Global inventory of regional and national qualifications frameworks 2019

Volume I:
Thematic chapters

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Cedefop is one of the oldest EU agencies established in 1975 by Council Regulation (EEC) No 337/75. Cedefop helps promote, develop and implement European Union policies in the field of vocational education and training, skills and qualifications, collaborating with the European Commission, the Member States and social partners. It carries out research and analyses and provides knowledge, evidence and services for policy making. The new mandate, in force since 20 February 2019 (EU) No 2019/128, confirms the Agency's development over time and its role at the interface of education and training and the labour market.

The ETF is a decentralised, specialist agency of the European Union. We work in the context of the EU's external relations policies helping transition and developing countries modernise their vocational education and training, and employment systems. We currently work with 29 partner countries, supporting them in analysing skills demand and provision, learning from international best practice, and applying innovative approaches to policy making and implementation. In turn, this fosters social cohesion and sustainable economic growth, benefiting EU Member States and their citizens through improved economic relations.

UNESCO's mission is to contribute to the building of a culture of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication and information. The UIL undertakes research, capacity-building, networking and publication on lifelong learning with a focus on adult and continuing education, literacy and non-formal basic education.

This publication is dedicated to the memory of our dear colleague Madhu Singh, expert for many years at UNESCO Institute for Lifelong Learning, who contributed much to the development and promotion of qualifications frameworks and validation at international level.

Acknowledgments

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List of abbreviations

CAEL	Council for Adult and Experiential Learning
Cedefop	European Centre for the Development of Vocational Training
CNEFOP	Conseil national de l'emploi, de la formation et de l'orientation professionnelles (National Council for Employment, Training and Vocational Guidance – France)
CREFOP	Comité régional de l'emploi, de la formation et de l'orientation professionnelles (Regional Committee for Employment, Training and Vocational Guidance – France)
CVET	Continuing vocational education and training
DARES	Direction de l'animation de la recherche, des études et des statistiques (Directorate for Research, Studies and Statistics – France)
EMIS	Education management information system
EQF	European Qualifications Framework
ESCO	European classification of Skills, Competences, Occupations and Qualifications
ETF	European Training Foundation
EU	European Union
EURES	European Job Mobility Portal
ICT	Information and communication technology
ILO	International Labour Organisation
LMI	Labour market intelligence
LMIS	Labour market information systems
MBO	Management by objectives
NGO	Non-governmental organisation
NOI	New Opportunities Initiative (Iniciativa Novas Oportunidades – Portugal)
NPM	New public management
NQF	National qualifications framework
OECD	Organisation for Economic Cooperation and Development
PLA	Prior learning assessment
RNCP	Répertoire national des certifications professionnelles (national directory of vocational qualifications – France)
RPL	Recognition of prior learning
RVA	Recognition, validation and accreditation
RVCC	Reconhecimento, validação e certificação de competências (recognition, validation and certification of competences – Portugal)
SAQA	South African Qualifications Authority

SMEs	Small and medium-sized enterprises
TVET	Technical and vocational education and training
UIL	UNESCO Institute for Lifelong Learning
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USA	United States of America
VAE	Validation des acquis de l'expérience (validation of experience – France)
VET	Vocational education and training
WRL	World Reference Levels

Introduction

This fourth edition of the *Global Inventory of Regional and National Qualifications Frameworks* arrives at a crucial moment in the relatively short history of qualifications frameworks as tools within the wider reforms of education and training systems. Numbers of frameworks, national and regional, remain stable, while implementation of most frameworks has deepened and widened since 2017. At the same time, frameworks are evolving in a context of ever-faster technological, social and economic changes. These include intensified globalisation and internationalisation of labour markets, the advance of digital technologies, and migration. Much of this change has a direct bearing on the purposes and function of frameworks, notably the search for systems which compare skills and qualifications internationally, the emergence of digital credentials, and the development of methods and tools to recognise the skills of migrants and refugees, especially where those skills are undocumented or not formally certificated.

We observe first, in national implementation, that learning outcomes underpin most European education and training systems, as well as those in many other industrialised countries around the world. Further, they are making significant inroads in developing or transition countries, from the European Neighbourhood of Eastern Europe to the Southern Mediterranean, Africa, Asia and the Pacific. Internationally, regional qualifications frameworks and the World Reference Levels – an emerging global tool to describe and compare an individual's skills and qualifications – use learning outcomes as their conceptual basis and common language. The World Reference Levels have advanced significantly since 2017, and will shortly enter general use. The ASEAN Qualifications Reference Framework becomes the second world region framework to be operationalised, joining the European Qualifications Framework. But the story is not one of universal progress. Some countries are hampered at governance and institutional levels by weak coordination of stakeholders, insufficient cooperation between different sectors, and an absence of adequate regulatory oversight. They are also held back in implementation by poor quality of training provision, insufficient opportunity for teacher continuing professional development, and uneven application of outcomes in curricula and qualifications.

At the same time, entirely new systems and symbols of accreditation and credentialing are gaining ground in the day-to-day negotiation between learners, workers and employers, resulting in the rise of digital credentials, a term covering a range of methods and tools which capture and recognise learning outcomes. Countries are increasingly confronting the issue of how to link frameworks more directly to learners and workers, by examining how they know about skills and qualifications via information systems and tools and career guidance, and how they can acquire them, through learning and teaching. Here, again, we observe the centrality of outcomes, as curricula and teaching reforms are increasingly influenced by this underpinning concept in qualifications.

Perhaps the most pressing, and certainly the most rapidly evolving challenge qualifications frameworks must face, is that of digitisation of economies and societies. Digitisation has spread further and faster than any preceding innovation, simultaneously exposing and expanding major challenges to economic growth and social cohesion. Digitisation deserves attention in its own right because it has emerged as arguably the most important driving force in the economy today. It not only disrupts established business practices but it has a sizable impact on labour markets by creating new jobs and destroying others, and by requiring people to update their skills.

These changes have raised interest in lifelong learning by its inclusion as a central feature of the 2030 Agenda for Sustainable Development, where in Goal 4 in particular, UN member states have committed to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (UN, 2015). The recent release of the report by the ILO Global Commission on the Future of Work has also given high attention to lifelong learning. The report calls for a human centred agenda for the future of work that 'means investing in people's capabilities, enabling them to acquire skills, reskill and upskill and supporting them through the various transitions they will face over their life course' (ILO, 2019, p. 24).

Actors and stakeholders engaged in developing qualifications frameworks are alert to these various challenges, and are responding by adapting and updating their frameworks and associated tools

and systems, notably by focusing on transparent, multi-level governance; decentralised and flexible cooperation mechanism; and inclusive and equitable social and technological standards. Governments, international organisations, and, encouragingly, the private sector are all engaged in these efforts to develop qualifications frameworks to meet these challenges. The participation of all sectors is necessary to 'repurpose our education systems for lifelong learning, for resilience and for emotional and social intelligence in the face of uncertainty and change,' as UN Deputy Secretary General Amina Mohammed put it[1]. The contribution of regional and national qualifications frameworks to this repurposing should not be underestimated, because when it comes to proving skills in order to access or to allocate work, fundamental questions of trust between individuals and institutions and, increasingly, across borders, must still be addressed. Quality-assured qualifications, that is qualifications which meet conditions of labour market need and learner relevance, as determined by stakeholder engagement, remain the best representation of an individual's skills. Qualifications frameworks are instruments not only for collating and comparing qualifications, but also for activating them as enablers of systemic – and societal – diversity and development.

Scope of the inventory

The present edition of the *Global Inventory of Regional and National Qualifications Frameworks* maintains the role established by preceding editions, gathering knowledge and insight from the international range of contexts in which regional and national qualifications frameworks operate. In continuing this observatory function, the inventory highlights progress and areas for improvement in the context of emerging trends and policy priorities.

As with the previous edition, this volume draws on inventories from four organisations: the European Centre for the Development of Vocational Training (Cedefop), the European Training Foundation (ETF), the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the UNESCO Institute for Lifelong Learning (UIL). As ever, their observations are based on the close working relationships with country officials, experts and practitioners that create a vital two-way flow of news, data and documentation. It also draws on extensive international research in the development of digital qualifications, accessing and acquiring skills and qualifications, the proliferation of learning-

outcomes-based management within wider reform efforts, and approaches to the recognition of prior learning, both in general and for migrants and refugees in particular.

Volume II comprises more than 100 national qualifications framework country chapters, from all the continents, plus seven world regions qualifications frameworks chapters. The country chapters follow a similar, comparable format, describing the characteristics and analysing the development and implementation of the respective national frameworks. They provide the educational, social, economic and policy context which shape countries' national qualifications frameworks; assess the application of learning outcomes in the national education and training system; summarise the governance, stakeholder and legislative arrangements countries have adopted; examine the links between national qualifications frameworks and associated policies, instruments and services, including validation of non-formal learning; and conclude with an assessment of impact, successes and challenges.

Thematic focus

The current edition's thematic focus is evidence of the degree to which three core areas are dominating the direction of reforming policies; digitisation, recognition of prior learning, and outcomes-based approaches to managing education and training. The chapters follow a structure reflecting these three areas. We begin with digital dimensions in methodologies for constructing and comparing qualifications, before moving on to a wide-ranging discussion of the development and impact of learning outcomes as part of a management-by-outcomes imperative in public institutions and systems, and then examine recognition, validation and accreditation of prior learning through the perspectives of international policy trends and specific case studies, as well as the experience of migrants and refugees. The volume concludes with an exploration of the benefits which can be gained from forging closer links between qualifications frameworks as policy tools, and the practitioners whose work makes them meaningful and valuable to individuals and society as a whole.

Digital dimensions of comparison and change in qualifications
In Chapter 1's examination of world reference levels for lifelong learning, John Hart and Borhene Chakroun pick up the story from the final w of the previous edition (by Chakroun and Katerina Ananiadou). In response to the internationalisation

of education and training systems and labour markets, including ever-greater mobility within both spheres, the International Congress on TVET held in Shanghai in 2012 witnessed a commitment by UNESCO to develop World Reference Levels to function as internationally-viable guidelines on quality assurance for the recognition of qualifications. Chakroun and Hart establish the background to this effort, and explain how the World Reference Levels tool 'translates' sets of learning outcomes into standardised, globally recognisable reports using a digital app. Despite the great variety of ways in which job requirements and education and training programmes are described, the authors identify a set of pervasive themes, which can be characterised as three questions posed from the learner's perspective: What am I accountable for? What must I be able to demonstrate or apply? And what must I be capable of responding to? In other words, these questions exemplify the competences attaching to Elements of Progression within the World Reference Levels – accountabilities, capacities and contingencies, respectively.

Chakroun and James Keevy consider digital credentials and interoperability in Chapter 2, in a discussion extracted from a previous UNESCO report looking at the rise of new credentialing methods. Employers, learners, and parents are increasingly expressing dissatisfaction with the degree as a 'gold standard' for labour market access. New 'micro' credentials offer cheaper, faster routes, and potentially greater returns on the investment required to attain them. Micro credentials, such as digital badges, are distinguished from traditional credentials by a number of characteristics, including 'stacking' (i.e. sequential, asynchronous accumulation) and machine readability, although these remain subject to trust and quality assurance issues. UNESCO's report proposes an 'ecosystem' of credentials based on use, provision, awarding, quality assurance evaluation, verification and governance, and describes various 'architectures' of tools and technology currently in use.

Concepts and impacts of learning outcomes
Jens Bjørnåvold, in Chapter 3, explores the growing influence of the learning outcomes approach, and its active use as a reform tool within policy, institutional management, and pedagogy. The author notes that the use of the learning outcomes approach in these areas is associated with high ambitions and aspirations. Drawing on the latest research, he discusses how far these aspirations and ambitions have been met. One concern is identifying the extent to which a shift to learning outcomes at political and administrative level

actually influences teaching and learning processes. The author argues that while the learning outcomes approach in recent years has started to influence qualifications systems, standards and curricula, its impact on the teaching and learning processes is still limited. In the longer term, the author believes, the transformative potential of learning outcomes depends on the way they are used to facilitate more learner-centred approaches in education and training.

Recognition, validation and accreditation of prior learning: What to count? Whom to include?
The next two chapters cover critical aspects of the recognition, validation and accreditation of prior learning (RVA), also termed validation of non-formal and informal learning (VNFIL), or recognition of prior learning (RPL). In Chapter 4, Ernesto Villalba-Garcia and Borhene Chakroun look at RVA models and monitoring, before presenting four short case studies. In Chapter 5, Ruud Duvekot and Raúl Valdés-Cotera consider the experiences of migrants and refugees, and the struggle for inclusive policies and practices. Villalba-Garcia and Chakroun's discussion is framed by the centrality of RVA in the UN Sustainable Development Goals, specifically Goal 4, 'to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'. RVA contributes by enabling people to adapt to a flexible and fast-changing labour market, and can reduce 'qualifications deficit' amongst adults. It serves as a holistic assessment of an individual's capability at a specific point in time, but it is conducted differently in different countries, depending on a large number of variables. The authors set out the main features of validation in four mini case studies, from France, South Africa, Portugal and the United States. They go on to suggest the main dimensions of RVA monitoring and evaluation, in the shape of four questions: Are those most in need of RVA of prior learning able to access it? Is the approach to RVA in any given country of sufficient quality, with suitable indicators identified? Are the outputs – in the form of certification – right in terms of quality? And are the outcomes fit for purpose for individuals and for employers? The case studies present valuable details of approaches to monitoring and evaluation of RVA for decision-making, and show the importance of precise definitions of what is meant by RVA and how its outcomes are to be measured.

From the perspective of those who are deemed 'newcomers' in a society – i.e., migrants and refugees – social inclusion is inextricably linked to learning and career opportunities. RVA plays a significant part in facilitating integration, and in Chapter 5 Duvekot and Valdés-Cotera demonstrate

how appropriate interventions by and with key stakeholders in the RVA process lead to benefit for all. People move for different reasons, sometimes by choice and sometimes not. Whatever the causes, the numbers are growing. Close to a quarter of a billion people do not live in their home country, according to the UN's 2017 *Global Migration Report*. When newcomers are learning or working (or both), they and their host communities benefit. Putting RVA at the core of flexible pathways helps to make that possible. High levels of migration put pressure on education and training systems, and limit the ability of those systems to enable the access to learning that people need to 'shape their own destinies'. Migrants and refugees often find the doors of receiving countries' formal education and training systems closed to them. But several countries are developing legal, regulatory and civil society initiatives to promote skills development and labour market access, thus enabling better integration.

Understanding the benefits of skills and qualifications
To deliver benefits to learners and employers, national qualifications frameworks need to be connected to system elements that allow people to acquire skills and qualifications. National qualifications frameworks are now in place in many of the ETF's partner countries in the EU neighbourhood, but reforms are needed in system elements to establish meaningful connections between people and the benefits that a national qualifications framework can bring. After all, learners, workers and employers are people, not merely abstract concepts. The issue is to identify how people know about and acquire skills and qualifications, and to treat these two related, but not identical, markers of human capital in the same way. A forthcoming ETF study has set out to understand the enablers and barriers of such a process, which is summarised in Chapter 6, co-written by Michael Graham, Arjen Deij, Mirjam de Jong, Jolien van Uden, Carmo Gomes and Eduarda Castel Branco. The study is guided by three core questions: How do people know about skills and qualifications? What types of skills and qualifications do they need? And how can people be supported to acquire them? The authors consider how countries can enable people to access and acquire skills and qualifications, by looking at system elements such as career guidance, curricula, and teaching and learning.

CHAPTER 1.
WORLD REFERENCE LEVELS FOR LIFELONG LEARNING: A TOOL FOR COMPARISON AND RECOGNITION OF LEARNING OUTCOMES

John Hart, independent consultant, and Borhene Chakroun, UNESCO

Summary

Following the recommendation of the the Third International Congress on Technical and Vocational Education and Training (TVET), held in 2012, UNESCO has been working with experts, international partners and regional organisations overseeing regional qualifications frameworks to develop a set of World Reference Levels (WRLs) to facilitate international recognition of qualifications. This chapter describes the process by which a tool has been developed to achieve this aim. The WRL tool takes the form of a digital levelling instrument (the WRL app) which can turn the specification or description of a qualification, credential, or other set of outcomes into a standardised analytic profile and report capable of supporting international comparisons and recognitions. The chapter also describes the plans for piloting the WRL tool to ensure that it can support better, fairer and more transparent recognition of skills and qualifications within and across borders.

1.1 Introduction and background

Since 2014, several reports and articles (Chakroun, 2013; Keevy and Chakroun, 2015; Chakroun and Ananiadou, 2017) have reported on the progress in developing World Reference Levels (WRLs) for learning outcomes. The work on WRLs was undertaken in response to a recommendation of the Third International Congress on TVET in Shanghai in 2012. The outcomes of this congress, known as the Shanghai Consensus, contained nine far-reaching recommendations aimed at improving the role and quality of TVET around the world, and in one of these, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) was called upon 'to identify a set of world reference levels, to facilitate the international comparison and recognition of TVET qualifications' (UNESCO, 2012, p. 6).

In the decades preceding and following the Shanghai Consensus, three global trends have combined to give urgency to that call: continuing growth in migration around the world, the increasing globalisation of the labour market, and the internationalisation of education and training. Recent figures from the United Nations (UN, 2017) estimate that 258 million people are living in a country other than their country of birth, an increase of 49% since 2000. People migrate for many reasons: to seek or take up work; to study; to be closer to family or friends; to be part of a way of life that is more in tune with their wishes or values; or to escape oppression, persecution and terror. For most of these individuals, whatever their reason for migrating, it is important to have their qualifications (in whatever form they take) recognised to give them access to employment or to education and training. This recognition may be within a national education system, by employers and/or by an occupational sector. The volume of migration has created a need for mechanisms and agreements to assist both those making claims for recognition and those responding to these claims by giving employment or granting admission to further learning.

The recently adopted Global Compact on Migration for Safe, Orderly and Regular Migration was endorsed by the UN Member States on 13 July 2018 and adopted in December 2018. Recognising the need for a Global Skills Partnership, Objective 18 is dedicated to the issue of investing in skills development and facilitating the recognition of skills, qualifications and competences. It calls upon Member States to '[b]uild global skills partnerships amongst countries that strengthen training capacities of national authorities and relevant stakeholders, including the private sector and trade unions, and foster skills development of workers in countries of origin and migrants in countries of destination with a view to preparing trainees for employability in the labour markets of all participating countries' (UNGC, 2018, pp. 25–26). In this way, it responds to Goals 4 and 8 of the UN Sustainable Development Goals, which call for countries to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' (Goal 4) and to 'promote

sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all' (Goal 8).

In today's world, some migration comes about because employers are taking advantage of the relative ease with which they can now reach over borders to find individuals with the capabilities they need. However, the wider the spread of countries from which they want to recruit, the more national qualifications systems they need to be familiar with. This internationalised labour market has contributed to the need for a new way to compare qualifications, credentials and other outcomes of learning from different systems.

Learning across boundaries has become a global phenomenon. Today, not only people and jobs but also study programmes and education and training institutions are increasingly internationally mobile. This increased mobility calls for fair and valid recognition of learning outcomes at national, regional and international levels. However, migrants at all skills levels, particularly medium and lower, are often vulnerable to labour exploitation and lack of protection. Labour market integration and career development are key factors in improving productivity, social cohesion and sustainability. Recognised skills and qualifications can be an asset for migrants' integration, and in order to reap the potential benefits and advantages, migrants' learning and qualifications achieved before and after migration have to be recognised, valued and further developed in their countries of destination and origin.

The work on WRLs is also affected by the growing digitisation trends. Future developments will need to take into consideration at least two areas: (i) the emergence of new types of digital credentials, including open and online badges; and (ii) the use of digital technologies to improve the quality and transparency of the recognition process itself (Keevy and Chakroun, 2018).

1.2 Progress in developing WRLs

Numerous processes for registering, classifying, comparing, matching and referencing qualifications and credentials have been, and are being, created to respond to the need to compare and recognise qualifications across international boundaries. UNESCO has now developed a WRL tool that can supplement and support these processes. The tool is capable of helping to meet the needs of individuals looking for recognition and of recruiters or gatekeepers (such as credential evaluators

and national recognition agencies) looking to give recognition.

Although the impetus for the WRLs was strongly vocational, as contained in the Shanghai Consensus Recommendation (UNESCO, 2012), the decision was made not to limit the work only to TVET levels. This decision was based on the argument that level descriptors are generally used for all levels and sectors of education and training in a lifelong learning perspective, and, hence, the WRLs would be more widely applicable. The WRLs will offer a lingua franca that can be used not only with technical and vocational qualifications and credentials, but also with professional, general and academic qualifications, credentials and less formal sets of learning outcomes, and with job specifications and entry requirements for learning programmes.

The WRL tool works by translating sets of learning outcome statements[2] into standardised reports, using a conceptual structure that should be recognisable around the world. It will work with all kinds of qualifications and credentials[3], and also with other significant sets of outcome statements, such as level descriptors, occupational standards, learning programmes and requirements for admission to learning programmes, job descriptions and person specifications for all kinds and levels of work roles. An important advantage of the WRL tool is that because it focuses on translation into the lingua franca, it can be used without any requirement to change or realign the qualifications, credentials or other sets of outcomes that it translates and reports on. As illustrated in Figure 1.1, this means that any kind of qualification, credential or other set of outcomes, can be processed by the WRL tool without requiring any change in format or content, to produce a standardised profile and report, capable of being compared with any other WRL profile or report.

The WRL tool has been developed with the support of an international expert group established by

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[2] The term 'outcome statement' is used here to denote a formal description of what an individual is required to be able to do, including demonstrating or applying knowledge and understanding, for a particular purpose. It may relate to the assessable outcomes of a qualification or credential, or to the essential capabilities or competences in a job specification, or to the conditions of entry to a programme of learning.

[3] Increasingly, these may take the form of online provision leading to some kind of record of achievement and might be labelled a digital badge, a nano-degree, a micro-certification, a web badge, a mini-degree or an open badge.

Figure 1-1. The WRL process
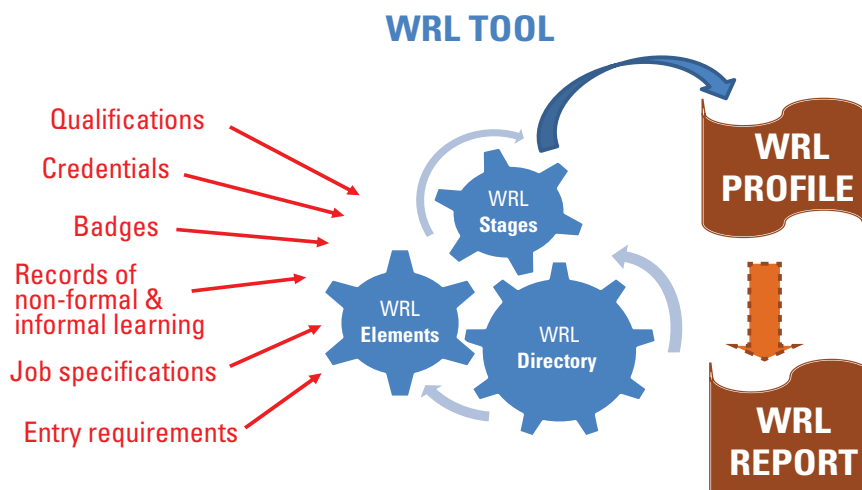
Source: Authors.

UNESCO in 2015. The views of the expert group were shaped into the following principles, which were used in creating the WRLs and the WRL tool.

1. The main purpose of the WRLs should be to assist actors across the world to make comparisons of the outcomes of lifelong learning and reach agreements on the recognition of qualifications and credentials.
2. The WRLs should be capable of being used in conjunction with qualifications frameworks and other frameworks of outcomes from around the world – frameworks with different purposes, different numbers and forms of levels, and different approaches to defining levels.
3. The WRLs should take the form of a tool, building on, but not replicating or replacing, the work of existing national and regional qualifications frameworks.
4. The WRL tool itself should not act as a qualifications framework.
5. The WRLs should describe a range of elements of capability that should be derived from, and be compatible with, the contents of level descriptors used in qualifications frameworks and related structures.
6. The function of the WRL tool should be to turn the user's specification or description of a qualification, credential, or other set of outcomes into a standardised analytic report capable of supporting international comparisons and recognitions.
7. These standardised reports should combine factual information, professional judgements and the evidence for these judgements.
8. They should be relatively detailed in form, but easy to generate.

9. The primary means of delivering the WRLs should be digital, but an analogue (paper-based) version should be available.

The result of this work is a WRL tool in two forms: a digital levelling instrument (the WRL app) and a back-up paper-based instrument. The WRL tool is used to create a graphical profile that translates any set of outcomes into WRL terms, and a more detailed report for any qualification or credential that has been awarded on the basis of quality-assured assessment. The profile and report are based on eight WRL stages of progression and eleven WRL elements of capability backed by a WRL directory of clearly defined and cross-referenced concepts. These three components of the WRLs (stages, elements and directory) are designed to support clear communication between actors from different countries and different sectors with a shared interest in extending the understanding and recognition of the outcomes of learning. The following sections present the three components of the WRLs and the digital tool. The paper ends with a conclusion regarding the next steps for piloting the WRL tool in different contexts.

1.3 The WRL tool

At a time when national agencies, awarding bodies, education institutions and employers have to deal with a growing range and diversity of qualifications and credentials from different systems, the WRL tool offers an accessible way to translate the many frameworks of qualifications, credentials and other set of outcomes from all sectors of learning and work into shared and exchangeable terms. It

does this by breaking down the large questions of equivalence and recognition into smaller elements and indicators, and guiding the user through the process of creating a WRL profile and report based on these elements and indicators, while allowing the user to keep control of both inputs and outputs. These outputs will then be available for scrutiny and acceptance, further investigation or rejection by the organisations or institutions responsible for making decisions on recognition.

1.3.1 The levelling

The WRL tool builds on some of the common characteristics of outcomes-based frameworks for classifying qualifications, credentials and other sets of outcomes. At first sight, it may appear to be an ambitious qualifications framework. However, in a number of important general and specific respects, the WRL tool is significantly different from most frameworks for qualifications, credentials and competences.

