

Guidelines on open and distance
learning for youth and adult literacy

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UNESCO Education Sector

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The UNESCO Institute for Lifelong Learning (UIL), located in Hamburg, Germany, is a specialized UNESCO institute and is the only organizational unit in the United Nations family that holds a global mandate for lifelong learning. UIL promotes and supports lifelong learning with a focus on adult learning, continuing education, literacy and non-formal basic education.

The Commonwealth of Learning (COL) is an intergovernmental organization created by Commonwealth Heads of Government in 1987 to promote the development and sharing of open learning and distance education knowledge, resources and technologies. Hosted by the Government of Canada with headquarters in Burnaby, British Columbia, COL is the world's only intergovernmental organization solely concerned with the promotion and development of distance education and open learning.

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List of abbreviations

AI	artificial intelligence
ALP	Adult Literacy Programme (India)
CBFL	Tata's Computer-Based Functional Literacy
CODE	Canadian Organization for Development
FAL	Functional Adult Literacy (Uganda)
ICT	information and communication technology
IDP	internally displaced person
IRI	interactive radio instruction
LMS	learning management system
M&E	monitoring and evaluation
MOOC	massive open online course
NGO	non-governmental organization
ODL	open and distance learning
OER	open education resources
PAR	participatory action research
SDG	Sustainable Development Goal
SMS	short message service (text message)
UDL	universal design for learning

Foreword

Director, UNESCO Institute for Lifelong Learning



Despite significant efforts to address youth and adult literacy, it remains a serious global challenge. An estimated 773 million youth and adults, two-thirds of whom are women, still lack basic literacy and numeracy skills. Furthermore, the definition of what constitutes literacy in today's world is evolving. The increasing prevalence of information and communication technologies (ICTs), for example, is prompting a more expansive notion of basic literacy skills in the twenty-first century.

However, to date there has been relatively limited integration of technology into existing literacy programmes throughout the world, regardless of overall national ICT development rates. This situation was highlighted during the COVID-19 crisis when face-to-face classes were suspended. Literacy provision was particularly affected because of the technology gap, including the limited capacities of providers to teach at a distance, and non-existent or overloaded ICT infrastructure in many communities.

Traditionally, governmental and non-governmental literacy programme providers designed and offered a wide range of programmes to reach the most marginalized and underprivileged groups. The majority of programme beneficiaries either did not attend formal school or dropped out for a variety of reasons. Unlike formal education, literacy programmes often integrated other development goals in addition to basic literacy and numeracy skills into the curricula, offered courses in local languages, implemented them in communities with the support of local facilitators and targeted specific sub-groups of youth and adults. While some literacy programmes integrated different technologies, the majority were implemented through face-to-face modalities. The integration of technologies was largely confined to small-scale initiatives and generally limited to only certain components of instruction and management. Low integration of technologies is linked not only with the perennial problem of underfunding of literacy programmes but also, and more importantly, with insufficient capacity among providers and facilitators to harness technologies to improve and expand literacy programmes. Together with the Commonwealth of Learning (COL), the UNESCO Institute for Lifelong Learning (UIL) recognized that the lessons learned from many decades of literacy provision and open and distance learning (ODL) could help to address some of these challenges.

ODL offers a solution to the problems faced by literacy providers and a framework for the expansion of educational provision and access to learning in a variety of contexts. Both printed and offline materials have already been widely used in literacy programmes for many decades. They can now be complemented by the appropriate use of technology, such as video conferencing for synchronous learning, learning management platforms to coordinate asynchronous learning, and even artificial intelligence (AI) to supplement guidance from facilitators. However, the myriad potential issues and considerations surrounding the planning and implementation of ODL for youth and literacy providers have not been comprehensively addressed to date.

UIL and COL therefore partnered to combine their experience and expertise to develop a set of guidelines for providers to plan, design, implement and evaluate ODL-based literacy programmes for youth and adults. The guidelines, presented in this book, make it clear that limited technological infrastructure and capacities should not limit education measures designed to reach the most marginalized communities. We are also motivated by the belief that sustainable and inclusive societies can only be developed when everyone can access learning opportunities in accordance with their needs and their communities' needs.

I am confident that these guidelines will catalyse Member States and literacy providers to take the required steps to develop accessible, quality, relevant literacy programmes for the learners in their communities. Most importantly, I believe that these programmes will enable more learners to embark on a journey of lifelong learning.

David Atchoarena

Director, UNESCO Institute for Lifelong Learning

Foreword

President and CEO, Commonwealth of Learning



The Commonwealth of Learning (COL) is an intergovernmental organization established in 1987 to promote the use of distance education and technologies to increase access to education and training. When the COVID-19 pandemic forced the closure of institutions around the world, distance and online education delivery became the only way to keep the doors of learning open. As the world embraced distance learning, the role of COL, with its expertise, resources and experience in this field, became more important than ever. There is ample evidence that distance learning can increase access to, reduce the costs of and improve the quality of education, all with a lower carbon footprint. Education systems in both developed and developing regions have harnessed the potential of distance learning to democratize education. COL has promoted the use of distance education not only for the formal education sector but also for the non-formal and informal learning sectors. In fact, distance learning is the best option for promoting lifelong learning for all. For example, COL has used distance learning to train beekeepers in the remote forests of Uganda, gardeners in the hinterland of India and women entrepreneurs in Papua New Guinea. Using basic mobile phones, COL has helped to improve the livelihoods of thousands of farmers in Ghana, Jamaica, Kenya, Sri Lanka and the United Republic of Tanzania.

COL has used technologies that are available, affordable and accessible — from printed text to online options. Our approach to literacy has been to enable the community to ‘domesticate’ the technology for various literacies. While functional literacy programmes usually operate at one level, COL mobilizes literacy strategies at three levels so that the learner acquires functional, financial and critical skills. Three lessons learned from COL’s experience are that technology by itself will not promote literacy unless it is placed in an appropriate social, political and economic context; literacy must be seen as part of the whole development process; and the social capital of a community is essential to the success of any literacy intervention.

This publication, a result of a collaboration between COL and the UNESCO Institute for Lifelong Learning (UIL), draws on the expertise of both organizations in their fields of competence. Written with an eye to the limited technological and financial resources available to many literacy training providers, the guidelines in this book provide a systematic approach that can be adapted for many different contexts around the world.

The team that worked on this collaborative project faced the daunting task of distilling the key principles of distance learning from a huge knowledge-base and presenting them in an accessible and digestible form. We are grateful to everyone involved for their hard work, dedication and invaluable contributions.

I am sure this publication will help Member States and literacy training providers not only to design, develop and deliver quality open and distance learning (ODL) programmes but also to measure the impact of such interventions. Both COL and UIL are committed to advancing inclusive and equitable quality education and lifelong learning for all by 2030, and I believe this publication is an important step in that direction.

Professor Asha Kanwar

President and Chief Executive Officer,
Commonwealth of Learning

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Glossary of key terms



Adult learning and education (ALE): ALE is a core component of lifelong learning. It comprises all forms of learning and education that aim to ensure that all adults participate in their societies and the world of work. It denotes the entire body of learning processes — formal, non-formal and informal — through which those regarded as adults by the society in which they live can develop and enrich their capabilities to live and work, and consequently advance both their own interests and those of their communities, organizations and societies. Adult learning and education involves sustained activities and processes of acquiring, recognizing, exchanging and adapting capabilities. Given that the boundaries of youth and adulthood are shifting in most cultures, in this publication the term ‘adult’ denotes all those who engage in adult learning and education, even if they have not reached the legal age of maturity (UIL, 2016d).

Blended learning: Blended learning involves a combination of online and face-to-face learning experiences. Three examples of blended learning are flipped classrooms, online interaction followed by face-to-face teaching and online learning supplemented by face-to-face practical exercises (COL, 2020).

Distance education: Distance education is a process of teaching and learning characterized by the separation of the educator and learner in time, place, or both, for most of the educational transaction, which is mediated by technology for the delivery of learning content but with the possibility of face-to-face interaction for learner-educator and learner-learner interaction and which offers provision of two-way didactic communication. Distance in this context refers to transactional distance and not physical distance. It is a conceptual construct with two key dimensions: structure and dialogue. Programmes with more structure and less dialogue are considered to have more distance (ibid.).

e-Learning: e-Learning is an umbrella term that refers to the use of any digital device or medium (multimedia) for teaching and learning, especially for delivery or accessing of content. Thus, e-Learning can take place without any connection to a network or connectivity. The digital device used by the learner to access materials need not be connected to a digital network, either a local area network or the internet (or even a mobile phone network if a tablet is used as a terminal or access device) (ibid.).

Information and communication technology (ICT): ICT refers to a range of technologies and tools used to create, collate and communicate information and knowledge. ICT is used in daily life to prepare documents, talk to others by phone, listen to the radio, watch television, and conduct countless other activities. Some ICT involves one-way communication, while some facilitates two-way communication. Some can include only one medium (e.g. telephone), while some can handle more than one medium (e.g. computer and television) (ibid.).

Learning management system (LMS): Also called a course management system or virtual learning environment, an LMS is a web-based software system that helps educators to manage courses and deliver lessons online. It helps with the administration, tracking and reporting of the learning process. An LMS usually has the following constituent components: content creation, organization, delivery, learner support interactions, assessment and grading, and management of the learning process (ibid.).

Literacy: Literacy is a key component of adult learning and education. It involves a continuum of learning and proficiency levels that allows citizens to engage in lifelong learning and participate fully in their community, workplace and wider society. It includes the ability to read and write; to identify, understand, interpret, create, communicate and compute using printed and written materials; and to solve problems in an increasingly technological and information-rich environment. Literacy is an essential means of building people’s knowledge, skills and competencies to cope with the evolving challenges and complexities of life, culture, economy and society (UIL, 2016a).

Mode of provision: The delivery approach by which learning takes place at institutions. For example, in single-mode institutions, courses and programmes may be mediated by either distance or contact-based methodologies. In dual and mixed-mode institutions, courses and programmes may be mediated by a range of distance, resource-based and contact-based methods.

Online learning: Online learning is e-Learning via a digital network through which a learner accesses at least part of the learning materials and services. It refers to network-enabled teaching and learning that allows the learner to have increased interaction with content, educators, and other learners (COL, 2020).

Open educational resources (OER): Any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are published under an open licence and are available for use without an accompanying need to pay royalties or licence fees. Openly licensed content can be produced in any medium: text, video, audio or computer-based multimedia (UNESCO, 2019b).

Open learning: Open learning refers to policies and practices of openness in entry requirements (with minimal or no restriction on qualifications), choice of courses, place of study and time, etc. It is an educational philosophy whereby learning can happen anywhere, at any time and via any resource. It can therefore also inform practice in face-to-face institutions (ibid.).

Universal design for learning (UDL): UDL is an educational framework that guides the development of flexible learning environments and learning spaces that can accommodate individual learning differences. It comprises a set of principles that allows content developers and teachers to develop instructions to meet the diverse needs of all learners. UDL is intended to increase access to learning by reducing physical, cognitive, intellectual and organizational barriers to learning, as well as ensuring fair and accurate assessment (Rose and Meyer, 2002).





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Setting the scene

Globally, 773 million adults and young people, two-thirds of whom are women, lack basic literacy skills (UIL, 2020). Improving adult basic literacy is key to achieving the Sustainable Development Goals (SDGs) and is a major driver of socio-economic transformation and ensuring the right to education.

Youth and adults with low literacy and fewer overall skills are less likely than youth and adults with higher literacy and more overall skills to seek further learning opportunities (UNESCO, 2020b). Continuous learning opportunities may help those outside of the formal education system to improve their livelihoods. They may be refugees, migrants, prisoners, older people, people living with disabilities, people living in poverty, rural populations, ethnic and linguistic minorities, indigenous peoples, and women. Many youth and adults in these communities lack formal school experiences, while others have been pushed out of the formal education system for a wide range of individual or social factors. Many of these communities are difficult to access through traditional educational channels because of geographical remoteness, limited physical mobility, social isolation or lack of online connectivity.

Open and distance learning (ODL) has therefore been used in literacy programmes for several decades. To date, ODL literacy programmes have used a variety of technologies: radio has been used in Somalia and the Solomon Islands; textbooks supported by audio cassettes, CDs and DVDs have been deployed in Mongolia; and computer-based software has been developed in Canada, to give three examples (UIL, 2016a). These kinds of technologies and subsequent technological developments, together with the concepts of openness and distance learning, have enabled literacy programmes to reach more people. While there is a wide array of new technological options that can be harnessed to support ODL delivery, the use of technology is simply a means to extend teaching and learning strategies; it does not in itself ensure effective learning. Thus, the way in which technology is harnessed and the underlying pedagogical approaches that are applied are critical to the effectiveness of the ODL learning experience.

Given the current speed of change in economies and labour markets around the world, digital literacy skills are increasingly important in today's world, not least because they are required to use digital technologies. The digital divide between people with and without internet access is growing as more technologies are developed and used in the educational and employment sectors. In 2019, 46.4 per cent of the world's population, most of whom live in least-developed countries, did not have access to the internet (ITU, in UNESCO, 2020b). People without access to technology and the internet are denied access to, for example, news sources, government services, job and learning opportunities, and cheaper communication. This situation is worse in marginalized communities where residents have low literacy rates, so these communities have even further to go to close the gap and take advantage of the opportunities offered by online access.



The COVID-19 pandemic has highlighted inequalities in education and a need for reform across all education sectors. While the pandemic is a new challenge, structural and capacity issues have long been a problem in the non-formal education subsector. In many countries, especially those in which most youth and adults who lack basic literacy live, literacy programmes were suspended when country lockdowns commenced and very few online and distance modalities were employed to compensate for this change in circumstance. Country lockdowns highlighted not only the need for reform of these programmes but also the importance of functional literacy among all citizens (UNESCO, 2020a).

Youth and adults who lack basic literacy have been particularly strongly affected by the educational, social and economic impacts of COVID-19. The pandemic has accentuated the need to provide digital and ODL solutions to teaching and learning in the non-formal education sector. This means that educators need to be upskilled; methodologies, pedagogies and materials need to be updated and reimagined; and the context and needs of youth and adult learners must be fully assessed.

**Youth and adults who lack basic literacy
have been particularly strongly affected
by the educational, social and economic
impacts of COVID-19.**

Part 1 of these guidelines outlines each step in the process: planning and design, instructional and learning materials development, implementation and management, and monitoring and evaluation. A checklist is provided to use as a quick reference once implementing organizations have worked through the steps and made all the decisions about how to develop a literacy programme. Part 2 outlines a selection of materials, technologies and tools for literacy teaching, with examples of their application for youth and adult literacy learners and ODL. The Annex contains a list of useful resources and tools that contain more information on topics related to the aspects of literacy programmes outlined in this guide.

These guidelines are based on the results of extensive desktop research undertaken in the first half of 2021. A full reference list is included at the end of this book. However, two key resources were a study of 48 youth and adult literacy programmes¹ using a spectrum of digital solutions from across the world in UNESCO'S Effective Literacy and Numeracy Practices Database (LitBase), which the authors assessed in terms of how their practices can be adapted and implemented as ODL programmes to reach more learners, and the combined expertise and years of practical field experience of UIL and COL in this area.

Why this publication?

Historically, different technologies, including radio, television, audio-video cassettes and, more recently, mobile devices, computers, laptops, software programmes and online platforms, have been employed in literacy and adult education programmes (Bates, 2019). They have mostly been used to expand provision, reach the most excluded populations, respond to emerging needs and demands, and improve the quality of instruction and learning. Similarly, ODL has been used in educational provision, including literacy programmes, for several decades. Useful guidelines on ODL exist to help education providers plan and deliver quality programmes.² However, despite some promising cases that have effectively used technologies for literacy provision, instruction and learning, and the growing literature about educational provisions that employ ODL, no specific guidelines for planning, designing, developing, implementing and evaluating youth and adult literacy programmes using ODL have been published to date.

¹ The relevant programmes in the database can be found by entering the key word 'technology' in the search box. See: Effective Literacy and Numeracy Practices Database. <https://uil.unesco.org/literacy/effective-practices-database-litbase>

² See the **Annex** for an extensive list of guidelines and tools, organized by topic.

These guidelines are designed to fill that gap. They offer an introduction to and guidance on the design of ODL programmes for youth and adults who lack basic literacy and numeracy skills. This group of learners requires customized teaching and learning support to develop and improve their functional literacy skills. Because of the diversity of the target groups in terms of literacy levels, learner experience, access to technologies, socio-economic context, culture and language, there is no single solution that can effectively meet their learning needs, and ODL practices implemented in formal education contexts are not always applicable. Moreover, the digital divide is growing consistently, and many learners either do not have access to relevant technologies or do not have adequate skills to use them.

These guidelines aim to raise awareness of the issues facing adult and youth learners, identify ODL modalities to increase reach and engagement among targeted communities, identify capacity development needs and examine technological trends. Because there are diverse pedagogical models for youth and adult literacy, this publication draws on research and case studies from around the world to identify promising practices and provide guidance to facilitators, programme developers, instructional designers, policy-makers and other stakeholders. They are infused by a strong understanding of the unique needs of youth and adults who want to develop their literacy skills and the implications that these needs have for the design of any programmes that seek to harness the affordances of ODL and educational technology.

The guidelines do not prescribe how to prepare and implement an ODL youth and adult literacy programme but instead seek to present clear steps and related considerations for developing an effective youth and adult literacy programme using ODL. Every context is different, target learners and communities vary, and tools and technologies need to be carefully selected to fit the goals and budget of any particular programme.

What is open and distance learning?

Open and distance learning, or distance education as it is also known, is a process of teaching and learning characterized by the separation of the educator and learner in time, place, or both, for most of the educational transaction. It is mediated by technology for delivery of learning content but with the possibility of face-to-face learner-educator and learner-learner interaction and offers provision of two-way didactic communication. Distance in this context refers to transactional distance and not physical distance. It is a conceptual construct with two key dimensions: structure and dialogue. Programmes with more structure and less dialogue are considered to have more distance (COL, 2020).

ODL predates the information society by many decades. However, the innovations introduced by information and communication technology (ICT) have created new possibilities for ODL practitioners to reach learners. This technological explosion introduced the concept of 'e-Learning', an umbrella term that refers to the use of any digital device or medium (multimedia) for teaching and learning, especially for content delivery or access. Thus, e-Learning can take place without any connection to a network or connectivity. The digital device used by the learner to access materials need not be connected to a digital network, either a local area network or the internet (or even a mobile phone network if a tablet is used as a terminal or access device) (ibid.). However, online learning refers to e-Learning in which access to a digital network is required for a learner to access at least part of the learning materials and services. Online learning refers to network-enabled teaching and learning that allows the learner to have increased interaction with the content, teachers and other learners (ibid.).

Distance education is a form of education characterized by:

- quasi-permanent separation of teacher and learner in the learning process (this distinguishes it from traditional face-to-face education);
- influence of an educational organization in the planning, designing and delivering of learning resources and opportunities (this distinguishes it from private self-study);
- use of technical media for delivery of learning content;
- provision of two-way communication between student and teacher, and student and students;
- quasi-permanent absence of learning groups (making it possible to arrange face-to-face meet-ups for didactic and socialization purposes).

Source: Adapted from Keegan, 1996.



Not all uses of technology in education are intended to support ODL, so when designing and implementing ODL programmes, it is important to understand which e-Learning and online learning methods are most likely to be effective. This requires even more careful consideration when taking into account the needs of learners in youth and adult literacy programmes. For example, learners working independently through online course materials are clearly engaged in an ODL practice, while those who are learning via video conferencing have more in common with learners in face-to-face education because, although video conferencing allows a degree of spatial separation, it requires learners to be in a specific place at a specific time. Thus, although online learning can potentially accommodate diverse ways of and preferences for learning — increasing accessibility — and enable the construction of a potentially richer learning environment, strictly speaking it is not always ODL. Having said that, online learning can still be considered as the new generation of ODL (Mishra, 2001; Taylor, 2001).

This technological explosion introduced the concept of 'e-Learning', an umbrella term that refers to the use of any digital device or medium (multimedia) for teaching and learning, especially for content delivery or access.



In recent literature, the term 'blended learning' has been introduced to refer to learning that involves a combination of traditional face-to-face instruction and online learning (Cleveland-Innes and Wilton, 2018). This term recognizes the reality that learning design increasingly involves a combination of a range of educational methods in ways that make it difficult to specify which mode of provision (face-to-face or distance) is being used. Broadly, ODL covers different notions of technology-enabled learning — with varying degrees of use of technical media for the delivery of content and facilitation of learning — where self-directed learners are predominantly learning asynchronously to accomplish their personal goals (self-determined learning) (Rosen and Stewart, 2015).

By harnessing the available and relevant technology and open learning methods, ODL can be deployed in adult and youth literacy programmes to provide access to education for those in remote areas, the socially disadvantaged and the marginalized. If carefully implemented, it can play a potentially important role in achieving the SDGs and enabling lifelong learning opportunities. Of course, effective learning design is critical for success and recognizes that these groups of people learn differently, may be insecure about their performance in the formal education system, may lack motivation, generally do not have opportunities to access education and require learning content and resources that reflect their needs and circumstances (Latchem, 2018).

What is youth and adult literacy?

Defining literacy is a challenging task. On the one hand, it has traditionally been treated as an autonomous or discrete set of cognitive skills that may be taught independently with the help of a step-by-step instructional approach. On the other hand, it is defined beyond mere cognitive skills to encompass the social contexts, purposes and relationships in which literacy is actively used. With the emergence of the concept of 'functional literacy' in the late 1960s and early 1970s in adult literacy programmes, the need for an expanded understanding was noted (UNESCO, 1976; 2016b). The concept of functional literacy implies that a person can apply their skills in social, cultural and economic contexts. Moreover, the notion of literacy should be understood as a continuum of different proficiency levels of literacy and numeracy skills (Hanemann, 2015). This notion emphasizes that 'literacy' entails a progression through different skill levels from basic to more advanced literacy skills and competences. This approach helps us understand the need to continuously improve one's literacy skills throughout one's life course to keep abreast of changes in society, particularly in the labour market and for social participation.

The concept of functional literacy implies that a person can apply their skills in social, cultural and economic contexts.

Ideally, literacy programmes for youth and adults should integrate literacy and skills development. In reality, however, many educational programmes that integrate literacy and skills development still restrict the concept of 'literacy' to reading, writing and numeracy skills at a very basic level of proficiency, while other skills are seen as distinct and separate. It seems that only those programmes that fully integrate reading, writing and numeracy skills into the learning of other skills, particularly technical skills, adopt the broader, holistic concept of literacy. Fully recognizing the broader concept of 'literacy', these guidelines use the word 'literacy' to refer to different proficiency levels, as well as to reading, writing and numeracy skills as applied and used in different individual, social, cultural and economic contexts.

