they face. For instance, to address the issue of learners’ limited access to electricity, information and communication technology (ICT) devices, and reliable high-bandwidth internet connections, the Kiron Campus program, which serves primarily marginalized learners in Germany, the Syrian Arab Republic, and Jordan, built its online learning platform to be low bandwidth and easy to use to accommodate refugees’ extensive use of smartphones and potential unfamiliarity with online learning platforms. The Kiron Campus program also works with partners and stakeholders to ensure that the curriculum is relevant to the context of the learners ([UNESCO, 2022c](#)).

The need for the professionalization of ALE instructors teaching basic skills was discussed in many CONFINTEA VI deliberations. One example of professional development activities to address the need to prepare basic skills instructors to teach using digital technologies is

the work of the European Basic Skills Network’s (EBSN) activities to coordinate and provide services to the Network’s organizational members. EBSN has worked with adult educators in Austria who developed a national curriculum for basic skills, the Curriculum Basisbildung, which includes digital competencies and critical media literacy as integral components. EBSN is also exploring the use of microcredentials for basic skills instructors to motivate them to pursue pathways in adult basic skills teaching ([Várkonyi, 2023](#)).

The examples above of leadership, visioning, coordination, collaboration, and professional development point to the importance of those elements in developing and implementing policies, initiatives, and programs that are supporting the use of technology in ALE.

Data, Research, and Monitoring

A consistent theme in the CONFINTEA VII deliberations on policy and programmatic efforts to promote ALE and lifelong learning was the need for quality data to track the implementation of new systems and practices, to conduct research on adult learners’ outcomes from participating in ALE, and to monitor the progress of the implementation of the MFA and progress toward SDG 4.6.1. The importance of data, research, and monitoring are embodied in three of the MFA’s action recommendations.

MFA Recommendations

To ensure the quality of ALE, MFA Recommendation #28 states the importance of “conducting research and evaluation to guide policies and practices to further promote inclusion, quality, and relevance.” Furthermore, those activities should include participatory research that can support ALE program designers, teachers, and participants ([UNESCO, 2022a](#), p.7). MFA Recommendation #33 aims at promoting inclusion and calls for the implementation of “reliable, valid, transparent, and accessible information systems for ALE.” Those systems should enable the tracking of learners’ progress in participation and retention, focus on

under-served populations, and facilitate the exchange of knowledge between government and non-governmental institutions, academia, civil society, and UNESCO Member States (UNESCO, 2022a, p.7). The MFA recommendation #45, which has elements of the previous recommendation, addresses international cooperation for enactment and monitoring and calls for “reliable, valid, transparent, accessible, and gender-sensitive monitoring systems that can produce relevant and accurate disaggregated data for monitoring periodically the enactment of the MFA and support digital platforms to facilitate the exchange of knowledge and best practices between Member States and other key ALE constituencies” (UNESCO, 2022a, p. 11).

Approaches to Data, Research, and Monitoring

To address the research and monitoring priorities articulated in the MFA, Member States will need individual-level data systems that capture the range of adult learner demographic data, background characteristics, and outcome data required to answer research questions and monitor the progress of ALE activities and SDG indicator 4.6.1, which addresses the progress of youth and adults’ attainment of functional literacy and other skills (United Nations, n.d.). It is also desirable to collect data on the implementation of ALE program services so that questions about the use of instructional techniques, provision of holistic services, and use of digital technologies can be analyzed and associated with adult learners’ participation and outcomes. The implementation of rigorous evaluation designs that can assess the impacts of different technologies would help Member States determine which technologies and tools are more effective and under what conditions they are most helpful.

Conclusion

The CONFINTEA VII deliberations demonstrated a global recognition that digitalization and digital skills are part of the key infrastructure for ALE and the movement toward

lifelong learning and, as such, need to be considered in all aspects of planning and implementation of ALE. A priority in harnessing the power of digitalization should include vulnerable and marginalized populations’ access to resources so they can develop their digital skills, use technology tools, participate in high-quality ALE programs, and access the supports they need to attain their educational goals.

Varied policies supporting digitization and the use of digital tools in ALE, including upskilling and reskilling services, are increasingly in place in many UNESCO states with models of those services. Still lacking are data and research on the quality and impacts of those policies and programs that can identify the effective components of each, especially those concerning the role of technology. Increased efforts in monitoring and evaluation would improve the overall quality of current ALE services.

To improve the quality of ALE globally, particularly for vulnerable populations, more dissemination and professional development are needed so that policies and programs with evidence of success for those adult learners can be accessed and implemented across countries. The use of proven programs that are customized to local conditions can improve the quality of ALE services and help ensure that adult learners attain their education goals.

Implications for ALE and Lifelong Learning in the United States

The CONFINTEA VII deliberations provided inspiration about the critical role of ALE globally and the promise of lifelong learning as a mechanism for improving the social and economic well-being of adults. Two strategies discussed during CONFINTEA VII may help ALE stakeholders to amplify the role and importance of ALE and lifelong learning in the United States. One strategy is the use of definitions and frameworks to clarify the concepts of ALE and lifelong learning so it is clear what types of activities are involved in each and the benefits from participating in those activities. A second

strategy is for ALE stakeholders to collaborate with private sector, public sector, and non-governmental entities to make the case for lifelong learning that can occur in formal education institutions and other venues and can contribute to adults' health, welfare, and economic well-being as well as to the global issues of green and digital transitions, sustainability, and citizenship. CONFINTEA VII is a stimulus for a more concerted effort in the United States to coalesce and make lifelong learning an integral part of our lives.¹

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