With the WRLs, the aim is to produce a spectrum of information about how qualifications, credentials or other sets of outcome statements relate to a range of elements of capability. Different combinations of these elements define what is required to carry out specific roles in work or study. Each element will be recorded as being at a specific stage of progression or be flagged as 'not fully relevant' to the qualification, credential or other set of outcomes that is being profiled. This will make comparisons of specific qualifications, credentials and competences accessible, informative and more detailed than is usual when comparisons are based only on framework levels. The need for *best fit* will be reduced and there will be no requirement to average out the findings. This approach will give a relatively detailed and wide-ranging picture of the qualification, credential or competence in standardised terms that can be understood across the community of WRL users and easily related to any number of frameworks with any number of levels.

Research into a wide range of frameworks of different kinds[4] suggested that, in order to strengthen their applicability, the WRLs should

have a restricted number of levels and four broad levels were identified. These are briefly described below.

- **Level A** ranges from the essential demands of modern society, learning and work (functional literacy, numeracy, use of information and communication technology, general knowledge) to the capabilities associated with basic studies and simple work roles.
- **Level B** ranges in academic terms from the kinds of outcomes typically set for the end of compulsory education to the kind of outcomes typically associated with entry to tertiary or higher education studies. In work terms, it ranges from the capabilities required to carry out relatively independent, but routine, work roles to skilled work and supervisory roles.
- **Level C** is characterised by the capabilities associated with the first cycle of tertiary or higher education or the work roles of para-professionals, junior professionals, specialists and managers.
- **Level D** is characterised by advanced intellectual and occupational capabilities. It includes outcomes associated with the second and third cycles of higher education, and the activities and responsibilities of independent specialists, technologists, analysts, and executives with extensive and/or strategic responsibilities.

Because these are deep levels, progression within the levels has been built into the structure, with lower and higher stages of development identified at each level. These are the eight WRL stages of progression, labelled A1 and A2, B1 and B2, C1 and C2 and D1 and D2. Each pair of stages shares forms of capability that are characteristic for the level, but each stage also identifies crucial differences in the quality, scope or conditions that apply to the shared characteristics and define the stage.

1.3.2 Critical factors in defining levels

The WRL tool creates a graphical profile and a structured report on qualifications, credentials and other sets of outcomes based on 11 elements of capability. These elements are derived from the concepts that combine to define levels and show where progression can take place in different kinds of framework related to qualifications, learning and employment. They are referred to here as 'critical factors'. They were initially identified by analysing the level descriptors of a range of qualifications frameworks to identify the most commonly used factors, and these findings were then compared with a range of other related structures to ensure

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4   These included national, regional and sectoral qualification frameworks, competence frameworks, knowledge and skills frameworks for specific occupations, job evaluation frameworks, occupational information/career guidance frameworks, the European Dictionary of Skills and Competences (DISCO), the European classification of Skills, Competences, Occupations and Qualifications (ESCO) and the International Standard Classification of Education (ISCED) and of Occupations (ISCO).

breadth of applicability. More than 20 factors were identified in the first set of analyses[5].

A second round of analyses was carried out, focusing more closely on the nature of level-to-level progression in the level descriptors of the sample frameworks. As a result, the number of critical factors could be reduced from 20 to 11. These were:

- nature and scope of academic and occupational activities;
- knowledge and know-how;
- skills and procedures;
- discrete communication skills;
- accessing and using data;
- problem-solving and research;
- type and degree of responsibility for these activities;
- working with others;
- monitoring performance and learning to maintain or improve quality;
- action relating to values;
- the context of activities.

These factors were the bases on which the WRL elements of capability were developed.

1.3.3 An organising structure for progression in the WRLs

The order in which the critical factors appear in frameworks and related structures varies a great deal, depending on whether the descriptors are more oriented towards learning or towards performance: frameworks that are oriented towards learning usually start with knowledge; frameworks that are oriented towards performance usually start with activities or contexts. Meeting the aims of the WRLs required the creation of a neutral arrangement that reflects a more generic way of thinking about capability and progression. The next

step, therefore, was to place these common factors into a new organising structure that brought these different perspectives together.

To accord with the purposes and principles of the WRLs, any taxonomic structure would have to be applicable to all kinds of academic, social and occupational outcomes achieved through formal, non-formal and informal learning. It would also have to link clearly to common academic and occupational levels, or stages of progression, in a form that could be shown to link to users' everyday concerns. Given the anticipated range of users, the taxonomic structure would have to be flexible enough to adapt to sectoral needs, but robust enough to maintain a common identity across sectors.

Following the recommendations of Keevy and Chakroun (2015), a review of classic taxonomies of learning and outcomes was carried out; this included work by Bloom (1956), Anderson and Krathwohl (2001), Biggs and Collis (1982) and Dreyfus and Dreyfus (1986). Work by Marzano and Kendall (2007) and Denning and Flores (2016) was also considered. These reviews showed that while these taxonomies were useful in offering evidence about the nature of certain kinds of progression in the acquisition of different kinds of understanding and skill, none of them would meet all the needs of the WRLs.

In broad terms, it can be said that these taxonomies are focused on understanding progression in learning with the aim of improving teaching/training and assessing. However, WRLs need to capture and report on the broad range of capabilities that are the focus of negotiations on recognition of qualifications, credentials and other forms of learning at different levels to give access to both further learning and employment. In order to make the reports produced by the WRLs recognisable to teachers, academics, trainers, managers and employers, an organising structure is required that gives equal place to outcomes of learning, performance and experience, and classifies the WRL elements in a way that reflects ways of thinking about qualifications as a basis for progression in both the educational world and the world of work. The most immediate sources for this kind of focus are prospectuses for school, college and university programmes, and job and person specifications for posts at different levels in different sectors.

An initial review of relevant documents and websites showed significant differences in formats for describing programmes and posts. However, three pervasive themes or perspectives emerged

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5   In qualifications frameworks, the factors are usually grouped under broad headings such as 'knowledge', 'skills', 'application', 'practice', 'role', 'context', 'responsibility', 'autonomy', 'leadership', 'social skills' and 'life skills'. The formula 'knowledge, skills and competences' is often used to represent this diverse range of headings, but this formulation hides the extent to which the headings can, in practice, differ in both scope and meaning. In current frameworks, the groupings are variously referred to as 'characteristics', 'criteria', 'domains', 'indicators', 'categories' and 'strands'. The number of groupings can range from two to five, and some groupings may then be subdivided into two or three sub-groupings. Within each grouping or sub-grouping, there is usually a number of outcome statements, each isolating a critical factor, at each level. Specific factors (such as depth of knowledge, breadth of knowledge, type of skill, communication skills, leadership, responsibility for quality) can appear under different headings in different frameworks, or even under different headings in a single framework.

that could be used to organise the 11 critical factors identified from common usage in qualification and other outcomes-based frameworks into the WRL elements of progression. These might be said to focus on what individuals should expect to (i) be accountable for; (ii) be able to demonstrate or apply; and (iii) be capable of responding to. This is shown in Box 1.1.

Box 1-1. Element clusters as they may appear in work and study specifications

Programme/qualification specifications
1. Nature of the course of learning – structure and level
2. Expected or required outcomes – expressed as skills and knowledge
3. General information about potential learning and assessment arrangements

Programme/course entry requirements
1. Experience in/capacity to undertake a specific type of study/work*
2. Evidence of specific skills, knowledge and/or experience*
3. Capacity to learn in certain contexts

Job adverts
1. Nature of the employer's business and nature of the work on offer
2. Specific skills, knowledge and experience required
3. Any special conditions; development possibilities

Person specification
1. Capacity to undertake a specific type of work or work role**
2. Requirements for evidence of specific skills, knowledge and/or experience**
3. Capacity to work in certain type(s) of social situation or work environment and deal with certain type(s) of contingency

* These may be expressed as types of qualification or specific qualifications.
** These may be related to a specific type or level of qualification.

Source: Authors.

In WRL terms, where the intention is to bring together academic, vocational and work-related outcomes and requirements, the scope of these three perspectives can be defined as follows:

- the nature and scope of the academic, social or occupational activities that an individual can/is required to carry out, take responsibility for, collaborate on, and/or monitor and improve performance in – in the WRL system, these are referred to as '**accountabilities**';
- the type and complexity of intellectual and practical capabilities (deployable skills and knowledge) that an individual has/needs in order to carry out activities successfully – in the WRL system, these are referred to as '**capacities**' and

they include communication skills and the ability to access and use data as discrete elements;
- the type of academic or occupational context (e.g. structured, stable, complex, strategic) in which individuals can/will have to carry out activities and in which they can identify and/or investigate and/or deal with technical, social, ethical or environmental problems and issues that arise – in the WRL system, these relate to the capacity/need to deal with changes and challenges in the course of work or study and are referred to as '**contingencies**'.

The use of these perspectives as an organising structure for the development and use of the WRLs is illustrated in Figure 1.2. Annex 1 provides details regarding each factor.

Figure 1-2. Organising structure of the WRLs
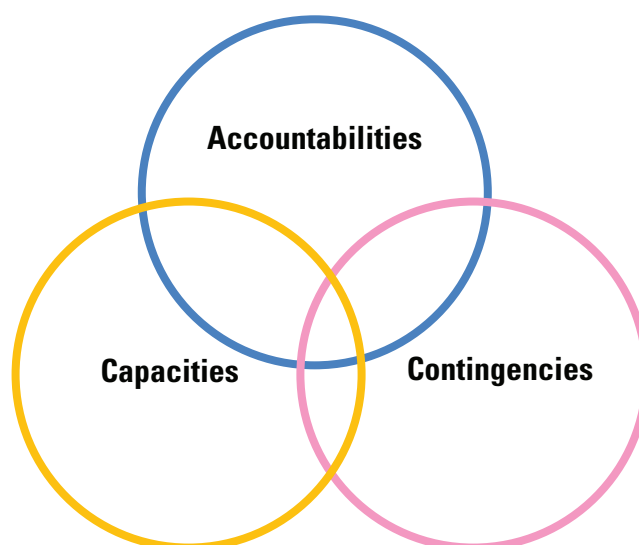
Source: Authors.

Clearly there are some overlaps between these perspectives. For example, the complexity of the contingencies that individuals have to deal with and the sophistication of the capacities they have to deploy will be related to the complexity of the responsibilities for which they are accountable. However, this is more likely to be an advantage than a disadvantage in creating a tool that can be used by individuals and organisations with different backgrounds, understandings and expectations. In all parts of the WRLs, the intention is to accommodate these differences while translating them into a lingua franca, and the overlaps – perhaps better seen as areas of tolerance – should allow users to capture aspects of capability in different ways and in different terms, and in this way assist in achieving the aim of the WRLs.

The 11 WRL elements that were developed in this way are listed below (with short titles in **bold**).

Accountabilities: carrying out and managing activities

- scope and nature of **activities**
- scope and nature of **responsibilities**
- role in **working with others**
- role in monitoring performance and learning to improve **quality**

Capacities: using skills, knowledge and know-how

- scope and nature of **skills and procedures**
- scope and nature of skills for **communication**
- scope and nature of skills for accessing and using **data**
- scope and nature of **knowledge and know-how**

Contingencies: responding to recognised and emerging contextual factors

- the nature of **contexts** of activity
- role in researching and/or addressing **problems and issues**
- role in addressing issues relating to **values**

1.4 The WRL digital tool app

The WRL digital tool (the WRL app), which is under development at the time of writing, is an instrument for translating qualifications, credentials or other sets of outcomes into WRL terms using the WRL element outcome statements. It will be a free-standing programme that can be downloaded for use on local computers or intranets. It will support users to produce a graphical WRL profile and (in the case of qualifications and credentials) a structured WRL report describing the qualification, credential or other outcome in terms that will be of use to other WRL users.

Figure 1-3. WRL welcome page

Welcome to the World Reference Levels (WRL) App

The App will help you to translate any outcomes-based qualification, credential, entry requirements, job specification or framework level into an internationally recognised form of description which you can use in deciding on or negotiating recognition or progression arrangements.

Name

Organisation

Position/role

Email

Next

Source: Authors.

The WRL digital tool will contain all the information required to create the graphical profile and will allow users to call up the terms and meanings in the WRL directory as they proceed. Throughout the process, users will be able to control both the sequence and the outcomes of the analysis to ensure that their qualifications, credentials or other sets of outcomes are accurately described and properly represented.

The WRL profile will show where and how a qualification, credential or other outcome matches the relevant WRL elements and WRL stages. An illustrative example of a WRL profile is shown in Figure 1.4.

To create a graphical profile, the Digital Tool will support users to decide, element by element, which stage is the best match for the outcomes they are translating into WRL terms and to record the evidence that backs up their judgements. It does this by posing a series of questions relating to the element and inviting users to select from a fixed menu of answers. In each case the answer may be 'not fully relevant'. This will mean that any part played by the element in the qualification, credential or other set of outcomes is not significant enough to create an entry in the profile. The programme offers explanations from the WRL directory to explain the significance of many of the potential

answers, but there is no restriction on the number or combination of answers that can be selected. The programme then uses a specially designed scoring system to suggest the appropriate stage for the element and proposes this to the user. The user can examine the relevant outcome statements and accept the proposal or reach a different conclusion. In either case, the user is invited to record evidence from the qualification, credential or other set of outcomes to back up the choice of stage. In the case of qualifications and credentials, the most important evidence will take the form of information about assessed outcomes. However, the evidence could also relate to the purpose, target holders/users, assumed capacities on entry, or other information about progression.

The WRL digital tool will also gather information from the user to create a detailed structured report to back up and elaborate on WRL profiles for qualifications and credentials. In the WRL report, the WRL digital tool will organise information about the nature of the qualification, credential or other set of outcomes in a standard format. This report is intended to give enough information to allow those responsible to decide whether a qualification or credential meets their needs sufficiently to justify further investigation or other action. It will include

Figure 1-4. WRL profile

Technical skills credential (awarded by Xxxxx)								
Stage element	**A1**	**A2**	**B1**	**B2**	**C1**	**C2**	**D1**	**D2**
1. Activities								
2. Responsibilities								
3. Working with others	not fully relevant							
4. Quality	not fully relevant							
5. Skills & procedures								
6. Communication								
7. Data								
8. Knowledge & know-how								
9. Context								
10. Problems								
11. Values	not fully relevant							

Source: Authors.

a combination of fixed and free-form responses to questions about:

- user status and contact information;
- title, sector, purpose and intended learners of the qualification or credential;
- the awarding, accrediting and/or standard-setting bodies, as appropriate;
- the type, level, structure and size of the qualification or credential;
- how it is intended to be delivered and assessed;
- standards incorporated in or met by the qualification or credential;
- information about assessment and quality assurance.

The paper-based version of the WRLs will be accompanied by guidance on how information in qualifications or other specifications of capabilities should be matched against the components of the WRLs, and how the results of this matching should be reported to make them easy to understand and to use as a basis for discussions and negotiations. This 'analogue' approach might be supplemented by digital tools to support the matching process.

1.5 Conclusion and next steps

The WRLs have been developed using international experience in defining and levelling learning outcomes. The WRLs do not replace national or regional qualifications frameworks and systems of quality assurance. They are a reference for better, fairer and more transparent recognition of skills and qualifications within and across borders.

Larger-scale piloting of the WRL digital tool is planned for 2019. This will be more extensive and inclusive than previous field-testing. The aim will be to evaluate both the functioning and the outputs of the WRL digital tool, and the pilots should lead to two types of report: (i) on the utility of the tool, and (ii) on the utility of the WRL profiles and reports. The pilots will cover as many sectors and types of qualification, credential and other set of outcomes as can be arranged. A number of types of pilot will be considered, including with bodies interested in:

- using the WRL app to create and comment on WRL profiles and reports;
- making national or international comparisons between qualifications or credentials with a view

to evaluating the role of the WRLs in establishing recognitions or pathways;

- profiling framework level descriptors and commenting on the use of the WRL digital tool in comparing framework levels;
- profiling programme entry requirements or job/ person specifications and comparing them with qualification and/or credential profiles.

Annex 1. The three groupings of the WRL elements

Accountabilities

Scope and nature of activities: activities

In the WRLs, an activity is any kind of academic, social or occupational task, procedure or process, or responsibility. An activity could be directed or allocated by another person, carried out as a normal function, or taken on voluntarily. The activity may only need to be carried out by the individual or it may involve planning, organising, supervising, managing or overseeing the work of others. Activities in the WRLs may be academic (e.g. acquiring knowledge, undertaking an enquiry to gather data, or communicating the results of academic research); social (e.g. contributing to the achievement of an objective, participating in a network, or motivating others to contribute to a campaign); or occupational, including training others.

In broad terms, this element progresses:

- from simple, highly structured activities that do not require knowledge or know-how that is specific to the field of the activity,
- through complex technical activities that require different kinds of expertise,
- to activities that are highly specialised, strategic or critical in their impact and require the creative use of advanced knowledge and know-how.

Scope and nature of responsibilities: responsibilities

In the WRLs, responsibilities relate to the nature of the activities for which the individual is answerable, the degree to which he/she is free to/required to make decisions about these, and the extent to which he/she will be expected to take or give guidance or instruction.

In broad terms, this element progresses:

- from carrying out activities under instruction (very limited responsibilities),
- through taking responsibility for planning one's own activities and mentoring, giving guidance on, supervising or coordinating the activities of others,

- to taking full responsibility for planning, carrying out, evaluating and bringing about improvement in strategic activities across fields or organisations.

Role in working with others: working with others

This element is about collaboration and coordination. It deals with roles in, or relating to, formal or informal teams, groups and organisations (including academic communities, social networks, and divisions of large organisations). The collaboration may be practical or intellectual and could draw on expertise in the form of skills, knowledge and know-how, or insights.

In broad terms, this element progresses:

- from working with others under instruction,
- through leading teams and groups,
- to being a leader in the sense of shaping thought in a discipline, endeavour or occupation and collaborating with fellow experts and fellow leaders on strategic and critical activities.

Role in monitoring performance and improving quality: quality

This element covers the ability to monitor and measure the quality of performance against agreed or common measures and procedures and to take steps, though learning of different kinds, to maintain or raise the standard of activities or outcomes. The individuals concerned could be students, volunteers or employed persons and the performance could relate to either generic or specialised activities at any level of responsibility. The element assumes that every individual undertaking an activity will know, or have been directed towards, what constitutes quality in that activity and its outcomes and will have an interest in maintaining or improving the quality through academic, personal and/ or professional development. For convenience, this element is divided into two layers, one on monitoring and checking, reviewing or evaluating activities and their outcomes and the other on improving performance and outcomes through learning. 'Learning' here denotes any kind of intentional learning. It includes formal, non-formal and planned experiential learning and it may be carried out on instruction or independently. It may relate to activities, responsibilities, skills, procedures, knowledge or know-how and it may be designed to maintain, improve or extend existing academic, social or work-related capacities.

In broad terms, this element progresses:

- from a situation in which the individual is expected to check on their own performance using standards set for them, and to follow

further instructions to maintain or improve quality,

- through the extension of responsibility to identifying the appropriate standards for evaluating their own performance and the performance of others, and to identifying and pursuing means of maintaining or improving the quality of performance,
- to the situation in which the individual is acting as a reflective practitioner in his/her own activities, and has responsibilities for improving quality that are tied to some form of research, are more strategic, and apply across groups or organisations.

Capacities

Scope and nature of skills and procedures: skills and procedures

In the WRLs, a skill is the ability to complete an activity satisfactorily. Skills may be academic, social or occupational. They may be intellectual, emotional or practical in nature. A procedure is a way of doing a specific activity – it might be a methodology, a technique or a practice.

In broad terms, this element progresses:

- from an emphasis on practical/technical skills and procedures,
- to an emphasis on cognitive and creative skills and procedures,
- from simple and routine skills and procedures,
- to complex and highly specialised skills and procedures,
- from the individual using a limited range of skills and procedures,
- to the individual selecting from a broad range.

Scope and nature of communication skills: communication

This element covers the ability to use communication skills and procedures both to acquire information and ideas and to convey information and ideas to others.

In broad terms, this element progresses:

- from using basic or standard skills and procedures to access and record simple practical information and report it to a limited audience of colleagues and/or customers,
- through selecting skills and modes of communication to gather, interpret and structure information and ideas and disseminate them to varied audiences,
- to critically analysing and evaluating the significance of advanced ideas and presenting them in an appropriate form to diverse

audiences with different interests in, and levels of understanding of, the topics and issues concerned.

Scope and nature of skills for accessing and using data: data

This element is about accessing, processing and evaluating numerical or other coded information. It includes raw and processed data, field data and experimental data. It is intended to reflect the use of data in roles that do not normally require the particular expertise of academics or professionals in mathematics, statistics or computing.

In broad terms, this element progresses:

- from using simple numeracy skills, procedures and programmes to access or record raw data,
- through using a range of arithmetical and mathematical procedures and programmes to gather and process standard technical data for routine purposes,
- to selecting or specifying advanced processes and programmes to generate and evaluate complex, technical and specialised data.

Scope and nature of knowledge and know-how: knowledge and know-how

In the WRLs, the terms 'knowledge' and 'know-how' are usually used together. 'Knowledge' is used to denote information and ideas that an individual can draw on or build on. 'Know-how' denotes explicit or tacit procedural knowledge and understanding. Both knowledge and know-how may be practical or conceptual, academic, social or work related, and they may be acquired formally, non-formally or informally.

In broad terms, this element progresses:

- from general knowledge (i.e. not related to the specific field of activity), through knowledge of a field, to knowledge that extends across a number of fields, normally at different levels,
- from narrow to extensive knowledge and know-how,
- from basic knowledge and simple know-how, through theoretical knowledge and conceptually based know-how, to the most advanced theoretical knowledge and theory-based know-how,
- from using knowledge and know-how, to enhancing it and creating new insights.

Contingencies

The nature of contexts of activity: context

In the WRLs, statements of context describe the conditions under which activities will be carried

out in terms that can apply to academic, social or occupational situations. The context may support, influence or restrict the activity.

In broad terms, this element progresses:

- from stable and highly structured contexts,
- through contexts that are subject to change with different degrees of predictability,
- to unsettled and problematic contexts which will require increasing degrees of adaptability, innovation, initiative and creativity.

Role in addressing problems and issues: problems and issues

In the WRLs, a problem is a difficulty or complication in an academic, social or occupational activity that requires some choice, adjustment or adaptation to allow the activity to proceed or be completed. A problem may be simple or complex, concrete or abstract, but in the WRLs it implies a direct difficulty of a kind that can reasonably be expected to be at least partly addressed immediately, adjusted for or resolved. At the lowest level, problems are likely to be routinely recognised in the area of activity, but at the next levels, problems may need to be scoped or defined before they can be addressed. In the WRLs, an issue is a deeper or more long-term complication in an academic, social or occupational field that is likely to require investigation to identify, clarify or define, and may take considerable time to carry out. Steps to address issues, which are likely to require the pursuit of quantitative or qualitative research, will normally be designed to produce reliable and durable results.

Both problem-solving and research are seen in the WRLs to have in common systematic investigation to establish and evaluate data, reach conclusions, and take or recommend action. Both involve identifying, understanding, addressing and resolving complications that arise in undertaking activities at a particular level in academic, social or occupational contexts.

In broad terms, this element progresses:

- from dealing with familiar problems, or types of problem, that arise in standard activities,
- through selecting and applying or adapting procedures for problem-solving and research,
- through addressing increasingly complex and contingent problems and issues,
- to developing new methods to deal with the most challenging and abstract issues.

Role in addressing issues relating to values: values

This element is about how and how far individuals can be expected to respond to ethical, social or environmental dimensions of their activities. It includes situations that may or may not be covered by relevant rules of practice or codes of conduct. These could arise in relation to academic, social or work activities in any field or at any WRL stage of progression.

In broad terms, this element progresses:

- from situations in which the individual is not expected to encounter ethical, social or environmental issues beyond those covered by existing policies and procedures,
- to situations in which the individual will deal with ethical, social or environmental issues by using structured responses or reporting any that cannot be dealt with in this way,
- through situations in which the individual may have to select the most appropriate response to problems, questions or issues that arise, drawing on existing codes of practice,
- to situations in which the individual will have responsibility for addressing emerging issues that are not covered by existing policies, procedures or codes.

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CHAPTER 2.
BEYOND QUALIFICATIONS AS WE KNOW THEM TODAY: DIGITAL CREDENTIALS AND INTEROPERABILITY

James Keevy, JET Education Services, and Borhene Chakroun, UNESCO – Modified extract from *Digital Credentialing: Implications for the recognition of learning across borders*[6]

Summary

Digital technologies are creating new opportunities and challenges for skills development and recognition globally. Changes in modalities of access and learning methods, massification and internationalisation are taking place at an increasingly rapid pace. In this context, digital technology is also expected to offer new credentialing methods and systems that can capture, recognise and validate a broader range of learning outcomes in the era of lifelong learning. This paper will map the changing landscape of credentialing, identify key developments and chart the possible structure of a conducive and trustable ecosystem. The paper builds on a recent UNESCO publication in this field.

2.1 Introduction

Digital technologies are creating new opportunities and challenges for skills development and recognition globally. Changes in modalities of access and learning methods, massification and internationalisation are taking place at an increasingly rapid pace. In this context, significant attention is being given to the impact of technology on jobs and the demand for skills, and the risks of competition between robots and humans. Far less has been said about the opportunities that advances in digital technology will create for transforming education and training systems, including building new credentialing methods and systems that can capture, recognise and validate a broader range of learning outcomes in the era of lifelong learning.

In today's increasingly digitised economies and societies, accessing and understanding data about learning outcomes, skills and credentials is critical to achieving the 2030 Sustainable Agenda, including United Nations Sustainable Development Goal 4, with its particular focus on quality and inclusive education, recognising and offering lifelong learning opportunities for all. In this context, different stakeholders have different needs: education and training providers need learning data to build new programmes and learning pathways; employers need data to understand where to find qualified workers; and learners and workers need data to discern which learning pathways are more likely to lead to career opportunities.