What is the connection between literacy and ODL?

Understanding literacy as an individual's lifelong learning experience that is impacted by sociocultural and economic contexts will influence the selection of ODL methods, especially regarding the role of learning materials and instructional methods. Youth and adult learners must be able to apply and practise their literacy skills to maintain and develop them.

According to Reder, Gauly and Lechner (2020), engagement in reading practices is the strongest predictor of proficiency growth for literacy. However, the development of a literate environment requires more than the availability of written materials. For example, a stimulating home literate environment would include reading materials and communication and digital media (such as radio, television, mobile phones and websites), while neighbourhoods and communities might have numerous signs, posters and handbills, as well as institutions that promote literacy (such as schools, offices, courts, libraries, banks and training centres). A literate environment should enable free exchange of information and provide opportunities for lifelong learning (UNESCO, 2006).

Language policies and practices are critical for the development of literate communities. National language policies impact language development and, in some cases, the survival of entire communities' cultural identities. While mother tongue-based education is advocated as a human right, with language being recognized as an integral part of one's cultural identity (ibid.), this is not always reflected in national language-in-education policies or the execution of well-intended policies in this regard. Some argue, for example, that postcolonial language policies, especially in Africa, have impeded the development of literacy skills in many communities (Coulmas, 1992; Mazrui, 1996). In these contexts, being literate often means being literate in a colonial language. In the context of youth and adult literacy programmes, one

related challenge is the lack of clear policies about the language of instruction. While youth and adult programmes tend to have more flexibility than schools in choosing the language of instruction because they are provided by community-based non-state groups, there are practical problems for providers in designing learning materials and hiring adequately trained literacy facilitators in local languages. Moreover, political sensitivities associated with languages of instruction often undermine the need for greater financial support and adequate policy attention.

The diversity of languages, writing systems and literacy purposes complicates understandings of literacy acquisition and instruction. While some indigenous languages in the world still do not have written scripts, other types of literacies — for example, sign language and Braille — also require certain levels of training and learning to facilitate communication and convey meaning without the use of conventional scripts (UNESCO, 2006). The diversity of languages and writing systems has an impact on the selection and design of the technology used. Because ODL offers teaching approaches tailored to the needs of learners and harnesses technologies that are selected for a specific context, it can be implemented to suit the needs of youth and adult learners. ODL therefore enables the construction of potentially richer learning environments.

Many youth and adult literacy programmes use technologies to provide online or blended learning methods of learning and teaching, as described in detail in **Part 2** of these guidelines. This approach is often adapted for contexts that lack infrastructure to support fully online instruction. Innovative practices of using ICT in youth and adult literacy programmes are sporadic, making it difficult to evaluate the efficacy of these tools.

Youth and adults who do not have literacy skills have been particularly strongly affected by the educational, social and economic impacts of the COVID-19 crisis.



The COVID-19 pandemic has highlighted inequalities in education and a need for reform across all education sectors. While the pandemic is a new challenge, structural and capacity issues have long been a problem in the context of the non-formal education subsector. It is evident that innovative and customized education provisions are urgently needed so that all youth and adults can improve their literacy skills to enable them to, for example, access critical information on health and government measures in the current context of the COVID-19 crisis.

Youth and adults who do not have literacy skills have been particularly strongly affected by the educational, social and economic impacts of the COVID-19 crisis. The global pandemic has accentuated a need to provide solutions for youth and adult literacy teaching and learning that harness digital technologies effectively to ensure learning continuity. This means that facilitators need to improve their professional skills; more relevant and innovative methodologies, pedagogies and materials need to be developed; and the existing context of literacy and education provision and the emerging needs of youth and adult learners need to be assessed.

Even for learners who were given limited opportunities to access literacy classes before COVID-19, the closure of many learning centres due to the pandemic could mean that some learners will never return to in-person classes. ODL initiatives could be flexible and inclusive enough to enable learners to continue developing their literacy skills if all stakeholders harness the potential of open learning and technology for all learners, particularly the most disadvantaged.



Who are the target groups for youth and adult literacy programmes?

The first step in exploring the potential for harnessing ODL in support of youth and adult literacy is to understand the target learners' backgrounds and learning needs. There are many aspects to consider when designing education programmes for youth and adult learners. Securing basic needs and developing strong communities are key to fostering lifelong learning and bridging educational gaps. Learning is an innate human capability, but it is one that needs to be nurtured throughout life to maximize people's potential and motivate learners. Promoting learning among adults and youth who are not in a formal education system requires a teaching and learning approach that acknowledges their role in society, contributing to a more positive representation of them. Education needs to be understood as more than an economic transaction; it must be seen as having inherent personal and public value (UIL, 2020).

The needs and characteristics of adult learners are different from those of young learners. Specifically, adults:

- need to know why they should learn something before they commit to learning it;
- conceive of themselves as responsible for their lives and need to be treated as such by others;
- come to any educational activity with a range of life experiences;
- are ready to learn how to cope with real-life situations effectively;
- are task- or problem-centred (unlike children in school, who are subject-oriented);
- respond to extrinsic motivation (e.g. better jobs, promotions and salary increases) but even more to intrinsic motivation (e.g. increased self-esteem, quality of life, responsibility and job satisfaction) (Knowles, 1989, in UNESCO, 2006).

Learners for whom youth and adult literacy programmes are designed have diverse needs due to the spectrum of learners and contexts. The target groups drawn from the LitBase case studies include adults (aged 15 years and older), youth (aged 15–24), refugees, migrants, prisoners, older people, people living with disabilities, people living in poverty, rural populations, ethnic and linguistic minorities, indigenous

peoples, and women. This is by no means an exhaustive list. Some of these youth and adults have had no formal school experience, while others have been pushed out of the formal education system by various individual and social factors.

Various considerations from past ODL programmes' experiences with the different needs of specific groups of youth and adult learners are highlighted below. However, these characteristics should not be seen as mutually exclusive. In fact, they may intersect, which reinforces the importance of conducting a comprehensive needs analysis (see **Step 1**).

Out-of-school youth are those who lack access to and are unable to attend school for different reasons. For example, discrimination and prejudice based on gender or disability could keep some children and youth out of school. The language and modality of instruction could act as push factors in the case of children and youth from ethnic and linguistic minorities and nomadic communities. Moreover, conflict and insecurity negatively impact access to school education. Poor households and communities rely on children and youth for labour, childcare and income, sometimes forcing them to drop out of school early or to never enrol in the first place. Children in rural areas are twice as likely as those in urban areas to be out of school, while girls are four times more likely to be out of school as boys from similar socio-economic backgrounds (Latchem, 2018). In these cases, developing literacy and numeracy skills could enable out-of-school youth to continue their education in formal or non-formal settings and potentially enhance their employment prospects. These factors should be considered when designing non-formal education offered through ODL with innovative learner-centred and contextualized curricula and programmes.



Fewer women than men have access to technology, which prevents them from building social capital, claiming and demanding their rights, and accessing new possibilities for education and employment.

ODL can meet the needs of out-of-school youth by harnessing mobile and digital technologies to appeal to these learners, as young people are more likely to have mobile phones. Even if they do not have access to the internet, learners can still use their phones to communicate with their peers and facilitators. ODL programmes can use multigrade teaching methods, align with national curricula and enable learners to transition to formal education. The flexibility of ODL can potentially enable these learners to continue working while they are completing a literacy programme. ODL can provide certification aimed at specific career paths or point learners in the direction of careers they had not previously considered.

Across the globe, **women** face greater literacy challenges than men do. Globally, two-thirds of the 773 million youth and adults who lack basic literacy are women (UIS, 2020). Social inequalities, cultural biases, structural barriers to education and stereotyped gender roles are often at the root of this. Women, especially in rural and remote regions in developing countries, receive lower wages for their work and are often employed in exploitative jobs or work as unpaid carers for their families. Fewer women than men have access to technology, which prevents them from building social capital, claiming and demanding their rights, and accessing new possibilities for education and employment (Latchem, 2018). Educating women contributes to creating a better life for them and their families, as well as enabling the well-being and economic productivity of their communities. Better educated women often support and improve their children's academic achievement.

The digital gender gap is severe in many regions, but particularly in developing countries (UNESCO and EQUALS Skills Coalition, 2019). Women and girls still face many challenges in accessing computers and the internet. Women's access to mobile phones, for example, is restricted by low literacy levels, lack of digital skills, and sociocultural norms and practices. Because such norms are pervasive and restrict women's and girls' access to all types of learning modes and opportunities, the challenge is not just their access to technology but also how they can make use of the information and knowledge that does reach them, and

subsequently become empowered to do and to be, and to have a voice and participate in their households and communities, as well as take advantage of reasonable work opportunities (Belalcázar, 2015). ODL programmes need to consider that, in many conventional societies, patriarchal norms place the burden of childcare and household responsibilities on women, which affords them limited time to study.

It is important that programmes are designed to meet women's and girls' interests and educational and livelihood needs.

ODL programmes should take care to avoid gender bias in learning design and gender stereotyping in wording, illustrations and examples in the learning materials. ODL literacy programmes intended to promote gender equity need to start by analysing the disparities in roles, behaviours, activities and perceptions of women, investigating why such disparities exist, whether they are detrimental and limit women's and men's capacities, and, if so, how they can be remedied (Latchem, 2018).

While the mainstream and commercial media reinforce women's traditional roles, community radio can be used in ODL to promote gender equality, empower women and address issues relevant to women's lives. ODL programmes can employ female facilitators to encourage women to enrol in programmes. It is important that programmes are designed to meet women's and girls' interests and educational and livelihood needs. Community empowerment projects in health or agricultural sectors can also include a literacy component. These projects can assist in empowering women and increasing their participation in public spaces.





People with disabilities, especially in developing countries, often lack access to education, employment and healthcare. They also face discrimination and social exclusion and may not be involved in community decision-making. Disabled girls in particular are at a greater disadvantage as often they are not given the opportunity to receive any formal education and are stigmatized. Emerging technologies enable greater access to education and learning for people with disabilities. With the help of the internet, they can participate in education programmes independently, stay informed about the world and join online communities. Websites can provide alternative outputs and inputs, while specialized hardware and software are available to accommodate specific disabilities (ibid.).

ODL literacy programmes can be designed specifically to meet the needs of learners with various disabilities, rather than simply adapting materials from other programmes. ODL can adopt universal design for learning (UDL) principles in the design of materials, assessment, and tools and media to avoid creating barriers from the start and to ensure learners with disabilities can overcome existing barriers (UNESCO, 2016d).

Prisoners are among the most poorly educated members of society, and many lack basic literacy skills (Latchem, 2018). Upon release, many may revert to a life of crime because of the stigma attached to their past and their lower levels of education and training. Prison education in many countries is uncoordinated, poor in quality, unresponsive to the needs of the incarcerated and resisted by prison authorities and staff (ibid.). Targeted, integrated literacy and skill development programmes that emphasize employable skills training in prisons could increase prisoners' chances of finding jobs in the future and reintegrating into society and improve their overall well-being. ODL-based literacy programmes may help this target group of youth and adults to acquire skills while in prison. Delivering ODL solutions in prisons is challenging, more so because internet access is limited and there are security concerns around prisoners accessing the internet. However, accessing appropriate technology is critical to assist prisoners in preparing for life outside prison. The use of 'stand-alone' learning platforms and tablets could enable prisoners to rectify the educational deficits with which they enter prison (ibid.).

People who have been affected by any type of crisis, including refugees, migrants and internally displaced persons (IDPs), often become homeless, lose their employment and livelihoods and, in some cases, lose their national identity and citizenship. Refugees, migrants and IDPs are marginalized and easily forgotten. Most refugees and displaced people rely on the protection and assistance of external aid agencies and do not have easy access to health and education services. In addition to being literate in their mother tongue, refugees and migrants may need to acquire literacy skills in the official language or languages of their host country in order to secure their basic survival and integration into the local economy and society. The provision of educational services for youth and adults, particularly for those with low levels of education, is, however, not a priority in many countries with migrant and refugee populations (UNESCO, 2018).

Literacy and language programmes should be shaped by intercultural awareness and should be sensitive to culture, linguistics and gender.

Youth and adults who have been through crises generally experience trauma, anxiety and a sense of instability. ODL-based literacy programmes should consider all the probable challenges and realities facing such youth and adults. Learner support (including social welfare, social and vocational counselling, and childcare services) and psychosocial support should be an integral part of these literacy programmes (ibid.). Literacy and language programmes should be shaped by intercultural awareness and should be sensitive to culture, linguistics and gender. Such programmes can build on prior experiences, knowledge and oral traditions, while considering harnessing resources that refugee and migrant learners bring into the classroom, virtual or otherwise (ibid.). ODL programmes can use participants' first language to begin with and then gradually move towards multilingual oral and written approaches to meet the longer-term needs of these communities.

Implementing educational programmes in refugee camps is a challenging endeavour. The camps do not have an environment that is conducive to learning: women and girls may face cultural constraints, and there may be little or no internet connection or access. However, radio and mobile phones have been used to provide ODL programmes to refugees and migrant learners. Likewise, massive open online courses (MOOCs) in solar-powered learning centres (with offline capabilities) have been used to provide education in refugee camps (Latchem, 2018). Furthermore, a recent study found that many people living in refugee camps or host countries did not want to wait until they received asylum, a residence permit, housing or employment in order to seek learning opportunities; free digital learning could provide them with a pathway to continuing education. The same study also highlighted the increasing awareness among learners in the camps about digital learning programmes that are more tailored to their needs and contexts or that offer language courses (Colucci et al., 2017).

Promoting literacy for **indigenous people**, particularly in indigenous languages, plays an important role in empowering people by fostering linguistic and cultural diversity, as well as respecting and protecting indigenous identities, cultures and knowledge systems. Embracing linguistic diversity in education and literacy development is synonymous with the development of inclusive societies that respect diversity and difference and allow multiple cultures, world views and knowledge systems to coexist. Unfortunately, multilingualism is shaped by language policies adopted by colonial and postcolonial governments, and many countries adopted the language of colonial authorities as official languages after independence (UNESCO, 2019a).

Language use is associated with particular domains, contexts and functions in society. Multilingual people may use a mother language at home and other languages at different proficiency levels at work. Literacy programmes can be relevant only when they consider learners' needs, aspirations, prior knowledge and actual language use, as well as the state of multilingual literate environments in society. Literacy programmes should draw on local cultures, knowledge and languages as resources that enrich teaching and learning practice (ibid.).

Linguistic diversity online is very limited (ibid.). Contemporary multilingual societies are therefore affected by the impact of both globalization and the use and development of digital technology. Globalization influences the way in which languages are accorded different status and values, which can affect people's decision-making. For example, the belief that a lingua franca leads to better economic outcomes and social mobility can lead to families who speak indigenous languages educating their children in the lingua franca. ODL-based literacy programmes for indigenous communities should involve entire communities and build explicitly on existing indigenous cultural learning processes and knowledge systems. ODL can harness the use of radio and computer programmes to create multilingual content.

Older people may find it difficult to live independently without basic literacy skills. Most older people with low or no literacy are women, as they may not have received adequate basic education for various reasons. The ageing process can also negatively impact basic cognitive functions, such as memory and attention, if those functions have not been routinely exercised and developed. Older adults require educators to understand both cultural and age-related issues and to design age-appropriate instructional and learning materials. In addition to improving cognitive skills, literacy classes can have other, non-cognitive benefits for these adults, such as mitigating loneliness, preventing elder abuse and helping build intergenerational and generational social networks (UIL, 2020).

Appropriate technologies and support need to be identified to address age-specific cognitive and non-cognitive challenges, including possible limitations on the use of technology for learning, as it may be difficult for older people to develop the required competency in digital skills. In addition, a lack of literacy skills is often connected to poverty, which may restrict access to and efficient use of those technologies. ODL offers older people opportunities to learn how to use various technologies, engage with peers through online and in-person engagements, gain a sense of independence and keep up to date with the outside world.

Summary

A review of the literature on youth and adult literacy programmes indicates that these learners not only have diverse needs but also face multiple challenges, including a lack of digital skills, low motivation, high-insecurity living contexts and financial constraints. They often also have other priorities — including income-generating activities and family and childcare commitments — that may take precedence over their educational priorities. Given the diversity of needs and proficiency among youth and adult literacy learners, there are clear roles for and benefits to adopting ODL. ODL can facilitate continued learning among youth and adults outside of formal education systems because of the flexibility it offers in terms of time, pace and place of learning.

In the following section, **Part 1** of the guidelines provides practical steps to develop and implement effective ODL programmes for youth and adult literacy while considering the contexts of and challenges for the targeted learners and communities.

Part 1

Key steps for planning
and implementing ODL
programmes for youth
and adult literacy

Effective ODL programmes for youth and adult literacy

Designing and implementing high-quality, sustainable literacy programmes for youth and adult learners requires collaboration between implementing organizations, local communities, and sometimes broadcasters and local or national government. The planning stage takes time and resources, particularly for ODL programmes, which require much more careful planning and upfront investment than traditional programmes to ensure the quality of the educational experience. This is particularly true of ODL literacy programmes for youth and adults given the complex, diverse and unique needs of the target learners, as outlined earlier.

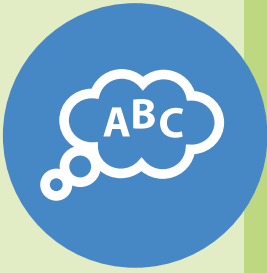
It is critical to proceed very systematically when designing and implementing ODL programmes for youth and adult literacy. **Figure 1** presents such an approach in diagram form.

Figure 1: Key steps for designing and implementing ODL programmes for youth and adult literacy



This section unpacks the key steps presented in **Figure 1**. It incorporates case studies that illustrate some good practices when implementing multilingual and multicultural literacy learning for youth and adults. While not all the case studies explicitly employ ODL, good practices for ODL are discussed for each area. Key points for actions and issues that implementing organizations and programme developers should consider are identified in each section.

Step 1: Planning and designing ODL-based literacy programmes



- Analyse contexts and learning needs of target communities and learners;
- Consider design requirements for the target group;
- Conduct curriculum mapping;
- Plan facilitator training and support;
- Design administration, ICT support and quality assurance systems;
- Set up monitoring and evaluation systems;
- Plan finances;
- Identify partners and establish partnerships.

Careful planning is the starting point for a successful ODL programme. Literacy programmes must plan to meet the linguistic, social, economic and cultural needs of the target community to ensure acceptance, relevance and long-term sustainability. Programme planning includes understanding the needs and contexts of the community and individuals, how the course content will be made accessible to learners, and how the outcomes will benefit learners and the wider community. It needs to be technologically realistic to meet the needs of learners in developing countries, taking into account in particular that youth and adult literacy learners typically come from highly disadvantaged economic backgrounds and often live in remote areas with limited technological infrastructure.

The planning and design process should involve local community members and learners to ensure buy-in from the community. This calls for identifying local expertise and developing partnerships for collaboration.

Analyse contexts and learning needs of target communities and learners

Programme designers need to identify learner and community needs to ensure that programmes are learner-centred. It is equally important to identify relevant national needs, policies, strategies and quality assurance requirements to ensure that programmes align with them. Marrying this knowledge with the understanding of the unique design requirements of youth and adult ODL literacy programmes will help programme designers develop appropriate ODL programmes. The unique design requirements will be discussed more in the next section. This segment will explore the context and needs assessment for programmatic planning.

Programme planning will include:

- A detailed profile of the target learners and analysis of their learning needs and aspirations, accounting for variances between different target groups of learners. The introduction to this publication discusses potential target learner groups in detail, but for the purposes of this section, note that it is critical to determine that the target learner group, or groups, is big enough to justify investment in an ODL programme, given the additional expenses (discussed later in detail).

- Demographic factors, to assess learner context. These include:
 - Age range: This might affect learners' motivation and prior experience of learning;
 - Gender: In some cultures, this may have a significant effect on what needs to be provided;
 - Existing literacy levels and opportunities: These must be explored to identify the appropriate type of curriculum and programme;
 - Employment status and livelihood opportunities: These may affect the skills and knowledge that learners bring to their studies, their opportunities to put any new learning into practice, and their reasons for participating in literacy programmes;
 - Physical environment: This will indicate if a learner will be able to study at home and, if so, if they have access to electricity, the internet, or other technology, or will have to travel to a learning centre (COL, 2004).
- Implementation partners, including local government, educational institutions, NGOs, and other private-sector organizations.
- Clear decisions on the use of local and non-national languages, based on discussions with the community.



Listening, speaking, reading and writing are vital for many tasks that youth and adults are required to undertake in everyday life across a wide variety of contexts.

Finally, local literacy programmes can lead to positive changes in gender roles at the community level when well implemented. Programme designers should consider gender mainstreaming processes at all stages of the process to ensure that these changes are based on a conscious effort to increase gender equality and equity and that the resources invested generate clear and positive results for all learners (Sachdeva and Wong, 2015).

Collecting this information effectively requires thorough research. Outlining research requirements is beyond the scope of this publication, but a good resource worth consulting in this regard is *Planning and Implementing Open and Distance Learning Systems: A Handbook for Decision Makers* (COL, 2004).

It is especially important, though, to take into account that conducting research in communities where literacy levels are low often involves unique challenges arising from entrenched levels of social inequality and sustained disempowerment of communities. Consequently, traditional research techniques may not suffice. One alternative research methodology that may be more appropriate in such contexts is participatory action research (PAR), which uses specific approaches to undermine power imbalances. PAR involves researchers and participants working together and using quantitative and qualitative methods to understand and change a problematic situation (Selener, 1997).

Consider design requirements for the target group

Youth and adult literacy programmes are usually designed around three main objectives: acquisition of functional literacy and numeracy skills; literacy for specific uses and applications; and literacy for empowerment, a transformative approach to learning that encourages social and political engagement (UNESCO, 2006). Listening, speaking, reading and writing are vital for many tasks that youth and adults are required to undertake in everyday life across a wide variety of contexts. To teach youth and adult learners these skills, educators must examine learners' existing knowledge and skills. This will allow learners to pick up the learning process from a point where some basic, essential skills, knowledge and attitudes have already been developed.

Malcolm Knowles (1984, in Culatta, 2020) suggests four principles that apply to adult learning, all of which are important to consider when designing ODL youth and adult literacy programmes:

- 1 Adults need to be involved in the planning and evaluation of their instruction;
- 2 Experience (including mistakes) provides the basis for the learning activities;
- 3 Adults are most interested in learning subjects that have immediate relevance to and impact on their job or personal life;
- 4 Adult learning is problem-centred rather than content-oriented.

Youth and adult learners will enrol in literacy education programmes for different reasons, which will have been identified during the research process when the target audience is analysed. These could include developing their literacy and numeracy skills to support their children's schooling, being able to fill in forms for government services, or hoping to improve their career prospects. Literacy programmes should be designed to meet the identified objectives of the target audience. The design requirements for this target group can be met through creating engaging, relevant content; adopting suitable learning and teaching approaches; and meeting the social, cultural and linguistic needs of communities.

The content for youth and adult learners should also respond to their needs. Adult learners learn in many ways and have specific motivations and expectations, so it is important that youth and adult education programmes are learner-centred. Learning is not just about cognitive processing. The life experiences of youth and adult learners are also important because learning develops as youth and adults interact with other people and with their social environment. Provision for this therefore needs to be built into the design of youth and adult literacy programmes through appropriate content.

Youth and adults who require literacy provision need a different teaching and learning approach from that provided in formal education environments. Often, school-based education lacks relevance for these target groups and therefore frustrates them due to the time and resource commitments and higher opportunity costs.

Also essential for youth and adult learners is *experiential learning*, which is:

enhanced by opportunities to practise and use skills for a purpose. Real-world learning is likely to motivate struggling adult learners who are sensitive to the value of their learning experience. And research on learning has shown that the likelihood of transferring a newly learned skill to a new task depends on the similarity between the new task and tasks used for learning. As a result, literacy instruction is most likely to lead to durable, transferable learning if it incorporates real-world activities, tools and tasks.

(Lesgold, Welch-Ross and Committee on Learning Sciences, 2012, p. 11.)

Thus, it is essential to consider both the current and desired literacy levels of learners. Programme developers need to understand what skills a learner needs to become functionally and digitally literate. These skills are required in real-life situations and are more practical than literacy skills taught at a formal school level. There is value in providing youth and adults with learning opportunities that more closely suit their literacy needs and reflect how literacy is actually put into practice and used in their communities (UNESCO, 2006). ODL can harness the use of multiple media to ensure instructional approaches incorporate practical tasks and tools that learners require for their day-to-day lives.

When ODL programmes are being designed, universal design for learning (UDL) principles can direct the approach to teaching and learning to ensure the development of flexible learning environments and learning spaces that can accommodate individual learning differences. UDL principles allow content developers and educators to develop instructions to meet the diverse needs of all learners. UDL is intended to increase access to learning by reducing physical, cognitive, intellectual and organizational barriers to learning, as well as ensuring fair and accurate assessment (Rose and Meyer, 2002). In addition, providing specialized instruction to people with disabilities is critical for their inclusion in literacy programmes and the success of their learning experiences.

Examining literacy practices and the social contexts of learners and their communities can help youth and adult literacy programme developers to understand learners' needs and motivations. Programme designers need to consider the cultural and social relevance of learning materials, as well as the economic realities of the learners. Very often, this will include a need to situate information in wider community contexts. Community-based education should connect to life in the community and value traditional languages and cultures.

Language issues, literacy practices and literate environments underscore the importance of the broader social context in which literacy is acquired and sustained. Youth and adult literacy programme developers must consider the language situations of facilitators and learners while enabling learners to enrich their literacy skills in both their mother tongue and additional languages.

**Programme designers need to consider
the cultural and social relevance of learning
materials, as well as the economic realities
of the learners.**

Within this broader social context, literacy development in multilingual contexts poses a specific set of challenges for policy and practice. This includes the specific requirements for planning, designing, implementing and evaluating literacy instruction and learning in multiple languages. The ability to learn an additional language depends greatly on existing mother tongue skills. These skills influence the ease or difficulty of learning an additional language, and learners can transfer their existing knowledge and strategies to the additional language. Multilingualism has individual and societal dimensions, and these need to be considered when promoting literacy in multilingual contexts. Multilingual individuals and their levels of proficiency are, of course, inherently diverse. At the individual level, multilingualism can be perceived as 'a series of continuums', comprising listening, reading, speaking and writing skills, as well as the different aspects of linguistic systems (e.g. phonetics, grammar, lexis, semantics and stylistics); these may vary for each individual (Deument, 2011, in UNESCO, 2019a). At the social level, language use is specific to various contexts. Literacy programmes should consider learners' needs, aspirations, prior knowledge and actual language use, as well as the state of multilingual literate environments. Community-based, participatory approaches allow literacy programmes to draw on local cultures, knowledge and languages as resources to enrich teaching and learning practices (UNESCO, 2019a).

Furthermore, digital literacy skills are important in today's world and are necessary for using digital technologies. Youth and adult learners often need support to effectively use digital tools for their learning as many learners and facilitators do not possess the basic skills to use computers and other digital technologies. This challenge is important to consider when designing literacy programmes for youth and adult learners, but it can be facilitated by integrating the use of such technologies into the programmes themselves. Additional support can be provided to learners and facilitators before and during the implementation of literacy programmes to ensure learners are able to use these technologies effectively to achieve their desired learning outcomes.

Conduct curriculum mapping

At the heart of programme planning is curriculum mapping. Curricula in youth and adult literacy programmes should be designed to provide learners with opportunities to acquire literacy and numeracy skills, often alongside improved health and other life skills practices. The curriculum should be directly related to communities' socio-economic activities and needs, and incorporate indigenous knowledge systems, drawing directly on the information acquired when researching the target group. The curriculum will vary in terms of design, structure and flexibility, based on the context of the learners and their unique design requirements, as noted earlier.

Curriculum mapping should take the following into consideration:

- Mapping of the learning outcomes to be achieved, seeking to ensure that the programme design relates to the target learners' life and work circumstances (aligned with information collected when analysing learner and community needs). Some literacy programmes will have to be aligned with a national curriculum. If so, this aspect should be considered at this point in the process.
- A high-level outline of methodologies and modes of delivery (including learner support and assessment strategies, discussed in more detail below) to ensure that the means of delivery and support are appropriate for the targeted learners. These outlines should consider the likely times and places of delivery of learning.
- Contextually appropriate selection of technologies and media based on learning needs and levels, as well as selected modes of delivery, with an eye to whether learners will have the skills necessary to make use of the media, materials and technologies selected.

As part of this process, it will be helpful, where possible, to locate existing programmes and curricula for youth and adult literacy programmes and assess whether these might be adapted for ODL delivery. Being able to adapt a curriculum from an existing youth and adult learning framework could save programme developers a great deal of time and other resources.

During curriculum mapping, it is helpful to consider whether the designed programme is likely to be accessible to all potential learners, particularly if it is delivered via ODL. Possible questions to ask at this stage include:

- Does the designed programme start at too high a level?
- Does it use instructional and learning methods that do not match the preferred methods of some learners?
- Is it delivered at times and in places that are not suitable for certain learners?
- Does it contain material that is alien to the culture of some learners — for example, courses imported from another country without any adaptation to local traditions or conventions?
- Could the overall programme design become too expensive for some learners to access?
- Does it use media and technologies that some learners cannot access (COL, 2004)?



A good ODL programme curriculum will consider not only what should be taught and why, but also how it should be taught and how the teaching-learning process will be implemented in an ODL mode. Starting from the learners' needs and profiles, and considering the specific goals of the programme, the curriculum will chart a learning pathway (i.e. the learning and action steps from application to registration through to learning and assessment) to help learners get from where they are at the start of the programme to where they need to be once they have completed it. Curriculum mapping also assists implementation organizations and partners with budget planning, as planners will be able to identify writers/developers, subject matter experts, instructional designers and media producers, and to draw up planning schedules.

A final point to note here is that Desjardins (2019, in UIL, 2019a) suggests that the motivations and aspirations of individuals who participate in adult education can be affected by what rewards they anticipate. Recognition and validation of success in literacy programmes can motivate individuals to invest in adult education and make the extra effort to complete a programme of studies. Linking adult education qualifications to national frameworks, including mechanisms for recognition of prior learning, means those qualifications are more likely to be recognized and valued by employers, but this poses a particular challenge for the non-formal education sector. Where such recognition can be provided, though, adult education (including literacy programmes) has been shown to improve participants' employment and career prospects, performance and earnings, job satisfaction and commitment to work, and innovative capacities.

Develop learner support structures

Learners targeted in youth and adult literacy programmes will require different kinds of support, according to their various needs and skills. Teaching basic literacy skills for youth and adults normally requires close communication, personalized feedback, and face-to-face tutoring or mentoring from facilitators. Technical support may also be required, depending on the technologies adopted for teaching and learning. Offering literacy programmes through ODL therefore requires adequate planning and consideration for effective learner support.

Most learners' needs for support stem from their being isolated from the learning institution, other learners and facilitators. The learner should be at the centre of every action, and facilitators and administrative staff must ensure that learner expectations are met. In addition, many youth and adult

literacy learners lack the skills required for successful distance learning, such as time management skills, organizational and study skills, and digital skills. Fortunately, outreach and mentoring through diverse channels — including face-to-face, telephonic and online — have proven effective in supporting youth and adult learners with low literacy skills, especially those in disadvantaged situations. Having access to caring human support, albeit at a distance, facilitates self-directed learning, reduces learner isolation and creates an environment in which learners can engage fully in learning. Support can also be provided through communities, family and volunteers, for example.

Facilitators are just one means of supporting learners, but they are often seen as the most important component of a support system.

ODL tutorial support includes:

- **breaking down the learners' isolation** — for example, through tutorials, telephone/online conferences, newsletters, radio programmes, emails, letters;
- **responding to specific learner problems** — for example, tutors may offer advice on time management or planning assignments;
- **building up the learners' study skills and self-confidence** — for example, by the direct teaching of study skills or encouraging reflective learning (COL, 2004).

Key ODL strategies and considerations for learner support include:

- Create an engaging environment for learning with human support both at a distance and at local study centres to facilitate self-directed learning and reduce learner isolation;
- Set up and facilitate access to spaces within communities to promote learning and provide administrative, social and technical support, such as libraries, computer centres and community halls;
- Establish peer-to-peer communication channels through emails, letters, networking sites, learning management systems, social media and/or in-person community groups;
- Schedule and facilitate regular interaction between learners and facilitators, ensuring that channels of communication are accessible to all participants;
- Elicit support from the community and within learners' families — for example, assistance with technology, access to the internet, or community engagement on social development issues.

Learner empowerment is essential to the success of a learning programme, so learner support should provide opportunities for learner empowerment and agency to help every learner achieve their goals. To ensure learner retention and success, develop strategies to monitor learner engagement and participation and adjust the type and mode of support if necessary.

Identify assessment strategies

As noted earlier, identifying suitable assessment strategies forms part of the wider process of curriculum mapping and is critical for verifying that the defined learning outcomes are achievable and can be meaningfully assessed in some form. Often, detailed development of an ODL programme will begin with the design of the assessment strategies and work backwards from there to determine how learners can successfully meet the assessment requirements.

However, not all literacy programmes include formal assessment, and often there is no standardized benchmarking for assessment, although some programmes apply benchmarking standards used in formal education systems. There are no satisfactory ways to comprehensively assess the range of literacy skills that youth and adults bring to instruction and their growth over time. The use of grade-level equivalents to measure skill levels and gains is not effective, because youth and adults enter literacy programmes with widely varying skills that do not fit neatly into such categories (NRC, 2012b).

Assessment methods should thus be appropriate to the purpose and outcomes of the programmes. Various techniques and tools can be employed for the two types of learner assessment: assessment *for* learning (formative) and assessment *of* learning (summative). Formative assessments are assessment tasks that are primarily intended to help learners determine the progress they are making in their learning journey and where they require further improvement. For this to work successfully, rapid feedback on formative assessment tasks is essential so that learners can integrate the feedback into their subsequent learning activities. For this reason, formative assessment is widely recognized as a critical form of learner support in ODL programmes. Summative assessment tasks, by comparison, assess whether learners have successfully achieved the goals of a learning programme, both throughout and at the end of the programme. In some instances, assessment tasks can be used to fulfil both formative and summative functions.

Developing assessment strategies at the planning stage will include:

- designing a competency-based, criterion-referenced assessment strategy;
- designing both formative and summative assessment opportunities;
- selecting the appropriate tools to conduct assessment, considering there may be high enrolment and a limited number of facilitators to mark activities;
- establishing, for each activity, what you want a learner to do, how you want them to do it, when they need to do it and how long it should take, being careful not to overload learners and facilitators with too many assessment tasks;
- implementing a range of tools and technologies to assess learner progress, ensuring a variety of assessment activities to develop and assess different skills;³
- incorporating assessment feedback loops to ensure good learning practices;
- considering creating a micro-credentialing framework for credit accumulation and recognition of prior knowledge or aligning assessment with transfer frameworks (Chakroun and Keevy, 2018).

A key consideration at this stage is whether to include certification of learning outcomes and accreditation of an education programme/service in the assessment strategy. Formal certification of learning in an ODL programme can serve as a powerful motivator for youth and adult learners to enrol in and complete a programme. Certification is the process whereby learners receive formal recognition that they have achieved a specific standard at the end of a programme of study. Accreditation is the process whereby an external body makes a statement about the value of a certificate. Different countries have different accreditation systems. Accreditation systems will specify standards for different types of qualification, such as school-leaving qualifications and professional qualifications (COL, 2004).

Instituting formal certification and aligning literacy outcomes with recognized literacy benchmarks will enable learners to transition to formal education once they have demonstrated mastery of the literacy

³ See the 'Assessment' section in the **Annex** for useful assessment resources and tools.

skills they have acquired. Accrediting an education programme by formally recognizing that it meets at least the minimum standards of quality for education programmes will make it more attractive to potential learners. As noted above, accreditation requirements and standards vary across the world, so the programme, curriculum, materials and assessment methods should be aligned with the standards set out in an approved qualifications framework. The actual process of accreditation will likely require qualified facilitators and assessors.

Select appropriate technologies

A key aspect of curriculum mapping is selecting technologies to provide access to materials, provide technology-based components of learner support, facilitate teaching and delivery of content, and conduct some learner assessment activities. Technologies can be used to support self-motivated learning, collaborative learning and experiential learning, and to enhance facilitator training. Programme designers should consider the availability of appropriate technologies, learners' skill levels, facilitators' capacity and overall programme goals when deciding what technologies to use. While technologies may afford learners various options to support their learning, their use should be clearly aligned with the learning goals. The predominance of one technology may undermine the effectiveness of the programme. A description of technology options and more detail on how they are used for literacy education are presented in **Part 2**.

Many existing learning solutions that use digital technologies do not reflect the needs or circumstances of these learners — or the facilitators who are teaching them.

A combination of printed materials, television and radio can be effective for reaching adult and youth learners, and mobile technology has great potential for reaching marginalized youth and adult learners (UNESCO, 2020b). Using a range of media, ODL for both youth and adult basic education and non-formal education has been increasing in most parts of the world, including low-income countries. Technology is constantly evolving, and literacy instruction and learning can benefit from emerging technologies, many of which are becoming increasingly affordable. Internet technologies have the potential to allow learners to engage in learning when and where it suits them, thus removing the barriers associated with having to be in a certain place at a certain time, but this option is not without its challenges.

The application of digital technologies can be complex. Adults and youth with no or low literacy may lack the skills necessary to use and benefit from them. Many existing learning solutions that use digital technologies do not reflect the needs or circumstances of these learners — or the facilitators who are teaching them. Furthermore, wide inequalities in access to and affordability of digital technologies persist, which means that those who most need access to these resources are often the least able to afford them. For example, only 19 per cent of the population in least-developed countries have access to the internet (ITU, 2019). However, because digital technologies are required for literacy education in a digital age — that is, both digital literacy itself and the need to use digital technologies as a teaching tool — it is becoming increasingly important to incorporate technologies into literacy programmes, particularly those offered via ODL.

Of course, the use of any given technology does not in itself result in learning; it is simply a means to extend teaching and learning strategies. The way in which technology is harnessed and the underlying pedagogical approaches to a programme are critical to the effectiveness of the technologies employed. Since literacy learning comprises the development of a set of cognitive skills, and youth and adult learners have different levels of proficiency, programme designers need to consider which technologies will best support the development of those skills and how they can be best used to do this. Innovations in

technology can then be used to support the acquisition of literacy skills in two ways: First, the capabilities of the technology can be used to support the development of the cognitive processes and basic skills involved in literacy. Second, the technology can be used effectively to support the development of literacy skills for learning at a distance when instruction and other resources might not otherwise be available (Wagner and Kozma, 2005).

Plan facilitator training and support

Facilitators are key to the success of youth and adult literacy programmes.

If educators are motivated, trained adequately and consistently, guaranteed decent working conditions, satisfactorily remunerated, and provided career prospects, youth and adult literacy programmes can be more successful and lead to better learning and development outcomes. However, this scenario is rare, not only because governments and partners tend to focus more on teachers in formal education but also for a range of other reasons at the system and programme levels.

(UNESCO, 2020c, p. 2.)

Thus, the planning process for facilitator support for ODL programmes must include both pre-service and in-service training programme design. Staff development is a particular issue in ODL, as it requires skills not widely used elsewhere in education. It is therefore likely that, when facilitators are recruited, they will need to be trained. ODL skills differ from those in other types of education in the areas of tutoring (teaching), content development, and advising and counselling (COL, 2004).

Unlike teachers in formal education, youth and adult literacy facilitators often are not certified as professional teachers of adults, have relatively poor access to technological infrastructure, and may have lower levels of digital skills. They tend to be paid less than their formal education peers, work on short-term contracts and have limited career prospects. Indeed, many youth and adult literacy facilitators work on a voluntary basis and so do not receive any payment for their services (UNESCO, 2020c). They also lack access to high-quality, rigorous training opportunities, freely available distance and digital learning materials, or both. Many facilitators working in the non-formal education sector in many countries receive no specialized training, and only a few benefit from continuing professional development (CPD) opportunities.

Therefore, if the quality of literacy provision and learning outcomes is to be improved, literacy facilitator training must be formalized and professionalized. While this applies to all forms of literacy provision, it will be especially important for ODL programmes. The process would involve establishing common understandings of and expectations about literacy facilitators' responsibilities and minimum professional competence levels; formalizing their training, and evaluation and certification of their competencies; and establishing equivalencies with the formal education system while still maintaining flexible methods of hiring and working with community volunteers (Rogers, 2005, in UNESCO, 2020c). If programmes want to recruit motivated and skilled candidates, facilitators must be paid salaries commensurate with their skills and level of effort and have access to career development paths through continued training and development.

Ongoing professional development and training of facilitators should ensure that literacy facilitators are effective, which requires them to:

- have significant knowledge of the component skills of reading and writing, including spoken language, and how to teach these components;
- be capable of establishing nurturing relationships and developing a positive, dynamic and emotionally supportive environment for learning;
- be able to plan activities using clear objectives with a deep understanding of reading and writing processes;
- be able to reflect on their teaching and their students' learning and select from a repertoire of instructional strategies accordingly (NRC, 2012a, p. 24).



Facilitators selected to teach youth and adult literacy programmes will have to be proficient in the language or languages in which they are teaching. Ideally, they will be members of the communities they are teaching, as this will enable them to understand and relate to their learners, assist with learner recruitment, and share their experiences and concerns during the initial planning stages of programme design. In addition, they may need to be involved in community advocacy and engagement, as well as learner enrolment. This will ensure better support from the community for the literacy programme and assist with making the programme more sustainable.

Facilitators must be helped in the search for solutions to common challenges, such as supporting learners to overcome distance and disengagement, adjusting teaching and learning to motivate learners and maintain engagement, and developing and sharing teaching and learning resources and best teaching and assessment practices. Even facilitators with extensive experience in face-to-face programme delivery will not necessarily have these skills, so strategies to provide ongoing skills development will be essential to ensure the success of ODL programmes for youth and adult literacy training. The facilitators will need to learn how to facilitate literacy learning remotely and to use the available technologies to take advantage of the flexibility of ODL. Teaching and learning approaches, particularly those that involve digital technology solutions, sometimes overlook the importance of supporting youth and adult literacy facilitators. The flexibility, adaptability and other advantages of digital technologies can only be optimized when youth and adult facilitators are properly trained in ODL principles.

The effectiveness of programmes and standard of learners' outcomes are closely linked to the quality of facilitators, especially when the learners are youth and adults with no or low literacy skills and who require more complex literacy instruction, both in general and via ODL specifically. Facilitators need

ongoing training and capacity development to ensure they are up to date with the use of technologies and methodologies. The same technologies used to train learners can be used to implement facilitator training. This can be combined with traditional train-the-trainer approaches, which are often used for increasing the capacity of facilitators in youth and adult education programmes.

Because facilitators are physically separated from both the learners and other facilitators in ODL, they may require similar support to learners, such as social, technological and administrative support. Facilitators with disabilities may require specialized support and access to supportive technologies. Facilitators can be encouraged to join or form communities of practice with other youth and adult literacy facilitators to facilitate ongoing professional development. Many communities of practice rely on face-to-face meetings and internet-based collaborative environments to communicate, connect and conduct community activities. Facilitators can use these spaces to share best practices, challenges and how to overcome them, new knowledge, and open educational resources (OER) for learning and teaching. Literacy programme designers can set up online spaces using social media and wikis. Programme designers can identify and recruit facilitators for these communities to ensure they develop and respond to facilitator needs.

To operate successfully, ODL requires more systems than face-to-face education does.

Monitoring and assessment of facilitators may also be helpful to ensure that learners are receiving adequate support. Digital technologies adopted in the programme design can be helpful in this regard, as organizations can use analytics and data to assess the needs of facilitators as well as their performance.

Design administration, ICT support and quality assurance systems

To operate successfully, ODL requires more systems than face-to-face education does. In addition, those systems may need to be better integrated than they are in face-to-face education environments, which necessitates additional planning and routine administration. Thus, programme planning should incorporate an assessment of administrative and ICT support requirements and a review of existing systems to determine the design requirements for new systems, the need to refine existing systems, or both. There is also a need to build in structures and processes to ensure the quality of design and delivery of ODL programmes. A detailed overview of administrative systems and quality assurance requirements is presented in **Step 3**.