To date, there has not been an efficient national or global system for collecting, connecting, searching and comparing up-to-date information about learning outcomes and credentials in a common language or format that can be universally understood and easily accessed. This lack of information and systems contributes to confusion, lack of trust and uninformed decision-making regarding the recognition of skills and qualifications within and across borders. It also leads to talent loss for economies and employers.

2.2 Digital credentials: Changing landscape

Traditional degrees, or macro-credentials, have served an important purpose over many years to signal to employers that a graduate is employable. There is increasing dissatisfaction with qualifications (and the accompanying academic records) as a proxy for employability (Oliver, 2016). Some consider that 'the transcript is dead'. Alternatives are being mooted, and in some instances have already

been implemented, such as digital passports[7], e-qualification (Chen-Wilson and Argles, 2010) and '3D CVs' (Oliver, 2016). The situation is also impacted by the growing digitisation of credentials, also referred to as the advent of 'micro-credentials' (Ifenthaler et al., 2016). Recent developments and initiatives, including the Groningen Declaration Network, the work of the Post-Secondary Electronic Standards Council, the Common Student System in Norway, and initiatives in other Nordic countries, point to the importance of mapping the landscape, identifying key actors and charting future developments with partners.

At the core of this process is the growing move towards digital credentialing, which has critical implications for the recognition of learning within and across borders. This move is directly attributed to the length, cost and perceived low return on investment of traditional degrees (referred to as macro-degrees), even when offered digitally, whereas smaller chunks of learning (referred to as micro-credentials) provide greater flexibility, especially when offered digitally.

There is a wide range of definitions and understandings of digital credentials. The European Commission speaks about 'digitally signed credentials', or badges. These visual tokens of achievement are described as a 'new way to capture and communicate what an individual knows and can demonstrate' (Finkelstein et al., 2013, p. 1, in Mah, 2016), effectively providing a technological solution to the problem of representing learning beyond qualifications. Badges can be collected through social media and other platforms, such as LinkedIn, Jive, Fidelis, Credly and Mozilla, but also through more formal associations with established institutions, such as Coursera, affiliated with Stanford University, Open2Study, affiliated with Open Universities Australia, and Passport, affiliated with Purdue University (Oliver, 2016, in Mah, 2016). Multinationals, including IBM and Accenture, are also increasingly developing their own badges for both their staff and the wider public.

Badges are viewed as examples of micro-credentials, representing discrete skill sets that can be grouped or 'stacked' to form a larger, or macro-, credential. Oliver (2016) suggests that digital credentials that use badging have the following benefits.

- **Granular**: More than simply communicating marks and grades, they can pinpoint where skills and competences – for example, innovative thinking and teamwork – have been demonstrated.
- **Stackable**: Because they are digital, they can be added to credential repositories, mapped to qualifications frameworks, and more easily understood in terms of credit eligibility towards other credential systems.
- **Evidentiary**: They can point the reader of the credential directly to learning evidence created by the learner.
- **Personalised**: They can more accurately represent each learner's achievements, highlighting where skills or outcomes were achieved above the minimum standard.
- **Machine-readable**: If built using open technical standards, they enable rich analytics, showing, for example, which graduates in a cohort excelled in communication skills or teamwork.

While there is a strong push towards investing, developing and using digital badges on a large scale by businesses, universities and training providers, several issues and limitations remain.

- **Security**: As in other sectors, it is still easy to forge many things online, from the identity of the learner to the veracity of test responses and the bona fides of the granter of the badge or certificate.
- **Users' perception**: A recent survey by Extreme Networks showed that 46% of participants believed that digital badging is not yet widely recognised, and 34% of participants did not fully understand the concept. The survey also showed that over 60% of participants believed that digital badges would eventually either supplement or entirely replace diplomas and course certificates[8].
- **Quality assurance and transparency**: The mass awarding of badges with little or no quality assurance and the wide range of sources of badges will affect their credibility and visibility, with the risk of what can be called a 'jungle of badges'.
- **Access to the internet**: Individuals living in developing countries face additional problems relating to internet access, including lack of infrastructure; low incomes and affordability; limited user capabilities, including basic literacy

7   https://europass.cedefop.europa.eu/, last accessed 8 June 2017.

8   See https://content.extremenetworks.com/ex-treme-networks-blog/how-we-use-digital-badg-es-for-recognition-and-motivation-at-extreme-net-works?_ga=2.182621414.1133571021.1517737521-894459921.1517737521 (last accessed 15 April 2019).

and digital literacy; and reduced incentives for access, including lack of awareness, of relevant content, and of cultural or social acceptance (Schmida et al., 2017).

These aspects are echoed by the EU digitally signed credentials framework, which includes the following guiding principles:

1. user centricity;
2. inclusion and accessibility;
3. openness;
4. data protection;
5. interoperability;
6. transparency;
7. resilience;
8. reusability;
9. qualifications as a public good.

2.3 The possible structure of the ecosystem

In a recent publication (Keevy and Chakroun, 2015), UNESCO suggested an ecosystem model for digital credentialing. This is made up of seven interrelated sectors and groups of stakeholders, anchored

to specific functions in the digital credentials environment.

The elements of this model are as follows:

- **Use**. These are the users of credentials, notably learners, who are placed at the centre of the system (AACRAO, 2014). Providers can also be users, as can employers.
- **Provide**. This refers mainly to education and training institutions and the emerging variety of for-profit and non-profit digital platforms, such as Coursera, FutureLearn, Credly, Verifdiploma and Mozilla.
- **Award**. Awarding bodies in the traditional sense are institutions and professional bodies. To this list we need to add employers, massive open online courses (MOOCs) and, in some instances, the owners/hosts of digital platforms such as IMS Global.
- **Quality assure**. This is where the line between macro- and micro-credentials is probably the clearest. The lack of quality assurance poses a significant threat to the credibility of digital credentials, and also sets constraints on the

Figure 2-1. The digital credentials ecosystem
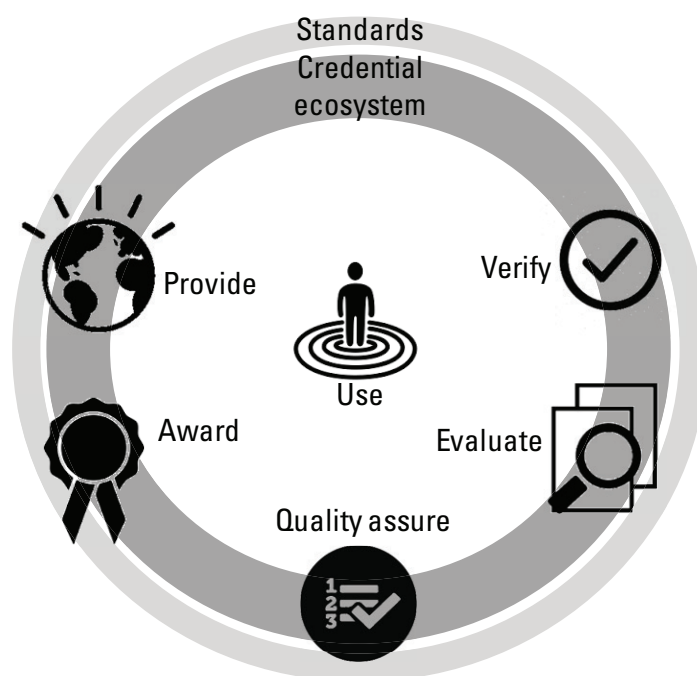
Source: Keevy and Chakroun (2015).

flexibility of traditional degrees[9]. The issues of trust, and particularly authentication and authorisation, are critical in this context.

- **Evaluate**. The evaluation of credentials has been owned by credential evaluation agencies, such as the ENIC-NARIC (ENIC is the European Network of Information Centres in the European Region, while NARIC is the National Academic Recognition Information Centres in the European Union) network and some qualifications authorities. The value judgements required (Bai-Yun, 2017) and the relative opaqueness of the methodologies employed have resulted in some level of protection, but this has been challenged by the increasing use of learning outcomes in qualifications frameworks nationally and regionally, and, at present, also by the new forms of credential that are the topic of this paper.
- **Verify**. The range of both public and private verification agencies that have emerged in the past five years has increased substantially, and can be directly attributed to the benefits associated with the digitisation of credentials. The notion of a clearinghouse is closely associated with this function (Torres, 2017).
- **Convene**. The last sector is also the most critical. International agencies such as UNESCO and the International Labour Organisation (ILO) have a role to play and, increasingly, so too do open communities and networks that have developed organically and comprise an eclectic mix of actors.

The ecosystem also hinges on the range of tools and technologies available. Dowling's (2018) analysis of the different architectures available, covering their scope and functionality, impact on mobility of learners, security and participation, is highly relevant in this context. presents the key advantages and challenges.

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[9]   In 2016 the Open Badge for Education Extensions (OBEE) Initiative's work centred around exploring how the addition of 'Issuer Accreditation' and 'Assessment' extensions to the Open Badge specification might help communicate the rigour with which badge earners' activities were scrutinised before a decision was made by the badge issuer to award the badge. The Issuer Accreditation extension will provide a reference to single or multiple accreditation bodies that certify the badge issuer. The Assessment extension will provide information about single or multiple assessments that are required as part of the badge issuance process.

2.4 Recent international developments

In Europe, in addition to the seminal work on the European Qualifications Framework, the European Commission adopted the Digital Education Action Plan in 2018 (European Commission, 2018) with the goal of supporting technology use and digital competence development in education and launching the work on digitally signed qualifications. The Action Plan suggests the need to provide a framework for issuing digitally certified qualifications and validating digitally acquired skills that are trusted and multilingual and that can be stored in professional profiles (CVs) such as Europass.

In the USA, the Lumina Foundation launched a centralised credential data platform called the Registry in December 2017 (Lumina Foundation, 2016; Lumina, 2017). This includes a common credentialing language for credential evaluation, a digital application to search for credentialing information, and an application-programming interface (API) tool to allow organisations to continuously upload up-to-date information to the registry. The Credential Engine aims to gather credentialing information from all types of source, including degrees, certificates, badges, apprenticeships, licences, micro-credentials and PhDs, thus drastically improving credential transparency.

The Credential Engine includes the following features:

- **Common language**: New metadata called the Credential Transparency Description Language (CDTL) will be used to describe key features of credentials.
- **Open-licensed registry**: This voluntary registry, the first of its kind, will share comparable information from credentialing organisations about their range of credentials and how they relate to each other, to help individuals create learning pathways.
- **Shareable data**: Customised apps can be built for students, companies and other interested parties, making the massive database even more useful.

In China, the China Higher Education Student Information and Career Centre has pioneered student data digitisation in the country. Its database,

Table 2-1. Advantages and challenges of available technologies

ARCHITECTURE	SCOPE AND FUNCTIONALITY	MOBILITY	SECURITY, TRUST, PRIVACY	PARTICIPATION
Central repository	A central database containing credential data is populated by education providers. Employers and other third parties check data using an online web look-up.	The student is not part of the digital process so does not have a digital artefact per se, and cannot control access to their online record.	For privacy, student consent is either implied (as the record is provided by the education provider) or paper-based (where the third party needs to prove that they have student consent to verify by uploading a signed consent form). A central data store increases the risk of attack or security breach. To establish trust in the service, communications by education providers with third parties are the key to adoption.	The simplified workflow makes these systems easier to build and therefore participate in. However, participants ultimately need to populate data into the repository. The technical complexity of participation usually depends on the complexity of the data needed by the repository.
Exchange network	A secure B2B (business-to-business) network between education providers enables them to send and receive records.	Sometimes providers send records directly to other providers without student involvement. Either consent is implied, or students can initiate the 'push' of records themselves via systems connected to the network.	Being a closed network by definition, participants are known and vetted, enabling trust. Underlying secure communications protocols for exchange mean that participants can be sure that what they receive is authentic.	Because implementation involves technical data standards and exchange protocols, the technical bar to participation is relatively high for education providers to send via the network. It is usually easier to receive via vendors.
Hub and spoke	Hybrid of (1) distributed repositories (one per school), connected via (2) an exchange network, with (3) student and third-party portals and (4) an external integration hub.	Students have 24/7 access to and control over access to their records. Zero intervention is required by education providers in order for students to share records with a third party.	Education providers each maintain their own repositories. Cryptographic signing and access control ensures record security, authenticity and integrity. Students control who can access their records, and for how long. Various methods of verification are available, via the network or via a trusted web portal.	Participants ultimately need to populate data into their repository. Complexity is dictated by the data to be exported. Simpler alternatives are available (PDF) where data is difficult to export.

Badge framework	Badges are images (PNG files) with embedded data according to an open standard. Supporting workflow elements are defined for issuing, receiving, and verifying badges.	Students store and control the sharing of their badges. Badges are fine-grained, shareable and stackable credentials.	Badges are usually trusted based on where they are hosted or on cryptographic signing by the issuer. Anybody can issue a badge for anything. This has created a negative perception of badge trustworthiness in a formal context.	It is easy to issue badges, so participation is straightforward.
Public blockchain	Hashes of records are written to a public blockchain by education providers. The records themselves are given to the student. Third parties verify records received from students against the public blockchain.	Students possess the record themselves, and therefore control the sharing of it. Verification requires that students must never lose (a) their blockchain wallet keys and (b) their records. A cost of decentralisation is that education providers lose their digital connection to alumni and cannot easily collect mobility statistics as credentials are used.	Blockchain confirms that the owner of cryptographic Key A issued a particular record to the owner of Key B at time T. It does not confirm that an education provider is who they claim to be. Comprehensive verification requires additional layers, sometimes involving verification via the issuer's website, which contradicts the blockchain paradigm. Blockchain depends 100% on cryptography and therefore the security of issuer's private keys is vital. Quantum computing may pose a threat to current blockchain algorithm ECDSA by 2027. Quantum Resistant Ledger technology is a work in progress.	It is easy to issue records onto a blockchain so participation is simple for education providers. Blockchain only handles verification of records – the exchange and archival of credentials require complementary solutions to be built. The participation burden shifts to the student as they now have responsibility for maintaining their records and keys in the long term.

ECDSA: Elliptic Curve Digital Signature Algorithm, or ECDSA, a cryptographic algorithm used by Bitcoin to ensure that funds can only be spent by their rightful owners.

Source: Adapted from Dowling (2018), cited in UNESCO (2018).

which includes students from across the nation, contains 864 million pieces of data, and each year 100 million more pieces of information are added. Its qualification-verification service has checked 70 million student records, and produced 4 million online and 1 million paper verification reports (AACRAO, 2014, p. 12).

2.5 Privacy challenges

The EU General Data Protection Regulation (GDPR) is one of the most ambitious, bold and impactful developments in privacy matters. It is bound to change the face of many practices worldwide because of its extraterritorial scope and the scale of the fines that data protection authorities can enforce in case of non-compliance (2–4% of companies' worldwide turnover).

The regulation applies to any organisation worldwide that is processing the personal information of EU residents (whereas the previous Data Protection Directive only applied if the organisation had infrastructure within the EU). Taking the example of educational institutions, even those without a physical presence in Europe are likely to interact with students based in the EU if they run distance-learning programmes. The same applies to private online education platforms.

In the USA, despite a patchwork of already existing privacy-protection laws, some states have recently passed laws regulating ed-tech companies, specifically protecting students' online personal information.

The first initiative of this kind was the California Student Online Personal Information Protection Act (SOPIPA) (Centre for Digital Education, 2019), which took effect in 2016. The scope of the act is limited to websites, services or applications 'used primarily for K-12 school purposes and […] designed and marketed for K-12 school purposes'. The scope is thus limited, as it is explicitly not applicable 'to general audience Internet Web sites, general audience online services, general audience online applications, or general audience mobile applications'. Personal information goes beyond classic attributes, to include 'text messages, […] search activity, photos, voice recordings, or geolocation information'. Responding to the fear that learners' educational data would be used for profit, the law forbids the operator of the ed-tech service to 'engage in targeted advertising' on its website, service or application, as well as 'on any other site, service, or application when the targeting of the advertising is based upon any information' acquired through the learner's use of the operator's service.

The law also prohibits the selling of students' information.

2.6 Looking to the future

It is abundantly clear that any form of digital credential ecosystem comprises a combination of more traditional and better-developed systems and more disruptive and, for the most part, less-developed systems. This interplay allows for innovation, but also creates a vacuum in which the learner/user is vulnerable. As countries, regional economic communities and the international community struggle to develop a unified strategy to ensure better and fair recognition of skills and certification across borders, taking advantage of technological progress and innovations linked to the recognition of learning and learners' records cannot progress without commonly agreed digital metadata standards for such records.

Policy-makers will need to take seriously this international trend towards digital credentialing, digital standards and, increasingly, interoperability, or risk being overtaken by new and open learning recognition systems in the near future.

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CHAPTER 3.

THE ROLE OF LEARNING OUTCOMES IN GOVERNING AND REFORMING EDUCATION AND TRAINING: REFLECTIONS ON STRENGTHS AND LIMITATIONS

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Summary

The purpose of this article is to reflect on the role played by learning outcomes in governing and reforming education and training. Following an initial discussion of the aspirations underpinning the learning outcomes approach, the article reflects on the conceptual assumptions informing initiatives in this area. This provides the basis for a final discussion of the strengths and limitations of learning-outcomes-based governance at different levels (overall policy coordination, institutional management and pedagogical reform).

3.1 Introduction

The learning outcomes principle, emphasising what a learner is expected to know, be able to do and understand, now underpins most European education and training systems (Cedefop, 2016). A recent survey[11] of 1 500 vocational education and training (VET) stakeholders and experts in 30 European countries shows that the shift to learning outcomes is considered one of the most significant trends influencing European VET over the past two decades. Similar developments can be observed in higher education (Michelsen et al., 2016), where the Bologna process, for example, in relation to credit transfer and quality assurance, has promoted a shift from an input- to an outcome-oriented approach. The adoption of the European Qualifications Framework (EQF) in 2008 played a particularly important role in this reorientation, triggering the establishment of comprehensive, learning-outcomes-based national qualifications frameworks (NQFs) in all European countries (Cedefop, 2018). These latter developments have allowed for coordinated national approaches, resulting in a more systematic implementation of learning outcomes.

While questioned and contested by some (Hussey and Smith, 2003, 2008; Allais, 2014), the learning outcomes principle is now firmly embedded in European education and training policies and (possibly to a lesser degree) practices.

Overall, strengthening the learning outcomes principle forms part of an effort to reform and modernise education and training systems, their institutions and their associated teaching and learning practices. With some overlap, governance inspired by learning outcomes can be observed in three distinct areas. First, the shift to learning outcomes is seen as a policy tool that makes it possible for national authorities to better shape the orientation and profile of their education and training systems. This is related partly to the need to increase the transparency of systems for users, and partly to the need to strengthen the accountability of providers. Second, the shift to learning outcomes is seen as a managerial tool that allows for the steering of complex education and training institutions. To some extent inspired by management by objectives (MBO) and new public management (NPM) traditions, the learning outcomes approach is seen as a way of strengthening the overall quality and coherence of the programmes delivered by institutions. In some universities, for example, we can observe that learning outcomes inform and influence institutional governance (Michelsen et al., 2017). Third, the shift to learning outcomes is seen as a pedagogical tool and as a way of promoting a learner-centred approach to education and training. By focusing on what a learner is expected to know, be able to do and understand, the learning outcomes approach is seen as challenging an understanding of learning as the transmission of knowledge from teachers to passive learners.

3.2 Aspirations and ambitions

Although pioneered by a few anglophone countries in the 1980s and 1990s, and mostly motivated by internal national challenges in relation to VET, the

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[10] Thanks to Slava Pevec Grm and Anastasia Pouliou, both of Cedefop, for their valuable comments and suggestions.

[11] See www.cedefop.europa.eu/en/events-and-projects/projects/changing-nature-and-role-vocational-education-and-training-vet-europe (last accessed 15 April 2019).

current prominence given to learning outcomes in the majority of European countries has developed over a period of less than two decades. While VET can be seen as a frontrunner, higher education and (to a lesser extent) general education institutions are rapidly catching up (Cedefop, 2009; 2016). European policy initiatives such as the EQF and the Bologna process have, as stated above, contributed to these developments, frequently playing a decisive role in articulating the ambitions behind the shift to learning outcomes. These aspirations and ambitions differ between contexts and levels but are, in most cases, interconnected and overlapping.

3.2.1 Learning outcomes and national/European policy reform

Learning outcomes underpin a number of policy initiatives at national and European level (Souto-Otero, 2012). The growing importance of the validation of non-formal and informal learning, for example, is fundamentally inspired by the learning outcomes approach. All learning outcomes, irrespective of when and where they have been acquired, should, in principle, be made visible and appropriately valued. Validation promises to reduce the barriers between learning in education and training and learning at work, and to enable more flexible learning progression throughout life. The rapid implementation of learning-outcomes-based qualifications frameworks in the past decade captures the high ambitions associated with the reorientation towards outcomes. Frameworks are expected to support learners by providing a more transparent overview of qualifications and to support providers by facilitating coordination and cooperation across institutional and national borders. Increasingly, we also see efforts to link qualifications frameworks and quality assurance mechanisms, where the learning outcome descriptors of the frameworks provide a reference point for the levelling and profiling of programmes and qualifications. In essence, the overall policy aspirations can be summarised as follows.

- The shift to learning outcomes is the key to lifelong and life-wide learning.
- The shift to learning outcomes facilitates the valuing of all learning, including that which has been acquired outside formal education and training.
- The shift to learning outcomes increases the transparency of qualifications for learners and employers.
- The shift to learning outcomes facilitates progress in an increasingly complex and diverse education and training landscape.
- The shift to learning outcomes strengthens the accountability of education and training by focusing on actually achieved learning outcomes rather than input factors and intentions.
- The shift to learning outcomes increases the comparability of qualifications between countries and facilitates the transfer and accumulation of learning outcomes across borders.

3.2.2 Learning outcomes and institutional management

The role of learning outcomes as a management tool that is relevant to the steering and coordination of complex organisations has come to the fore in higher education. Learning outcomes are used at policy level as a tool for governing, managing and reforming education and training. Some see learning outcomes as a way to manage regional and local practices centrally, strengthening the accountability of schools and teachers. Others see them as a way to put the focus on learners, providing teachers and students with tools for active and open learning. These policy choices, pointing in somewhat different directions, illustrate the relationship between the learning outcomes approach and management principles used in other policy areas (for example, MBO). The question arises whether and how these divergent approaches can be balanced. As indicated by Bleiklie et al. (2017), the shift to learning outcomes is seen as critical for transforming universities from loosely coupled to more managerially integrated institutions. While the learning outcomes approach has traditionally been linked to pedagogies and theories of learning, the general focus on outputs/outcomes and results links it to important trends in management theory. MBO was established as a major approach to governance from the 1960s and onwards (Drucker, 1952) and is closely linked to NPM in political science and organisational theory. Viewed within this broader context, the implementation of learning outcomes is seen as a way of enabling local autonomy and responsibility within a centrally defined frame of broader strategic objectives. This effort to 'square the circle' is well illustrated in VET (Cedefop, 2018), where national qualification standards and programme descriptions explicitly leave room for local adaptation. In some higher education institutions, the learning outcomes approach has been used to promote a more collective management (in some cases, a stronger role for university management), replacing the traditional approach in which individual teachers and lecturers took full responsibility of their own courses (Bleiklie et al., 2017, p. 77). In VET in particular, the shift to learning outcomes is also seen as a way to better interact with stakeholders outside education and training, notably as a way to strengthen the relevance and quality of the programmes and qualifications on offer. In essence, the following key aspirations can be identified.

- The shift to learning outcomes is not an isolated phenomenon, but is closely linked to broader management traditions in the private as well as the public sector.
- The outcome orientation shared with traditions such as MBO and NPM allows for a combination of strategic steering from the top and extensive opportunity for local autonomy and adaptation.
- The shift to learning outcomes allows for the continuous updating and renewal of qualifications reflecting the needs of the labour market and society and strengthens the relevance and quality of qualifications.

3.2.3 Learning outcomes and pedagogical reform

Learning outcomes are frequently seen (Adam, 2004) as a way to transform teaching and learning from an input-, teacher-centred to an outcome-, learner-centred approach (Sin, 2014). Indeed, much of the conceptual work on learning outcomes has developed within a broader pedagogical tradition (Lassnigg, 2012) that seeks to improve the quality and relevance of teaching and learning processes. The role of learning outcomes in reforming pedagogics is centred on four key aspirations. First, learning outcomes increase transparency and make it possible for the learner to better understand the learning process and the expectations involved. An unambiguous writing of learning outcomes will, it is asserted, benefit teachers and trainers also. Second, the 'alignment' of teaching, learning and assessment is seen as critical if learning outcomes are to make any difference. As Sweetman (2017) points out, 'constructive alignment' represents an effort to make teaching and learning processes more explicit, facilitating a more active role for learners and students. Third, as aimed for in 'constructive alignment', the shift to learning outcomes balances the relationship between teacher and learner and allows for a more active involvement of the latter. Focusing on the learner is seen by some as a condition for active learning, flexible learning, problem-based learning and self-directed learning. While strengthening the focus on the learner, this rebalancing also changes the perception of what teachers should do, emphasising their role as facilitators and enablers. In accordance with this perspective, learning should not be reduced to a process of transferring knowledge to a passive recipient. Finally, some of these approaches see the use of learning outcomes as a way of 'teacher-proofing' education. Clearly defined learning outcomes, it is asserted, would reduce the harm done by substandard teaching and create a level playing field. In essence, the pedagogical aspirations can be summarised as follows.

- The learning outcomes approach clarifies the intention of the teaching and learning process.

- The learning outcomes approach clarifies what is expected from the learner in terms of knowledge, skills and overall competences.
- The learning outcomes approach facilitates, through a consistent alignment of teaching, learning and assessment, a better design of education and training programmes.
- The increased transparency and clarity of the learning outcomes approach facilitates a more learner-centred process, potentially opening up to active, self-directed and problem-based learning.

3.2.4 Learning outcomes – the 'Swiss Army knife' of education and training reform?

As demonstrated above, the shift to learning outcomes is seen as a core component of education and training reform, addressing policies at national and European levels as well as the interaction between teachers and learners at local level. Resembling a Swiss Army Knife, an implement that is suitable for a variety of purposes, learning outcomes have also been described as the glue that binds together diverse initiatives at different levels and in a wide range of areas.

The impact of learning outcomes in policies and on learning is directly dependent on two key factors. First, the conceptual and theoretical understanding of learning outcomes influences the way they are interpreted and translated into practice. Critics have pointed out that some articulations of learning outcomes potentially lead to a 'dumbing down' (Allais, 2012) of the learning process rather than an opening up to active and self-directed learning in the way indicated above. Second, learning outcomes must be embedded in policies and practices if they are to make any difference. If the approach is regarded as external to the day-to-day challenges faced by policy-makers and teachers and trainers, it could easily be seen as a merely symbolic piece of hype that can be ignored. The following sections will address these issues in more detail.

3.3 The conceptual basis of learning outcomes

Not surprisingly, given the expected impact of and the high ambitions for learning outcomes, the conceptual basis of the approach is debated and, to some extent, contested.

3.3.1 A behaviourist bias?

The Cedefop (2017) Handbook on the definition, writing and application of learning outcomes points out that the learning outcomes approach is seen by some (e.g. Campbell, 2014) as implicitly favouring

a reductionist and behaviourist understanding of learning. According to this criticism, the learning outcomes approach risks reducing the richness of learning by imposing a simplistic stimulus-response paradigm of learning in which only observable and measurable outcomes count. This, according to critics, assumes a linear and overly simplistic learning process where complex activity verbs (such as 'understand') should be avoided and replaced by narrower terms with clear borderlines. Allais (2012, 2014) repeats this criticism with reference to the way in which knowledge is treated 'as information that can be divided into little bits that can be selected and combined at will' (Allais, 2014, p. 39)[12]. She believes that this 'ignores the extent to which knowledge is organised in bodies of hierarchical conceptual relationships' (Allais, 2014, p. 39), and that the value of such knowledge does not respect the conditions in which knowledge is acquired. These arguments reflect the criticism of 'educational technologies' developed in the USA in the 1960s. The aim at that time was to create 'teacher-proof' education and training systems, ensuring predictability of delivery and thus equal chances for everyone. While objectives relating to predictability and equality are still of key importance, the belief that education and training systems can be fully controlled from the top has, indeed, been questioned.

Many researchers (e.g. Dobbins, 2014) argue against the assumption that the shift to learning outcomes by default implies this form of reductionism. Learning outcomes can, on the contrary, focus on a wide range of knowledge, skills and competences; while some of these may be behavioural in character (using a particular tool for a particular purpose), others imply more complex and ambiguous processes (linked to the critical evaluation of arguments supporting a policy decision) (Dobbins, 2014, p. 2). Biggs (1999; Biggs and Tang, 2007) pursues this point and states that in the design of learning outcomes and assessment tasks, teachers should be free to use open-ended verbs such as 'design', 'create', 'hypothesise' and 'reflect', and that this is a way to avoid the predetermined or rigid design of teaching and assessment. A key element in this understanding is that learning outcomes need, to some extent, to be ambiguous and to leave room for local and individual interpretation and (not least) communication. This inherent ambiguity and openness is consequential to our understanding of the reforming potential of learning outcomes.

3.3.2 Different rationalities

Michelsen et al. (2016) point to two contrasting positions that are relevant for analysing the impact of learning outcomes as a policy tool. First, it is possible to apply an *instrumental perspective*, in which implementation and impact are viewed in terms of ends-means rationality. Also termed 'strategic-instrumental rationality' (Eriksen, 1995), this perspective, to some extent, underpins the management traditions referred to above (MBO, NPM), where impact is measured in relation to the ability of actors to choose optimal measures to reach a fixed goal. This somehow implies that objectives are known; that implications of choices are known; that options are ranked; and that the option giving the best result is chosen. This model of rationality, inspired by micro-economics and, to some extent, behaviourist management traditions, tends to underestimate the complexity of the policies and practices addressed. Shifting to learning outcomes is, for the reasons listed above, seen by some as a 'managerial turn' and as imposing governance principles that are unsuitable to the complex reality of education and training.

Second, an *institutional perspective* offers a contrasting position in which instrument and context are considered to reciprocally relate. This points to the important role played by policy-makers, managers, teachers and learners in interpreting learning outcomes, emphasising the broad, open and somewhat ambiguous character of such outcomes. The institutional perspective, rooted in political sciences and organisational theories, can be further elaborated and deepened by applying a communicative and/or deliberative form of rationality in which communication and deliberation play a key role. This implies that rationality is not only about choosing the best means to reach a predefined aim, but also about being able and willing to present the reasons for one's own preferences. Learning outcome statements should be seen not as absolute (objective) rules predetermining learning but as a reference point for dialogue, interpretation and, in some cases, innovation.

This implies taking the ambiguous character of learning outcomes as a positive starting point. Without this clarification it would be easy to overstate the potential impact of learning outcomes, in particular by overestimating the extent to which top-down implementation of learning outcomes can (or even should) influence teachers, trainers and learners.

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[12]   See also O'Brien and Brancaleone (2011).

3.4 Impact and added value of learning outcomes: What evidence exists?

As already indicated, the current prominence of learning outcomes is a recent phenomenon. Consequently, there is limited evidence on the actual impact of this perspective on overall policies, institutional management and pedagogics. Only in recent years have we seen the emergence of empirical research that tries to trace more systematically the strengths and limitations of the learning outcomes approach. Some of these findings are helpful in better understanding the realism of the aspirations and ambitions listed above.

3.4.1 The impact of learning outcomes on policy reform

Cedefop's two studies on the shift to learning outcomes (2009; 2016) are the only ones that provide a broad and comprehensive overview of the implementation of learning outcomes across the different subsectors of education and training (general, vocational and higher education and training). Using the results of the 2009 study as a baseline, the 2016 study shows that significant progress had been made in the seven years covered. The report states that 'while a few years ago the shift was most visible in the VET and adult education subsystems, now it is highly visible in higher education in almost all countries and, in several, in primary and secondary education' (Cedefop, 2016, pp. 21–22). These developments, it is pointed out, are closely related to the development and implementation of NQFs in almost all European countries. Notably triggered by the launch of the EQF in 2008, these frameworks provide a tool for more systematic implementation of learning outcomes across the subsystems of education and training. The processes involved in developing comprehensive frameworks provide an important reference for communication and interaction between diverse stakeholders. Qualifications frameworks, building on existing but fragmented national learning outcomes approaches, have focused minds and provided a platform for cooperation in this area. The impact of European initiatives in this area is particularly visible in higher education, where from 2005 onwards the Bologna process has already explicitly promoted the learning outcomes approach, linked not only to frameworks but also, significantly, to credit systems (European Credit Transfer and Accumulation System (ECTS)) and quality assurance (European Standards and Guidelines).

While qualifications frameworks can be seen as important instruments for promoting learning

outcomes, in effect changing the national institutional landscape, it can still be questioned whether these developments make a difference to education and training practices. More recent Cedefop studies point to two forms of 'deeper' impact. First, learning-outcomes-based frameworks have increased the visibility and transparency of education and training systems. The introduction of NQFs with explicit learning-outcomes-based levels have helped to make national education and qualification systems more readable and easier to understand within and across European countries (Cedefop, 2018). Introducing a common learning-outcomes-based language for describing qualifications across education and training subsystems, the national frameworks now provide a comprehensive map of national qualifications and relationships between them. Although varying in coverage and quality between countries, progress has been significant in recent years[13].

Second, in some countries the introduction of learning-outcomes-based frameworks has triggered systemic reforms. This is exemplified by Estonia, where a lack of initial qualifications at NQF level 5 was identified through the development of an overarching framework. The main discussion centred on the fact that there were no initial education and training qualifications at this level. The introduction of learning-outcomes-based frameworks has been particularly important in what can be termed 'higher VET'. Pioneered by Germany, the learning-outcomes-based levels have been used to strengthen the visibility of this particular part of higher education, exemplified by the placing of the Master Craftsman qualification at level 6 of the EQF and the establishment of a new vocational ('Beruf') Master at EQF level 7 from 2019 onwards. Such developments, which can also be observed in countries such as Switzerland, Austria and Norway, signal a rebalancing of education and training systems through which vocational and professional aspects are given higher visibility and priority. In general, NQF level descriptors are increasingly used as 'yardsticks' to review the content and level of qualifications. Comprehensive and integrated qualification registers increasingly underpin the NQFs and make information on qualifications accessible to students, employers and guidance staff[14]. The case of Portugal demonstrates how NQF level descriptors can be used to support the review and renewal of qualifications.

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[13] See EQF referencing reports: https://ec.europa.eu/ploteus/sl/documentation (last accessed 15 April 2019).

[14] See, for example, the German qualifications database: www.dqr.de/content/2316.php; and the Slovenian qualification database: www.nok.si/en/ (last accessed 15 April 2019).

The validation of non-formal and informal learning is, perhaps, the best example of how the learning outcomes perspective is influencing education and training in practice (Cedefop and EU Commission, 2015). Validation, or the effort to make visible and to value the learning taking place outside formal education, is gradually becoming an integral part of national education and training and lifelong learning arrangements in Europe. The increasing use of learning outcomes and attempts to make qualification systems more coherent and more open to learning that occurs outside the formal contexts of schooling and other establishments constitute a step towards a life-wide learning approach. Almost all countries have now put in place arrangements that allow for the acquisition of full or partial qualifications through the validation of non-formal and informal learning. Several countries are also working towards comprehensive systems offering validation opportunities where people live, work and/or study. The learning outcomes approach is fundamental to these developments, emphasising that in principle, all learning, irrespective of its origin, needs to be taken into account. Furthermore, the approach puts pressure on countries to establish clear, learning-outcomes-based standards and reference points for validation. The support for this shift in perspective is not a given. In some countries, the quality of these approaches has been questioned, sometimes signalling distrust of learning outside formal education and training. Overall, validation can be seen as the application of learning outcomes with the most direct impact on the lives of individual citizens.

Returning to the aspirations and ambitions listed above, some initial conclusions regarding impact can be made. The application and promotion of learning outcomes by comprehensive qualifications frameworks and validation arrangements illustrates how the aspirations of lifelong learning, the valuing of all learning and the transparency and comparability of qualifications are being addressed. While they are only indicative of potential longer-term impacts, these examples illustrate how the shift to learning outcomes is making a difference at policy level. However, it is too early to say that the application of the learning outcomes approach has made an impact on progression between institutions and levels and on the accountability of education and training systems.

3.4.2 The impact of learning outcomes on education and training management

Research on the impact of learning outcomes on education and training management is limited. The abovementioned Cedefop study (2016 provides insights into the role played by learning outcomes in teacher-training institutions. Covering 10 institutions in 10 European countries made it possible for the study to observe the relationship (alignment) between the learning outcomes expressed at national level, at university level, within the teacher-training faculty and in the particular programmes and courses delivered. Overall, the study presents a positive picture of the use of learning outcomes for curriculum and programme design. While it is seen by some staff members as imposing an extra layer of bureaucracy, a majority signalled their readiness to adapt and develop their programmes and courses in line with the approach. Interestingly, the main concerns were expressed in relation to the conceptual assumptions underpinning the proposal, not to the learning outcomes perspective as such. The report notes that while the learning outcomes approach informs and influences the programme and curriculum descriptions, the delivery of programmes and courses to students is influenced to a limited extent only. Overall, the study illustrates the way in which the articulation of learning outcomes at different levels can be aligned to each other. While the influence of national (and European) level tools (qualifications frameworks) can, to some extent, be observed at the level of institutions, the translation of these from written documents into teaching practices and learning formats seems to be challenging.

The study by Bleiklie et al. (2017) on the ambiguity of learning outcomes as a management tool in academic institutions throws some further light on these issues. Based on a comparative study of one English and one Norwegian university (focusing on humanities and STEM faculties in both cases), the study tries to capture the specific characteristics of learning outcomes as a management tool. Departing from an understanding of learning outcomes as a deeply ambiguous instrument, the study shows how different national contexts inform the actual application and thereby the impact of the approach.

> '[T]he stronger the hierarchy, the more likely it is that LOs [learning outcomes] are introduced by superior levels in the organisational hierarchy of the institution, and that faculty will experience them as the imposition of a tool that caters for administrative needs. The stronger the disciplinary communities, the more likely they are to be able to shape them to be compatible with their preferences […] The higher the degree of standardisation, the less involvement can be expected of local actors in shaping learning outcomes.' (Bleiklie, 2017, p. 72)

Based on these general observations, a number of specific characteristics of learning outcomes as

management tools are identified. First, learning outcomes seem to strengthen the administrative information required by the university hierarchy. While the Norwegian faculties pointed out the added value of this information for students and as a basis for strategic planning, the English faculties perceived less impact. Second, learning outcomes seem to have influenced leadership roles to some extent in Norway. This is linked to the improvement of administrative managerial information. This impact was observed to a lesser degree in the English case. Third, the sense of change caused by the learning outcomes is stronger in the Norwegian than in the English case. This perception may have been caused by the more recent shift to learning outcomes in the Norwegian context, notably through the introduction of the NQF and a number of associated reforms influencing higher education. Fourth, when taking into consideration the differences between the humanities and STEM faculties in the two countries, the fundamental ambiguity of learning outcomes as a managerial tool is well illustrated. However, learning outcomes are, on the whole, considered to be a tool for administrative managerial information, to a lesser degree to be a tool for quality assurance and strategic planning, and only to a limited extent to be a tool for pedagogical reform.

The ambiguity of learning outcomes as management tools is also touched upon by Caspersen et al. (2017a). It is pointed out that this ambiguity '[…] actually opens up a space of discretionary and interpretational latitude, either because learning outcomes are assimilated to traditional path dependencies or because they allow for the introduction of change. This ambiguity actually provides flexibility for contextually diverse implementation'. However, it is underlined that this reduces the level of comparability initially envisaged (p. 8).

The focus on outcomes is not a trend that relates only to education and training, but one that is partly inspired by broader management traditions in the private as well as the public sector. Sharing the output orientation of MBO and NPM, the learning outcomes approach seeks to combine strategic steering from the top with local autonomy and adaptation. While empirical evidence is limited, the ambiguous character of learning outcomes seems to provide room for local interpretation and adaptation. To what extent this local autonomy conflicts with the ambitions of central authorities could be addressed by future research.

3.4.3 The impact of learning outcomes on pedagogies

Adam (2004; 2008) states that there is a close relationship between learning outcomes and student-centred learning. Seeing these as mutually dependent, he considers the move to learning outcomes as a paradigmatic shift from traditional teaching to a learner-centred approach. The 2009 Cedefop study (p. 38) also states that 'the use of learning outcomes is conducive to the emergence of successful policies and to the development of learner-centred practices in teaching and training'. This belief in the potential of learning outcomes to transform pedagogies is in line with the 'constructive alignment' approach outlined by Biggs (Biggs, 1999; Biggs and Tang, 2007). Biggs identifies four main steps necessary for an alignment to take place: defining the intended learning outcomes; choosing teaching and learning activities that are likely to lead to these intended outcomes, and that help and encourage students to attain these outcomes; engaging students in these activities; and enabling learners to demonstrate what they have learned and/or provide formative feedback. 'Constructive alignment' thus prescribes how to move from intended to actually achieved learning outcomes.

In its study on the impact of the learning outcomes approach on teaching and training institutions, Cedefop (2016 indicates that the shift to learning outcomes is clearly impacting curriculum and programme developments. Paradoxically, these developments seem to influence teaching and learning practices only to a limited extent[15]. In one of the institutions covered, where the learning outcomes approach was particularly well embedded in curricula, students said they had never heard of the approach. In another institution, where staff showed a deep understanding of learning outcomes, students were not acquainted with the approach and the opportunities to use it (Cedefop, 2016; Halász, 2017). While admittedly based on a very limited set of cases, these findings illustrate that intended learning outcomes are not automatically or by default translated into new teaching methods. This does not mean that no alignment takes place; it merely hints at a lack of evidence and empirically based research. Few

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[15] Pouliou (2014) analysed how the shift to a learning-outcomes-based approach affects language teaching. From the interview and questionnaire findings, it became clear that learning outcomes are intended to have a direct and formative impact on the curriculum of language teaching and pedagogy. Interestingly, however, the majority of the respondents were not familiar with the approach.

studies have been conducted looking at the impact of curriculum and programme design on teaching and learning, and it is not clear whether aspirations regarding learner-centred education and training, or, indeed, active and open learning, can be linked to the learning outcomes shift.

Sweetman (2017) makes an effort to fill this gap in a comparison of Norwegian and English universities and the extent to which the learning outcomes approach has influenced teaching and learning practices. In line with the Cedefop study 2016), Sweetman's study confirms that learning outcomes are, indeed, influencing course planning (intended learning outcomes) and, overall, are supporting learners by increasing the transparency of programmes and qualifications. She points out that the approach has supported reflection and dialogue among teachers. This has proved important for supporting new teachers, for 'weeding out' substandard teaching and for promoting a more collegial approach to the teaching and learning challenges at hand. While these are significant impacts, Sweetman is critical of the assertion that the shift to learning outcomes is, by necessity, linked to a more learner- (student-) centred approach, as hinted at by Adam (2008), for example. Learner-centredness, she asserts, is frequently used in a casual way (Sweetman, 2017, p. 46) and mixed up with other more or less related approaches (flexible learning, experiential learning, self-directed learning and active learning). This lack of clarity undermines the consistent implementation of learning outcomes. A learner-centred approach, Sweetman points out, by necessity implies a change in the 'power-relation' between teachers and learners, as well as increased 'choice' for the latter. She observes few signs that such a deeper transformation has taken place and points out that the day-to-day activities of teachers are broadly unchanged and stable following the shift to learning outcomes (Sweetman, 2017, p. 52). An exception to this, in which the role of the learners has changed, is provided by group/team tasks that seek to integrate subject-specific and generic outcomes (Ibid., p. 53).

Overall, while acknowledging the positive impact of learning outcomes on transparency and programme design, Sweetman questions the exaggerated claims regarding the impact of learning outcomes on teaching and learning practices. One possible explanation for this limited influence, she asserts, is the lack of theoretical and practical clarity around both learning outcomes and learner-centred practices. This may mean that neither is put into practice with the consistency required for teachers or students to recognise a shift (Ibid.).

Returning to the aspirations listed above, there seems to be a need to adjust and clarify ambitions in this field. As pointed out in Cedefop (2017), the transformation from intended to actually achieved learning outcomes is of critical importance to the overall credibility of the learning outcomes approach. The lack of empirical research referred to above illustrates the need to further clarify the relationship between the learning outcomes approach and teaching and learning practices. Given that the outcomes approach will always operate (as one limited element) within an existing institutional, professional (Prøitz et al., 2017) and pedagogical context, we need to clarify expectations. Simply asserting that learning outcomes, by default, trigger a transformation from traditional teaching to learner-centred practices may undermine the approach itself. We need, instead, in line with Cedefop (2017), to acknowledge that learning outcomes can be written in many different ways, influencing teaching and learning in both positive and negative ways, pointing to opportunities as well as challenges. We also need to acknowledge that learning outcomes can be ignored by teachers and trainers. We need to better understand why this is the case and how this can be addressed.

3.5 Measuring the impact of learning outcomes: Issues and the need for further research

Large-scale international student and learner assessment schemes such as the Programme for International Student Assessment (PISA) and the Programme for the International Assessment of Adult Competencies (PIAAC) illustrate the importance of the learning outcomes perspective for education and training governance and reform. Comparing the performance of young people as well as adults, these schemes are seen as providing direct feedback on the quality and relevance of education and training systems.

Ramsden (1992) states that for students, 'the assessment is the curriculum'. By this he means that students will learn what they think they will be assessed on, not necessarily on the outcomes stated in the curriculum or programme. Thus, defining and describing learning-outcomes-based assessment criteria plays a key role in the overall implementation of learning outcomes. This point is pursued by Biggs and Tang (2007). They emphasise that assessments need to mirror the learning outcomes as described in curricula and programmes, not to operate in isolation. This is illustrated in Figure 3.1.

Figure 3-1. Alignment of teaching/learning and assessment to intended learning outcomes

Teaching/learning	Intended learning outcomes	Assessment tasks
Designed to generate or elicit desired verbs in large classes, small classes, groups or individual activities. Such activities may be: ■ teacher-managed ■ peer-managed ■ self-managed as best suits the intended learning outcome	Incorporate verbs that students have to enact as appropriate to the context	
	The very best outcomes that could reasonably be expected containing verbs such as hypothesise, reflect, apply, relate to principle	Format of tasks such that the target verbs are elicited and deployed in context
	Highly satisfactorily outcomes containing phrases such as solve expected problems, explain complex ideas, apply to professional practice	
	Quite satisfactory outcomes containing phrases such as solve basic problems, explain basic ideas, use standard procedures	Criteria specified clearly to allow judgement as to student's performance
	Minimally acceptable outcomes and applications; inadequate but salvageable higher level attempts	

Source: Biggs and Tang, 2007.

Figure 3.1 illustrates the challenges involved in transforming intended learning outcome statements into actually achieved learning outcomes. While there is a vast amount of research literature in the area of assessment, it touches only indirectly on the challenge of alignment and the implications this has for reforming education and training. While Caspersen et al. (2017b) make an effort to review research literature in the area of 'learning outcomes measurement', they do not discuss the challenges relating to its alignment to intended learning outcomes and the teaching and learning processes. Instead, they point to the need to clarify the purpose of measurements, observing the difference between measuring learning progress (from the individuals' point of view) and measuring an 'absolute' level of knowledge, skills and competence. While the former purpose is often addressed through self-assessment schemes, the latter is often addressed through traditional tests expressed in grades. Somewhat resembling the distinction between 'norm' and 'criterion' referenced assessments, both approaches fall short of offering an adequate answer to the need for appropriate (reliable and valid) measurements of outcomes.

While the learning outcomes approach is influencing the definition and writing of intended learning outcomes, the transformation of these into actually achieved learning outcomes is, to some extent, dependent on the assessment and measurement approaches being developed. In this context, the role of assessment of learning outcomes stands out as critical to the future reforming role of learning outcomes. There is need for future research to address this in a more systematic way[16].

The experience gained in relation to validation of non-formal and informal learning during the past few decades may prove important in this area, given the attention on learning-outcomes-based standards and the focus on batteries of assessment methodologies that seek to capture the diverse and contextually bound experiences of individuals.

[16] Leney et al. (2008), reporting on the shift to learning outcomes, recognise that the learning outcomes approach has had only a limited impact on the way learning is being assessed, but argue that it is only a matter of time before codified learning outcomes will define and control assessment practices and the curriculum in Europe.

3.6 Concluding remarks

This article shows that the learning outcomes approach is now firmly embedded in European education and training policies and practices. The development of qualifications frameworks, the growing importance of validation and the redefinition of curricula and programme documents from inputs to outcomes all point to the key role played by learning outcomes in reforming and modernising education and training. Overall, major progress has been made in these areas over the past two decades.

A key remaining question relates to the transformation of intended learning outcomes into actually achieved outcomes. While curricula and programmes are now, to some extent, defined and written according to the learning outcomes approach, the transformation of these intentions into actually achieved outcomes – or competences, as some might say – is a different question. The following key questions stand out as critical to future research as well as policy developments.

- What is required for teachers and trainers to make active use of the learning outcomes approach when planning and facilitating learning? How can they best be supported?
- In what ways can the learning outcomes approach benefit individual learners?
- How can assessments be designed so as to mirror the learning outcomes approach and support the transformation from intended to actually achieved outcomes?
- How is the alignment of standards, curricula and assessment assured?
- How can curriculum and assessment policies work better together?
- How can the measurement of learning outcomes inform the continuous revision and renewal of education and training?

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CHAPTER 4.

RVA THAT COUNTS: WHAT DATA DO WE NEED TO NURTURE RECOGNITION, VALIDATION AND ACCREDITATION OF PRIOR LEARNING?

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Summary

More than 120 countries around the world are reforming their qualifications systems. Along with strengthening the role of qualifications frameworks, countries are introducing schemes that recognise informal learning. Recognition, validation and accreditation (RVA) is also at the centre of United Nations (UN) Sustainable Development Goal 4, which seeks to 'ensure inclusive and equitable quality education and promote lifelong learning for all', and its targets relating to vocational and tertiary education. The recognition of prior learning and certification of skills will become more important in the future work context, in which individuals are expected to change jobs and acquire new skills on a continuous basis.

An obvious attraction of the recognition of informal and non-formal learning for policy-makers is that it can reduce the qualifications deficit among the adult population and lower the costs of reskilling and qualifying the low-skilled active population. Policy making, at both national and international levels, suffers huge data gaps and weaknesses in terms of monitoring tools for RVA schemes. Even obtaining basic data and ensuring its accuracy is beyond some systems, and the ability to disaggregate for target groups in order to carry out any forecasting of needs is out of reach for most countries. There is also a lack of feedback data, for example regarding labour market outcomes and further learning opportunities for RVA candidates and to inform development at both institutional and national levels. For national systems, such data is vital if policy making is to become more evidence-based and if attempts are to be made to carry out peer learning, benchmarking and comparison at international level.

In light of this context, this paper will first examine why RVA is high on the policy agenda and what its policy attraction is in the context of the future of work and the sustainable development agenda. The paper will then identify key indicators that could be considered by decision-makers based on a critical review of key indicators used for monitoring and evaluating education and training systems and their

relevance for RVA. These would include indicators on access, internal and external effectiveness and labour market outcomes. The paper will examine country case studies on France, Portugal, South Africa and the USA, and draw preliminary conclusions from promising practices.

4.1 Introduction

More than 120 countries around the world are reforming their qualifications systems. The reforms involve important questions about the most effective way to establish standards, frame the curriculum and assessment procedure, and recognise the knowledge and skills that individuals have already acquired in the workplace and community through prior learning. Along with strengthening the role of qualifications frameworks, countries are introducing schemes that recognise informal learning and the tremendously rich experience that ageing workers have acquired over the years.

Recognition of prior learning is also at the centre of UN Sustainable Development Goal 4, which seeks to 'ensure inclusive and equitable quality education and promote lifelong learning for all', and its targets relating to vocational and tertiary education. The emphasis is on promoting flexible learning pathways in both formal and non-formal settings; enabling learners to accumulate and transfer credits for levels of achievement; recognising, validating and accrediting prior learning; and establishing appropriate bridging programmes and career guidance and counselling services. The recognition of prior learning and certification of skills will become more important in the future work context, in which individuals are expected to change jobs and acquire new skills on a continuous basis.