Set up monitoring and evaluation systems

Like all youth and adult literacy programmes, those offered via ODL should strive to promote a learning-centred, outcome-focused teaching and learning system by developing measurable attributes at different levels. They should therefore have a process of ongoing programme and content review. Planners and designers must design and implement a monitoring and evaluation (M&E) strategy⁴ during the planning phase of a programme, which means they need information that can be used to judge if the programme objectives are being met. Thus, the objectives of the programme must be clearly defined at the outset. Programme objectives can be significantly improved by the addition of performance indicators.

⁴ Numerous resources about M&E in education, for ODL, and when working with youth and adults are available to support the development of this strategy. Some freely available online resources include:

<https://www.betterevaluation.org/>

<https://usaidlearninglab.org/qrg/me-learning>

https://reliefweb.int/sites/reliefweb.int/files/resources/06032014_Manual_for_ME_%20Partnerships_UNESCO.pdf

<https://www.ictworks.org/usaid-guide-evaluate-distance-learning/#.YFSGlK8zblV>

<http://documents1.worldbank.org/curated/en/790431468161655983/pdf/489360NWP0Box31C10ES991211complete1.pdf>

Monitoring and evaluation defined

Monitoring: 'A continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds' (pp. 27–28).

Evaluation: 'The process of determining the worth or significance of a development activity, policy or programme. An assessment, as systematic and objective as possible, of a planned, on-going or completed development intervention' (p. 22).

Source: OECD, 2002.

Performance indicators are statements that use statistics, ratios, costs, and other forms of information to measure progress in achieving specific objectives. They can be used to measure performance and then serve as signals to institutions to explore reasons for any deviations from the expected performance levels. Programme monitoring systems are typically also used to gather data that will be needed when conducting evaluations (Butcher, 2004). Although specific indicators need to be defined for each programme, **Table 1** provides some examples of indicators relevant to ODL. USAID provides a helpful categorization of indicators into three groups which can be aligned with the programme's objectives:

- **Reach** measures access to technology, infrastructure for technology, and distance learning programming and content.
- **Engagement** measures the extent of participation in the programming, as well as the degree to which users find content to be relevant, captivating and of high quality.
- **Outcomes** measure the learning of content knowledge together with social and emotional learning (Morris, Farrel and Venetis, 2021).

Suggested indicator categories aligned with these three areas are shown in **Table 1**. These can be used as a guide when formulating specific indicators and metrics of programmes focused on youth and adult literacy. When defining specific indicators and metrics (how each indicator will be measured), it is also important to consider the implementation context (geographical, social, economic, political and educational contexts) of the given programme.

Table 1: Suggested indicator categories for evaluating distance learning programme planning and development

	Reach	Engagement	Outcomes	
			Content knowledge and skills learning	Social and emotional learning
Infrastructure	Infrastructure and connectivity (internet and phone data) coverage			
Technology and accessibility	Access to devices (hardware) and software; access to assistive technology	Utilization of devices and software as intended, access to assistive technology	Change in technological literacy	
Programming	Basic listenership, viewership and usership by target audiences (frequency and duration of use)	Participation in programming as intended, and completion	Change in subject matter, content knowledge, and skills acquisition and retention	Change in social, emotional and soft skills, attitudes and beliefs
Accompanying materials	Access to accompanying materials	Utilization of accompanying materials as intended		Change in behaviours
Cost	Unit cost of reaching targeted learners	Unit cost of engaging learners	Cost of improving outcomes, in dollars per unit of measure of an outcome	

Source: Morris, Farrel and Venetis, 2021, p. 7.

Once indicators have been defined (this is sometimes called the project Results Framework), the M&E research design should be specified. This includes creating a detailed mapping of how and when data collection will take place, who will be responsible for data collection and verification, the data analysis process, and a reporting time frame. (See **Step 4**.)

Plan finances

From a financial perspective, the constituent elements of any literacy programme are no different in most respects from those of other education activities: start-up costs, facilitator training and salary costs, development and dissemination of learning materials, and operating costs (Oxenham et al., 2002; Abadzi, 2003, in UNESCO, 2006). None of the costs can be easily standardized, because they vary according to levels of remuneration for facilitators, types of learning materials, programme duration, training costs, the administration and support structures, and the extent to which these educational opportunities are provided. Technology costs are a further consideration and, of course, vary within and among countries (UNESCO, 2006). The choice of technology will be influenced by budgetary constraints, taking into consideration all the related requirements to deliver an educationally effective experience for learners, so thorough financial planning is a key requirement for good ODL programme planning.

It has become a dangerous universally accepted truth that ODL is less expensive than conventional face-to-face education. ODL programmes can become more cost-efficient (i.e. cheaper to reach per learner) than their traditional equivalents, but only when they enrol large numbers of learners to reap large economies of scale. Likewise, ODL programmes can be more cost-effective when they offer high-quality learning materials and ongoing support for learners, thereby securing satisfactory retention and completion rates. Otherwise, they may well be a much more expensive option. In youth and adult literacy, this risk is exacerbated because most learners will have limited to no experience of studying independently, so heavy investment in design and learner support will likely be even more important than in ODL programmes

targeting other kinds of learners. All these elements must be taken into consideration during the financial planning stage, with a view to ensuring that upfront design costs can be spread across sufficient numbers of learners during the programme implementation to ensure that ODL programmes are cost-effective.

A specific challenge when planning youth and adult literacy programmes is that there are typically not enough qualified and trained facilitators to deliver programmes at scale. While ODL methods can enable programmes to reach more remote areas and a wider audience and reduce the extent of direct interaction between facilitators and learners, the cost of paying and training facilitators, ICT support personnel, programme managers and administrators, and programme designers remains one of the biggest expenses associated with ODL literacy programmes and should be a key consideration for programme planners during the financial planning phase. Long-term sustainability of a literacy programme depends on a sustainable flow of remuneration to retain and help develop literacy facilitators (UNESCO, 2006).

Another major cost to consider is the development of learning materials (see **Step 2:** 'Development of teaching and learning materials'). These costs vary considerably depending on programme pedagogy, the extent to which learning resources are self-generated in the learning process, the availability of existing materials (including OER), and the choice of technologies. Further financing costs include start-up, management and overheads, and monitoring and evaluation (ibid).

Income streams and solutions will be context-specific but can come from a variety of sources in a coordinated way. Programme developers and implementing organizations should assess the availability of financial and human resources for any programme at the outset, ideally ensuring shared responsibility between the implementing organizations and the community. Programme planning will therefore include a process of exploring how regional and local cooperation can be leveraged to form partnerships, particularly because non-formal education receives little funding in educational budgets, so it is often left to NGOs and other organizations to develop local programmes to meet the needs of specific communities.

Some common types of costs involved in an ODL programme that programme developers need to include in budgeting and financial planning are:

- **Fixed costs:** These do not increase if you enrol more learners (e.g. costs associated with buildings, vehicles, ICT systems, materials development);
- **Variable costs:** These increase every time you enrol more learners (e.g. costs associated with facilitators, ICT specialists, printed materials);
- **Maintenance costs:** These are a type of fixed cost that has to be incurred every so often (usually once a year) in order to continue running a programme (e.g. course updates, software licences) (COL, 2004).

Programme planners should consider the following when they are completing the financial planning for educational programmes:

- What will your fixed costs (i.e. overheads) be?
- What will your variable costs be?
- How many enrolments do you need each year to break even?
- What will your maintenance costs be (ibid.)?



A specific challenge when planning youth and adult literacy programmes is that there are typically not enough qualified and trained facilitators to deliver programmes at scale.

They also need to determine if ODL is more cost-effective than other modes of provision. Factors that help determine this include the:

- number of learners (more learners generally means a lower unit cost);
- frequency of content revisions (frequent revisions mean higher costs);
- technology used (some technologies are more expensive than others);
- level of learner support (this is often the most expensive element in ODL systems and the amount of support offered is usually determined by costs) (ibid.).

Preparation of an ODL programme budget involves the following steps, some of which may occur simultaneously and some of which will differ slightly according to context:

- Review the strategic plan and adjust if the expected funding levels cannot accommodate it;
- Obtain data on forecast enrolments, inflation rates, salary increases, required course development and revision, unit-tuition fees, historical unit costs per enrolment, and so on;
- Prepare preliminary forecasts of revenues from all sources and assess the reliability of the estimates. It may be necessary to prepare budgets for the various funding levels;
- Determine preliminary allocations of forecast revenues to operating divisions in order to develop initial funding parameters;
- Have the finance department prepare working papers and any other data that will assist operations personnel in estimating their expenditures;
- Develop expenditure estimates by cost centre and expense type, within the divisional parameters;
- Prepare estimates of monthly expenditures and revenues, an important step in order to reduce variances due to simple timing differences and to serve as a basis for forecasting cash requirements;
- Compile the cost centre budgets into divisional and then institutional expenditures;
- Conduct final review and incorporate any necessary re-allocations;
- Obtain final approval from the governing body;
- Load the approved budget into the financial information system for subsequent comparison with actual revenues and expenses;
- Develop the management reports to be used for cost control and decision-making;
- Set up procedures for monthly comparison of the actual expenditures and revenues with the plan (variance analysis) and the reporting of differences (COL and Asian Development Bank, 1999, pp. 5-5 and 5-6).

Identify partners and establish partnerships

Programme planning should include looking at how regional and local cooperation can be leveraged to form partnerships. This process should be initiated as early as possible.

Face-to-face teaching and learning cannot meet the scale and extent of the knowledge and skills building and social and behavioural change needed to achieve the SDGs. NGOs have limited resources and must be innovative in their delivery modes (Latchem, 2018).



Support from local communities is essential to the success of any programme.

Successful implementation of literacy programmes will therefore require the involvement of national and local governments and sustained partnerships among implementing organizations, NGOs, local educational institutions (including schools and universities), local employers, media organizations and community-based organizations. Private-sector organizations, existing training and education organizations, faith-based organizations, and other community organizations or bodies may also be solicited as partners.

Support from local communities is essential to the success of any programme. The skills and experience of local programme facilitators and officials can be harnessed to assist in designing, implementing and adapting programmes.

Various organizations can help to establish youth and adult literacy programmes. Partners can assist with content creation and development, technical implementation, infrastructure or funding programmes. They will, though, have varying expectations, which need to be met in order to build and maintain sustainable partnerships. Below are some examples of what partners can provide and expect in return from the programme.

- Government partners:** National and regional governments can strengthen programmes by raising awareness, involving other government departments, setting regional and national educational priorities, diversifying policies and strategies, and making programmes accessible to accommodate the specific needs and desires of local communities, groups and individuals. Governments could work to ensure that the technology needed for learning is widely available at low or no cost for the most disadvantaged members of society (UIL, 2020). Government partners may expect an increase in the working population, increased literacy levels or an improved standard of living for its citizens.

- **Educational institutions:** Educational organizations can assist with research and analysis of potential learners and monitoring, recruiting, and training facilitators and tutors; provide resources for learning or assessment; work together to provide solutions to challenges and barriers; and provide educational pathways for progression for learners who complete literacy programmes. These institutions could expect to see more people achieving school-leaving certificates and an increased understanding of the importance of education for all.
- **Community-based organizations:** In partnership with communities, literacy programmes can build on indigenous knowledge and informal learning approaches and recognize that empowerment takes different forms in different contexts (UIL, 2016b). These organizations will also be able to raise awareness of the programme through local channels, such as websites, social media or notice boards. Community organizations will have an interest in the programme succeeding, as it will educate locals and enable them to access government services, and enable learners to possibly support the work of these organizations.
- **Faith-based organizations:** These groups could provide a physical space for teaching and learning and could provide another channel for raising awareness and engaging potential learners. They may want to see an empowered community and an improved ability to understand religious texts.
- **Local businesses and employers:** Employers could assist with a variety of activities, including recruiting learners from within their workforce and giving learners time to study and access to the technology necessary to complete their learning programme. They would expect to see improved literacy skills from employees or to grow their business.
- **Libraries:** Libraries can offer programmes a physical space where learners, tutors and facilitators can meet in person, and they may provide access to computers and the internet in some places. They also provide an information-rich environment. They will expect a more literate population to use the library facilities and be able to access government services.
- **Technological partners:** Telecommunications companies and internet service providers can zero-rate internet access and provide SIM cards for educational purposes. This is emerging as a way to facilitate online learning for all (UNESCO, 2020b). Some organizations may assist by supplying learners with devices.
- **Media channels:** Media channels can broadcast educational radio and television content to reach very wide audiences. Local radio and television channels can help to preserve local cultures and languages while contributing to global understanding and promoting development, lifelong learning and cultural diversity (UIL, 2016a). Radio stations can also use these programmes to engage with and grow their listenership.

Step 2: Development of instructional and learning materials



- Develop teaching and learning materials;
- Use OER;
- Develop assessment instruments and tools.

Learning materials play a critical role in ODL, especially in youth and adult literacy programmes. They need to be able to both support learning and facilitate teaching because the facilitator and learner are separated by distance and time. Content should be developed to support self-learning and made accessible to learners via a variety of media and technology, including print, radio, television, computers, mobile phones and the internet. Decisions about which type of media will be used will depend partly on costs and partly on instructional appropriateness. For example, learners learning basic skills such as character recognition may benefit from audio-visual content rather than print-only materials.

Youth and adult learners need to see themselves and their context reflected in the materials they are using, because their learning builds on their life experiences. Learning materials must relate to the experiences and competencies of youth and adults with low literacy levels, support learning experiences that take place in communities and leverage local literacy practices. The subject matter should address problems that a youth or adult learner regularly encounters. While this can be relatively easily done in face-to-face educational programmes, it is more challenging — but nevertheless still possible with sufficient time and investment — to integrate this into materials designed for ODL programmes.

Develop teaching and learning materials

Principles of material development

When there are clear objectives and support to achieve specific learning outcomes, effective teaching and learning can happen without learners and facilitators being in the same place at the same time.

The key principle for the development of ODL materials is that these materials replace the educator, the classroom, and even the interchange of ideas between learners. ODL materials are also called self-learning materials, as they help learners learn on their own.

Given the target learners, ODL materials for youth and adult literacy programmes should follow the principles of content development for adult learners — for example, use of conversational style (for personalization); chunking of content (for comprehension); inclusion of self-check exercises (for interactive learning rather than passive reading); feedback (for motivation); and guidance and scaffolding notes (for building metacognitive skills).



Characteristics of distance learning materials

Self-explanatory: The self-learning materials are written in a way that does not require any intermediary (teacher) to explain the content. This means the content is written in simple language and in small chunks to help distance learners assimilate the content by reading and working through the instructions. Thus, a teacher is essentially built into the text. These materials are different from instructional manuals that come with electronic gadgets or home appliances.

Self-contained: The self-learning materials are prepared in such a way that the distance learners normally do not require additional materials to understand and learn the concepts or subject matter. This is crucial for distance learners because they are isolated and dispersed and may not have access to good libraries and learning resources. The learning materials supplied to them must therefore be detailed and self-contained. Furthermore, the 'curriculum' in distance education is open, whereas in face-to-face education, it is hidden in the syllabus. An open curriculum requires the content to be clearly detailed, leaving nothing to the imagination of the learner and eliminating the need for learner interpretation. Also, if a course requires the use of external source materials, these are supplied as part of a self-contained course. For example, if a course requires the student to listen to an audio cassette, the cassette would be supplied in the course package.

Self-directed: As distance learners study in isolation, it is important that the self-learning materials are designed in a way that provides the necessary directions for the learners to study and progress. Self-learning materials use a variety of techniques to do this, including the use of hints, notes, graphics (icons), and explicit directions on what to do, how to do it and what is expected of the learner. Learning objectives, guidance on how a new topic is introduced, as well as guidance on how to navigate the topic, a conversational style of writing, and instructions on how to complete and answer the self-assessment questions are elements of self-direction used in self-learning materials to facilitate learning.

Self-motivating: One of the major tasks of a teacher in the face-to-face education system is to motivate and encourage the learners. Teachers are role models who create interest and curiosity in a subject, and learners generally try to emulate their teachers. Good self-learning material should arouse curiosity and interest, encourage the learners to embark on in-depth study and apply critical thinking, motivate them to question and reflect on their own experiences and practices, and provide reinforcement about learning progress. These elements are provided through the use of a personalized style of writing, use of anecdotes, examples, illustrations from real life, feedback on self-assessment questions, etc.

Self-evaluating: It is important for distance learners to know how they are progressing in their studies, particularly because they are quasi-permanently separated from their teachers and peer group. The separation of teachers and learners inhibits two-way communication, and learners may not get timely feedback or even be able to compare their performance with that of their peer group. Thus, the self-learning materials should provide self-assessment questions and personalized feedback to allow the students to evaluate themselves and learn from their own work (correct/incorrect). The self-evaluating characteristics of distance learning materials envisage that the distance learners will use the learning material in an active manner. The use of in-text questions, self-assessment questions, unit-end exercises, reflective action-based activities, and feedback all play significant roles in a learner's success. The use of learning objectives with behavioural action verbs to measure the achievement of learning is another way to empower the learner.

Source: Extract adapted from Mishra, 2007. Available in CC BY-SA.

Consider structure and quality

Because youth and adult literacy education is sometimes facilitated by untrained volunteers who work in less than ideal circumstances, it is essential to ensure that materials are highly structured with in-built sequenced activities. There must be a valid reason for the existence or inclusion of every module or educational activity. Youth and adult learners need the opportunity to develop demonstrable literacy competencies and skills that they can use in their daily lives.

Learner materials might include learning resources, including textbooks and access to online or digital materials, a programme timeline indicating when assignments are due, when contact sessions or online discussions will be held, and when examinations or other summative assessments will be scheduled. Depending on the technology used, learners may require additional material or resources to orientate themselves to this mode of delivery. Facilitators will require educator guides on the content, facilitation manuals based on the mode of delivery, and a programme timeline like the one learners receive.

Three types of teaching approaches can be applied with ODL learning materials:

- **Tell-and-test:** Reading (or listening or viewing), followed by a test;
- **Tutorial-in-print:** Reading, frequent activities, feedback on the activities;
- **Reflective action guide:** Less reading; fewer, longer activities; activities may be applied to the learner's own work or personal situation (Rowntree, 1994, in COL, 2004, p. 81).

These three approaches can be implemented in various media once programme developers have decided on the purpose of an activity. When developing learning materials, programme developers must make decisions about the role of materials, types of ODL materials most appropriate for the programme and what criteria will be used to assess the quality of the materials (COL, 2004).

ODL materials should be carefully scaffolded to ensure learning builds on existing knowledge and skills while developing a deeper understanding of the content. They incorporate a wider range of features than a textbook usually would. The structure and content of ODL learning materials should include:

- learning outcomes;
- study advice;
- a friendly style of writing, with the learner addressed as 'you';
- lots of examples;
- an open, highly structured layout with lots of headings;
- lots of signposting devices;
- lots of activities with feedback;
- less text than in a textbook;
- structured spaces in which learners write their responses to questions and activities;
- summaries and lists of key points;
- self-marked progress tests (ibid.).

Develop media resources

ODL can be delivered using a wide variety of media, and it can be tempting to use the newest and the most interactive options, but programme designers must consider which media resources are most suitable for use by the learners. When developing resources, select media that is relevant to the target audience, is easy to access, and contributes to the learning objectives. Although content can be transmitted equally effectively through a wide range of media, skills development is much more tied to specific teaching approaches and technologies (Bates, 2019).

The types of media and media resources that are commonly used for educational purposes include:

- **Text:** Textbooks, study guides, novels;
- **Graphics:** Illustrations, photographs, diagrams, posters;
- **Audio:** Podcasts, sound clips, music;
- **Video:** Television, streamed videos, embedded video clips;
- **Digital:** Animation, simulations, discussion forums, social media spaces, computer games, web pages, and other media types.

Developing media resources requires specific skills, so it is recommended that professionals be enlisted to assist with this process. Depending on the media selected, the requisite skills may include web design, audio-visual production, video editing, voice-overs and instructional design. It takes time to develop media resources, especially audio, video and computer-based learning materials. One notional hour of print/audio material development may take between 20 and 100 hours of work; an hour of video may take 20–200 hours; and interactive computer-based learning may take anything between 200 and 300 hours (Swift, 1996, in Butcher and Roberts, 2004). As technologies advance, the time needed to produce learning materials may decline, especially when we can broadcast lessons live using only a smartphone. However, it is important to build in ample time for the development of quality learning materials.



Models of course development

Various approaches have been adopted for course development in ODL institutions to date (Panda and Garg, 2006). Of particular note:

- **Personalized training:** In this model, the institution provides training to content developers to write lessons per the requirements of distance learners;
- **Text transformation:** Experienced instructional designers or editors convert existing correspondence lessons and texts prepared by novice distance learning material developers into effective distance teaching materials;
- **Wrap-around text:** In this model a study guide is prepared around an existing textbook. This substantially reduces the time required to develop the course;
- **Workshop-generated:** To accelerate the course development process, sometimes institutions organize workshops where authors come together to write lessons. Some institutions use a seminar-based content generation model to develop content. However, this still requires the preparation of a study guide as in the wrap-around model.

Equity and inclusion

All learners need to be able to access a programme's learning content, regardless of their learning preferences, disability or gender. According to Rose and Meyer, 'barriers to learning are not, in fact, inherent in the capacities of learners, but instead arise in learners' interactions with inflexible educational materials and methods' (2002, p. vi). Diversity and inclusivity requirements in ODL materials can be met by including a wide range of perspectives and viewpoints in the content to ensure that more learners and facilitators identify with and relate to the materials. Inclusive teaching strategies and learning materials can ensure that all learners feel supported so they can learn and explore new ideas, express their views, and be respected as individuals and members of their communities.

As noted earlier, implementing universal design for learning (UDL) principles for the development of ODL materials can improve and optimize teaching and learning for all target learners. UDL strategies are instructional methods or tools that ensure that all learners have an equal opportunity to learn. They are based on the theory that a 'failure to learn' is not an indication of the capacity of the learner but a reflection of learning systems that fail to address the needs of all learners. Technology can help with addressing existing learning barriers and designing learning environments with fewer barriers right from the start (Rose and Meyer, 2002).

Inclusive teaching strategies and learning materials can ensure that all learners feel supported so they can learn and explore new ideas, express their views, and be respected as individuals and members of their communities.

UDL has three principles: engagement, representation, and action and expression. The UDL Guidelines are a tool used in the implementation of UDL to improve and ultimately optimize teaching and learning for all. These guidelines offer a set of concrete suggestions that can be applied to any discipline or domain to ensure that all learners can access and participate in meaningful, challenging learning opportunities (CAST, 2021). Another tool for materials developers is *The Inclusive Learning Design Handbook* from Floe.⁶ This free and openly licensed resource can be used to create adaptable and bespoke educational resources that can accommodate a diversity of learning preferences and individual needs (IDRC, 2021). The BCcampus *Accessibility Toolkit* (Coolidge et al., 2019) is another excellent guide to making learning resources accessible.