Although there is no single international model, most schemes for RVA of prior learning share some common broad principles. They are voluntary processes and are based on the identification of learning outcomes acquired in different settings. The levels and types of corresponding qualifications are

distinguished through criteria such as knowledge, skills, aptitudes, attitudes and competences. Validation can lead to different qualifications and types of qualification, while assessment and certification processes rely on learning outcomes criteria rather than the traditional duration or location of courses. Quality assurance arrangements are included to support the management of validation processes and ensure the quality of their procedures. Some validation schemes cover all qualifications, while others relate only to technical and vocational education and training (TVET) qualifications, and in some cases only to occupations, such as the trade tests in several African and Asian countries.

RVA is an individual process and in many countries is an individual right (Chakroun and Daelman, 2018). RVA also has a public policy perspective. An obvious attraction of the recognition of informal and non-formal learning for policy-makers is that it can reduce the qualifications deficit among the adult population and lower the costs of reskilling and qualifying the low-skilled active population. In some countries, RVA is seen as an active labour market measure that can support insertion/reinsertion into the labour market. Finally, RVA is an instrument for inclusion and gender equality, including for migrants and refugees.

Despite agreement on the importance and usefulness of validation, supporting evidence-based policy making, at both national and international levels, remains a challenge. There are huge data gaps and weaknesses in the monitoring tools of validation schemes. Obtaining basic data and ensuring its accuracy is a challenge in most countries, while the ability to disaggregate for target groups to allow for any forecasting of needs is out of reach for most monitoring systems. In addition, there is a lack of feedback and evaluation data to inform development at both institutional and national levels. For national systems, such data is vital if policy making is to become more evidence-based and if any attempts are to be made at regional and international cooperation and comparison.

The thematic report *Monitoring the use of validation of non-formal and informal learning* (Duchemin, 2016), carried out within the 2016 European Inventory, puts forward three main reasons for the lack of monitoring data on validation.

1. There is a lack of definition and clarity on what validation is. In some Member States, validation practices consist of a series of different services or options, frequently with no clear delimitation on what constitutes and what is outside the scope of a validation practice.

2. There is a great degree of fragmentation. Even when the delimitation of what constitutes validation is clear, validation can be carried out by many different organisations in many different ways and obtaining different results depending on the purpose.
3. For many countries, validation is relatively new and monitoring systems are still in their infancy or have not been yet created.

In light of this context, this paper will first examine why RVA is high on the policy agenda and what its policy attraction is in the context of the future of work and the sustainable development agenda. It will then identify key indicators that could be considered by decision-makers based on a critical review of the key indicators used for monitoring and evaluating education and training systems and their relevance for RVA. These include indicators on access, internal and external effectiveness, and labour market outcomes. The paper will examine country case studies from France, Portugal, South Africa and the USA, and draw preliminary conclusions from promising practices.

4.2 The appeal for policy-makers

RVA has been growing in importance within public policies. Initially confined to education and training technical discussions as a tool for providing flexible pathways in education, RVA is now increasingly playing a central role in discussions on combating social exclusion and in the creation of active labour market policies (Villalba-Garcia and Bjørnåvold, 2017). The emergence of the lifelong learning paradigm has made learning that occurs outside traditional educational paths as important as learning in formal education. Including the diverse range of learning activities throughout an individual's life implies that all learning, irrespective of where and when it occurs, needs to be valued and made visible. For some 20 years or more, in both developed and developing economies, RVA has been an attractive idea for policy-makers concerned with employment, education, vocational training and lifelong learning.

Four main sets of arguments have been advanced for promoting policies that support RVA, namely that it can:

*   deliver economic and labour market benefits;
*   enhance equity and inclusion, particularly for low-skilled workers and workers in the informal sector;
*   reduce costs;
*   reduce the qualifications deficit among the adult population and improve pathways to further learning.

However appealing the idea might be to policy-makers, developing RVA schemes at scale has nowhere proved to be easy. RVA systems tend to be complex. The validation and recognition of skills acquired outside the formal system requires complex methodologies that can take into account the diverse nature of learning. Individuals need to be supported through the process, helping to make their skills visible and providing adequate proof of their learning outcomes. These proofs of informal learning need to be connected with existing standards in order to provide value to the certificates awarded. The output of a validation process needs to be usable in the labour market or for entering further education. Depending on the specific skills that are being assessed/validated, a diverse range of actors will be involved. Supporting the documentation will require different professionals, while assessors of learning outcomes need to be trained in appropriate methodologies.

In this context, it is clearly a complex task to create a set of indicators that can capture in a meaningful way the functioning of validation arrangements, relevant to support policy decisions about RVA.

4.3 Models of RVA

According to UNESCO Guidelines (UIL, 2012), RVA for all forms of learning outcomes is a practice that makes visible and values the full range of competences (knowledge, skills and attitudes) that individuals have obtained in various contexts and through various means in different phases of their lives. In the European context, the 2012 Recommendation on validation (Council of the European Union, 2012) defines the validation of non-formal and informal learning as 'a process of confirmation by an authorised body that an individual has acquired learning outcomes measured against a relevant standard', and goes on to define four distinct phases: identification, documentation, assessment and certification of learning outcomes.

Within this broad definition, countries translate and adapt the concept of RVA to their different realities and settings. Thus, validation occurs in many different ways, with different emphasis and purpose. It is possible, however, to find certain common principles that underlie all (or at least most) validation arrangements. First, validation constitutes a process in which the individual applicant has control. The principle of the 'centrality of the individual', as stated in the European guidelines (Cedefop, 2015), emphasises that it is the individual who decides to enter into the process and who should be able to decide when to leave it.

Second, validation initiatives will normally include the four stages of validation: identification, documentation, assessment and certification of learning outcomes. Depending on the intention of the validation process, there will be a different emphasis on each of the stages. When an individual is aiming to obtain a formally recognised qualification (equivalent or the same as those acquired through traditional educational pathways), more emphasis will need to be placed on the assessment and certification phases. However, when the intention of the individual is to take stock of their existing skills (as a 'bilan de compétence' in France), either within a process of increasing self-awareness or when exploring career possibilities, the emphasis of the validation process will be on the identification and documentation phases, rather than the provision of very reliable certificates or assessment. In this second case, the amount of time that would need to be invested to provide an adequate level of assessment would not be in line with the individual's intentions, making the validation process neither efficient nor effective.

Thus, consideration of the purpose of the validation system and allowing individuals to enter the process with different intentions are cornerstones in the design of validation systems. This has important implications for the creation of monitoring and evaluation systems for validation, as the data collected needs to be in line with the intention of the system in place.

In this article we explore a number of cases in which data is being collected for validation. The four cases were selected because, in general terms, data on RVA is very limited. These cases, however, are among the few that systemically collect information and have had several years of collecting information on RVA practices. They provide interesting examples of how validation can be monitored.

Table 4.1 shows the countries selected and the main features of their validation systems. In France, the validation of experience ('validation des acquis de l'expérience' (VAE)) is a procedure that can lead to the award of whole or parts of qualifications with a vocational and professional orientation ('finalité professionnelle') at all levels of the national qualifications framework (NQF). The VAE is highly focused on obtaining a certification and is closely connected to the national directory of vocational qualifications (*Répertoire national des certifications professionnelles* (RNCP)). In Portugal, the recognition, validation and certification of competences (reconhecimento, validação e certificação de competências (RVCC)) is carried out by the Qualifica centres through the evaluation of a portfolio by a panel that includes several

practitioners (Guimarães, 2019). The process leads to school certification or to a professional certification. Since 2016, the RVCC has been combined with an amount of compulsory training to better assist candidates in the process of evaluation. In South Africa, recognition of prior learning (RPL) refers to 'the principles and processes through which the prior knowledge and skills of a person are made visible, mediated and assessed for the purposes of alternative access and admission, recognition and certification, or further learning and development' (SAQA, 2015, Clause 26). In the USA, RPL is a practice devolved to the individual institutions that can award credits towards the completion of a qualification based on prior learning assessment.

Table 4-1. Main features of validation systems in selected countries

COUNTRY	TERM	SCOPE	DATA SOURCES
France	Validation of experience ('validation des acquis de l'expérience' (VAE))	VAE is defined as an individual right in France. The purpose of VAE is to obtain a qualification (Article L. 6411-1 of the Labour Code). It can lead to the award of whole or parts of this qualification (certification) based on the knowledge and skills acquired through prior experience and learning in a variety of contexts (Mathou, 2019).	Direction de l'animation de la recherche, des études et des statistiques (DARES)
Portugal	Recognition, validation and certification of competences (RVCC)	Through the RVCC, an adult can obtain a basic level certificate up to level 4 of the NQF (certificate of qualifications corresponding to the 1st, 2nd or 3rd cycle of basic education plus a basic education diploma).	National agency for vocational education and qualification (Agência nacional para a qualificação e ensino professional (ANQEP))
South Africa	Recognition of prior learning (RPL)	RPL is defined as 'the principles and processes through which the prior knowledge and skills of a person are made visible, mediated and assessed for the purposes of alternative access and admission, recognition and certification, or further learning and development' (SAQA, 2015, Clause 26).	South African Qualifications Authority (SAQA)
USA	Prior learning assessment (PLA)	PLA is the process by which an individual's experiential and other extra-institutional learning is assessed and evaluated for the purpose of granting college credit, certification or advanced standing towards further education or training.	Council for Adult and Experiential Learning (CAEL)

Source: Authors.

4.4 Dimensions for monitoring and evaluation of RVA

A monitoring and evaluation framework to inform policy making should cover all four stages of the validation process: identification, documentation, assessment and certification. It should include data on how individuals enter and progress through RVA, how they achieve recognition and validation, and how they value RVA outcomes for work and life. A monitoring and evaluation system for RVA will look at: (i) pathways for entry to RVA (*access and participation*); (ii) pathways for progressing through RVA (*quality and internal effectiveness*); (iii) pathways for completing RVA (*certification*); and (iv) career and life pathways following RVA (*outcomes*).

Access and participation
This refers to the extent to which various types of RVA promote equity and inclusion, and the implications for the expansion of lifelong learning opportunities for excluded groups. While this component focuses on the important social aims of RVA, it is simultaneously strongly related to the relevance and outcomes dimension, since it prioritises the need to increase the number of people who have viable and effective opportunities to benefit from high-quality RVA leading to positive socioeconomic and labour market outcomes.

A set of contextual indicators is required to capture the main drivers of RVA supply and demand, as well as the key factors affecting the efficiency of the matching process between them. Many of these factors will also affect the outcomes of skill use. Accordingly, a range of indicators is proposed covering five main areas: demographics, early childhood development, aggregate economic conditions, technology and work conditions, and education and labour market institutions and policy settings.

Access indicators will allow for a better understanding of whether outreach measures are being deployed efficiently. It will be possible to investigate whether RVA is being used by those who need it the most.

Quality and internal effectiveness
This is a measure of the quality of any RVA programme, and of whether it is effectively conducted and relevant in terms of meeting needs. Ideally, it will investigate each of the stages of the process (identification, documentation and

assessment) and devise indicators to capture how each of the stages are working in the overall process. Areas for these indicators would include resources, support measures, intermediary outputs, methods and areas of study.

It is important to understand the resources allocated to the RVA process in order to be able to properly evaluate its efficiency and effectiveness. Understanding the financial resources required, as well as the number of people involved in recruiting, supporting and assessing the individual's RVA, is necessary if the system is to be properly monitored. However, these types of indicators are normally scarce, as in many cases financial support is not earmarked for validation but is included in the general educational budget.

The allocation of human resources to the validation process should take into account the amount of support provided for the institutions and practitioners working on validation. Collecting information on the amount of training or the qualifications and credentials of the practitioners will help to increase trust in validation systems.

Information on intermediary outputs of the validation process will also be required. It is important to understand the types of documentation that individuals are obtaining before going into a final assessment to gain a certification. Monitoring systems should ideally identify how many people are able to start the validation process and manage to obtain specific identification and documentation, even if they do not manage to proceed through the whole certification process.

A fourth area for indicators relates to methods. Following consultation with US institutions, the Council for Adult and Experiential Learning (CAEL) has addressed this: 'Perhaps the greatest need for standardization in the tracking of PLA [prior learning assessment] data is in the defining of the individual PLA methods that are tracked. The critical unit of measure is the *method* of PLA, which we define here as the specific assessment tool to be used' (Klein-Collins, 2016, p. 5). The Tennessee Higher Education Commission, which identified and defined 22 individual methods of PLA, is cited. These different methods are grouped into five main general categories: standardised exams, challenge exams, individual assessments, evaluation of non-college education and training, and other (Klein-Collins, 2016). In addition to understanding the methods, it will also be important to understand the subject areas in which validation is occurring so that the resources needed can be better anticipated.

Certification

This relates to the output of the validation process after assessment has been carried out. The certification phase of an RVA process might imply that an individual has obtained a formal qualification or other type of certificate. At national level, the system would ideally collect information in all the different types of certification that the RVA system provides, allowing for comparison of certificates obtained through an RVA process against those obtained by traditional means. In systems in which RVA grants credits, the monitoring system could collect the number of credits earned through RVA.

The criterion most commonly adopted to understand the impact of RVA is the number of credentials (including partial qualifications or unit standards) awarded through this process. Some countries (see the French case below) take into account the number of individuals who engage in this process every year, whether they are successful, partially successful or unsuccessful.

While conclusions regarding the scale of RVA are a sobering reminder of the extent and complexity of the challenges of RPL, the real question of the statistics is that of the denominator (Merle, 2005), or the number of credentials delivered each year through RVA. To assess whether the RVA scheme has been successfully established or whether it occupies only a marginal place in the landscape of adult learning, the denominator is generally the number of credentials delivered each year through RVA. In that case, RVA appears to be marginal compared to the mainstream of formal learning and acquisition of qualifications. However, the question then is whether we are comparing like with like.

Outcomes

This relates to the responsiveness of RVA to labour market needs and outcomes for individuals. This reflects the assumption that the primary and key role of RVA is to raise skill levels and to help to address skill needs at all levels in today's complex and changing labour markets. The outcomes of RVA may be difficult to assess, and data sources may differ depending on the expected outcomes. Some studies have explored the impact of RVA, which does allow for the collection of such data (Duchemin, 2016). A survey of the motivation for RVA in France (Céreq, 2005) highlighted four expected outcomes, depending on candidates' motivation:

- **A protection concern**: Candidates whose return to employment or the safeguarding of employment depends on the acquisition of a

qualification, which in turn leads them to engage in an RVA process.
- **An integration concern**: Candidates for whom the start of active life is marked by an instability/vulnerability in employment or job insecurity. Candidates see RVA and the acquisition of new/higher qualifications as a way to find stable work and better conditions of employment.
- **A reskilling concern**: Candidates who are engaged in a perspective of professional reorientation. The goal is, above all, to obtain a level/type of qualification to satisfy the conditions of access for the intended employment.
- **An upskilling concern**: Candidates who have a perspective of evolution. A qualification obtained via RVA is expected to meet the expectations of social recognition and fill a gap between the functions performed, or the functions concerned, and their present qualifications.

4.5 Case studies

The following case studies provide concrete examples of indicators used for the monitoring and evaluation of RVA for decision-making. The cases cover countries with different RVA schemes and present common categories of indicators regarding access and internal effectiveness. At the same time, the cases illustrate diversity in the way that RVA is organised, its objectives and its expected outcomes.

However, the complex nature of RVA systems and its fragmented nature require a very clear definition of what RVA is and how its outcomes will be measured. The increasing interlinkage between formal, non-formal and informal types of learning makes it even more difficult to collect information on RVA processes that are, in many instances, interlinked with career management processes or training periods.

At the same time, the cases provide data and indicators beyond learning assessment data. For example, data on the average time taken to go through the scheme, or throughput rates, reflect the complexity of the process and the concerns not only regarding the capacity of candidates to engage and finish the process, but also the effectiveness of such a process compared to that of a traditional training pathway.

France[17]

In France, the term used is 'validation des acquis de l'expérience' (VAE). This is defined as an

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[17] The text for this case study is adapted from Mathou (2019).

individual right and came into force in 2002. Any qualification listed in the national directory of qualifications (*Répertoire national des certifications professionnelles* (RNCP)), can be acquired and accessed through VAE. The general institutional framework for VAE is the responsibility of the Ministry of Labour, in partnership with the regional council and the other ministries that award qualifications. Specific rules and practices for the implementation of VAE are the responsibility of each authority awarding the qualifications included in the RNCP.

Different structures and awarding bodies are involved in the process of organising and reporting on RVA. In 2014 a new law[18] (following the decree in the same year) introduced a number of important changes to the VAE system, including provisions on the organisation of statistical monitoring of VAE pathways. Article 6 of this law introduced new provisions in the Labour Code, according to which the Regional Committees on Employment, Training and Vocational Guidance (CREFOPs) and the National Council for Employment, Training and Vocational Guidance (CNEFOP) are in charge of the statistical monitoring of the use of VAE. Furthermore, the Decree of 12 November 2014 introduced provisions in the regulatory part of the Labour Code. As part of the responsibilities mentioned in Articles L. 6423-1 and L. 6423-2 of the Labour Code, the CREFOPs and CNEFOP are now tasked with the statistical monitoring of VAE candidates from the beginning to the end of the procedure (or, in the case of partial validation, for as long as the credits awarded remain valid). Anonymous data must be submitted by VAE providers (both public and private organisations), and CNEFOP ensures the harmonisation of the categories of data collected to allow the monitoring of candidates and their pathways.

DARES (research institute under the Ministry of Labour) compiles annual aggregated data from the various ministries involved in VAE. Qualifications awarded by ministries (state diploma) account for about 85% of all qualifications awarded through VAE. Data on qualifications awarded by chambers of commerce and trade and on professional qualification certificates (certificats de qualification professionnelle) delivered by sectoral branches and employers federations through VAE are not centralised. Thus, DARES data does not cover the entire scope of the VAE[19]. Nevertheless, DARES collects valuable information on aspects of access, internal effectiveness and external effectiveness. Data on candidates includes information on gender, employment status and level of qualifications. All statistics are aggregated by awarding body, qualification and subject. The number of individuals accepted into the VAE procedure is used to calculate the success rate in terms of partial or full validation. In some cases, it is possible to find data on the average duration of the validation scheme.

In addition to providing statistics, each body awarding qualifications is expected to develop its own evaluation of the implementation of VAE. The law requires them to review the process and procedures used for VAE on a continuous basis and to make any necessary improvements. This culture of evaluation and the accessibility of data has allowed France to carry out different evaluations and plan the revision of VAE based on existing data.

South Africa
In South Africa, the term 'recognition of prior learning' (RPL) is used. The South African Qualifications Authority (SAQA) is responsible for collecting and producing data on RPL. SAQA data (see Table 4.4) shows that a total of 23 260 learners on the National Learners› Records Database (NLRD) have achieved qualifications through RPL between 2006 and 2015. This is considered to be the number of successful RPL candidates in this period. The total number of records for the achievement of qualifications through RPL in the same period was 25 631, while the number of part-qualifications was 1 067 802.

SAQA data also covers sector focus and level of qualifications. From a sector point of view, RPL achievements are highest in the services field, followed by business, commerce and management studies and manufacturing, engineering and technology. There were no RPL achievements in the fields of education, training and development; law, military science and security; or physical, mathematical, computer and life sciences.

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[18] *Loi n° 2014-288 du 5 mars 2014 relative à la formation professionnelle, à l'emploi et à la démocratie sociale*, see www.legifrance.gouv.fr/affichTexte.do?cidTexte=JOR-FTEXT000028683576 (last accessed 15 April 2019). *Décret* n° 2014-1354 du 12 novembre 2014 portant diverses mesures relatives à la validation des acquis de l'*expérience*, see www.legifrance.gouv.fr/eli/de-cret/2014/11/12/ETSD1417561D/jo (last accessed 15 April 2019).

[19] For instance, the following, in particular, should be added to the data published in 2014 by DARES (25 300 validations for ministerial certifications): 1 500 VAE, with approximately 110 issued by private certifiers; and 4 300 professional qualification certificates, including a little less than 50% of the metallurgy branch (IGAS-IGAENR, 2016).

Table 4-2. Validation rate of qualifications submitted for the various awarding ministries, 2015

	NOMINATED [1]	VALIDATED [2]	PARTIAL VALIDATION [3]	TOTAL VALIDATION RATE (%) [2/1]	PARTIAL VALIDATION RATE (%) [3/1]
Ministry of Education (certificat d'aptitude professionnelle (CAP) to brevet de technicien supérieur (BTS))	19 324	13 153	3 946	68.1	20.4
Ministry of Higher Education and Research	4 070	2 589	1 064	63.6	26.1
Ministry of Agriculture	377	285	17	75.6	4.5
Ministry of Health and Social Affairs	12 141	4 965	5 231	40.9	43.1
Ministry of Employment*	4 243	3 063	537**	72.2	12.7
Ministry of Defence	123	89	28	72.4	22.8
Ministry of Culture	N/A	N/A	N/A	N/A	N/A
Ministry of Ecology	82	24	51	29.3	62.2
Ministry of Youth and Sports	1 055	474	259	44.9	24.5
All certifying ministries (excluding Ministry of Culture)	41 415	24 642	11 133	59.5	26.9

N/A: data not available. * In 2015, the calculation method for the number of nominated, validated and partial validation candidates at the Ministry of Employment changed. ** Estimated figure.

Note: In 2015, of the 19 324 candidates who appeared before a VAE panel of the Ministry of Education, 13 153 (68.1%) obtained a complete validation of their title or diploma, 3 946 (20.4%) obtained a partial validation, and 2 225 (11.5%) did not obtain validation. Field of study: France.

Sources: Certifying ministries; analysis conducted by DARES.

Table 4-3. Percentage of candidates who obtained a qualification through VAE within the TVET system, 2015 (continuing training)

QUALIFICATION	NUMBER OF CANDIDATES WHO OBTAINED A DIPLOMA THROUGH CONTINUING EDUCATION (INCLUDING INDIVIDUAL CANDIDATES) [1]	NUMBER OF CANDIDATES WHO OBTAINED A DIPLOMA THROUGH VAE [2]	TOTAL NUMBER OF DIPLOMAS OBTAINED OUTSIDE INITIAL TRAINING [3 = 1 + 2]	PERCENTAGE OF CANDIDATES WHO GRADUATED THROUGH VAE [2/3] (%)
Brevet de technicien supérieur (BTS) which corresponds to high technician	22 790	4 395	27 185	16
Professional Bachelor	6 245	2 553	8 798	29
Professional certificate	3 936	619	4 555	14
Certificat d'aptitude professionnelle (CAP)	54 583	3 190	57 773	6
Brevet d'études professionnelles (BEP)	7 326	114	7 440	2
Additional mention (level IV and V of qualifications)	1 387	199	1 586	13
Total	96 267	11 264	107 337	10

Note: In 2015, 29% of candidates who obtained a professional Bachelor's qualification after their initial studies obtained it through VAE. Field of study: France.

Sources: Department of Evaluation, Foresight and Performance.

Table 4-4. Summary of RPL data in South Africa, 2006–15

	SUMMARY RPL DATA	TOTAL
Learners	Number of **learners** who achieved one or more **qualifications** via RPL	23 260
	Number of **learners** who achieved one or more **unit standards** via RPL	45 806
Records of achievement	Number of records of **achievement of qualifications** through RPL	25 631
	Number of records of **achievement of part-qualifications** through RPL	1 067 802
Qualifications	Number of **qualifications** achieved through RPL	178

Source: SAQA.

Figure 4-1. Learner achievements through RPL by NQF field

NQF field	Value
Services	11,119
Business, Commerce and Management Studies	9,872
Manufacturing, Engineering and Technology	3,578
Physical Planning and Construction	333
Agriculture and Nature Conservation	303
Undefined	212
Culture and Arts	148
Human and Social Studies	57
Communication Studies and Language	6
Health Science and Social Services	3
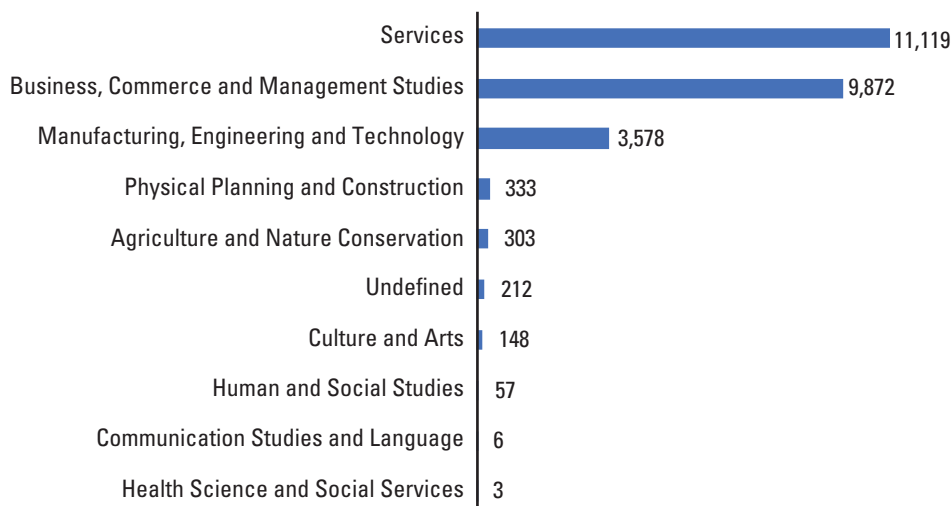
Source: SAQA.

Portugal

In Portugal the term 'reconhecimento, validação e certificação de competências' (RVCC) is used. Portugal's historical deficit in education implies that many of its adult citizens are considered low qualified. In fact, despite the remarkable progress made over the past decade, more than half of Portuguese adults aged between 25 and 64 have not completed upper secondary education.