The UDL Guidelines and the Floe handbook can help content creators select strategies that remove barriers to enable learners to achieve their learning goals. Learners are therefore likely to find the material more engaging, as they will recognize themselves or their life experiences in it; facilitators in a variety of educational settings are likely to find it more appealing; and the material will offer an overall more interesting reading and learning experience.

When creating learning materials in audio, video and digital formats, content creators and programme designers should aim to include accessibility features from the outset so that teaching practices are as inclusive as possible. This may involve subtitling videos, including transcripts of audio, ensuring digital texts can be converted to speech and assigning descriptions ('alt text') to images in digital texts. These considerations ensure that content is accessible to learners who have hearing or visual impairments but may not be enrolled in a literacy programme designed specifically for learners with disabilities.

⁵ The UDL Guidelines are available at <https://udlguidelines.cast.org/>

⁶ *The Inclusive Learning Design Handbook* is available at <https://handbook.floeproject.org/introduction.html>

It is worth repeating that special attention should be given to learners with disabilities. Content for this target group should be designed specifically to meet their various needs. In certain cases, ODL programmes offer alternative media for learners with disabilities and some media can be designed to be accessible for learners who have visual impairments.

Programme designers should consider gender mainstreaming processes in content development to increase gender equality and equity. ODL programmes must be designed with an eye to avoiding gender bias in the learning design and gender stereotyping in the wording, illustrations and examples in the learning materials. Developers of ODL literacy programmes intended to promote gender equity need to start by analysing gender-related disparities in the roles, behaviours, activities and perceptions of all members of society, investigating why such disparities exist, whether they are detrimental and limit women's and men's capacities, and, if so, how they can be remedied (Latchem, 2018).

Staff capacity building will likely be required to develop accessible and inclusive content. This will include mechanisms to review teaching and learning materials for adherence to accessibility standards, inclusive practices and gender mainstreaming.

Cost and human resource considerations

In ODL, major expenses are incurred in designing course materials, particularly if they involve the use of 'expensive' media and technologies (Bates, 2019). Design costs are potentially limitless, since it is always possible to add more experts or use more expensive media and technologies, but this need not be the case. Many good courses have been designed with relatively little hands-on time. A broad yet fairly accurate generalization about ODL is that the 'quality' of the course (subject matter and pedagogy) is related to the level of investment in its design.

The time and investment requirements for designing materials will vary significantly depending on curriculum choices. Nevertheless, it is worth considering how different combinations of expertise might affect learner performance. Well-designed ODL materials typically make use of teams of specialists rather than one or two individuals. Increasing interactivity in courses typically requires more time and often more specialists to develop the content and methods. The Open University in the United Kingdom of Great Britain and Northern Ireland promoted a course team approach — generally consisting of a content specialist, educational technologist, course manager, editor, media specialist and secretary — to develop distance teaching materials (Mason and Goodenough, 1981). A course development team consisting of an instructional designer and an editor is likely to be less effective than a course development team comprising multiple specialists such as a:

- project manager to oversee production, keep the development process on track and manage the assigned development budget;
- content specialist and instructional designer;
- content reviewer and editor;
- graphics and interface designer;
- media specialist;
- technical support team, including programmers, web designers and technical support staff.

Materials developers and facilitators can work with media professionals to develop digital media. Media professionals will ensure a high-quality end product and can save developers and facilitators time — for example, through the choice of appropriate software, editing, and storage and streaming of digital materials. Instructional designers can help in suggesting appropriate applications of different media for different learning outcomes. Thus, as with all educational design, a team approach is likely to be the more effective option (Bates, 2019). Lastly, design decisions are critical. Costs are driven by design decisions within a medium. Some media will incur one-off costs (such as a recorded video) while others will require involvement from the facilitator (such as discussion forums) (*ibid.*). The course team model, though

considered a gold standard, often takes time, and therefore increases the cost of content development — but it ultimately produces significantly better quality results than having educators work alone.

In addition, a team of professionals who understand the target audience and their contexts and learning needs should conduct quality assurance of all materials. Quality assurance costs must be budgeted for in the programme planning phase.



Box 1: Design and development of learning materials in Tata Consultancy Services' adult literacy programme, Computer-Based Functional Literacy, India

To address India's low literacy rate, Tata Consultancy Services, a multinational information technology and consulting service, devised the Adult Literacy Programme (ALP). The programme runs on Tata's Computer-Based Functional Literacy (CBFL) software, which uses a combination of methods to teach someone with low literacy to read in a short amount of time and makes use of commonly used words in the learner's mother tongue. The CBFL model adapts the National Literacy Mission Authority (NLMA) primers directly into its courses. Traditional NLMA courses require more time and resources than the 50 hours required by the ALP, as well as dedicated and specially trained teachers. The ALP draws on research-based cognitive and pedagogical learning models to speed up the learning process.

The project employs animated graphics and a voice-over to explain how individual letters combine to give structure and meaning to various words. The lessons drawn from the NLMA primers are designed using an 'eclectic' approach, whereby each new letter is introduced as part of a commonly used word. A story is woven around a group of words, and pictures, drawings and exercises are used to reinforce what is learned. To provide learners with further options and activities, the programme has been significantly enhanced through the development of a mobile application and customized solutions for tablets and e-books.

CBFL is based on the power of technology combined with the theory of cognition and laws of perception. It uses animated graphics patterns for easy visual and auditory learning and achieves functional literacy in approximately 50 learning hours. The combination of visual graphics and repetition of sound patterns results in improved recognition, retention and recall of words.

To achieve its goals, the programme uses a combination of media for teaching: software, multimedia presentations and printed materials. Reference textbooks and primers from the NLMA are used as supplementary material. A multimedia approach was chosen to present the drafted lessons so they could be easily delivered via a computer. To take the focus away from the hardware, which is daunting to some learners, and to attract and motivate learners, the team explored local folklore and traditional forms of entertainment. They found that the village puppet theatre was a familiar and comforting metaphor, and it is used as the visual theme for the curriculum.

Source: Adapted from UIL, 2019b.

Use OER

Open educational resources (OER) are any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are published under an open licence and are available for use without any need to pay royalties or licence fees. Open licensing permits users to share

and, under some licences, translate or otherwise adapt the work of others without requesting written permission to do so. Open licences thus give more choice about how content may be used. They do not replace copyright but do revise 'all rights reserved' licences to 'some rights reserved'. Openly licensed content can be produced in any medium: text, video, audio or computer-based multimedia. OER can be online, offline, or both.

Some licences only permit sharing, while others permit sharing and adaptation. Unless explicitly stated otherwise, all open licences require that the original work, author and publisher be acknowledged. Creative Commons (CC) licences⁷ are the most widely used open licences in education and publishing.

Educational institutions and systems are adopting and producing OER and sharing them in online repositories. The adult and youth literacy sector would benefit from a shared repository of OER that could be adapted and tailored for different contexts. While the needs, contexts and literacy levels of youth and adult learners are diverse, methodologies and facilitator training practices can be shared.

The role of OER in material design

Depending on a programme's focus, OER produced and shared online by other organizations could potentially be adapted, translated, or both, to save time and resources. Using OER to develop learning materials can lower the cost of content creation and encourage innovative teaching practices by allowing content creators to adapt existing content for their local context. Integrating OER into content development cycles for youth and adult literacy programmes has the potential to create equitable and more cost-effective learning experiences for all learners, as does releasing materials under open licences once they have been developed.

The availability of digital resources is a challenge. OER can play a major role in this regard, where licences allow adaptation. Adapting OER may include translating content into a different language, modifying existing content to make it appropriate for local or regional cultural contexts, or revising material for a different learning environment or level. The available OER can be leveraged to develop courses for youth and adult literacy by presenting the material in different ways, according to context. Typically, OER may be used: (1) 'as is', where the OER are adopted as a course or part of the course, (2) by adapting or revising the content to meet specific requirements, or (3) to create a new course by revising and remixing several OER. It may be cheaper to adapt or translate OER than to develop completely new material. Unfortunately, many existing online resources are only available in a few languages and have been created for developed country contexts, so providing online courseware for diverse and multilingual populations is currently challenging. If literacy organizations release their content as OER, it could be more easily adapted for other programmes and contexts. To learn more about OER, we recommend you download and read *Understanding Open Educational Resources* (COL, 2015).

Develop assessment instruments and tools

Regular assessments are very helpful, particularly when learners and facilitators are not in the same place. Assessments provide both the facilitator and the learner with a sense of the learner's progress, highlight strengths and areas for improvement, and help the facilitator plan appropriately to meet the learner's needs. Each assessment activity included in an ODL programme must have a purpose — and sometimes more than one. In addition, youth and adult literacy programmes will require measures and assessment systems that:



Adapting OER may include translating content into a different language, modifying existing content to make it appropriate for local or regional cultural contexts, or revising material for a different learning environment or level.

⁷ About the licences: <https://creativecommons.org/licenses/>

- measure language and literacy skills related to a range of literacy forms and tasks, domain knowledge, cognitive abilities, and valued functional and psychological outcomes;
- include measures for differentiated placement and instruction, diagnosis, formative assessment and accountability that all align with the aim of working towards achieving common learning goals;
- produce information at learner, classroom and programme levels that is useful to learners, instructors, programme administrators and policy-makers (NRC, 2012b).



In addition to the challenges associated with assessing learners mentioned above, ODL facilitators need to use different tools and technologies from those used by classroom teachers to assess learners' progress.⁸

ODL literacy programmes will have to incorporate techniques for obtaining the information facilitators need to conduct regular assessments of learner progress, including determining when, what and how to test. Facilitators and programme designers can then make learning and teaching decisions based on the results. Blended learning solutions can incorporate formative and summative assessments in both the face-to-face and online components.

Because youth and adult learners have such varying levels of literacy proficiency, materials developers must develop assessment methods that are appropriate for the proficiency level of individual learners. For example, learners at the most basic level (e.g. character recognition, phonemic awareness, decoding) may need to be assessed in person. Materials developers should also take potentially high enrolment numbers and a scarcity of facilitators to mark activities into account when selecting tools to conduct assessments.

Some methods for assessing learners and tools that can be employed include the following:

- Face-to-face assessments may be beneficial when learners are first learning to read, write or speak a new language, and can incorporate written tasks or activities using digital technology.

⁸ See the 'Assessment' section in the **Annex** for useful assessment resources and tools.

- Basic literacy assessment can harness software (sometimes used in early literacy) for letter recognition or matching sounds and letters that will provide instant feedback.
- Self-assessment and peer assessment encourage learners to take responsibility for their own learning, develop critical thinking skills and actively engage with the learning process. Isolated learners need to be able to make sensible assessments of their progress, and self-assessment or checks can assist with this.
- Facilitators review the written work the learner completes and provide feedback to the learner on that work. Learners can submit their work via a learning management system (LMS), email or social media platform.
- Tests and quizzes can be used to assess learners at a variety of proficiency levels. These can be completed in real time using cloud-based assessment websites, via an LMS or by email to the learner.
- Facilitators can get learners to complete assignments at the end of a module to test the application of their comprehension and communication skills. These assignments can include participation in an online discussion forum; writing assignments; oral, video or text/image presentations; and group projects, if possible. Learners can do this via social media, an LMS, email, or even voice notes or video on social media tools.
- Online testing of writing and comprehension can be done using an LMS. This can be configured to give the learner instant feedback to reinforce learning or no feedback to test learning. These tests can be automatically marked, give learners and facilitators instant results, and be time-based.
- Artificial intelligence applications in education can improve assessment. This includes adaptive testing, real-time feedback, faster marking, and monitoring of learner progress and skills.

For each activity, materials developers need to establish what a learner is required to do, how they must do it, when they need to do it and how long it should take. The materials should support learners by providing detailed step-by-step instructions, guidelines for submission and deadlines for each activity.

When assessment activities are developed for any learning programme, programme designers will be required to design marking criteria and rubrics for each activity to help facilitators assess learners' progress. Because ODL learners spend most of their time working on their learning materials, the quality (and quantity) of feedback in those materials is of particular importance to them (COL, 2004).

Step 3: Implementing and managing ODL literacy programmes



- Recruit and train literacy facilitators for ODL;
- Mobilize community and enrol learners;
- Provide learner support;
- Effectively administer ODL programmes;
- Implement quality assurance strategies.

This step deals with the various processes for recruiting and training facilitators, enrolling learners, managing finances and carrying out administration tasks. Although some of these processes are similar to those required in face-to-face education, they can be difficult to get right because they must be done at a distance. In addition, there is typically a need for greater investment in administrative systems in ODL because of the scale of implementation and remote nature of many administrative processes.

Recruit and train literacy facilitators for ODL

Facilitators or tutors could be recruited from the local community. Implementing organizations can develop resources to orient facilitators to use the learning content of a programme, develop subject-specific facilitation skills and understand the assessment requirements using relevant modes of delivery. Additional and ongoing training opportunities should be conducted to allow facilitators to become comfortable with the various modes of delivery. Targeted training in ODL or technology-supported literacy programme provision should be provided.

An ODL facilitator requires a different set of skills from a teacher in a conventional setting. The attitudes, knowledge and skills required by an ODL facilitator include:

- **Attitudes/feelings:** At ease with adult learners; open to new ideas in their discipline; willing to learn new approaches to teaching and learning;
- **Knowledge/awareness:** Aware of the needs and circumstances of adult learners; knowledge of distance education; knowledge of organization's administrative systems;
- **Skills:** Expertise in their subject area; expertise in teaching their subject area; ability to work in a team; able to balance demands of their discipline with the needs of learners; able to communicate learners' needs to the organization; interpersonal skills in advising, counselling and problem-solving (O'Rourke, 1993, in COL, 2004, p. 121).



Box 2: Facilitator training in the Literacy Project for Girls and Women in Senegal (PAJEF)

Although Senegal has channelled approximately 4 per cent of its GDP towards education and achieved nearly 100 per cent access to primary education, retention remains an obstacle. As a result, illiteracy is a significant issue in the country, and there is a need to systematically address the specific issues facing girls and women who live there, despite three decades of innovation in literacy programmes.

UNESCO Dakar set up the Literacy Project for Girls and Women in Senegal (PAJEF) in an effort to improve the literacy skills of girls and women aged between 15 and 55 and to explore the role ICTs can play in this. Women and girls at different stages of literacy acquisition — the newly literate, participants in literacy programmes and participants in Basic Community School programmes — have participated in the programme. UNESCO Dakar collaborated with different partners, who were responsible for specific aspects of technical implementation. One of these project partners was the Directorate for Literacy and National Languages in Senegal (DALN), which organized the initial and continued training of 100 teachers — one of the core activities in the programme.

The programme team organized two-day training sessions in each of the programme's seven target regions, which were overseen by academy inspectorates. The training sessions in each region followed the same format and were aimed at teachers, programme facilitators and literacy managers. They were designed to enable these groups to:

- identify participants' specific needs;
- analyse those needs and translate them into objectives and/or training content;
- integrate the needs into the national framework of core skills;
- use the distance training programme for teachers.

In 2012, 66 literacy coaches, 45 literacy facilitators, 40 support workers and four supervisors received training; 110 teachers were trained to teach PAJEF courses; and 23 regional literacy ministry staff were trained in monitoring, evaluation and management. That same year, 100 teachers received additional training by the National Centre for Educational Resources (CNRE) in using mobile phones and the internet for teaching literacy and numeracy. Digital kits were set up in 2013 and several training sessions were provided for teachers and technical teams to learn how to use them.

DALN's face-to-face-classes were facilitated by state school teachers trained in adult education. These teachers were compensated for the literacy classes that they facilitated. Facilitators were given training guides and tutorial information to plan classes.

Source: Adapted from UIL, 2014.

The recruitment of tutors and facilitators may need substantial administrative input, as staff recruitment procedures include:

- drawing up a job specification, listing all the tasks to be performed;
- drawing up a person specification, listing the knowledge, skills and attitudes needed to carry out the tasks in the job specification;
- developing a scoring system for measuring candidates' performance on each item in the person specification;
- setting a minimum total score for accepting a person as a facilitator;
- deciding whether, in addition to the minimum total score, it is necessary to set a minimum performance level for certain items in the person specification;
- devising a set of methods to collect evidence of prior work as a facilitator (COL, 2004).

Implementing organizations can encourage participation through payment, professional development, establishment and facilitation of communities of practice, and recognition of qualifications or training. Facilitators should be provided with flexible opportunities to study. Training and ongoing professional development of facilitators can be fostered in partnership with governments and educators from other training institutions.

Mobilize community and enrol learners

Community mobilization is crucial when implementing youth and adult literacy programmes, as support from local communities is essential to success. Literacy programmes must meet the linguistic, social and cultural needs of the targeted community. When ODL literacy programmes are being implemented, local community members and learners must be involved to ensure buy-in from the community. This will include identifying local expertise and developing partnerships for collaboration. The skills and experience of local programme facilitators and officials can be harnessed to assist in designing, implementing and adapting programmes. When these stakeholders are empowered in this way, they will be able to assist with community engagement and learner enrolment.

Facilitators may be identified within the community and can be encouraged to conduct advocacy activities within the community and develop the programme's reputation. Empowering the facilitators who will be facilitating the programmes should be a priority from the outset, as they will be part of the community engagement and enrolment process.

Since indigenous languages continue to be marginalized at the national level in many countries, there may be little incentive for people to participate in local language literacy programmes. Proficiency in local languages may not enhance employment prospects in countries that have one dominant language. The involvement of local people may be critical to the success of multilingual non-formal education programmes, which is another reason to include the community right from the planning stage and to promote programmes within the community.

Various community-based strategies can be used to encourage potential learners to enrol in programmes.



The skills and experience of local programme facilitators and officials can be harnessed to assist in designing, implementing and adapting programmes.

For example:

- public announcements and advertisements in community newspapers, on the radio, and in poster and pamphlet form;
- word of mouth through meetings with women's and youth groups, local organizations and networks, traditional leaders and door-to-door visits;
- public announcements at religious gatherings and in schools;
- community advocacy by programme graduates.



Box 3: Involving learners and locals in multilingual programmes: eBooks and Family Literacy Programme, Ethiopia

Providing rural families in Ethiopia with digital access to good-quality mother-tongue preschool materials is one of the objectives of the eBooks and Family Literacy Programme (eBFLP), implemented by CODE-Ethiopia, the Ethiopian branch of the Canadian Organization for Development (CODE). The six e-books used during the pilot phase were produced by local authors and illustrators and made available in two local languages, Amharic and Oromo. Participating families were also encouraged to write their own stories. For many parents, their participation was an opportunity to enhance their own language and literacy skills. In this programme, participants are encouraged to write and design their own e-book. Children and families write their own stories. Two stories are then selected through a process facilitated by librarians and further developed. The other stories are kept for reference and may be published in the organization's biannual magazine. Illustrations by participants are added at the end. The selected stories are given to CODE-Ethiopia and retouched by professional book developers and illustrators. Each new e-book enriches the library collection and the experience of its users with a meaningful story grounded in the community's values, traditions and memories.

Examples of the e-books created by participants can be found on the organization's website: <https://codeethiopiadigitalbooks.wordpress.com/workshops/> (see weeks 1 to 6 in the 'Workshop' drop-down menu).

Source: Adapted from UIL, 2015.

Provide learner support

Most learners' needs for support stem from their isolation from the institution of learning, other learners and facilitators. The learner should be at the centre of every action, and facilitators and administrative staff must ensure that learner expectations are met.

The types of support that youth and adult learners enrolled in ODL literacy programmes may need, and why they may need them, are as follows:

- **Learning support at a distance:** The purpose of this support is to encourage and sustain learner motivation and dialogue between the learner and the facilitators through well-designed steps that both cover subject content and provide learning and technical support. Support at a distance may include both print media and other forms of media such as electronic media: well-designed course materials through which teaching may take place, marked assignments and tutor feedback, and support through other media such as radio, television and digital channels.

- **Learning support in person:** Face-to-face in-person support is a way of ensuring learner-centredness. It comprises scheduled meetings with facilitators but may also include peer engagement and support from household and community members. Face-to-face support can include facilitator support, classes, and community or peer group learning. It should empower learners with the skills, knowledge and attitudes required for critical and independent learning. Immediate feedback and interactions with facilitators and peers assist in keeping the learner engaged. Face-to-face meetings could also reduce learner isolation, increase socialization and build confidence to successfully complete training.
- **Facilities for study, tutorial and resource space:** A space for learning activities may be needed to facilitate community literacy practices. Learning spaces may require infrastructure such as electricity, seating, tables and internet access, and could include space for reading, a library/ICT resource centre, discussion rooms and face-to-face support rooms.
- **Administrative support:** Learners need administrative support to navigate and complete their programme of study. They need information about the programme before, during and after the actual study period. Generally, this information is likely to be related to registration, payment of fees, submission of assignments and activities, and requests for extensions. Arrangements should be in place to provide quick and timely responses to such issues, which can be addressed by adopting a systematic approach and appropriate use of technology. Because learners do not have regular face-to-face interaction with facilitators, depending on their proficiency level, they may require more individual support. This will add to the cost of employing facilitators.
- **Social support:** Youth and adult learners may benefit from community-based learning, so facilitators should encourage the use of social media and online collaboration tools to tie learning to social development. Because youth and adult learners may be employed or have family commitments, both of which affect the time they can allocate to their education, they may have additional needs for support such as childcare. Learners may also need psychological and emotional support to participate in and complete their studies. Using local mentors and providing ‘telecounselling’ are helpful ways of building a channel of communication to reduce dropout rates in ODL-based adult literacy programmes.
- **Technical and specialized support:** Learners may not be proficient in the required technologies and may need additional assistance to familiarize themselves with them. Similarly, learners with a hearing impairment may receive specialized instruction through sign language from trained facilitators. Engaging facilitators with disabilities ensures that learners with special needs receive effective instruction and assistance from people who understand their specific needs and challenges.





Box 4: Learner support in Cell-Ed: Innovative education through cell phones, USA

Cell-Ed is an award-winning mobile learning programme designed to teach adults essential skills — reading, writing, oral communication, numeracy, work and social skills — via any type of mobile phone (basic models or smartphones), tablet or computer, even without an internet connection or data plan. Developed in the USA, it has been rolled out in Chile, Ghana, Kenya and Nigeria. Cell-Ed built its programme by harnessing the enormous potential that mobile phones offer for adult education, especially in reaching socially, economically and culturally marginalized adults. By taking courses provided by Cell-Ed over their mobile phones, people with low literacy skills can practise and enhance their literacy skills. Learners complete a pre-assessment and a needs assessment to ensure they are placed in the appropriate course and the course is personalized for them.