The national system of prior learning assessment and recognition allows adults' skills to be recognised, so that they can obtain qualifications at the primary and secondary education level. The government's New Opportunities Initiative (Iniciativa Novas Oportunidades (NOI)), which ran from 2005 to 2013, helped a large number of adults to participate either in processes that recognised their prior learning (RVCC) or in training. Due political changes, NOI was discontinued and replaced with the network of Qualifica centres, officially launched in 2017. According to the National Education Council (Conselho Nacional de Educação (CNE)) (2011, p. 138), some 1 316 955 adults were enrolled at centres between 2000 and 2010 in order to obtain basic or secondary certification. According to the OECD (2018), by 2010 over 500 000 adults had participated in some form of adult learning through NOI, the majority by completing RVCC. The current number of enrolments is significantly lower, though it is progressively increasing (Guimarães, 2019, and Figure 4.2).

The national agency for vocational education and qualification (Agência nacional para a qualificação e ensino profissional (ANQEP)) collects data on RVCC. As part of the monitoring and quality assurance mechanisms, there is a restricted platform through which the validation centres register progress. The agency produces a monthly quantitative report with information relating to enrolments, referrals and certification in RVCC. It also provides quarterly reports on activities carried out by the five regional monitoring teams in which challenges are identified. Finally, an annual report assesses the functioning of the network of Qualifica centres and presents the results of the self-evaluation that each centre carries out. Quantitative data is collected on participation, achievement and success rates and on the length of the procedure. According to existing legislation, annual reports on quality assurance referring to RVCC (of school and professional certification) should be made public, but as the initiative is relatively new, these reports are not yet in the public domain (Guimarães, 2019).

USA

In the USA, RVA is referred to as PLA. The processes are decentralised to the level of institutions that can provide award credits based on competence assessments. CAEL is a non-profit organisation that supports the RVA process by working with adult education providers, employers, and cities, states and regions. It has carried out several studies and data-collection exercises on the PLA process. Of particular interest is CAEL's examination of the academic records of adult learners and its comparison of outcomes for students who have used PLA to obtain credits with
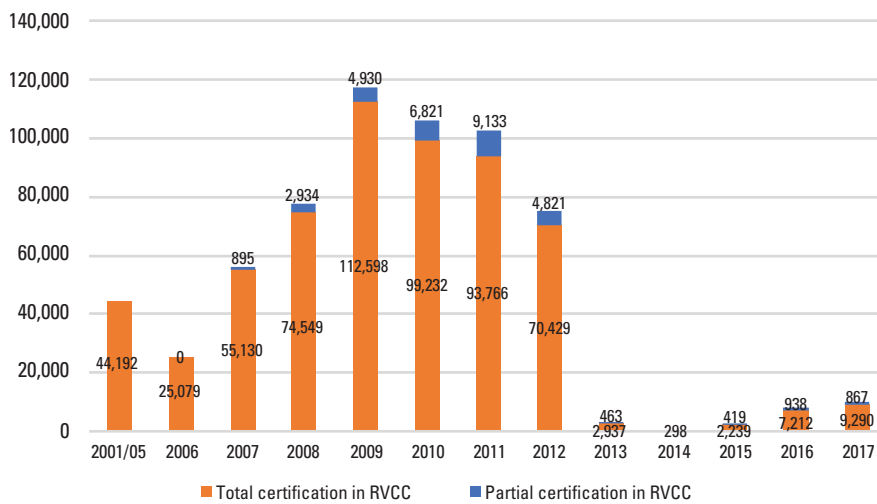
Figure 4-2. Number of people enrolled in the RVCC process, 2006–17
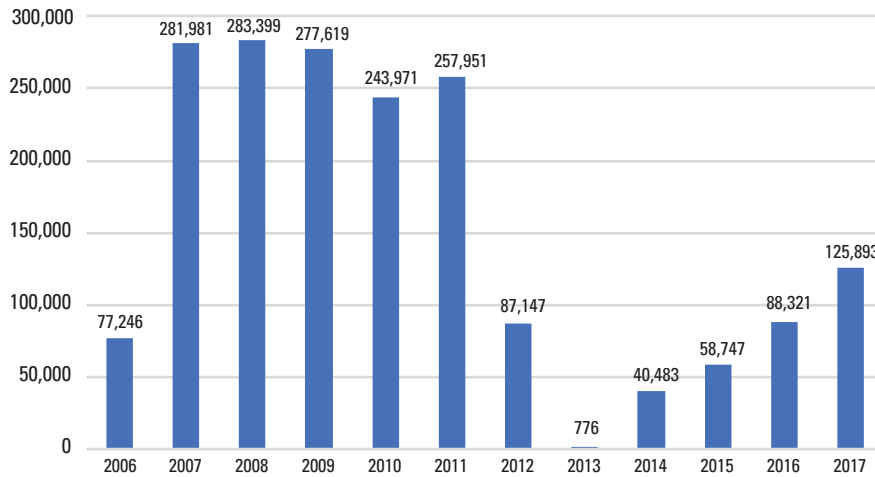
Source: Xufre and Duarte (2018).

Figure 4-3. Certifications obtained via the RVCC per year, 2006–17

Source: Xufre and Duarte (2018).

students who have earned credit through traditional means. The research also differentiates between different methods of PLA.

Figure 4.4 shows the percentage of individuals who were awarded a credential by obtaining credits through PLA and those who were not. Interestingly, the data shows that students who go through PLA seem more motivated to finish the course than those who do not. The data allows for a type of

analysis that is not normally possible in most of the existing monitoring systems.

Figure 4.5 shows more detailed data collected by CAEL on the methods used to earn PLA credits and the level of completeness of degrees. This detailed level of analysis permits a better understanding of the effect of different methods for validation. Combined with sociodemographic variables, it should be possible to evaluate the extent to which certain methods benefit less advantaged individuals.

Figure 4-4. Percentage of people earning PLA credits
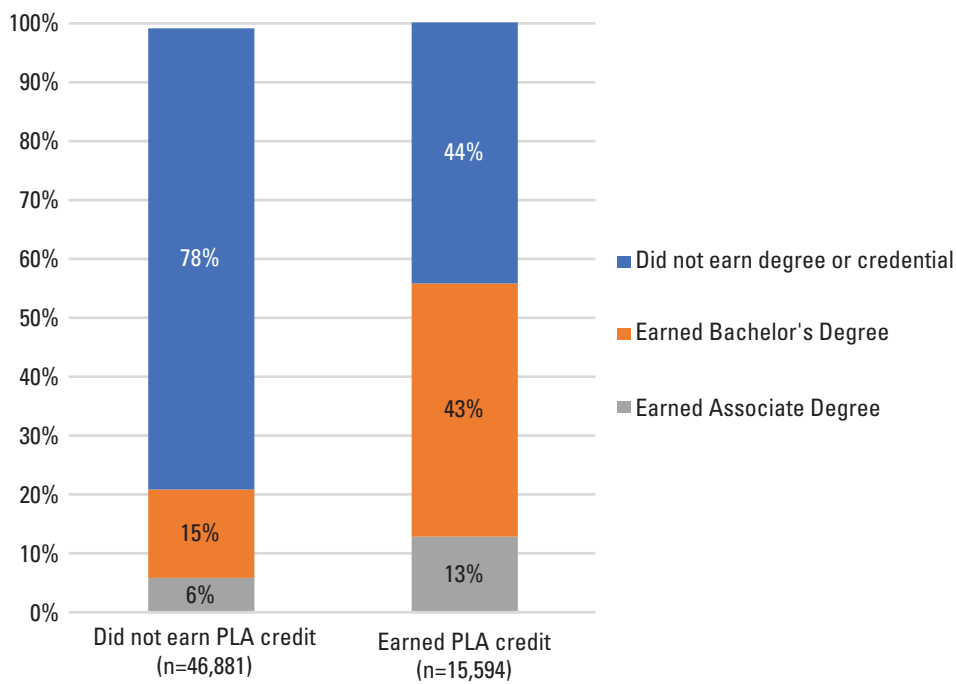
Source: Klein-Collins (2016), based on Klein-Collins (2010, p. 4). Figures based on a review of more than 60 000 students in 48 US institutions.

Figure 4-5. Degree completion by PLA credit-earning methods for all students
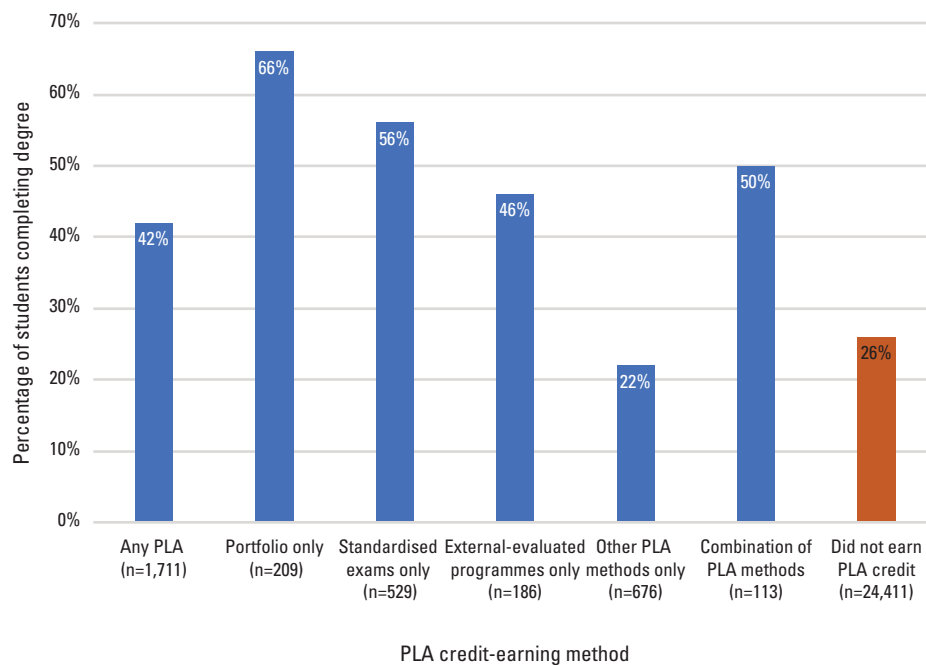
Source: Klein-Collins and Hudson (2018, p. 5).

4.5 Looking to the future: Education management information systems and learners' records – choices, opportunities and constraints

In most countries, education management information systems (EMISs) are the tools used to gather, process and interpret data on education and learning. For the past several decades, these systems have grown in complexity to give both policy-makers and classroom teachers a view of whether learners, schools and national education plans are progressing in relation to different objectives (UNESCO, 2018).

While all countries collect information on students, and qualification completion rates are important indicators in national statistics, RVA information is not usually included in the EMIS.

Educational institutions and awarding bodies usually have a lot of information on learners. Learners' records are rich and tend to have individuals' basic demographic information.

It would be relatively easy to include within these learning records specific information that would permit a better understanding of the use of RVA processes. The cases presented in this article show how different countries provide a series of limited but important indicators that could constitute interesting examples or starting points for a more complex collection of data.

According to UNESCO (2018), numerous countries have started linking learners' educational records with data from other government agencies, covering human services including those relating to family welfare, employment status and social protection. These integrated systems can yield powerful insights that promote a more holistic understanding of a particular learner's experiences. It is then possible to speak of 'integrated data systems', allowing 'linkage of administrative data from multiple government agencies' (US Department of Education, 2017, p. 1).

Countries will need to consider carefully the privacy implications as they move towards a better use of learners' records for decision-making. Not only are the solutions regulatory, but they also extend to technology itself. Blockchain solutions are often cited as a possible tool for enhancing privacy and security concerns surrounding learning credentials and other educational records (Keevy and Chakroun, 2018). Because of the immutability of entries and absence of a centralised information warehouse, this technology has the potential to give individuals greater control of their learning data. Experiments

with blockchain credentialing have been carried out in a number of countries (Keevy and Chakroun, 2018; Grech and Camilleri, 2017).

With regard to the trend to integrate disparate datasets, the world has witnessed a growth in longitudinal data systems. Longitudinal studies are those in which data is collected at specific intervals over a long period in order to measure changes over time. This practice is particularly advanced in Australia[20], France[21], the USA[22] and other countries. However, such surveys do not provide information on RVA graduates' learning and career pathways.

In France, several longitudinal surveys specifically targeting RVA graduates have been conducted. For example, DARES and Céreq, together with other agencies, conducted a longitudinal study in 2007 regarding individuals who had engaged in RVA in 2005[23]. The questionnaire was structured into 16 modules. The first five modules were intended to describe the candidate's profile and situation at the time he or she deposited the admissibility booklet (level of training, situation in relation to employment (where appropriate), situation in relation to job search, experience in terms of vocational training, professional experience). The next nine modules were intended to describe the candidate's journey from the outset to the date of the survey (initiative, current situation, possible interruption of the process, actions taken after partial validation, forms of assistance given to the candidate, etc.). The aim of the penultimate module was to examine the individual's professional situation at the date of the investigation in order to compare it to that at the start of the process. Another survey conducted by BVA as part of the IGAS-IGAENR report (2016) found that of the 81% of VAE users who were satisfied with the process, 17% reported a positive change in their situation (promotion or career evolution, 9%; finding a job, 5%; career change, 3%; personal achievement, 16%) (Mathou, 2019).

Other international studies have explored participants' experiences (Carneiro, 2011; Sandberg, 2011; Stendlund, 2012 and their labour market outcomes (Lima, 2012). In general terms, RVA is reported to have had a positive impact on individuals' self-stem and motivation for further education.

Efforts to integrate previously walled-off data to reveal insights about the delivery of social,

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[20] See NCVER (2018).
[21] See Gaubert et al. (2017).
[22] See NCES (n.d.).
[23] See Dares (n.d.).

educational and training services are primed to accelerate.

Any information system for RVA would necessarily need to take into account the following aspects:

1. a clear definition and delimitation, as well as the objectives, of the RVA process;
2. a coordinating/integrated data-collection process across ministries (e.g. single request);
3. submission through a single, simple digital system for all the providers that collects information specifically on RVA;
4. a reduction in the data requirements, focusing only on indicators relevant to the performance monitoring and evaluation of the RVA system.

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CHAPTER 5.
RECOGNISING PRIOR LEARNING EXPERIENCES OF MIGRANTS AND REFUGEES FOR INCLUSION

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Summary

Learning throughout life is important for everyone, whether they are individuals, organisations, schools or institutions. Linking learning to social inclusion and career opportunities, and the changes in prevailing attitudes on learning, are important themes that allow us to understand the current transition towards a lifelong learning society. This is particularly pertinent to refugees and migrants and their strive for inclusion in a new country.

The recognition, validation and accreditation (RVA) of non-formal and informal learning and the valuable role it can play in helping refugees and migrants to engage with their host societies is at the heart of this chapter. RVA is presented in its process-oriented framework, covering the roles and responsibilities of the main stakeholders: refugees and migrants, schools and universities, authorities, non-governmental organisations (NGOs), employers, trade unions, civil society organisations, etc. The objective is to demonstrate how and where to set up interventions for strengthening RVA in order to develop effective and tailored learning strategies that will benefit all stakeholders and, most of all, the refugees and migrants seeking inclusion in a new country.

5.1 Introduction

The number of refugees and migrants (newcomers) across the globe who are escaping wars or critical life conditions and looking for new life opportunities has increased dramatically in recent years and is likely to continue to grow. There are an estimated 244 million international migrants globally (UN, 2017), with work being the main reason for people to migrate internationally. In addition, refugees constitute a considerable number of those who have moved: there are almost 70 million people worldwide who have been forced from their homes; almost 20 million of them have fled their country, including 6.3 million Syrians. Furthermore, about 40 million people are internally displaced, that is, they have moved within their own country (VWN, 2018; UNESCO, 2018).

Newcomers face many challenges in settling into a new country, in particular obstacles to accessing the labour market or continuing their studies, alongside linguistic and cultural barriers. There is a need to offer flexible and personalised learning pathways to create favourable conditions for social inclusion. Valuing and recognising prior (formal, informal and non-formal) learning, and skills and competences of refugees and migrants as a means of empowering and including them in their new country is at the core of these pathways.

RVA of non-formal and informal learning outcomes is key to realising participative opportunities in a new country, for example, obtaining a qualification, seeking employment, and escaping poverty and social exclusion. Of course, such pathways to empowerment and employability depend on many factors, such as prevailing social and economic arrangements and the acknowledgement of political and civic rights, as well as opportunities for education and training at all levels and across all sectors of society: at work, in formal education/training and in the community.

A major challenge faced by newcomers is that although they are often educated and skilled, their competences might not be recognised in the new country. Their skills and knowledge might not fit into predefined bureaucratic policies and procedures, documentation might be lacking, or their initial studies might not match the qualification structures in the new country. This hinders their access to the labour market and their ability to continue their studies, thus jeopardising their chances of integrating. Moreover, in only a small number of countries are newcomers a main target group for RVA, although it is quite obvious that the RVA process offers opportunities for newcomers to create chances for inclusion (Singh, 2015; Souto-Otero and Villalba-Garcia, 2015), irrespective of the kind of education and training they received in their home country and the type of qualifications already obtained.

This chapter analyses the state of the art of RVA in various world regions and recommends ways in which RVA for refugees and migrants can be implemented more effectively by recognising their prior learning and creating favourable pathways for inclusion in the new country.

5.2 Impact of migration and displacement on education systems

One of the main roles of national education systems is to prepare young people for participation in society and to support adults so that they continue to learn throughout their lives. A high influx of newcomers puts a lot of pressure on these systems in terms of access to education, summative/formative assessment and the availability of tailored learning pathways.

5.2.1 Access to education

It is vital for people to have access – or instrumental freedom – to all forms and phases of learning in order to shape their own destinies (Sen, 1999). Enabling migrants and refugees, especially adults, to access education is crucial for promoting inclusion. However, issues such as language and cultural differences, missing certification, and funding can impede newcomers' ability to benefit from national education systems. Many countries exclude refugees and migrants from their national education system. Asylum-seeking children in detention in countries such as Australia, Hungary, Indonesia, Malaysia and Mexico are given little or no access to education. Rohingya refugees in Bangladesh, Burundian refugees in Tanzania, Karen refugees in Thailand and Afghan refugees in Pakistan can obtain an education only in separate, non-formal, community-based or private schools, some of which are not accredited.

In contrast, with the 2009 Right to Education Act, local authorities in India are legally obliged to admit migrant children, while national guidelines recommend flexible admission, seasonal hostels, transport support, mobile education volunteers and improved coordination between states and districts (UNESCO, 2018). In other countries, integration programmes promote the acquisition of the local language and cultural habits. In Lebanon, for example, where the government and its partners developed the Reaching All Children with Education (RACE) programme for Syrian refugees, educational assistance and alternative learning programmes have benefited close to 50% of those requiring basic education (Singh, 2018). Meanwhile, in Sweden, information and communication technology (ICT) in the form of audiovisual methods

is being used to help migrants develop their language proficiency faster, with ICT applications within and outside the classroom providing opportunities for independent learning. Similarly, Germany launched a smartphone app comprising a basic German language course, information on the asylum application process and on how to find jobs and training, and information on German values and social customs in order to help migrants and asylum seekers to integrate into the country (IOM, 2018). Finally, in the Netherlands, volunteers are deployed as language coaches to help refugees develop their skills (VWN, 2014).

5.2.2 Assessing learning needs

RVA of non-formal and informal learning converts prior learning experiences into new learning opportunities, not only in terms of access to education and qualifications, but also in terms of awareness and articulation of previous learning achievements on which further education can be built. Newcomers need to be able to articulate their learning needs, identify personal competences and gain an overview of social perspectives in their host societies. However, practice shows that educational standards are hard to calibrate with individual learning needs, particularly when it comes to linking the prior learning experiences of a learner and the learning outcomes of qualifications or occupational standards.

Refugees need guidance and counselling in order to have their prior learning, skills and experiences recognised and to help them understand the different education and training options and opportunities available to them (Singh, 2018). In Indonesia, India, Brazil and Mexico, this type of guidance and counselling is provided by national agencies appointed by central or local governments, whereas in other countries it is managed by NGOs and schools/universities (Braňka, 2016; UIL, 2016). A positive example of the latter can be found in the Netherlands, where the International Women's Centre (Internationaal Vrouwen Centrum (IVC)) contributes to the emancipation, participation and integration of migrant women by offering training on the self-management of competences. Migrant women are encouraged to describe and document their personal skills and competences to increase their ownership of their careers and livelihoods (Duvekot, 2016).

During assessment, formative and summative monitoring methods are used to link competences with qualifications and occupational standards. Learners can assist in this process with self-tests and portfolios, which describe, document and reflect their prior learning. Assessors compare these

personal competences with a selected standard for the intended learning objective; this, in turn, provides a basis for drawing up advice on access to education and training, accreditation and concrete further learning steps.

Many countries integrate such assessment services into their national education systems, while others offer assessment in independent centres. In Indonesia, for example, assessment services for low-skilled workers are embedded in national education and training programmes: the Indonesian Government works together with schools to develop guidance, assessment and (further) learning trajectories (Hasbi, 2016). In South Africa, sector-based assessment centres have been established based on local needs (McKay, 2016). In Norway, 'Skills Norway' acts as a national centre for assessing and training adult immigrants in language skills and social studies (MJPS, 2016).

5.2.3 The need for alternative pathways

In the *New York Declaration for Refugees and Migrants* (UN, 2016), adopted by the UN General Assembly on 19 September 2016, Member States pledged to 'expand the number and range of legal pathways available for refugees to be admitted to or resettled in third countries'. These pathways were broadly divided into three main streams: labour mobility, education pathways and family migration.

RVA answers this need for alternative, or 'personalised', pathways by providing access to learning and enhancing career opportunities. Furthermore, RVA allows newcomers to take an active role in achieving personal, civil and social 'effects'. A 'civil effect' means achieving a learning outcome in the context of a qualification standard within the education system. A 'social effect' focuses on results that are relevant to job profiles, targets, participation goals or assignments, as well as the personal impact of empowerment and personal development. Each pathway and recognition mechanism should encompass this wide range of effects. For example, the Australian Human Rights Commission has proposed several measures to enhance study opportunities for refugees. These measures include providing loans for tuition fees or offering domestic tuition rates to refugee students, allowing applicants to bring members of their family into the country and providing targeted study opportunities that are linked to Australia's skilled migration needs (AHRC, 2016).

5.3 Ensuring flexible learning and support

Flexible learning pathways and support mechanisms enable newcomers to move within and across education, training and employment opportunities. Flexibility means that they can adapt their pathway as they move forward and keep a close eye on their interests and abilities in their learning process. In systems that lack flexibility, it is difficult for newcomers to access education and jobs and to make the transition from one pathway to another. They may find that they are restricted to their original choice, even if they have realised that this choice is no longer right for them. It is therefore important to provide flexible pathways as second-chance opportunities for young people and adults to enter the education system and the world of work. This entails (i) recognising already acquired non-formal learning outcomes in addition to early formal education; and (ii) supporting mechanisms for documentation, guidance, assessment and tailored learning, and for anchoring learning outcomes to social achievements such as qualifications, job enrolment and citizenship.

Ensuring flexibility and support mechanisms in learning pathways involves setting up an interlinked and integrated process (see Figure 5.1), ideally of four phases:

- **outreach**, in which newcomers are approached and their learning needs are articulated, resulting in the determination and preparation of a desired and appropriate learning path;
- **assessment**, which helps to determine a personal learning trajectory, including what has or has not already been learned;
- **a tailored learning programme**, in which the learning trajectory is implemented in accordance with what, when and how the expected learning outcomes can be reached;
- **validation**, in which the learning path is maintained and what has been learned is practised; as such, validation is important for emphasising learning as a lifelong learning process.

RVA is an area for reform in many of the countries that are seeking to provide flexible pathways for newcomers. The development of these pathways and support mechanisms may depend on contextual features and feature a variety of approaches.

Figure 5-1. RVA-steered, personalised learning pathways
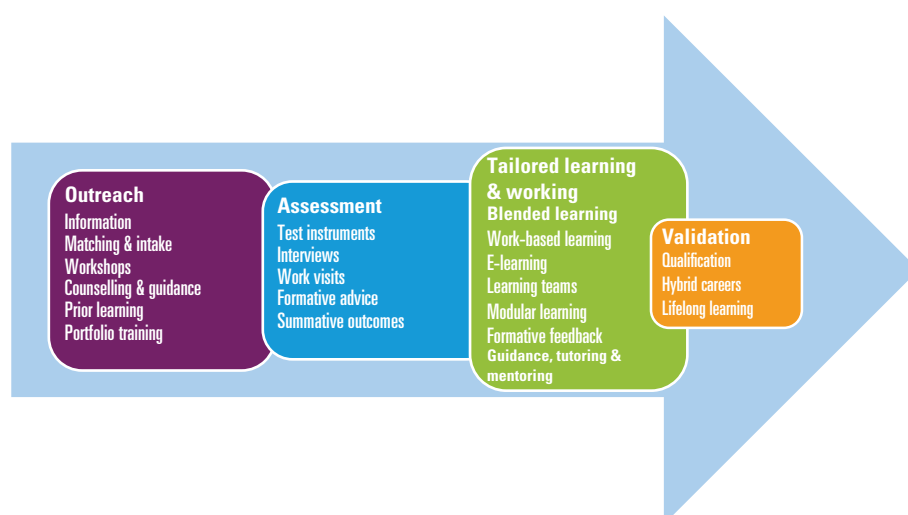
Source: Authors. See also: https://ec.europa.eu/social/main.jsp?catId=1224

However, in the end, the primary goal is to ensure that RVA:

- **is embedded in national and/or regional-level laws, creating a legal framework for designing, applying and evaluating RVA –** The EU has already set up such a framework: Upskilling Pathways is a relatively new initiative targeting adults with low-level skills who may be in employment, unemployed or economically inactive. European Member States may define priority target groups for this initiative, depending on national circumstances (Council of the EU, 2016).

- **links prior learning outcomes to national qualifications by a process of identification, documentation, assessment and certification – ** Singh (2018) reports that Egypt, Jordan, Lebanon and Turkey are developing national qualifications frameworks (NQFs) in order to recognise qualifications based on learning outcomes and competences acquired in all settings: formal, non-formal and informal. NQFs not only reflect expected learning outcomes, but also inspire curriculum design and assessment criteria as well as teaching and training methods.