When learners start a lesson, they first listen to an audio introduction. Then they receive a text message (SMS) on their mobile phone. They open the SMS while continuing to listen to the lesson. The automated Cell-Ed ‘teacher’ (a voice recording of a Cell-Ed live coach) explains the information contained in each SMS. At the end of each lesson, learners respond to questions that have been texted to them using vocabulary or grammar they have learned in the lesson. If learners send the correct answers, they are allowed to continue on to the next lesson; otherwise, Cell-Ed helps learners by sending additional instructions. A live Cell-Ed coach can step in and provide extra help via SMS or a conventional phone call. Cell-Ed is also supported by an app.

The essential skills covered in these courses are grounded in learners’ everyday realities, in both their personal and professional lives. Learners are assigned to different courses based on their learning needs and competency level. Cell-Ed has four main courses.

English on the Go!, the English language learning course, is aligned with widely accepted standards. Each programme level contains a number of units. Learners need to apply literacy and numeracy skills to a scenario or situation. The goal is to equip learners with the ability to cope with similar situations in real life. Upon completion of each level, learners undertake a final review of what they have learned before completing an assessment. This provides Cell-Ed and its customers with data about each learner’s strengths and weaknesses. Upon successful completion of each level, learners receive individual certificates as a way to recognize and celebrate their efforts and achievements.

The assessment of learners’ progress is conducted through a computer-based LMS developed by Cell-Ed. The LMS measures the learning progress of individual learners by comparing the results of assessments completed by learners before and after each course. This system is also helpful for motivating learners and offering them personalized guidance.

Source: Adapted from UIL, 2018a.

Effectively administer ODL programmes

Effective and efficient administration is a core component of successful ODL programmes. It entails managing communication and information, as well as human and material resources; ensuring that democratic governance structures are in place; implementing and maintaining efficient administrative systems that support the education provider; and preserving the education provider's financial standing so that it can provide a reliable standard of education (Welch, Reed and NADEOSA Quality Criteria Task Team, 2010).

Key administrative considerations for ODL programmes include staffing requirements, record-keeping systems, financial management systems and quality assurance processes. Given their scale, ODL programmes generally need better developed administrative systems than face-to-face programmes, and support staff need to take on a more diverse set of functions, including:

- dealing with enquiries from prospective learners;
- giving information and advice to prospective learners;
- enrolling learners;
- maintaining learner records;
- producing materials;
- dispatching materials.

The selection, training and support of these staff is an important issue (COL, 2004).

More detail on key administrative functions that are essential for the effective running of an ODL programme is provided below. While these functions are largely generic rather than specific to youth and adult literacy, they remain an essential aspect of successful ODL delivery for literacy programmes, especially given the need to implement ODL programmes on a relatively large scale to achieve cost-effectiveness.

Overall design of administrative support procedures

Providing effective administration involves considering learner needs and contexts, as well as how user-friendly administrative procedures are. Administrative procedures should focus on freeing up staff members' time so they can focus on their own work instead of spending time on bureaucratic processes. In addition, administrative procedures should be supportive of — rather than prescribing — educational provision. They should also minimize the expense of educational provision by eliminating duplication of systems, reducing the time required to complete administrative tasks and ensuring that conducting basic administrative tasks prevents long-term crises.

Learner affairs

The learner affairs function involves enrolling and registering learners, as well as developing orientation material and processes where necessary. For youth and adult literacy programmes offered via ODL, such orientation material and processes may include introductions to technologies being used for programme delivery. This function also maintains learner records, part of which includes receiving assignments, tracking learner progress and processing payment (or non-payment) of fees. Learner affairs also organizes tutorial and examination/assessment venues where required. Within their communication activities, this function handles enquiries and queries from learners, communicates assessment and examination results to learners quickly and accurately, and provides administrative information to learners via easily accessible, regular channels of communication. Given the target audience, careful attention will need to be given to various functions of learner affairs to ensure that they are accessible and easy for learners to understand and use.

Equipment, stock and other resources

This function initiates processes to identify resource requirements and tracks the use of equipment, facilities and other resources, especially in cases where ODL programmes run across large geographical areas. It includes processing requests for equipment and resources, arranging maintenance and repairs, and ensuring that equipment and other resources are stored securely. In addition, this function organizes and distributes course materials and learning technologies via appropriate channels, ensuring that learners receive them in a timely fashion.

Staff ICT systems

Staff ICT systems — including network infrastructure, hardware and software design — need to be designed in a way that aligns with staff requirements and is compatible with the educational provider's overall ICT system. Budgetary constraints, a particular concern for youth and adult literacy programmes as these tend to be underfunded, must be taken into account when planning what equipment to use for the system, as well as the required maintenance and support. Crucially, the ICT system needs to be accessible remotely and should be upgraded regularly based on staff input and expert advice.

Administrative aspects related to assessment of learners

Programme developers need to outline how facilitators will record and report learners' assessment results and the kinds of tools and templates they need to use. In educational contexts, evidence of learner progress and evaluation is typically recorded on mark sheets or in electronic databases. This is an important part of assessment and, especially, of quality control because it promotes facilitator accountability.

Facilitators are required to provide feedback on assessments. Decisions need to be made about how this feedback will be communicated to learners. Digital technologies can assist with immediate feedback, thus freeing up facilitator time, and learners and facilitators can compile a portfolio of a learner's work to track and demonstrate progress. This latter option may be more applicable to learners with higher levels of proficiency. Portfolios can be either online or in hard copy and can provide evaluation information.

Reporting takes place when all other assessment processes have been completed. The results need to be reported to learners by facilitators. Reporting is usually done in writing, via a report or report card, although oral feedback can be given during interactions between learners and tutors. Reports can be sent via email, post or courier.

Programme implementers should monitor learner progress over time to ensure the assessments are helping learners achieve the stated learning outcomes and not overburdening learners or facilitators, then adjust as necessary. If programmes use learning analytics to monitor learner progress, ethical practices regarding the collection and use of this information must be adopted from the very earliest stages.

Financial procedures

Financial procedures for ODL programmes include handling course fees, orders, accounts, petty cash systems, claims procedures, receipt of external funds, and salaries. They are developed through a consultative process with staff. This function includes keeping accurate financial records and procuring regular auditing services; processing claims, monitoring purchases, and arranging financial aid for learners; and ensuring that payment of all accounts and salaries takes place in a timely and accurate fashion.

Implement quality assurance strategies

Quality assurance is about delivering an agreed standard of service by anticipating points of failure and dealing with them before any failure occurs. It is a notoriously difficult concept to apply in education, but all well-functioning ODL systems and programmes require effective quality assurance. Ensuring quality in ODL programmes first and foremost requires institutional vision, commitment, leadership, sound planning and partnerships, building on all the knowledge presented in this guide.

Ultimately, it is the staff involved in programme design and delivery who must ensure that their design and teaching and learning methods deliver a quality learning experience.



Staff development, a recurring point in these guidelines, is also critical to ensuring quality. Ultimately, it is the staff involved in programme design and delivery who must ensure that their design and teaching and learning methods deliver a quality learning experience. The following key areas for professional development and support should be considered when preparing staff who will be involved in programme design and delivery:

- Developing methodologies to promote interactive learning experiences;
- Developing instructional materials;
- Learning about new technological development, as well as the use of a mix of technologies;
- Promoting ODL programmes;
- Ensuring the availability of adequate assistance for the facilitation of learning;
- Using strategies for evaluating the process and outcomes of learning via ODL;
- Learning specific technical processes (e.g. integrating multimedia applications);
- Providing opportunities for peer support, feedback and mentoring;
- Offering support in how to manage workloads, particularly related to programme and course design;
- Ensuring that staff have a working knowledge of the range of learner support services offered;
- Keeping staff informed about any relevant organizational or programme policies and administrative procedures (Rockwell et al., 2000).

Successful quality assurance requires effective and efficient structures and procedures. However, creating quality assurance structures will not automatically improve quality. Organizations should distinguish between quality assurance procedures, which can easily become compliance-focused, and real efforts to enhance quality. For example, evaluating a programme or course is mandatory but not sufficient in and of itself. Quality enhancement will only take place when the lessons learned from evaluations are reflected in the next offering of the programme or course. As such, quality assurance in ODL should be about continuous improvement.

Notwithstanding this tension between compliance/accountability and self-improvement/innovation, there will always be a need for some quality assurance structures and processes. Presenting detail on this aspect of ODL implementation is beyond the scope of this publication, given the wide range of approaches that can be adopted, but the **Annex** provides links to resources and toolkits that provide more detailed information on this critical aspect of ODL implementation for youth and adult literacy programmes.

Step 4: Monitoring and evaluation of ODL literacy programmes



- Set up M&E systems for data collection, data management and reporting;
- Collect data;
- Analyse data to draw evaluative conclusions and make recommendations;
- Implement feedback.

Successful learning design includes continuous monitoring to ensure that the chosen methods, resources and technologies achieve the intended outcomes. Monitoring and evaluation (M&E) of ODL plays a crucial role in helping designers improve non-formal youth and adult education. M&E strategies need to be designed in accordance with local geographical and cultural contexts and should be integrated into the programme implementation from the outset.

Ongoing M&E enables programme providers to assess facilitators and advise them on how to improve their teaching strategies to enable learners to effectively acquire literacy skills. If more advanced technologies are used, real-time analytics can be collected to improve learner outcomes. Education providers should develop ethical guidelines for the appropriate use of learning analytics to track learner progress and provide support, especially for those at risk. Privacy issues must be considered so that learner data are not compromised.

Education providers should develop ethical guidelines for the appropriate use of learning analytics to track learner progress and provide support, especially for those at risk.

In the case of ODL, programme designers and facilitators need to make several informed decisions about teaching and learning approaches, digital content, remote assessment, lesson planning, and combining low- and high-tech solutions based on community needs. If ongoing monitoring is in place, those involved can draw on accurate, up-to-date information to evaluate, adapt and share these decisions. Programme implementers should not use M&E to criticize the performance of individuals or institutions. The focus should always be on identifying areas for improvement.

In **Step 1**, we considered key issues relevant to planning for M&E in ODL. One approach to designing M&E of ODL programmes is to assess performance against indicators across the domains of reach, engagement and outcomes (see **Table 1**). In this section, we focus on implementing the M&E plan that was developed in **Step 1**.

Set up M&E systems for data collection, data management and reporting

Successful M&E requires putting in place simple and efficient systems for data collection, data management and reporting. M&E systems are particularly important for projects that seek to assess changes over time, as is commonly the case with assessing learning outcomes. The systems needed will vary in complexity and sophistication depending on the programme scope, implementation context, capacity of M&E researchers, and data sources. Ideally, the M&E system should allow for a shared data repository, which could take the form of a custom-built database for large and complex projects, or an Excel spreadsheet or Google Sheet for smaller-scale programmes. The system should include processes for data verification and cleansing and may allow for a dispersed research team to easily capture and access the data. Data security protocols need to be agreed on from the start to ensure that data are collected, captured, stored, analysed and reported ethically (as part of setting up M&E systems in **Step 1**).

For larger programmes it is also useful to set up data dashboards that aggregate monitoring data to show performance against the indicators identified for the programme. Dashboards provide a way to visualize real-time data in a dynamic way — unlike infographics, which present a static picture of the data at a specific point in time (BetterEvaluation, 2020). These trends inform both the monitoring process and the programme implementation, as the required changes can be assessed in real time.

Key characteristics of data dashboards include:

- All visualizations fit on a single screen;
- The most important indicators to be monitored over time are displayed;
- Data are regularly updated (ideally automatically);
- The dashboard is easy to understand and can be understood and used by anyone with access to it;
- The dashboard has filtering and 'drill down' functions, which enables users to view the data of most interest to them (e.g. filtering by location, age or gender), and the visualizations then update to display only data that have the selected characteristics.

Source: Adapted from BetterEvaluation, 2020.

Collect data

Using indicators defined during the M&E planning process (see **Step 1**), a research design and data collection plan needs to be developed to ensure that the data needed to calculate the indicators are collected. Programme designers may need to use more than one method or approach to meet the requirements. Quantitative and qualitative methods provide different explanations and understandings of a process, and using a variety of methods and sources of information will enrich the quality of the data and ensure sensitivity to the full range of issues and concerns that are likely to emerge during an evaluation study. It is common for M&E in ODL to use a combination of quantitative and qualitative methods for data collection. The research methods and data collection processes selected for a given programme should respond to the needs of the M&E strategy so that data collection is focused and efficient. Decisions will need to be made about whether data will be collected in person (face-to-face or remotely, such as interviews conducted via Zoom or Microsoft Teams) or using technologies such as online surveys, video recordings, etc. Where learning management systems (LMS) are used, there is a possibility that learner engagement with the ODL materials could be tracked. This could be an additional source of monitoring data.



Box 5: Monitoring and evaluation in the Functional Adult Literacy (FAL) Programme, Uganda

The Functional Adult Literacy (FAL) Programme, delivered by the Ugandan Government with assistance from various NGOs, was designed to be a literacy programme that focused on linking literacy to people's livelihoods and needs.

Extensive monitoring and evaluation exercises are performed by both the government and the NGOs involved in the programme. Reports from mid-term evaluations are used to review and improve the programmes in each district, while end-of-term evaluations are presented to authorities and donors who will then decide whether to grant further funds to the scheme.

The evaluation process begins with a short workshop, led by the external evaluators, to build a common understanding among the participants and instructors about the need for evaluation and about the methodologies that will be employed in the process. Evaluations are conducted through a participatory approach, enabling a more thorough comprehension of the impacts and challenges inherent in the final stage of project implementation.

The evaluations cover the following aspects:

- **Access:** Whether the target group is being reached; number of learners enrolled; number of functional literacy classes;
- **Quality:** Availability and relevance of learning and instructional materials; number of trained and active instructors; local methods of evaluating attainment; number of learners demonstrating competence in basic skills;
- **Efficiency:** Efficiency of financial resources; institutional capacity; links with other local and national institutions;
- **Equity:** Participation of learners and the compositions of learners' backgrounds;
- **Impact:** Use of skills learned outside of classes; changes to peoples' lives and living conditions; changes in learners' attitudes towards modern views on issues such as human rights, environmental conservation and health risks.

The reported impact of the programme on individuals has been positive, and external evaluation testing has verified these positive reports. Most learners testified that the classes had increased their self-esteem and their participation in political and economic activities. Learners also declared improvements in their community involvement, hygiene, agricultural practices and dietary habits.

The FAL programme has also demonstrated success in individual capacity-building and skills development. On average, FAL graduates perform better in basic tests than Grade 3 and 4 (primary grade) pupils, and many participants report new income-generating activities, which they attribute to their FAL training. Many people would like to move beyond their basic skills and continue into further education. While this is a challenge because of limited resources, it demonstrates success in developing a culture of learning.

Source: Adapted from UIL, 2017a.

For an ODL programme, data collection, among other things, is likely to include the following:

- Feedback from instructional designers, learners and facilitators;
- Assessment of learning outcomes/testing of content knowledge;
- Levels of participation and engagement of learners;
- Technological needs and access to technologies;
- Data on access to content;
- Data on learners' engagement with content;
- Internal and external efficiency of the processes;
- Enrolment, throughput and completion rates.

Data collection is likely to take place throughout the programme for certain aspects — for example, engagement with content that is tracked via an LMS or television viewing data — and at specific points in time for other aspects — for example, learners might be asked to complete a short feedback survey after each module of a programme and then a sample of learners might participate in an in-depth interview at the end of the programme for more detailed feedback. Assessments of learners' work should also be tracked over time.



Box 6: Analytics through mobile phones: Cell-Ed, USA

Using analytics, Cell-Ed consistently analyses data to gauge the learning progress of learners and the impact of Cell-Ed over time. This information is then used to implement further improvements and promote best practices.

The learning management system allows Cell-Ed to amass comprehensive and useful data on the use of the Cell-Ed platform and the progress of each individual learner. Information on the platform includes general information on learners (gender, age and country of residence), total number of learners, graduates, most repeated module, learners' engagement in learning (time spent and mobile device used), SMS messages from learners, monthly frequency of calls from learners, and percentage of learners who passed the final exam. Information on individual learners includes time spent on the platform, completed courses, interaction with the live coach (content of SMS messages and number of phone calls), courses that the learner struggled with most, and the live coach's assessment of the learner (both qualitative and quantitative).

Cell-Ed monitors and evaluates its programme by analysing this LMS-generated information.

Source: Adapted from UIL, 2018a.

Analyse data to draw evaluative conclusions and make recommendations

While data dashboards are effective for visually representing trends identified from monitoring data, more in-depth analysis is needed to move from monitoring to evaluation. Evaluations are about making judgments about the quality and value of a programme, and they provide practical information that can be used for targeting improvements to a programme. Effective M&E research thus plays a crucial role in quality assurance and programme improvement.

There are many different types of evaluation designs, and the choice of which one(s) to use depends on the programme's objectives. Some examples include:

- **Needs analysis**, a process of analysing and prioritizing needs to inform programme planning;
- **Ex ante impact evaluation**, which predicts the likely impacts of an intervention to inform resource allocation;
- **Process evaluation**, which examines the nature and quality of implementation;
- **Outcome and impact evaluation**, which examines the results of an intervention;
- **Sustained and emerging impacts evaluations**, which analyse the enduring impacts of an intervention for some time after the intervention has ended;
- **Value-for-money (cost-benefit) evaluations**, which examine the relationship between the costs of a programme and the value of its positive and negative impacts;
- **Syntheses of multiple evaluation**, which combine evidence from multiple evaluations (BetterEvaluation, 2020).

Evaluations can be conducted internally, by someone on the programme team or from the same organization, or externally, by an independent person or body. The latter is often required by funders for accountability purposes. Whichever approach is used, the evaluation research will make use of the monitoring data collected and ask evaluative questions to find answers from the data. While monitoring seeks to answer questions about how implementation happens and whether it is in line with what was planned, evaluations make value judgments about the programme and its impacts (Podems, 2019). The evaluation component of M&E thus asks different questions of the data that have been collected. Depending on the type of evaluation being conducted, it is sometimes necessary to collect additional data that were not collected as part of the ongoing monitoring processes, but a well-designed M&E strategy, implemented from the planning stages of the programme, is likely to minimize the need for additional data collection.

Reporting is an important part of this step. If a dashboard has been developed (see 'Key characteristics of data dashboards' on p. 53), it will be the main way in which ongoing real-time reporting is done. Funders will often have specific reporting requirements and time frames. It is common for programmes to be asked to submit quarterly reports, a mid-term evaluation report and an end-term evaluation report. Whatever the reporting requirements, at the broadest level, M&E reports should focus on understanding the context and then identifying what has worked well and why, and what has not worked well and why, and making recommendations about what improvements are needed. Recommendations should be as practical as possible so that they can both inform ongoing programme improvement and provide guidelines for future programmes.



Implement feedback

The final step in the M&E of ODL programmes is to implement the feedback that emerges from the research. In this way, M&E can inform quality improvements. Quality assurance is about anticipating problems that might occur in the quest to reach specified standards or achieve the programme objectives. Quality assurance processes are unlikely to take place in a linear fashion, and it is often necessary to re-evaluate and adjust decisions that were made at the planning stage as lessons are learned during M&E (Wilson-Strydom, 2004).

Effective implementation of feedback, particularly while a programme is running, requires strong communication mechanisms between the research team and the programme manager and/or implementing team. Appropriate mechanisms need to be identified to ensure that the relevant findings reach the right people and that those implementing a programme can inform ongoing areas of research focus or raise new questions that can be used to support programme implementation. This can be done in many ways, including short monthly team meetings where the monitoring dashboard data are discussed, quarterly programme review sessions where emerging M&E findings are shared with the team and the implications discussed and integrated into work planning, and the preparation of formal M&E reports at the end of a specific cohort or project. Ideally, the details from the full M&E reports should be packaged into shorter presentation forms — for example, infographics — targeting specific stakeholders of the ODL programme. One infographic might focus on lessons about teaching and learning that have implications for how facilitators present an online literacy course. Another might summarize a cost-benefit analysis that looked at different models of scale for the programme manager or funder. Targeted reporting is more likely to respond to specific information needs of stakeholders and is therefore more likely to be implemented.

A checklist for ODL programmes for youth and adult literacy

The following checklist summarizes the steps proposed in **Part 1**. It can be used by institutions and providers to plan, implement and monitor ODL for youth and adult literacy programmes.

Activities	No	Partly	Yes
Planning and designing ODL-based literacy programmes			
Have you conducted a situational analysis of community and learner literacy needs?			
Have you identified collaborators and local expertise within local government, educational organizations or NGOs for effective implementation?			
Have you developed a curriculum map or plan?			
Have you identified competencies, knowledge and skills that will be developed through the ODL-supported youth and adult literacy programmes?			
Have you identified learner support strategies for learning, technology and psychosocial support?			
Have you identified and designed assessment strategies with formative and summative activities?			
Will you be accrediting the programme or providing certification?			
Have you identified and selected technologies for the delivery of learning and teaching that support learning goals and are accessible to the learners?			
Have you planned pre-service and in-service training for facilitators?			
Have you considered ongoing professional development and payment structures for facilitators?			
Have you conducted a full audit of existing systems — including reporting lines, staff structure, quality assurance processes and financial management — to confirm that they will provide efficient and effective administrative support to staff and learners during the programme implementation?			
Have you analysed the organizational capacity in the context of ODL requirements?			
Have you developed and implemented a roadmap that sets out the required administrative activities, staffing requirements, infrastructure, system requirements, quality assurance processes and estimated expenditure?			
Have you planned ICT support systems?			
Have you defined indicators for monitoring and evaluation, as well as for when data will be collected and analysed?			
Have you identified sources of financing and projected costs, including financing for training facilitators and managers and supporting ODL-facilitated literacy learning?			
Have you started engaging partners to assist with project implementation?			