- **is offered within the labour market by partners (employers, trade unions) who facilitate the identification, documentation, assessment and certification of prior learning outcomes –** The outcomes can be geared towards finding a new or better/higher-paid job. Such labour-market-steered learning pathways are available in countries such as Germany, the USA and Australia (Schuster et al., 2013).

- **links prior learning experiences to civil society perspectives –** Employers and voluntary organisations need to develop mechanisms for recognising individual competences to allow refugees to learn while they work in both voluntary and paid jobs. Studies in the Netherlands (Duvekot, 2016) and Australia (Webb, 2015) show that work-based learning opportunities benefit newcomers in terms of their labour market orientation and social integration. In New Zealand, one of the recognition frameworks targets adults who have the necessary capacities and personal skills to work as community practitioners and to facilitate civil society initiatives (MoE, 2008; Braňka, 2016).

- **is sufficiently funded –** National governments currently fund the majority of RVA for newcomers; however, NGOs and schools/universities also have a part to play. A case study of RVA for refugees in European higher education shows that the chance of successful inclusion rises when sufficient funding is available (Duvekot and Duvekot, 2018).

5.4 The importance of multi-stakeholder partnerships

Because RVA links various stakeholders – schools/universities, ministries, employers, trade unions, NGOs, etc. – managing these partnerships is imperative for the creation of a more inclusive education system for refugees and migrants. RVA of prior learning is a key component of lifelong learning, particularly for refugees and migrants who are trying to build a career in a new country. Strengthening RVA practices entails raising awareness of the value of prior learning experiences, providing information on RVA services (information, guidance, assessment), strengthening the linkage with qualification standards and occupational standards and coordinating among national stakeholders and schools/universities (Duvekot and Duvekot, 2018).

Successfully applying RVA through the upscaling and linkage of qualification/sector standards creates social perspectives for newcomers that can be linked to their motivation/ambition (agency) and their intrinsic values and developmental potential. Such outcomes are reported in, for instance, Norway, the Netherlands, Switzerland and Denmark (Cedefop, 2017). This impact is also demonstrated in the case of Syrian refugees in Jordan and Lebanon (Singh, 2018). Bray and McClaskey (2015) perceive a focus on utilising national or sector frameworks for the purpose of personalising the learner's potential as the next development in the learning system based on the engaged, self-managed, learning individual

operating in a supportive social network. The offer of a shortened, self-steered and flexible learning path for obtaining educational levels is, in this respect, more than just a formalising of personal learning experiences; rather, it is an offer of personal empowerment in terms of strengthening life skills, including literacy and numeracy, and social participation in the learning society.

A critical success factor in achieving a specific outcome of RVA for competent refugees and migrants is to offer a social perspective. Sector-based and regional RVA practices produce successful outcomes (Singh, 2015; Loo, 2016), especially if the organisations and companies involved ensure that the formulation of their demands for functions and activities at specific qualification levels is transparent. This strategy works especially well when focusing on tackling skills gaps or offering further learning paths for target groups such as newcomers. Furthermore, as a follow-up on RVA processes, schools and universities need to offer tailored further learning options. These need to be flexible in order to boost individuals' desire to continue learning. The options should address not only the 'what' of the learning, but also the 'how' in terms of (combinations of) work-based learning, classroom instruction, mentoring/tutoring, self-steered learning, distance learning, and so on.

RVA helps to create an integral complex of shared responsibilities among the main stakeholders: learners, organisations on/around the labour market and schools/universities. These three main

Table 5-1. Drivers, impacts and geographical occurrences of RVA for refugees and migrants

DRIVER	IMPACT ON INCLUSION	GEOGRAPHICAL OCCURRENCE
Economic	Finding and keeping a job (employability), tackling skills mismatch, investing in human potential	Canada, Western Europe, Brazil, Chile, Mexico, New Zealand, United Arab Emirates
Social	Motivation, self-management of competences (empowerment), redressing past inequalities, re-integration into social life	South Africa, Indonesia, India, Norway, Uruguay, Netherlands, Switzerland
Educational	Qualification, updating, upgrading or portfolio-enrichment focused on learning outcomes and tailored learning	Lebanon, Egypt, Jordan, Europe, USA, South Africa, Indonesia, India, Africa/ Economic Community of West African States, Australia, New Zealand, Canada
Participative	Civil society, social activation, volunteering, awareness	Netherlands, Scandinavia, South Africa, Canada

Sources: Braňka, 2016; Duvekot and Duvekot, 2018; Singh, 2018.

stakeholders are supported indirectly, or even directly, at a macro level in society by national, regional or local authorities and social partners. Table 5.1 shows how the coordination of such integrated RVA can be set up, regardless of the driver – economic, social, educational, participative – that prevails in a national context where RVA systematics are embedded in a multi-stakeholder approach.

5.5 Challenges and policy recommendations

Strengthening the role of RVA for enhancing the inclusion of refugees and migrants needs coordinated action and, above all, open dialogues between learner and teacher/employer in the two interlinked processes of validation and learning.

- In the validation process, the testing (summative) and advisory (formative) functions of validation in the dialogue between (the portfolio of) the learner and (the qualification standards of) the teacher and/or (occupational standards of) employers are used to recognise, validate and accredit learning outcomes. The learner is assisted in this process by test forms that are product- or process-oriented. Process-oriented means that learning outcomes are assessed in an integrated and interlinked manner, whereas in product-oriented validation, assessment is based on the value of the learning outcome itself.
- The (further) learning process aims to offer learning that cannot (yet) be assessed through validation or learning that the learner believes is desirable. This process is personalised in terms of content, form and meaning. The learner can have a say in the design of the personal learning trajectory within the framework of the agreed learning trajectory.

RVA approaches for newcomers can enhance the dialogues on utilising newcomers' learning potential in validation and learning processes for social inclusion. The aim of analysing the challenges and formulating policy recommendations is to create favourable conditions for such dialogues.

5.5.1 Keep it simple and informative
A major challenge is avoiding complexity in the RVA process and offering well-organised information and guidance services. A Swiss case study relating to migrant women (Bednarz and Bednarz, 2014) highlights three success factors, namely that RVA is a means to (i) enable individual empowerment by making prior learning visible; (ii) enable individuals

to achieve a qualification and thereafter enter the workforce (employability); and (iii) enable individuals to access higher education. However, these successful outcomes were realised only by consciously avoiding complex procedures and by offering plenty of information and clear guidance. What also proved to be beneficial was a high level of awareness that familiarisation with local language and norms needs to be part of validation logistics in general. In addition, in countries such as Jordan, Lebanon and Indonesia there is an awareness of the importance of accessible procedures, the provision of information, and low-complexity and guided process steps in RVA (Singh, 2018; Hasbi, 2016).

The provision of information and guidance in the RVA process and the subsequent availability of counselling and guidance services play an important role in the utilisation of RVA by newcomers. Information and guidance are the so-called 'front office' for the recognition of individuals' prior learning experiences in terms of education levels (Aggarwal, 2015; Cedefop, 2017). In order to deliver information provision and guidance properly, staff members of NGOs, schools and universities, RVA centres, etc., not only need to be well trained in guiding and counselling individuals, but also need to be able to oversee the whole process of RVA, including the further learning programming. This expertise extends to the responsibility of providing adequate information and raising awareness of the potential value of an individual's learning achievements in terms of access to a school or university. Furthermore, staff members need to perceive RVA as an open process that depends largely on the internal policy of schools/universities on (i) facilitating RVA not only for formal learning, but also for non-formal and informal learning experiences; and (ii) the creation of an open dialogue between newcomers with personal learning experiences and schools/universities with structured qualification standards. RVA needs to be 'easy', well guided, and tuned in to progression to further learning and transition into the world of work.

5.5.2 It is a right
Many countries grant access to the education system based on an individual's right to attain basic education levels. Alongside this, access to portfolio guidance and assessment can be seen in terms of an individual's right to integrate in the new country not just for access to education but also for social guidance and counselling, capturing both the retrospective value of learning (i.e. the assessment of prior learning experiences) and the prospective value of further learning (such as learning pathways tailored to personal learning style and contexts).

In France, the legal basis for RVA gives individuals the right to have their formally, informally and non-formally acquired experiences assessed. Such a right also exists in Canada, Iceland and Norway, where individuals can have their non-formal and informal learning assessed (Gouvernement du Québec, 2002; Ure, 2015). In the Netherlands, jobseekers can gain access to RVA once their application has been approved by the national job agency (Duvekot, 2016). In the United Arab Emirates, a 'Recognition of prior learning (RPL) charter' guarantees mutual recognition of the outcomes of RVA processes by all registered providers (UAE, 2016). In all these cases, utilising the right also entails receiving guidance on compiling a portfolio of evidence for the assessment, as well as counselling on the outcomes of the assessment.

These examples demonstrate the variety of opportunities available to newcomers in reaching out to the education system by utilising formal or informal rights to guidance and assessment in validation and learning processes. Greater accessibility, affordability and user-friendliness of RVA and the development opportunities it offers are important preconditions for opening up this right to all migrants and refugees.

5.5.3 Assessment

Assessment is crucial to RVA processes. The main methods of assessment are traditional examinations, assessments of portfolios of evidence, on-the-job observations and practical assessments. Generally, summative assessment is carried out, although formative assessment and reflective assessment can also strengthen the newcomer's inclusion.

Formative RVA is used to inform and guide an individual who wants to embark on a course of study. It uses a newcomer's learning biography to develop a personal learning path and design a tailored learning programme. Summative RVA, meanwhile, measures a learner's performance against a standard and can take two forms: RVA for a qualification or RVA for intake.

- RVA for a qualification tests a learner's suitability for a qualification or diploma: an independent assessment procedure takes place before a learner is admitted to a school or university programme.
- RVA for intake takes place after a learner enrols on a course or programme: an individual's prior learning achievements, whether acquired

through paid or unpaid work, in-service training, continuing education, leisure activities, or basic education and training, are assessed as contributions towards the study course or programme.

Our recommendation is that assessment methods should be used as a feedback tool and study progress instrument during the learning process, rather than just for summative purposes. Special attention must be given to reflective assessment by means of self-assessment. In general, such an assessment strengthens the ownership of learning by transferring responsibility from others (education partner, employer, etc.) to the learner. When learners understand how to channel their interest and curiosity, they gain the ability to motivate themselves intrinsically and to better understand the relationship between effort, strategy, persistence and use of resources in meeting their learning challenge: they gain the power to control what they learn. When learners begin to own their learning, they gain a prized possession that they can protect, build and maintain for a lifetime. In other words, they create their 'learning independence' (Rickabaugh, 2012; Duvekot, 2016).

5.5.4 Professionalism and quality

It is important for RVA staff (portfolio guides, advisers and assessors) to have a high level of expertise in order to generate and maintain awareness of the value of personal learning experiences when refugees and migrants seek to attain qualifications placed or available in the NQF. Furthermore, the quality assurance of an RVA system depends on the professionalism of the staff, how they acquired and maintain their expertise, and how they are embedded and accepted in qualification systems and human resource management systems on the labour market and in the third sector.

The RVA process comes into its own and enables refugees and migrants to access quality education in their new countries of residence when (i) schools and universities acknowledge the value of prior personal learning experiences; and (ii) RVA staff members excel in the various RVA activities of outreach, guidance, portfolio management, assessment and counselling.

5.5.5 Roles and responsibilities

The responsibilities of stakeholders can be linked to the purposes of engaging in RVA. The various roles to be filled can be explained by pointing out

their respective tasks and responsibilities. Table 5.2 shows the main objectives for each stakeholder next to their linkage with specific responsibilities. Many objectives can occur simultaneously in a national or sector context, since the true impact of RVA lies in the combination of certification, strengthening an individual's self-esteem and articulating the competence needs of learners.

What is important is ensuring the impact of RVA at the individual level. This entails giving a voice to the learner, and is most effective if the learner is fully aware of the social perspectives facilitated by the RVA process. Alongside good-quality guidance and assessment, creating perspective is a critical success factor for RVA in the education system. It is vital to be able to lead refugees and migrants not simply to achieving a qualification by means of their prior learning experiences, but also to finding a job and maintaining and improving their employability, enabling them to integrate into another culture and to empower themselves in developing self-esteem, to name just a few impacts and results from engaging in RVA.

Table 5-2. Objectives and responsibilities of RVA

STAKEHOLDERS	OBJECTIVES	RESPONSIBILITIES
Refugees and migrants	• Strengthening self-esteem and ownership • Creating second chances • Engaging in self-investment in learning • Gaining access to the education system • Taking advantage of social and economic career opportunities	• Building a learning biography, portfolio or other type of document for recording personal learning experiences • Agency: actively following ambitions and learning objectives • Carrying out an analysis of strengths, weaknesses, opportunities and threats (SWOT) • Compiling portfolio documentation • Carrying out self-assessment
Schools, universities and VET	• Accrediting prior learning outcomes for further learning • Offering made-to-measure learning • Innovating education processes • Engaging in society	• Open mind to validating prior learning • Standards based on learning outcomes • Facilitating lifelong learning strategies • Providing information on procedures • Providing training for assessors, guides, counsellors • Conducting assessments (summative/ formative) • Offering portfolio formats and portfolio training • Offering tailored learning pathways
Organisations and companies	• Offering self-management of competences • Formulating need for competences • Designing lifelong learning strategies in human resource management	• Providing mission statements • Providing an inventory of the organisation's skills needs • Analysing the organisation's (company's) strengths, weaknesses, opportunities and threats (SWOT) • Compiling competence-based occupational profiles
Public employment services	• Linking to social opportunities • Newcomer reception services • Guidance and advice	• Offering self-management of competences • Mapping social opportunities (local, regional)

(*continued*)

STAKEHOLDERS	OBJECTIVES	RESPONSIBILITIES
Civil society, NGOs	• Activating citizenship activities and volunteering • Opening up perspectives in civil society • Facilitating target groups in the RVA process • Newcomer reception services	• Creating transparency of the need for competences in civil society • Offering linkages with other perspectives (qualification, careers)
National level	• Establishing policies and responsibilities for creating favourable conditions for lifelong learning through laws, regulations and funding • Promoting RVA for newcomers	• Facilitating RVA by legislation and funding, opening (learning) centres • Raising awareness of the benefits of RVA • Enabling social and economic mobility • Managing qualification structures or frameworks • Providing quality assurance of RVA

Sources: UIL, 2016; Duvekot and Duvekot, 2018.

5.6 Conclusion

RVA can be beneficial for all stakeholders involved both in qualification- or job-related approaches and in more self-directed pathways for learning and development. This perspective is supported in many countries around the world by legislation and national and sector policies on RVA. However, these policy initiatives have not yet been operationalised to their full potential in practice.

At the system level, favourable conditions for creating learning and social perspectives are present in countries with (i) a legal framework for applying RVA in education and in the public and private sectors; (ii) an operationalised system for RVA in schools and universities that is able to recognise prior learning experiences of a formal, non-formal and informal nature; (iii) funding available at national, sector and/or NGO levels; and (iv) opportunities for anchoring RVA outcomes to competence-based systems in education, the labour market and the third sector.

At the individual level, the main requirements are agency, information and guidance, and ownership of learning. Experience from different countries shows not only the slowness of policy implementation in practice, but also that an open dialogue is conducive to activating individual learners. In general, refugees and migrants are initially hesitant to access the – often rather complex – RVA processes, but once they have been informed and guided, and are reflective with regard to their learning experiences, they can become empowered and engaged.

Information provision on the potential benefits of RVA is crucial for the agency of the target groups. They feel valued whenever they are helped to demonstrate their prior learning and working experiences. They feel 'listened to' and are encouraged to engage in participative actions in their new country. Furthermore, once it has been built up, their portfolio can be regarded as the carrier of the RVA process. Guidance or mentoring in the documentation phase is clearly beneficial for refugees and migrants.

Offering RVA as an open gateway for linking a newcomer's formally, informally and non-formally acquired learning achievements to a national qualification is one of the main critical success factors for their inclusion in their new country of residence. Following such assessment, the offer to acquire additional competences within a tailored and flexible learning path is another critical element for success. Both these factors depend heavily on the willingness and ability to recognise the skills and competences acquired outside the new country. This is not just a newcomers' responsibility, but also a matter of ambassadorship and expertise on the part of the RVA staff, of open-mindedness and willingness to embrace a dialogue on validation and learning rather than just depending on assessment methodology or interview techniques.

Finally, this analysis of RVA for refugees, migrants and displaced persons is consistent with Paulo Freire's statement in the 1970s that learning needs to be addressed as a developmental and dialogical process in people's praxis by reflecting upon their

reality and so transforming it through further action and critical reflection. This should be an anti-depository process, contrasting with the traditional 'banking system' (Freire, 1970). Such processes of dialogical validation and learning suit every learner, including refugees and migrants with their prior learning experiences. By 'banking', Freire means a process in which knowledge is directly transferred to learners with the teacher as the sole distributor of knowledge and the learner as the passive receiver of this knowledge. Instead of 'banking', a more suitable term to refer to the ground floor for learning might be 'portfolio-ing', in which learning is based on personal prior learning experiences and the self-management of recurring learning processes. Moreover, the role of the teacher can also be filled by a manager or team leader in the workplace. In this way, RVA adds value by making the learning process the object of learning, with the learner and the teacher (or manager) as 'partners in learning', openly debating the design and implementation of the learning that is needed or desired at the level of the refugee/migrant, teacher and manager.

The authors would like to give credit to Madhu Singh, Senior Programme Specialist at the UNESCO Institute for Lifelong Learning, who died shortly before this chapter was published. Madhu's research into RVA and its potential for improving the lives of refugees and migrants around the world will continue to contribute to the discourse on reaching some of the world's most vulnerable people through education.

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ACCESSING AND ACQUIRING SKILLS AND QUALIFICATIONS: CONNECTING PEOPLE TO NATIONAL QUALIFICATIONS FRAMEWORKS

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Summary

To deliver benefits to people – learners and employers – national qualifications systems need to be connected to system elements that allow those people to acquire skills and qualifications. This chapter considers how countries can enable people to access and acquire skills and qualifications, by looking at system elements such as curricula, career guidance, and teaching and learning.

6.1 Skills, qualifications and their environment

The ETF's previous contributions to the inventory, whether focusing specifically on national qualifications frameworks (NQFs) or qualifications, or more broadly on their supporting systems, were concerned with qualifications, frameworks and systems as a distinct thematic topic, or set of related sub-topics. Most ETF partner countries now have an NQF in place, and are modernising their qualification systems. But there is another stage before NQFs and qualification systems can connect to people to deliver skills and qualifications. That stage can be found in curricula, teaching and learning, and career guidance. Therefore, the question now is how countries' reforms of their qualifications and systems, especially those grounded in the principle of learning outcomes, can facilitate people in knowing about and acquiring skills and qualifications. This can be observed principally by examining how they interact with the related areas of learning and teaching and career guidance.

The ETF is conducting a new study on these themes, which we summarise for the inventory in this chapter. Here we seek to provide insights into how people access or know about, and acquire, skills and qualifications. We are guided by three core questions: How do people know about skills and qualifications? What types of skills and qualifications do they need? And how can people be supported to acquire them?

According to the Europass Decision of 2018, '[…] skills are understood in a broad sense covering what a person knows, understands and can do. Skills refer to different types of learning outcomes, including knowledge and competences, as well as ability to apply knowledge and to use know-how in order to complete tasks and solve problems'.

For qualifications we use the European Qualifications Framework (EQF) definition, which sees qualifications as the formal certification of learning outcomes achieved against given standards.

We see a new balance arising between skills and qualifications. The debates and studies about requirements for the future demands of the labour market are all about skills and competences. Increasingly, skills are seen as the dynamic currency that people need in a fast-changing world, to which they must be able to adapt throughout their lives. This puts lifelong learning back on the political agenda; most countries, whatever their technological capabilities and economic status, are introducing policies to address the acquisition of '21st century' skills throughout people's careers and lives.

However, at a conference in November 2018, the ETF hosted one of the few discussions of the future of work and skills in recent years to concentrate on the experience of transition and developing economies. Entitled *Skills for the Future: Managing Transition*, the event drew on the ETF's broad European and international links and on its ability to examine issues from the perspective of its partner countries – a diverse and distinctive group of countries that share much geographical, historical, and cultural intimacy with Europe. Individuals, enterprises and education and training providers in these countries must make the best decisions they can about the skills and competences they need, and the qualifications they should pursue, for future success. In shaping their respective futures, three factors seem to have significant impact across ETF partner countries. First, each country's 'starting point' consists of an analysis of where it

stands and where it wants to go. The second is making the best possible choices now to mitigate challenges and seize opportunities. And, therefore, the third is about institutional capacity, and relevant actors' ability to work together. As the conference conclusions state (ETF, 2019): 'Shaping the future requires resilience, adaptability and agility from all actors.'

Yet qualifications and qualification systems are seen as static and unable to keep up with changes and to capture the wide range of new learning opportunities. New alternatives to formal qualifications are emerging, such as digital credentials and badges, to make the skills that people have acquired more visible. If we want qualifications to remain relevant for individuals and for society, we need to build more flexibility into qualifications and qualification systems.

In part, the ETF's new study, and this chapter as a summary, are prompted by a belief that, for the benefit of learners and employers (the main users of skills and qualifications), we need to look more often at the two together. We try to identify in what environments, and in what modes, people learn best; how they prefer to learn; and at what ages and stages in their lives and careers. We are also concerned with employers, particularly what types of employer may dip 'below the radar' of policy-makers and governments.

When we refer to 'people', we are concerned primarily with the 'learner' and 'employer' categories. Throughout this chapter, it is these two broad groups we have in mind.

The ETF works with 29 high-, middle- and low-income countries located around the European Union (EU) in South Eastern Europe, Eastern Europe, the Southern and Eastern Mediterranean and Central Asia. Given their great variety of economic and social conditions, and thus their various capacities to implement reforms, these countries are at different stages of qualification system reform. Linking policies and practices addressing the breadth of issues we are concerned about – from qualifications, skills development and career guidance to curricula and teaching and learning – is not easy. It may indeed be simpler to develop policies in related but distinct fields in parallel, without a clear strategy and a shared vision for education and labour market reforms, rather than attempt to tackle them in an integrated fashion that includes wider elements. But we observe that integrating policies and practices in skills and qualifications with their related system elements, such as guidance and curricula, applies in

all countries at any stage of qualification system, or NQF, development.

This chapter presents the findings so far from our study, including what we have discovered in examining how – by looking at the design of curricula, career guidance, and teaching and learning – countries can enable people to access and acquire skills and qualifications. Our findings are necessarily tentative, as the study is a work in progress.

We look at *where* people find information about skills and qualifications, and *how* they find it. Another motivation for addressing these issues now is a feeling that partner countries are moving only slowly in modernising their qualification and broader vocational education and training (VET) systems. Governments propose laws, establish institutions, create stakeholder platforms, design formal curricula, improve quality assurance tools, and so on. But reforms can remain unconnected to related or neighbouring policy areas, and if not properly implemented the effects in practice and benefits for people can be limited.

6.2 Benefits for people

The expert in anything was once a beginner.
Helen Hayes, actor

While it may seem obvious for an EU agency concerned with, among other issues, skills and qualifications to promote the worth of skills and qualifications, we think partner country decision-makers and policy-shapers need to make a case to their own societies. It is not axiomatic, after all, that education and training, skills and qualifications, are a priority in all partner countries, when examined in the context of all the other issues they have to deal with.

Decision-makers need to understand the benefits of skills and qualifications, to individuals, employers and society. Many ETF partner countries are undertaking large-scale reforms, often aided by the EU and sometimes by individual Member States. VET continues to have a key role in preparing young people for the labour market, and, at the same time, needs to respond to the growing demand for upskilling and reskilling of adults at all ages and levels. By 'adult', we mean learners who have left initial education, and usually have some work experience.

One of our study's findings relates to the effects or benefits of learning for individuals and employers. Learning with the goal of acquiring a set of skills or a qualification affords an obvious gain for the learner's employer, the broader economy, and, by extension, society as a whole. We know that those with skills and

qualifications are more likely to lead healthier, safer and longer lives, and are less likely to commit crime or fall into other types of anti-social behaviour.

The ETF's remit is to support countries in developing systems for training people for work or employment. Yet our investigations reveal that governments and employers stand to gain by encouraging people to access learning and qualifications, even if the material benefit is not known at the outset. Surveys tell us that it is primarily the learning *process* that yields the gain to people in their personal and professional lives. Therefore, while acquisition of an occupational skill, which is then formalised in a qualification (i.e. an official attestation of outcomes achieved against given standards) is desirable, it is not the sole, or even the main, benefit to employers and governments.

> *Intrinsic motivation is one of learning's most precious resources.*
> Rachel Simmons, author and women's rights activist

Learning among peers is frequently hugely satisfying for adults. Even without the target of acquiring a formal certificate, they gain social, digital, and other more generic skills that stand them in good stead in a range of occupations. This finding seems to be borne out by employer surveys, which generally accord higher priority to behavioural than technical skills. The BELL survey, which included Serbia (an ETF partner country), found that adult learners, especially those coming to courses with formally low skill or qualification levels, gain proportionately the most from training. Learning environment matters – we found that employees often do not like classroom learning, even if related to their job.

It has been our experience at the ETF that adult VET or continuing VET (CVET) is more agile than secondary or initial VET (IVET), in responding to learner and labour market needs. Private providers, NGOs, donors and public employment services in some countries, for instance Kosovo[24], adapt more readily to the lifelong learning paradigm, including providing training for occupational and social skills and outcomes-based qualifications. One of our findings is that governments need to give more attention to CVET and the non-formal providers, and, more broadly, to lifelong learning policies and practices. Governments and employers may not view adults as learners, especially when they are in work, yet the potential for a disproportionate economic dividend exists there.

At the same time, the positive effects of learning do not sufficiently reach young folk in our partner countries. The EU's early leaver target is 10%, but in Turkey, according to studies supporting the ETF's Torino Process analysis, one in three 18–24-year-olds fall into this category, and in Albania the figure is 40%. Numbers of young people not in employment, education or training (NEETs) are high in Bosnia and Herzegovina, Georgia and Kosovo.