Activities	No	Partly	Yes
Development of instructional and learning materials			
Have you recruited and trained writers and content developers to generate learning and teaching materials based on the curriculum mapping, incorporating principles of equity and inclusion?			
Have you set up teams of subject matter experts, editors, instructional designers and media producers to create learning and teaching materials in all media formats?			
Have you drawn up and agreed to schedules for developing materials?			
Are learning materials designed for the appropriate target group and in accordance with ODL principles?			
Have you pre-tested, revised and quality assured all materials?			
Have you printed and uploaded materials based on the planning and schedules?			
Have you licensed learning materials and curricula as OER so that they can be used and adapted by other organizations?			
Have you developed and incorporated assessment instruments and tools?			
Have you selected appropriate tools to conduct assessments, considering there may be high enrolment and a limited number of facilitators to mark activities?			
Have you included assessment criteria and marking rubrics for facilitators?			
Implementing and managing ODL-based literacy programmes			
Have you set up and facilitated access to spaces within communities to facilitate learning and provide administrative, social and technical support, such as libraries, computer centres and community halls?			
Have you formed partnerships with government and other training institutions to develop training and professional development for literacy facilitators?			
Have you developed training and resources to orient the facilitators to the learning content, subject-specific facilitation skills, and assessment requirements in a programme using relevant modes of delivery?			
Have you conducted additional and ongoing training opportunities to allow facilitators to be comfortable with the chosen modes of delivery?			
Have you set up a community of practice?			
Are you monitoring facilitators to establish ongoing support needs?			
Have you mobilized community support for the programme and learner enrolment?			

Activities	No	Partly	Yes
Have you established peer-to-peer communication channels through networking sites, LMSs, social media and/or in-person community groups?			
Have you scheduled and facilitated regular interaction between learners and facilitators, ensuring that all channels of communication are accessible to all participants?			
Have you elicited support from the community and within learners' families?			
Are you monitoring learner engagement and participation in order to adjust levels and delivery of support if necessary?			
Are you monitoring learner progress over time to ensure assessments are resulting in learners achieving their target learning outcomes and not overburdening learners and facilitators?			
Have you implemented and staffed administrative systems and functions that meet the needs of ODL programme delivery?			
Are you including frequent engagement with staff and learners to elicit feedback on administration processes?			
Are you revising administration processes, procedures and systems where necessary to ensure that they remain relevant and responsive to learner and staff needs?			
Monitoring and evaluation of ODL literacy programmes			
Did you design M&E strategies during the planning stage of the programme design?			
Did you select key monitoring indicators during the planning phase?			
Have you set up data collection processes and time frames?			
Have you conducted internal and external evaluations?			
Have you analysed data to report on evaluative conclusions?			
Have you identified and established communication mechanisms for feedback during programme implementation?			
Do you have a system to revise the programme and provide training to facilitators based on data collected?			
Have you implemented feedback to improve programme implementation and outcomes?			

Part 2

Media and
technologies
for literacy

Media and technologies for literacy

Introduction

Having explored in some detail the elements that make up effective ODL programme design and implementation for youth and adult literacy, let us explore in more detail the various technologies that can support the delivery of such programmes. The past two decades have seen an unprecedented explosion of innovation in ICT, leading to a potentially bewildering array of new technological options that can be harnessed to support ODL delivery. Different technologies are emerging at different rates within various contexts, and access to online learning and digital technology varies among and within countries. Because digital literacy is a key component of literacy in a digital age, it is becoming increasingly important to incorporate technologies into literacy programmes, particularly those offered via ODL. The COVID-19 pandemic has accelerated the use of digital technologies for educational delivery, so it is more important than ever to understand their relevance for different types of learners.

Below is a brief overview of existing and emerging technologies that can be used to support ODL programme delivery. It includes low-tech and no-tech solutions to youth and adult literacy education and outlines their educational uses and key trends. Technology choices should be assessed in terms of function, delivery channels, reach, access to devices, software, interface requirements (including accessibility), type of content, support requirements and affordability (UIL, 2016a). Each technology enables youth and adult learners to access resources that would otherwise be inaccessible and to use their literacy skills to further their education.



Technology choices should be assessed in terms of function, delivery channels, reach, access to devices, software, interface requirements (including accessibility), type of content, support requirements and affordability.

Print media

Print media have been a cornerstone of ODL programmes since the earliest days of correspondence education and are likely to remain a key element of programmes for youth and adult literacy, despite the proliferation of digital technologies, given their ease of access and use. Textbooks and self-learning materials can be sent to learners either through the mail or via other forms of physical distribution. They sometimes include a schedule and calendar for learners, as well as instructional guides for family members to help them support learners. Since postal services do not exist in many low-income countries, community facilitators or volunteers may have to deliver learning packages to learners' homes (often on foot or by bicycle), or learners may pick up the packages from the homes of literacy facilitators or from community centres. Newspaper supplements can also reach a wide audience and have been used successfully for many decades to support youth and adult literacy and provide ongoing access to reading materials after literacy acquisition. These can contain activities and other reading materials tied to non-formal learning programmes with broadcast media components.

Radio

Radio is used by many youth and adult literacy programmes because access to and use of radio is widespread and affordable. Radio can reach even very remote communities and nomadic people. It is also used to reach out to communities and help them understand the need for literacy education for all. Radio programmes can be scheduled for repeat broadcast to ensure greater accessibility and can now also be redistributed digitally online for flexible access and use.



Box 7: Interactive radio instruction for Nigeria's nomadic population

The Nigerian Federal Government realized that unless a special educational provision was made for the nomadic population, they would have no access to formal or non-formal education. In 1989, the National Commission for Nomadic Education (NCNE) was formed. In the course of the commission's efforts to increase access to basic education, it has experimented with the use of radio to provide open and distance education to pastoral nomads. The interactive radio instruction (IRI) experiment started in 1992 with a regular radio programme aimed at mobilizing, sensitizing and empowering communities through the provision of services for the benefit of nomadic groups. Radio listening groups have been established and function in the same way as mobile learning circles.

Since 1996, the Federal Radio Corporation of Nigeria (FRCN) in Kaduna has allocated a 30-minute airtime slot to the commission through which it transmits a magazine programme titled 'Don Makiyaya a Ruga' (For the Nomads in Their Homestead). The radio programme is participatory and is thus widely accepted and appreciated by the nomads. It contains weekly news items, opinion pieces, interviews, discussions, music, drama, jingles, etc. The radio listening groups listen to this programme and respond using a feedback mechanism that has been set up to monitor the programme's efficacy.

In 2000, a radio curriculum for the adult component of the IRI was developed and subsequently used to produce 13 episodes of radio programmes. All the episodes were aimed at motivating the learners to embark on social action activities and were broadcast to the radio listening groups — regarded as learning centres — in each of the country's 36 states and one Federal Capital Territory. The success of the adult component of the IRI programme led to the launch of a school-based programme.

The commission has established 138 adult literacy centres and 239 registered radio listening groups. Furthermore, an outside broadcasting van has been equipped to reach out to the nomads. The distance learning scheme, which aims to make basic education more accessible to nomadic children and adults, was the first of its kind in sub-Saharan Africa, and its pilot phase was considered very successful. The post-broadcast survey revealed that the project was 75 per cent successful. It also showed that 60 per cent of the learners were inspired to embark on social action activities.

As a result of the innovative strategies adopted by the commission, there have been great improvements in the quality of curriculum content delivery, with an overall improvement in the learning achievements of nomadic schoolchildren and adults.

Source: Adapted from UIL, 2018b.

Broadcast media can lack interactivity options, but literacy programmes on the radio have developed ways around this. Facilitators can visit learning groups meeting in small information centres and facilitate distance learning using programmes broadcast over the radio. Interactive radio instruction (IRI) has been used to teach nearly all basic primary subjects and audiences of all ages, as well as hard-to-reach and out-of-school populations. IRI builds on local resources and knowledge and requires learners (and facilitators) to react verbally and physically to questions and exercises. An IRI broadcast will explain a concept to listeners, practically apply new ideas, and suggest tasks for learners to complete at home (McBurnie, 2020). Activities can include quizzes, written exercises, role playing and storytelling. IRI can also be supported with print materials.

Wide-ranging and wide-reaching radio programmes can provide effective support to ODL discussion groups such as those in literacy programmes (Siaciwena, 2000). Community radio may assist in achieving buy-in from local communities as it is an established medium with the capacity to draw on listeners' life experiences and expectations, feature local voices and support intergenerational learning. Some community radio stations broadcast shows that are aimed specifically at a female audience and serve local communities that are often neglected by the mainstream media (Skoog, 2019). The shows cover a broad range of topics, including sexual and reproductive health, women's rights, international news and women's status in the communities. Women who have mobile phones can interact with the stations (typically called phone-in programmes) and suggest content for future programmes. Women's listeners' clubs have been shown to change both men's and women's perceptions, behaviours and practices. Men gain a better understanding of the women's experiences and women can play a more active role in community life and develop their leadership capabilities (Latchem, 2018).

The effective use of radio depends on a carefully planned structure for radio programmes and group discussion or literacy lessons in terms of timing, content and organization of programmes.

Television

Television programming can be coordinated with a formal curriculum. It may therefore be useful in regions that have a formal national or regional curriculum in place for youth and adult literacy education. Television programming and content creation is expensive but does allow for repeat broadcasting and can now also be made available online for flexible access and use at any time (although data costs for this may be prohibitive for many learners). Like radio phone-in programmes, television programmes can also be made interactive via phones while interactive television via two-way satellite communication facilitates a more engaging environment for group work and monitoring of activities, besides delivery of content.



Box 8: Same Language Subtitling (SLS) programme, India

While there is little evidence of effective broadcast television literacy programmes for youth and adults, one case study that has proved to be successful in improving literacy levels is the Same Language Subtitling (SLS) programme in India, which involves subtitling the lyrics of songs in Bollywood movies on television. This programme, aimed at learners with low proficiency levels in reading and writing, allows learners to practise their skills and has positively impacted literacy rates, particularly among women. SLS is used with musical film programmes broadcast in various local languages by the national broadcaster and state broadcasters. The subtitles are in the same language as the audio, so reading skills are practised automatically, incidentally and subconsciously by millions of children and adults. The SLS programme is very cost-effective because it can reach many learners, including those in rural areas. This programme is not tied to a curriculum.

Source: Adapted from UIL, 2016c.

Digital technologies

All the above technologies were developed in a pre-digital world and have been transformed by the development of digital technologies. The underlying media that print, radio and television transmit — text, audio and video — can now be developed and distributed digitally via the internet, while ICT has introduced growing degrees of interactivity into content, a trend accelerated by the development of social media platforms. With this underlying power, digital technologies can facilitate learning for several reasons. First, they can be modified to suit individual learner needs. Second, they empower learners by giving them more control over all aspects of the learning experience. Third, they can engage learners more fully and make the learning process more efficient. And fourth, research shows that certain digital technologies have proven more beneficial than classroom instruction and textbooks (Lesgold, Welch-Ross and Committee on Learning Sciences, 2012).

Non-formal education providers are using computer-based multimedia to help learners in the developing world build their literacy skills. These technologies require fewer facilitators, and learners can be reached in more locations, at a time that suits them. Computer-based technology without internet can be useful for building basic literacy skills — for example, word processing software, which can be used for teaching and learning. Linked online tools that can be incorporated into teaching practices include email and electronic calendars.

Youth and adult literacy programmes have used offline tutorials to support the cognitive processes involved in reading, particularly decoding. This type of software is difficult to use for distance learning purposes, and new mobile technologies may replace these types of tutorials and be more interactive and accessible. For example, COL's Lifelong Learning for Farmers (L3F) initiative uses mobile phones and the Aptus device (**Box 9**) to provide training to farmers to develop farming techniques and financial literacy skills.



Box 9: The Commonwealth of Learning's Aptus device

Mobile devices are becoming increasingly affordable, although the prices of computing power and memory have increased over time. Several countries around the world have established tablet distribution initiatives that aim to provide teachers and learners with access to web-based learning materials through these low-cost devices. Despite this, many teachers and learners around the world still struggle in areas where internet penetration is low.

COL's Aptus is a low-cost device that allows educators and learners to connect to digital learning platforms and content without the need for grid electricity or internet access. The Aptus is a mini personal computer (PC) that requires only battery power. It can be recharged via grid power or solar charger and is able to host up to 128 GB of educational content. The device can facilitate interactive, virtual learning anywhere — from remote rural villages to university campuses in urban areas. It can be set up within minutes and accessed by any learner with a laptop, tablet or mobile device. The mini-PC and the power bank cost approximately USD 150.

Aptus provides much-needed access to OER and Open Source software in areas with limited connectivity. In addition to being deployed to teach farmers farming techniques and literacy skills, COL's Aptus device has also been used in group learning contexts for women in rural areas.

Source: Adapted from COL, 2018.

Mobile learning has potential for literacy teaching and learning because of the increasing use of mobile phones, particularly in the developing world, even where learners do not have access to more expensive smartphones and internet access. SMS technology has, for example, been used to teach and reinforce literacy and encourage community exchange and decision-making in Senegal. Participants were taught how to send and receive text messages, store and retrieve contact information, navigate the menu, and use mobile phones to do basic addition and subtraction. They were then able to send news about events such as vaccination campaigns or literacy group meetings and exchange personal messages with others in their network (UIL, 2017b).

The use of mobile phones in literacy programmes in poor rural settings is often constrained by three main factors: weak technical infrastructure; language diversity that is not being well integrated into mobile phones and learning processes; and conservative, traditional sociocultural norms that limit women's use of mobile phones. Communities and their social interactions can hinder access to and use of mobile phones as learning or empowering tools (Belalcázar, 2015).

As is evident from the Senegal example (see **Box 2**), mobile learning has the potential to reach women whose physical movement is regulated by conservative, traditional sociocultural norms. Because these norms restrict the kind of learning that women and girls can receive, the challenge is not just access but rather how women and girls make use of the information and knowledge that reaches them, and how they can transform and reconstruct that information in ways that empower them to perform, to have a voice, and to participate in their households and communities and access reasonable work opportunities (ibid.).



Box 10: Media Works, South Africa

Media Works, a South African adult education provider, pivoted to using WhatsApp and online conferencing platforms to ensure learning continued during the COVID-19 lockdown. WhatsApp allows the sharing of lesson videos and enables learners to ask questions and voice concerns. Completed workbook lessons are photographed by learners and sent to their facilitator for marking. When all learners have submitted their work, the facilitators post the answers on WhatsApp for self-marking and revision purposes.

Source: Adapted from Carroll, 2020.

Learning and teaching content can be developed for access via a smartphone or feature phone.⁹ Content can be made available as a free download, and service providers can zero-rate content.¹⁰ Interactive content allows learners to do quizzes, read textbooks, view lessons comprising video or narrated slides, and play educational games. This engagement can provide real-time access to detailed reporting on learner performance and progress.

While the internet and e-reader devices allow users to download books and newspapers, books can also be distributed as serialized content via mobile phones. In many countries, this may be the only channel that can be used to distribute books effectively. Readers can have an interactive experience by commenting on the content, connecting with other readers, asking questions, and receiving customized support and content (Latchem, 2018).

⁹ A smartphone is a mobile phone that can perform many of the functions of a computer. They typically have a touchscreen interface, internet access and an operating system that can run downloaded applications. A feature phone is a mobile phone that has fewer capabilities than a smartphone. They generally provide internet access and allow users to make voice calls or send text messages but do not allow users to download apps.

¹⁰ Zero-rating by telecommunications service providers means that certain, usually educational, content can be accessed by users at no data cost.

Virtual classrooms can supplement face-to-face classes or even replace them entirely. Since the COVID-19 pandemic lockdowns closed learning institutions across the world, many institutions at all levels within the formal education system have switched to remote teaching via virtual classrooms. A virtual classroom is a digital learning environment that allows learners and facilitators to interact in real time. Virtual classrooms allow users to access materials and submit coursework online through a learning management system (LMS)¹¹ or other software. Live lessons can be conducted via video conferencing software. Many options for virtual classroom software (open source and subscription-based) that facilitates all interactions through one portal is available to use in adult literacy programmes. Tools that may be included in this software, or facilitated through other applications, are digital whiteboards, screen sharing, breakout rooms, live quizzes, text chat and video recordings (facilitating repeat use by participants). Virtual classrooms require a stable internet connection and a device for both learners and facilitators. A wide variety of software is available for a full virtual classroom solution, LMSs and video conferencing. Some of the software is open source and freely available.



A virtual classroom is a digital learning environment that allows learners and facilitators to interact in real time.

Massive open online courses (MOOCs) are courses that focus on a specific subject or topic. They are available online and are generally open to anyone, with no formal admission process and often at no cost for the user. Several types of organizations offer MOOCs¹² — for example, universities such as the University of Cape Town, companies like Microsoft and Blackboard, and non-profit initiatives such as EdX (OER Africa, 2020). MOOCs allow many learners access to learning programmes without the constraints of cost, time and place. However, they require high levels of learner motivation, and youth and adult literacy programmes offered via MOOCs may require deeper engagements via local meet-ups. MOOCs may therefore have limited applicability within the youth and adult literacy context given the high degree of independent learning required.

Various **online tools and platforms** allow for interaction and collaboration between learners and facilitators. **Social media** allows for interactive engagement with communities and exposure to many content types, such as video, audio and text. Social media platforms — such as Facebook,¹³ WhatsApp¹⁴ and Google Hangouts¹⁵ — allow users to set up private spaces, which can be a useful way for facilitators to communicate information to learners and provides a space for learners to interact or collaborate with each other. Platforms that contain collaboration tools and file sharing, such as Google Drive¹⁶ or Microsoft's SharePoint,¹⁷ allow multiple users to collaborate or comment on documents simultaneously.

Artificial intelligence (AI) is becoming increasingly relevant in education. AI is computer processes that have been designed to interact with users. It can be used to develop adaptive learning environments and tools that are flexible, inclusive, engaging and personalized. Simple AI applications include speech-to-text and predictive text, which are useful for literacy learning and for assisting learners with disabilities. AI can be employed in literacy teaching and learning in various ways. Some specific applications include:

- **Question-answer relationships:** This is a reading technique whereby learners learn to determine the difference between questions with answers that can be found directly in the text, questions with answers that can be found by synthesizing information in the text, and questions that require the reader to use their prior knowledge to find the answers. Machine learning would allow facilitators to automate this activity and add it to an app.

¹¹ Moodle is an open source learning management system. See <https://moodle.org/>

¹² See <https://www.classcentral.com/> to find a range of courses and providers of MOOCs.

¹³ <https://www.facebook.com/>

¹⁴ <https://www.whatsapp.com>

¹⁵ <https://hangouts.google.com/>

¹⁶ https://www.google.com/intl/en_in/drive/

¹⁷ <https://www.microsoft.com/en-us/microsoft-365/sharepoint/collaboration>

- **Learning analytics:** These enable facilitators and institutions to monitor learner progress on chosen metrics and provide feedback to facilitators on how effective courses or learning interventions are (Access Partnership, 2018).
- **Personalized learning:** This approach allows facilitators to cater to learners' specific educational needs by highlighting strengths and areas for improvement. There are various applications in literacy for personalized learning. For example, an Informal Reading Inventory (IRI) is an assessment method whereby learners read a series of passages and answer questions. The facilitator observes learners' reading strategies, selects relevant reading material, and gains insight into learners' strengths and weaknesses. AI could easily perform this task (Lynch, 2019). Intelligent tutoring systems would also be able to develop individualized learning plans based on each learner's strengths and weaknesses.
- **Speech-to-text and text-to-speech software:** This is technology that can recognize spoken words, which can then be converted to text (or vice versa) (de Jesus, 2019). There are apps available that can read text aloud to learners, translate different language texts into the spoken word, or simplify texts on web pages for readers with learning impairments such as dyslexia.



The field of AI research is constantly evolving and the applications for its educational use are seemingly endless. While this publication briefly touches on AI applications, it should be noted that AI can further disadvantage the already disadvantaged because of the associated expense, inaccessibility and unintentional bias (UNESCO, 2021).

As discussed in the first step of planning and design, programme developers need to assess the fitness-for-purpose of different technologies and whether any skill can be taught in a more cost-effective way, taking into account costs for the education provider, educators (including community volunteers) and learners. Using digital technologies is required for digital literacy, however, so it is becoming increasingly important to incorporate technologies into literacy programmes where feasible. While most developing countries have policies and plans for ICT provision, not all countries or regions within countries have affordable and reliable high-speed internet access, and while technology costs may be dropping, they are still prohibitively high for many people (Latchem, 2018).

Table 2 provides an overview of technology options, both existing and emerging, that can be used to support ODL programme delivery.

Table 2: Summary of existing and emerging technologies

	PROS	CONS	USE IN LITERACY AND TEACHING
Print media	<p>Learners can be more interactive with the text (sensory complement)</p> <p>Can be shared between learners</p> <p>Can be distributed between large groups of learners</p> <p>Accessibility in low-resources contexts</p>	<p>Production and distribution can be costly</p> <p>Can produce waste</p> <p>The information is not editable and may change over time</p>	<p>Textbooks and self-learning materials sent to learners via mail/delivered by community members</p> <p>Newspaper supplements containing activities and reading materials</p>
Radio	<p>Widespread and available</p> <p>Can reach people in remote areas</p> <p>Radio programmes can be used for repeat broadcast</p> <p>Can employ listener's life experiences; feature local voices and support intergenerational learning</p>	<p>Can lack interactivity</p> <p>Lack of visual cues for learners</p> <p>Inaccessible for learners with hearing impairment</p> <p>May not allow enough time for covering content</p>	<p>Radio programmes and visiting educators to small information centres where learning groups meet</p> <p>Interactive radio instruction</p> <p>Community discussion groups (e.g. women's listening groups, phone-in programmes)</p>
Television	<p>Can be used to supplement learning through visual storytelling</p> <p>Can be interactive via use of phone</p> <p>Two-way satellite communication facilitates more engaging environment for group work and monitoring of activities</p>	<p>Production and broadcast are expensive</p> <p>Some learners are unable to access television sets</p> <p>Access depends on whether learners are able to watch at specific times</p>	<p>Subtitling programmes to improve reading and writing</p> <p>Non-formal education programmes (e.g. <i>Sesame Street</i>, the world's largest non-formal preschool TV educator) are especially useful in contexts without easily accessible formal education systems</p>
Computer-based multimedia	<p>Requires fewer facilitators</p> <p>Learners can be reached in more locations, at a time that suits them</p> <p>Access to many content types</p> <p>Allows immediate feedback</p>	<p>Can be expensive to procure digital devices</p> <p>May require expertise from facilitators/educators for effective use</p> <p>Internet may be expensive or inaccessible</p>	<p>Can help learners develop literacy skills using word processing software</p> <p>Online tools (e.g. calendars)</p> <p>Offline tutorials to support reading, particularly decoding</p> <p>Virtual classrooms</p> <p>Facilitates interactivity (video, audio, games, quizzes)</p>
Communications technologies and social media	<p>Requires fewer facilitators</p> <p>Learners can access materials from anywhere using mobile technology</p> <p>Social media allows for interactive engagement with communities and exposure to many content types</p> <p>Facilitates two-way communication and immediate feedback</p>	<p>Can be expensive to procure</p> <p>Display of information is different so may be difficult to contextualize</p> <p>Feature phones have fewer capabilities than smartphones</p> <p>Data may be expensive</p>	<p>Social media spaces (e.g. WhatsApp) allow users to set up personal spaces to exchange ideas and engage with educators and peers</p> <p>SMS technology to teach and encourage community exchange</p> <p>Facilitates interactivity (video, audio, games, quizzes)</p>

Digital tools for practising literacy skills

The world of digital technology offers a bewildering array of possibilities. To assist with making appropriate selections, **Table 3** outlines different technology applications, with descriptions of how they can be used in ODL literacy programmes and the specific proficiencies they may help to develop.

Table 3: Digital tools for practising literacy skills

TOOL	DESCRIPTION	PROFICIENCIES
Word processing software	The most basic tools that can help with literacy are standard word processing tools, which facilitate writing and editing. Having ideas in machine-processable form also makes it possible to use the latest tools for exchanging ideas and working in teams on written products. Controversies remain about software features that make it easy to circumvent mastery of some literacy skills, notably spelling correction. However, for most adults who have limited literacy, the ability to get ideas on paper, read others' ideas, edit their writing, and exchange ideas that sharpen comprehension and composition is dramatically enhanced by word processing tools and should therefore be encouraged.	Word recognition Character recognition Reading Engagement Spelling correction
Group collaborative communication software	Tools for exchanging comments on written materials are of particular use for adult learning. Other forms of collaborative communication include electronic calendars, email, text messaging, Facebook, wikis and collaboration portals. New technologies for group communication are appearing regularly.	Organization Communication Engagement (understanding, evaluating, using and engaging with written texts)
Bulletin boards and discussion tools	Bulletin boards allow threads of conversation to be started about specific topics or posted texts. Learners engage in multiple literacy activities that involve reading additional documents and peer comments and then preparing their own comments and posting them. This approach is promising both because it provides engaging ways of practising literacy and because the continuing exchanges provide natural experience with the need to write so that others can understand.	Communication Reading Process sentence meaning Word recognition
Commenting tools embedded in programmes	Contemporary online word processing facilities provide commenting tools in online texts. Adobe Acrobat provides such tools for commenting on PDF files, but there are also software packages on wiki and Moodle sites that allow learners to annotate texts individually as they read. Learners can benefit from seeing which parts of a text prompt annotations and what their peers wrote in their notes. This turns reading into an enterprise in which quality effort is reified by artefacts and supported with those artefact tools. The use of commenting tools also mimics productive work, providing both motivation and practice in some twenty-first-century skills.	Reading Writing Engagement
Virtual meeting tools	A variety of new systems support online meetings with components that permit word processing and other tools to be shared over a network. That is, multiple people can talk to each other, write to each other, show each other diagrams and other media, and jointly edit a single text, PowerPoint file, or other document. Back channel tools, such as chat windows, allow the meeting host to structure the interactions and ensure that anyone who wishes to make a point or enact a change in a document is given a chance to do so.	Oral communication Written communication Engagement Word recognition

TOOL	DESCRIPTION	PROFICIENCIES
Speech-to-text and text-to-speech tools	Computer-generated speech (called text-to-speech) and speech recognition facilities (called speech-to-text) are widely available. It is entirely possible to develop texts that read themselves to a learner and systems that listen to learners reading texts aloud and give corrective assistance if the learners make errors in their reading. A number of intelligent tutoring systems allow spoken learner input as an alternative to typed input. This is helpful for learners with certain disabilities.	Character recognition Oral communication Word recognition Process sentence meaning Fluency in reading passages of text Engagement Reading Writing
Embedding low-level coaching in electronic texts	Related to natural language processing technologies is the possibility of embedding pop-up questions in texts that are presented on screen. This is one way to prompt learners who may get caught up in word recognition to also engage in meaning. It is possible to have pop-up questions/audio/video tailored to match a system's best understanding of how the reader is processing the text in question.	Reading Word recognition Engagement Written communication
Intelligent tutoring systems	Numerous intelligent tutoring systems that track learner performance on various tasks, provide feedback, and intelligently guide learners in ways that promote learning have been developed since 1985.	Varied (as above)
Serious games	Serious games are designed with the explicit goal of helping learners learn about important subject matter content, strategies, and cognitive or social skills. Instead of learning by reading a textbook, listening to a lecture or interacting with a conventional computer system, the learner plays a game that requires engaging with curriculum content and provides learning opportunities as part of the game context. Serious games have revolutionary potential because learning difficult content becomes an enjoyable, engaging experience for the learner. Intellectual hard work is transformed into play. Very few serious games have been around for very long, so some researchers and game developers speculate that game design may be inherently incompatible with pedagogy. The more optimistic view is that there needs to be careful analysis of how the games' features are systematically aligned with pedagogy and curriculum requirements.	Oral communication Knowledge of vocabulary (word recognition) Fluency in reading passages of text Engagement Reading
Electronic entertainment technologies and related tools	A variety of simple tools have been used (mainly in elementary education, to some extent in secondary education, and very little for adult literacy) to help people practise and become more adept in basic components of literacy. The tools help with, for example, practising basic word reading and expanding vocabulary.	Word recognition Oral communication Written communication

Source: Adapted from Lesgold, Welch-Ross and Committee on Learning Sciences, 2012.

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Annex:

Useful resources
and tools

Annex: Useful resources and tools

Resources to assist in the selection and use of digital technology

Title	'What Is Successful Technology Integration?'
Resource type	Article
Description	This article explores effective technology integration into learning by examining types and levels of technology integration, and providing resources for further reading.
Link	https://edut.to/3utlwzZ

Title	<i>Harnessing the Potential of ICTs for Literacy Teaching and Learning: Effective Literacy and Numeracy Programmes Using Radio, TV, Mobile Phones, Tablets, and Computers</i>
Resource type	Case studies
Description	A selection of case studies that explore effective literacy and numeracy programmes. Each programme employs one or more digital tools such as radio, TV, mobile phones, tablets and computers.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000229517

Title	OpenLearn: How to Choose the Right Tool
Resource type	Courseware
Description	Week 3 of this course examines technology and tools for online learning, including how to link learning outcomes, activities and tools.
Link	https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=77522&section=5

Title	<i>Guide to Blended Learning</i>
Resource type	Guidelines
Description	An introduction to using technology and distance education teaching strategies along with traditional face-to-face classroom activities. Designed to help educators adopt blended learning strategies through a step-by-step approach taking constructivist and design-based perspectives and reflecting on decisions taken to provide authentic learning experiences in users' own contexts.
Link	http://oasis.col.org/handle/11599/3095

ICT readiness surveys and checklists

Title	Basic ICT Readiness Observation Checklist & Evaluation Report
Resource type	Checklist
Description	The Basic ICT Readiness Assessment (BIRA) is designed to measure the basic readiness of educators to undertake a programme of facilitator-led studies via distance delivery.
Link	https://bit.ly/3rLDFHq

OER and repositories

Title	OAsis Knowledge Series
Resource type	Repository
Description	OAsis is the Commonwealth of Learning's online institutional repository for learning resources and publications. The publications are licensed under Creative Commons BY-SA 4.0 and can be freely downloaded for reuse and adaptation with attribution to COL (exceptions are noted). It is possible to sort by different categories on OAsis. The URL below links to a list of titles in the Knowledge Series.
Link	http://oasis.col.org/browse?value=Knowledge+Series&type=series

Title	Adult Education Open Community of Resources
Resource type	OER repository
Description	Provided through OER Commons, this group allows adult educators and learners to organize materials dedicated to supporting adult basic education and adult English as a second language teaching and learning. Adult educators and learners are encouraged to share high-quality, high-interest materials for adult learners with low literacy levels who are preparing for the General Educational Development (GED) exam, new career opportunities, increased participation in their children's education, English language learning, and the acquisition of other important skills.
Link	https://bit.ly/3rM2K4Y

Title	Wiki Educator
Resource type	Web page
Description	This page is a support resource for adult literacy educators who aim to use an embedded teaching and learning approach to teach literacy and numeracy skills that promote learners' competence, confidence, and the motivation to succeed in learning, at work and in life.
Link	https://wikieducator.org/Adult_literacy

Title	Ideas That Work
Resource type	Website
Description	Ideas That Work produces and distributes high-quality training videos for community and aged services, business and industry sectors. The videos are available to stream online and on DVD.
Link	https://www.ideasthatwork.com.au/

Title	Queensland Council for Adult Literacy (QCAL)
Resource type	Website
Description	QCAL is a voluntary non-profit organization that promotes literacy and seeks to establish and maintain opportunities for adult members of the community to improve their literacy and numeracy skills. It supports educators, tutors and volunteers by providing professional development events and a selection of printed and online resources.
Link	https://www.qcal.org.au/

Title	Guidelines on the Development of Open Educational Resources Policies
Resource type	Guidelines
Description	A set of guidelines that offer a systematic approach to developing and implementing open educational resources policies in different contexts.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000371129

Monitoring and evaluation

Title	Evaluating Digital Distance Learning Programs and Activities: Studies, Practices and Recommendations
Resource type	Report
Description	This report provides an evaluation of distance learning activities, primarily in developing countries, with a focus on digitization. It explores digital distance learning evaluations, which can help assess experiences with credit-based courses, and highlights shortcomings in the data and the importance of evaluation infrastructure.
Link	https://bit.ly/3utn5hl

Title	Results-Based Monitoring and Evaluation at the Commonwealth of Learning (COL)
Resource type	Handbook
Description	This handbook focuses on results-based management (RBM), an approach to programme planning and management that integrates strategy, people, resources, processes and measurements to improve decision-making, transparency and accountability. The handbook is aimed at partners and new staff at COL.
Link	http://oasis.col.org/handle/11599/110

Title	<i>Quality Assurance Toolkit: Distance Higher Education Institutions and Programmes</i>
Resource type	Toolkit
Description	The Commonwealth of Learning partnered with the Sri Lankan Ministry of Higher Education and UNESCO to produce this toolkit, which has three features. First, it is a generic document on quality assurance, complete with a glossary of terms used in distance learning. Second, it proposes performance indicators so that institutions can gauge their own performance trends. Third, it provides best practice case studies from across the Commonwealth.
Link	http://oasis.col.org/handle/11599/105

Inclusive learning

Title	The UDL Guidelines
Resource type	Guidelines
Description	These guidelines offer a set of concrete suggestions that can be applied to any discipline or domain to ensure that all learners can access and participate in meaningful, challenging learning opportunities.
Link	https://udlguidelines.cast.org/

Title	<i>The Floe Inclusive Learning Design Handbook</i>
Resource type	Handbook
Description	This handbook is a free open educational resource (OER) to help teachers, content creators, web developers, and other stakeholders create educational resources to meet the needs of a variety of learners.
Link	https://handbook.floeproject.org/

Title	<i>Learning for All: Guidelines on the Inclusion of Learners with Disabilities in Open and Distance Learning</i>
Resource type	Guidelines
Description	These guidelines provide an overview for governments, institutions, instructors, instructional designers, and quality assurance and qualifications recognition bodies of key criteria for developing ODL platforms, processes, courses, examinations, etc. with a view to meeting the needs of all users.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000244355

Title	<i>Designing Inclusive Digital Solutions and Developing Digital Skills: Guidelines</i>
Resource type	Guidelines
Description	These guidelines explain how to offer meaningful services that support the development of digital skills and literacy, better understand and design solutions for people with low literacy by taking their unique needs and ambitions into account, and create more engaging content and usable interfaces.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000265537

Overcoming the gender divide

Title	<i>Mobile Phones and Literacy: Empowerment in Women's Hands; A Cross-Case Analysis of Nine Experiences</i>
Resource type	Report
Description	This report proposes an approach to women's and girls' empowerment that involves creating conditions that will enable them to improve their lives. It looks at how mobile phones can enhance women's literacy, and consequently their voice and participation in and opportunities for reasonable work.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000234325.locale=en

Title	<i>I'd Blush if I Could: Closing the Gender Divide in Digital Skills Using Education</i>
Resource type	Report
Description	This publication seeks to expose some entrenched social and cultural biases and to suggest how we can work towards closing the digital skills gender gap.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000367416.locale=en

Title	Room to Read
Resource type	Website
Description	Room to Read collaborated with local communities, partner organizations and governments to develop literacy skills and a habit of reading among primary school children and to encourage girls to complete secondary school by equipping them with the life skills they need to succeed in school and beyond.
Link	https://www.roomtoread.org/literacy-girls-education/

Overcoming the digital divide

Title	<i>Closing the Gap: Opportunities for Distance Education to Benefit Adult Learners in Higher Education</i>
Resource type	Report
Description	This report is an analysis of three studies to see how the distance education programmes offered by European higher education institutions can be better matched to address the needs of adult learners. In other words, how to close the gap.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000243264

Title	<i>Digital Inclusion for Low-Skilled and Low-Literate People: A Landscape Review</i>
Resource type	Landscape review
Description	This review explores how technology solutions outside of the education sector can be designed to be more inclusive, accessible and usable for people with low levels of skills and literacy; what skills such people need to use inclusive digital solutions effectively; and what key characteristics of the overall environment are needed for successful implementation of more inclusive solutions.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000261791.locale=en

Title	<i>Reading in the Mobile Era: A Study of Mobile Reading in Developing Countries</i>
Resource type	Report
Description	By painting a picture of how mobile reading is practised today and by whom, this report offers insights into how mobile technology can be leveraged to better facilitate reading in countries where literacy rates are low.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000227436.locale=en

Title	<i>A Lifeline to Learning: Leveraging Mobile Technology to Support Education for Refugees</i>
Resource type	Report
Description	An analysis of mobile learning projects and practices focusing on supporting refugees and their unique learning challenges. The insights presented from the analysis of the projects included in the report cover diverse areas such as early childhood to higher education; low- and high-income settings; formal, non-formal and informal learning; urban and rural environments; and situations before, during and after refugees flee their homes.
Link	https://unesdoc.unesco.org/ark:/48223/pf0000261278.locale=en

Distance education systems

Title	<i>Guidelines on Distance Education during COVID-19</i>
Resource type	Report
Description	These guidelines offer policy advice and practical tips on the use of distance education methods, tools and appropriate technology, and provide a roadmap for decision-makers and practitioners to integrate good practices in their specific contexts.
Link	http://oasis.col.org/handle/11599/3576

Title	<i>Planning and Implementing Open and Distance Learning Systems: A Handbook for Decision Makers</i>
Resource type	Handbook
Description	Aimed at organizations or institutions initiating or extending ODL provision, this handbook seeks to help decision-makers make strategic policy decisions about ODL provision.
Link	http://oasis.col.org/handle/11599/85

Title	<i>Planning and Management of Open and Distance Learning</i>
Resource type	Toolkit
Description	A variety of resources intended to assist in preparing and offering a workshop on providing learner support in open and distance learning.
Link	http://oasis.col.org/handle/11599/488

Title	<i>Tutoring in Open and Distance Learning: A Handbook for Tutors</i>
Resource type	Handbook
Description	This handbook explains both the principles and the practice of tutoring in open and distance learning, and also the tools that can be used to apply these principles and practices.
Link	http://oasis.col.org/handle/11599/121

Title	<i>Learner Support in Open and Distance Learning: Training Toolkit</i>
Resource type	Toolkit
Description	This toolkit explains both the principles and practice of learner support, open and distance learning, and the tools that can be used to apply these principles and practices.
Link	http://oasis.col.org/handle/11599/67

Title	<i>Supporting Continued Access to Education during COVID-19: Emerging Promising Practices</i>
Resource type	Report
Description	This report gives details of practices that can enable the provision of education in light of changes in education due to COVID-19.
Link	https://www.unhcr.org/5ea7eb134.pdf

Title	<i>The World Bank Education Global Practice: Guidance Note: Remote Learning & COVID-19</i>
Resource type	Guidelines
Description	This guidance note offers principles to maximize countries' effectiveness in designing and executing remote learning.
Link	https://documents1.worldbank.org/curated/en/531681585957264427/pdf/Guidance-Note-on-Remote-Learning-and-COVID-19.pdf

Materials development

Title	<i>Use and Integration of Media in Open and Distance Learning: Training Toolkit</i>
Resource type	Toolkit
Description	A toolkit for trainers who are using and integrating media in open and distance learning.
Link	http://oasis.col.org/handle/11599/122

Title	<i>Designing Materials for Open and Distance Learning: Training Toolkit</i>
Resource type	Toolkit
Description	This toolkit for trainers offers a variety of resources intended to assist in preparing and offering a workshop on using and integrating media in open and distance learning.
Link	http://oasis.col.org/handle/11599/46

Assessment

Title	<i>Guidelines for Online Assessment for Educators</i>
Resource type	Guidelines
Description	A practical tool for analysing and selecting online assessment tools.
Link	http://oasis.col.org/handle/11599/2446

Title	<i>Training Needs Assessment — Working with Adult Learners</i>
Resource type	Website with documents
Description	These resources include information on the particular common needs of adult learners and how to meet those needs most effectively in a training setting. There is also information on personal learning styles, which can inform the training design of a programme.
Link	https://www.go2itech.org/HTML/TT06/toolkit/assessment/adults.html

Title	<i>Teaching, Learning and Assessment for Adults: Improving Foundation Skills</i>
Resource type	Book
Description	This study looks specifically inside the programmes for adult language, literacy and numeracy (LLN) with a focus on formative assessment, the frequent assessment of learner understanding and progress to identify needs and shape teaching and learning. It covers a number of case studies from the OECD countries. LLN skills are foundational for early school leavers, older learners who have not used their skills over time, immigrant and refugee learners, and individuals with disabilities.
Link	https://www.oecd.org/education/ceeri/teachinglearningandassessmentforadults/improvingfoundationskills.htm

Title	<i>Concept to Classroom: 'How Can Technology Be Used with Assessment, Evaluation, and Curriculum Redesign?'</i>
Resource type	Website
Description	Modern technology offers educators a variety of new tools that can be used in the classroom. Technology can help teachers track and assess their learners' performance in the classroom, facilitate communication between students and teachers, and create digital records of learner growth and development.
Link	https://www.thirteen.org/edonline/concept2class/assessment/explor_sub4.html

Title	'Formative Assessment in Distance Learning'
Resource type	Article
Description	Ideas and resources for adapting and implementing assessment at a distance.
Link	https://www.edutopia.org/article/formative-assessment-distance-learning

Title	Top Tech Tools for Formative Assessment
Resource type	Website with apps and tools
Description	Using formative assessment, teachers can check learner understanding, get valuable data on student learning, and use that data to modify what and how they teach. When teachers know what learners know (or do not know), they can adjust their approach to meet learners at their own level. This website contains a selection of formative assessment apps that can be used by both teachers and learners.
Link	https://www.common Sense.org/education/top-picks/top-tech-tools-for-formative-assessment

Title	What Are the Types of Assessment?
Resource type	Website
Description	All assessment methods have different purposes during and after instruction. This website explains how and when to use them.
Link	https://www.onlineassessmenttool.com/knowledge-center/assessment-knowledge-center/what-are-the-types-of-assessment/item10637

Title	<i>Five Formative Assessment Strategies to Improve Distance Learning Outcomes for Students with Disabilities</i>
Resource type	PDF
Description	Learners with disabilities may be frustrated by the technology and the demands created by distance learning. Formative assessment may help improve their distance learning experience.
Link	https://nceo.umn.edu/docs/OnlinePubs/NCEOBrief20.pdf

Quality assurance

Title	<i>Quality Assurance Toolkit for Open and Distance Non-formal Education</i>
Resource type	Toolkit
Description	This toolkit explores quality assurance in non-formal education with an emphasis on evaluation programme outcomes, outputs and impacts. It examines approaches to quality assurance that are needed in non-formal education and introduces a rigorous but simple quality assurance framework.
Link	http://oasis.col.org/handle/11599/106

Title	Quality Assurance in Open and Distance Learning: Training Toolkit
Resource type	Toolkit
Description	This toolkit contains a variety of resources intended to assist in preparing and offering a workshop on quality assurance in open and distance learning.
Link	http://oasis.col.org/handle/11599/104

Tools using low-tech devices

Title	'Repurposing Established Radio and Audio Series to Address the COVID-19 Educational Crises'
Resource type	Article
Description	This article looks at resources on adapting audio content for distance teaching and learning.
Link	https://bit.ly/3uv3v4l

Title	'Interactive Radio Instruction: A Successful Permanent Pilot Project?'
Resource type	Article
Description	An investigation into interactive radio instruction (IRI) with links to additional resources.
Link	https://bit.ly/2PY5HSK

Title	Teaching English by Radio: Interactive Radio in Kenya
Resource type	Report
Description	This report presents a detailed description of a Kenyan project that used interactive radio instruction for teaching primary school students. It also provides information on the research and evaluation of the project.
Link	https://bit.ly/3zRVJVo

Title	Rising on Air
Resource type	Online toolkit
Description	A freely usable and adaptable 20-week programme of ready-to-air radio scripts and SMS content. It leverages structured curriculum content, redesigned for delivery via technologies widely available around the globe. The content includes literacy/language arts and numeracy/maths for five different levels across K–12.
Link	https://www.risingacademies.com/onair

Title	'Learning without Schools? Education, Relief and Government Partnerships during COVID-19'
Resource type	Webinar (video)
Description	Presentation on how two large school systems in Pakistan and West Africa are partnering with governments and NGOs to educate children at home without internet access.
Link	https://www.youtube.com/watch?v=skZuZ8sSljI



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Institute for
Lifelong Learning

Guidelines on open and distance learning for youth and adult literacy

Guidelines on open and distance learning for youth and adult literacy addresses a gap in literacy provision by presenting open and distance learning (ODL) principles and practices to illustrate how learning and education can be delivered at a distance.

This publication is divided into two main parts. Part 1 presents practical guidance in four areas—planning, development, implementation, and monitoring and evaluation—and part 2 considers the various technologies that are used for ODL programmes and could support youth and adult literacy learning.

Policy-makers, literacy providers and educators will benefit from understanding and applying the concept and principles of ODL in designing and delivering effective, inclusive and sustainable literacy programmes and learning opportunities—strengthening the resilience of their literacy programmes and expanding outreach and participation in the process.



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