Typically, navigating the transition from school to further study, or early career paths, is difficult, and few young people in partner countries express satisfaction with the careers information or guidance they receive. VET graduates typically consult informal networks when job seeking, or respond to specific job advertisements rather than go via public employment services. In North Macedonia, only 11% of VET graduates used public employment services as a source for job searches.

Employers form our second category of beneficiaries. Employees' skills are a key factor at any time in business success. As the economy moves from industrial revolution 3.0 to 4.0, from computerisation and automation to cyber-physical systems, training and upskilling people matters even more. This transformation is especially challenging for smaller enterprises. Globally, small and medium-sized enterprises (SMEs) constitute upwards of 90% of all firms and more than 60% of total employment. They are more vulnerable to global changes, such as digitisation, and less productive[25].

As with our findings about learners, or types of learners, we think countries may gain by giving special attention to SMEs. In the countries of South Eastern Europe that are currently candidates for EU membership, SMEs account for 90% of all firms, and provide about 70% of all jobs. Yet while smaller firms often lack the resources to upskill their people, larger companies are more likely to have their own training programmes and facilities. Furthermore, those with lower levels of training are disproportionately found in SMEs. By contrast, the better educated or more skilled tend to gravitate to bigger, private firms or to public institutions such as ministries and local authorities.

SMEs' challenges begin with identifying what training is needed, and how to allocate their more limited resources. Broadly, they seek to upskill workers via informal training and learning in their own organisation. As indicated above, this learning – mentoring, staff meetings, company training sessions, etc. – often suits adults already

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[24] This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence, hereinafter 'Kosovo'.

[25] See, for example, ICT (2015).

in employment. But in most cases in ETF partner countries, the employee's newly gained skills are not recognised through a qualification. It should be added, however, that older workers are less concerned with acquiring formal certificates than they are with updating their skills.

One potential response is for industry bodies, chambers of commerce and other relevant actors to collaborate with training providers to develop more training courses and more flexible certification processes.

6.3 Knowing about skills and qualifications

Students need information, information, information.
James Turner, head of policy, The Sutton Trust

How people know about which skills and qualifications they might need is all about making information accessible. There is no shortage of information out there about skills and qualifications. Indeed, the internet provides a plethora of information, making it a challenge for individuals or employers to navigate through this sea of sources.

Partner countries need to develop tools that can help employers and people sift through all this information, in order to find what they need to make decisions about skills and qualifications. Fragmentation and complexity, and thus inaccessibility of information, cannot be allowed to become a negative consequence of volume and speed. Instead, partner countries need to develop, or apply, tools to channel the flow of data to the benefit and not to the detriment of learners and employers.

When it comes to knowing about skills and qualifications, we see three domains which are undergoing transformation: first, skills and qualifications systems and tools; second, labour market intelligence; and third, career guidance or counselling. Below, we explore each of these.

6.3.1 Skills and qualifications systems
Information about skills and qualifications serves several purposes, including supporting quality assurance, matching supply and demand in the labour market; informing career choices; and generating transparency, and ultimately trust, in the qualifications and skills held.

The EU deploys multiple tools, notably Europass and the EQF, to generate access to, and present information on skills and qualifications. Europass is a portfolio of tools used directly by citizens, and is currently being overhauled by the European Commission and Member States to shift it towards becoming a comprehensive digital platform. The revised version will include information on demand and supply of jobs and skills, including through synergy with related tools such as the EU Skills Panorama, labour mobility tools such as the European Job Mobility Portal (EURES), the EQF, and authentication measures to support verification of digital documentation.

NQFs themselves help people to know about qualifications, because they are visible and, therefore, communicable entry points to a country's qualifications. Indeed, helping people know about and understand qualifications is a goal of all NQFs, in our partner countries and universally among the 150 or more in existence around the world. Having a register of qualifications that is accessible online is an important feature of many NQFs. National and regional qualifications frameworks have become integral to most countries' qualification systems. They have not always been successful, though, in communicating their role and uses beyond stakeholders who are already active in the education and training world.

The ETF's chapter in the 2017 inventory highlighted information and communication as a transversal function of the institutions, ministries and agencies that lead qualifications reform, or have lead responsibility for the NQF. So in the partner countries, it is essentially the agencies such as the Montenegro Qualifications Council, the Vocational Qualifications Authority in Turkey, the National Qualifications Authority in Kosovo, and other countries' education and labour ministries, which lead in communicating about qualifications to learners and other users.

These institutions use a range of tools to reach users. In Kosovo, the National Qualifications Authority uses films, adverts and websites to promote familiarity with the qualifications system. Among EU countries, Ireland has given special attention to communicating information on qualifications and related programmes. Other tools include registers and portals of qualifications. North Macedonia, Kosovo, Georgia, Moldova and Turkey are among several partner countries developing registers and portals of qualifications. Montenegro's register includes 160 VET qualifications at levels 3, 4 and 5 of the NQF. Likewise, handbooks such as Georgia's and Kosovo's effectively communicate their qualification systems to learners and stakeholders such as employers.

Further transversal functions of institutions include quality assurance and regulation. Quality assurance systems and tools also generate information and communicate about qualifications. Indeed, this is a necessary function of quality assurance, as its primary purpose in qualification systems is to create trust among users. That trust relies on credible information communicated to learners and employers. In skills and qualifications, quality assurance is principally about qualification standards, assessment and certification.

Standards are defined with labour market actors, such as employers and trades unions. Such governance processes both boost quality and relevance of qualifications – from use of labour market information to production of relevant qualifications via occupational standards, for example – and, by engaging employers themselves in qualifications development, ensure greater employer awareness. In Scotland, the Scottish Credit and Qualifications Framework staff and the Scottish Qualifications Authority engage with a range of non-formal providers, such as Microsoft and the Scottish Police College, to develop new qualifications, which have experienced rapid growth in recent years. These processes increase public contact with the country's qualification system.

In partner countries, we might cite the cases of Ukraine and Turkey, where the employers have been leading development of vocational or occupational qualifications based on occupational standards, thereby ensuring skills and qualifications development is not a state monopoly.

Assessment methods and certification may also generate greater familiarity with qualifications. National exams and national certificates, overseen by national bodies, seek to ensure more consistent quality of outcome in awarding qualifications, as well as greater visibility via common formats and badging. In Azerbaijan, the State Student Admission Commission, and in Georgia the National Assessment and Examinations Centre, are both expanding their remits. NQF levels stamped on certificates also have an information value. Montenegro, North Macedonia, Turkey and Kosovo all make their qualifications more visible and comparable through NQF and/or EQF badging. As with standards and qualifications development, engagement in assessment by employers, e.g. in Turkey, also broadens public awareness of qualifications. Additionally, partner countries increasingly publish results and data on results, qualifications take-up, and so on.

Quality assurance and information also intersect in the new fourth generation of qualifications frameworks, in which ways of assuring the quality of the new qualifications, such as digital credentials, are now needed. Partner country governments need to respond to digital and other modernisation trends with policies, systems and tools which identify, capture and recognise learning outcomes and, crucially, quality-assure them for credibility.

6.3.2 Labour market intelligence

Labour market intelligence (LMI) includes skills analysis and forecasts, which enable us to better understand trends and drivers in skills demand and supply and, conversely, to detect skills mismatches. These tools are essential sources for decision-makers in skills and qualifications. While partner countries are aware of this need, they struggle in some cases to disseminate intelligence to users.

The EU Skills Panorama combines different existing datasets, such as those managed by the OECD, Eurostat, Eurofound and Cedefop, to provide a rich picture of the European labour market. Users are decision- or policy-makers and researchers more than learners. Features include a search engine based on the European classification of Skills, Competences, Occupations and Qualifications (ESCO), LMI guides and other toolkits.

ESCO seeks to link education to work, and support skills anticipation and matching. It helps users by showing how jobs can be described in terms of knowledge, skills and competences; by specifying how such terms can describe the outcomes within a qualification; and by suggesting which qualifications EU countries consider relevant to which occupations.

Labour market intelligence is being transformed by Big Data and new analytics. Big Data is a term used to refer to datasets that are too large or complex for traditional data-processing application software to deal with. The goal of utilising Big Data in LMI is to support decision-making, by adding value to, and going beyond, traditional LMI tools such as surveys. Big Data has notable advantages, in particular by reducing cost, speeding up distribution of data, and offering greater accuracy and accessibility. Through the growing digitisation of labour market and education and training processes and information, more sources that supply information on occupations, skills and qualifications become available. This includes large datasets on job vacancies, CVs, learning opportunities and curricula.

Relevant data is collected by online tools such as EURES, Europass, the EU Skills Panorama and information sources such as online job boards, portals and public registers. These sources allow

refined, detailed, localised and real-time intelligence on skills and occupations, which could not be captured before the advent of Big Data. They map skills by occupation, to identify mismatches and obsolete skills, and to predict new occupations and skills.

6.3.3 Career guidance

People need to know what skills and qualifications they should develop and acquire in order to equip them to pursue their desired careers and occupations. Career guidance, or careers information, means any information and/or advice that supports people in making meaningful choices about learning and work opportunities, to which skills and qualifications are, of course, closely related.

We referred above to the role of LMI. Reliable, objective and user-friendly LMI is essential in supporting individuals to navigate labour markets, and in supporting enterprises to find people with the right skills. Traditionally, governments have played a significant role in funding, collecting, organising, linking, systemising and distributing LMI. Often, LMI tools have been developed in the employment sector, but are not necessarily shared with career practitioners in the education and training sectors.

LMI can be considered one of the weak features of national guidance systems. Cooperation between the key stakeholders could be promoted with a national mechanism in collecting, maintaining and disseminating reliable LMI of supply and demand in the labour market. Attention also needs to be paid to analysis of trends and predictions of future need. The representatives of different user groups and guidance professionals could provide a sounding board in developing a user-friendly and innovative LMI system and in increasing their capacity to use it critically in career learning.

The use of LMI can be progressed by increasing individuals' access to experiential and non-experiential forms of labour market information. More attention should be given to links between work-based learning and career guidance in validation and adult learning.

In a sense, career guidance takes LMI and makes it useable by people. People need to be presented with LMI developed and channelled by public services but also need to go a stage further in using that information to make informed choices. Such LMI includes knowledge and tracking of skills trends, demands and gaps; skill requirements in occupations; transversal skills as they evolve;

entry and progression routes through occupational families; and so on.

The rapidly evolving workplace, or, more accurately, the new forms of employment and new occupations, are making adaptability, mobility and upskilling essential. Career pathways cease to conform to familiar, linear expectations. Instead, the number of transitions – where career guidance and career management skills are arguably most critical – is increasing. This increased career unpredictability implies greater career self-management by learners and workers. Accordingly, the EU's Council Recommendation from 2018 on key competences for lifelong learning includes a competence that covers career management.

Rapid changes in the labour market mean that citizens need new skills to cope with various challenges throughout their lives, including more frequent career changes. Such career management skills describe what individuals need to navigate the labour market and to develop their own working lives. The development of career management skills contributes to workforce development, enterprise performance, and career and work progression for individuals. A national career competency framework could be developed, with input from the education and employment sectors, and other key stakeholders. It should be linked in a meaningful way to other national skills or competence frameworks.

In schools, career education programmes can be delivered as a stand-alone and timetabled subject, as a series of themes taught across different subjects in the curriculum, or through extra-curricular activities. A cross-curricular approach helps students to think through work-related issues in the context of different subject areas. Extra-curricular activities can include career weeks or career fairs, workplace visits, work experience programmes, or employer school visits. The most comprehensive approach is to include career education as a compulsory or optional timetabled subject within the curriculum.

Career education programmes can be delivered by career teachers or career practitioners, based either in or outside the school. A third model is a partnership between school-based and external personnel. A well-functioning partnership model can link the curriculum content to a more up-to-date and in-depth knowledge of the world of work.

Career education or career guidance is not one intervention, but many, and works most effectively when a range of interventions is combined and

sequenced in a programmatic fashion (Hooley, 2014). Sultana (2018) distinguishes between the curriculum-based and work-based pedagogical methods in the delivery of career education in addition to career guidance services. The involvement of employers and working people in work-based experiential learning is critical for individuals' career learning.

For adults, guidance refers to a wide range of career counselling activities built on co-construction, by the counsellor and the client, of the client's relationship with working life, and on services and tools that help jobseekers to improve their employability skills and reintegrate in the labour market. This encompasses a wide range of activities, including assessment, profiling or screening, assistance in job changes and upskilling, coaching in career management and social skills, job-broking and advocacy, job-search assistance, counselling, job club programmes and provision of labour market information. For the unemployed people, public employment services' counsellors provide counselling to support sustainable activation and labour market integration. Public employment services may offer specialist career guidance to those seeking a more comprehensive solution – for example, a low-skilled unemployed young person or adult who wishes to pursue a VET programme.

Gaining and sustaining employer engagement is central to effective career development systems in addressing labour market gaps and mismatches. The cooperation structures depend on local conditions and needs and can range from information exchange to co-design and implementation of work-related learning activities.

Work-based learning should be a core element of the education system for all, and should include learning about entrepreneurship and social enterprise. Employers can be engaged in national committees preparing national policy documents or legislation. They can contribute to the development of curricula for different educational levels and for training programmes of career practitioners, and provide placements for career practitioners, as well as students and teachers. Employers can also build on existing human resources management processes to create career development support for the mutual benefit of themselves and their staff, in cooperation with trade unions, professional associations and other work-related bodies.

The professionalism and qualifications of career services providers are essential elements in meeting the needs of citizens and enterprises, as well as in furthering national policy goals. However,

current training provision has been inconsistent, and reflects the nature of national guidance delivery systems. Insufficient attention has been paid to LMI and to competences in the use of technology and social media in guidance. Employers and other relevant stakeholders are not sufficiently consulted in the design and evaluation of career practitioner programmes.

Guidance practitioner qualifications should be integrated with ministries or authorities running NQFs to improve the transparency of qualifications across countries. Citizens need to be enabled and assisted to identify their guidance needs and to have these addressed in a competent and professional way, so that they can acquire skills to make meaningful and efficient plans and choices for their learning and career.

6.3.4 Use of ICT in guidance

The relationships between career services and different user groups have become more dynamic and complex, with high demand for online customised products and services. The use of social media in career-related activities has increased dramatically in recent years, and the careers sector needs to expand its understanding of new technologies and labour market information systems (LMIS) as part of efforts to modernise services. It is necessary to exploit the potential of new technologies, alongside LMIS, and integrate their use into all aspects of lifelong career guidance practice and service delivery. The implementation of a strategic approach in the use of ICT and LMIS in relation to lifelong guidance requires a jointly agreed cross-ministerial strategy for lifelong guidance, and a common conceptual framework for service delivery and funding. Successful integration of technology requires coherent policy support, workforce capacity development, and the design of fit-for-purpose ICT systems.

Given the diversity of career services in different settings, it is important that all relevant stakeholders participate in the development of systems and policies for lifelong guidance. It is equally important to share knowledge at national, regional and local levels. From a policy and delivery perspective, strategic leadership with stakeholder involvement across sectors helps to overcome policy fragmentation and duplication of efforts. It is essential to promote research to support evidence-based policy making, including market and academic research, longitudinal evaluation and cost-effectiveness studies. A coherent evidence base provides a rationale for allocating funding to different delivery channels and priority groups. Developing a

national strategy is critical to ensure that different sectors work effectively within complex systems.

6.3.5 Some country cases

Belarus and Serbia provide two innovative cases of outreach to users. In Belarus, the National Education Internet Portal supports decisions on programmes and qualifications though described learning pathways. Its users are learners, school pupils, university students, workers and adult learners, along with parents, school leaders and other stakeholders. Materials for curriculum development, counselling via email, and information on teachers' continuing professional development, all feature.

In Serbia, the Belgrade Open School Improvement of Employability programme aims to assist individuals in equipping themselves for current and future labour markets. As in Belarus, users include students, parents and other stakeholders. They can use a self-help tool to access information, or consult a career guidance practitioner online. Other features include self-assessment exercises, tools to create a career profile and CV, and even computer games to develop employability skills such as communication and decision-making.

6.4 Acquiring skills and qualifications

6.4.1 The skill of learning new skills

Considering how people acquire skills and qualifications takes us into two broad areas, namely developing and implementing flexible curricula to provide opportunities for people to acquire skills and qualifications; and the changing role of teachers and trainers. In particular, we are concerned in this section with exploring innovative curricula, and identifying their consequences or implications for teachers.

It will help to define what we mean by curricula and whom we are talking about when we come to teachers. A curriculum is a written plan for learning, which includes learning outcomes, learning goals, learning activities, and supporting materials. Curriculum development includes several stages of recurring cycles of design, implementation and evaluation. Evaluation criteria are relevance, consistency, practicality and effectiveness.

Teachers instruct, supervise and assess learners, and may work in educational institutions, or in workplaces. They can be coaches, mentors, instructors, tutors, and so on. Here we examine how information about skills, standards and policies in qualifications can be translated into meaningful learning experiences.

Learning outcomes can be achieved in different ways, but depend on appropriate inputs. Without an appropriate learning context, including competent teachers and opportunities for practice, it is not easy to achieve a system oriented to learning outcomes. We note that modularisation exists as a component in practically all EU VET reform projects in our partner countries. However, modularised curricula are not easy to implement, nor is modularisation part of the logic or experience of most existing systems. Nowadays, most students and teachers in our partner countries prefer a modular approach, but developing and maintaining one is hard work and is often not adequately supported with equipment or other resources. Critically, teachers are not always prepared for the task of incorporating complex reform measures into their daily work.

We also see a trend for curricula to become broader and more general, covering key competences and sometimes reducing attention paid to specific skills and knowledge. This is in large part a result of the fact that much of what is learnt today can be outdated tomorrow. Flexibility and adaptability are increasingly among the measures of success in the labour market today. The aim is for students, across all levels of education, to acquire transferable knowledge and skills more than they learn specific technical and professional skills.

Inevitably, teachers are affected by these new approaches to assessment and teaching. Some distinctive features of outcomes-led education are listed below.

- There is a focus on learning that combines knowledge and skills with personal and sociocultural competences.
- Knowledge is set in context, and is interdisciplinary.
- Relevant skill needs are central.
- Learning is encouraged in a wide range of locations, and through different methods.

Teachers are key to these changes, but system-wide reforms are not always system-deep enough to reach all teachers. Teachers need to be competent, but attitudes are important too if curriculum change is to be brought about. A major challenge for reforming qualification systems is, therefore, to choose an approach in which strategic objectives include the development of human resources. As this is often the most difficult and expensive part of reforms, it is often ignored.

The ETF study *Making Better Vocational Qualifications* (2014) looked at what distinguishes a curriculum from qualifications – which is not always clear. We concluded that the purpose and

scope of curricula can be defined through the new qualifications, which can also provide a clear structure for the curriculum via use of modules. In most partner countries, vocational curricula are still highly centralised. In order to enable progression, many vocational curricula have been overloaded with general education subjects. There is a need to review this approach when redesigning curricula based on vocational qualifications.

In Europe, there is a trend towards centrally-defined core curricula, with ample room for local implementation arrangements at the provider level. This also seems a good solution for partner countries. If the assessment is based on vocational qualifications, there is no need to micromanage the content of curricula. By giving providers the possibility to adapt curricula to the needs of specific learners and local companies, they can be more effective.

Modular curricula have been difficult to implement in the partner countries, in particular when moving beyond pilot projects. Often, capacity building with teachers and trainers has been insufficient to introduce new curricula beyond pilot schools. Teachers also need time to train and to contribute in professional discussion. Feedback from countries that have moved towards modular curricula shows that the teaching of modules has already become routine in many schools, but the assessment of modules is still problematic.

Developing learning outcomes is not simply a process of using the competences identified in the occupational standards; it requires interpretation to come to the statements about knowledge, skills and wider competences.

In *Qualification Systems: Getting Organised* (ETF, 2016), we looked at the regulations and the roles of stakeholders, institutions and quality assurance arrangements. We saw that education ministries had been focusing on curriculum reform, and in particular widening existing programmes. However, labour ministries have tried more to ensure that occupational descriptors reflect changing labour market needs, and have focused on labour market outcomes. It is often the labour ministries that start to work with employers' representatives or social partners on training programmes for jobseekers, and on certificating adult learning (including non-formal and informal). It is therefore important that reforms involve different stakeholders and institutions from beyond the education system.

Appropriate resources and capacities are required to translate qualifications into training programmes, and organise an appropriate learning experience focused on an active role for learners, including exploring alternative options. The learning experience requires curriculum development activities, teacher preparation and retraining, and the availability of learning tools and learning environments. Standards need to be fit for purpose to facilitate the improvement of VET curricula in terms of labour market needs and career development.

Teachers and trainers are important, because they shape learning. Table 6.1 maps some of the key

Table 6-1. Key institutions

DESIGN AND IMPLEMENTATION FUNCTIONS	INSTITUTIONAL ROLES' TYPICAL EXECUTORS	EXAMPLES
Developing and maintaining learning programmes: 1. Develop national framework curriculum and subject area benchmarks 2. Develop provider level curricula and study programmes 3. Identify and develop teaching materials and aids 4. Develop continuing professional development programmes for teachers and trainers	1. Methodological centres, providers, in cooperation with national representatives from the world of work 2. and 3. Providers, methodological centres 4. Teacher training institutions, methodological centres, providers	Agency for Pre-primary, Primary and Secondary Education – Bosnia and Herzegovina VET Centre – North Macedonia Institute of Education – Azerbaijan Republican Institute for Vocational Education – Belarus

institutions involved in modernising the contents of vocational education.

6.4.2 Designing curricula

Designing and developing curricula are complex processes. Given the current context of rapid change, it becomes even more challenging not only to develop up-to-date curricula, but also to keep them up-to-date. Therefore, curricula should allow for flexibility to adapt the curriculum based on requests for new knowledge and skills. A flexible or semi-permeable curriculum often consists of a fixed backbone of fundamental content that does not change quickly, and a more open part that can be further designed and developed by institutes and teachers.

Before explaining more about the curriculum design process, it is important to be aware of the different levels at which curricula can be developed, and the different representations of curricula, as this might influence curriculum decisions and will be important for curriculum evaluations.

Curricula levels

In general, the following four levels are distinguished:

1. macro – often referred to as system or national level,
2. meso – or school/institute level,
3. micro – the level of the classroom, and
4. nano – the level of the individual student.

For flexibility of curricula, it is important to notice the degree to which curricula are fixed at the macro and meso levels. In other words: How far can schools or institutes decide on the content of a curriculum? More open-ended curricula allow for more adaptation at school level, and make it easier to react to changes in the regional context and to respond to demand in the labour market.

Another aspect to consider before starting to design and develop a curriculum is the different curriculum representations. With each step, interpretations are made by the users, and those interpretations can differ from the intended curriculum and, therefore, can influence the final results. These representations are extremely useful when monitoring and evaluating the processes and outcomes of a curriculum design or re-design process.

Table 6.2 shows the different representations of a curriculum (Goodlad, 1979; van den Akker, 2003).

Each curriculum starts with ideas on what needs to be accomplished, and the best way to reach the desired results. Especially at the higher levels, more than one person will be involved in the design process. The written curriculum is therefore the result of discussions between the different stakeholders. Hence, it will be a compromise of the individual ideal curriculum each stakeholder had in mind. Once there is a formal or written curriculum, it needs to be implemented. Teachers, who will often be the key actors in that implementation, will have their own interpretation of the written curriculum, and based on that they will plan and deliver their classes. In the interpretation and implementation, changes can occur that cause the curriculum to differ from the initial vision and ideas.

The *implemented* curriculum will result in an *attained* curriculum. The attained curriculum consists of the learning experiences of the learners and the final learning outcomes they achieved. This attained curriculum also plays an important role in curriculum evaluation. Did the learners acquire the skills, knowledge and attitudes the curriculum aimed for? And if not, how can differences be explained?

Table 6-2. Representations of a curriculum

INTENDED CURRICULUM	Ideal	Vision
	Formal/written	Intentions as specified in curriculum documents
IMPLEMENTED CURRICULUM	Perceived	Curriculum as interpreted by its users
	Operational	Actual process of teaching and learning
ATTAINED CURRICULUM	Experiential	Learning experiences as perceived by learners
	Learned	Learning outcomes of learners

Is it because parts of the curriculum got lost in the translation processes between the different representations, or because of design decisions in the curriculum itself?

Taking into account both the curriculum development levels and the representations, we can conclude that the written curriculum can take different forms at the different levels. In the case of very detailed national curricula, the written curriculum at macro level will be the same as on the micro level. Based on the trend towards centrally-defined core curricula, with ample room for local implementation arrangements at the institute level, the written curriculum becomes more detailed at each level.

Occupational standards describe the professional tasks and activities, as well as the required competences, for a specific occupation. Occupational standards answer the following question: What should someone in this specific occupation be able to do when employed?

Educational standards define the expected outcomes of the learning process, leading to the award of a qualification. Educational standards answer the following question: What does the learner need to learn to be effective in employment?

Assessment standards specify the assessment object, performance criteria, assessment methods, and who will be entitled to award the qualification. Assessment standards answer the following question: How will we know that the learner has acquired all competences and knowledge required to start working in the given occupational field? (Mansfield and Schmidt, 2001)

Macro and meso level

At macro level, the up-to-date occupational profile will be the primary source of input for the start of the curriculum design process. Based on this profile, educational and assessment standards can be defined. To allow different pathways (via formal, non-formal and informal learning) to lead to the same qualification, assessment standards will have to be formulated independently of the programme. It should not matter which pathway the candidate has followed as long as the candidate is able to demonstrate that s/he has acquired the required skills, knowledge and attitudes. It is important that assessment standards be formulated in such a way that they lead to an objective, valid and reliable assessment process.

The outcome of the curriculum design process at national (macro), and regional and/or school level is a written curriculum that guides teachers in preparing their daily classes. In some countries a detailed curriculum will be designed and developed at macro level, while in other countries a more general curriculum framework is developed that will be used at meso level to design the final curriculum.

One of the first decisions to make in the curriculum reform process is how detailed the curriculum needs to be at macro level. With a more detailed curriculum at macro level, all schools or institutes will implement a more or less similar curriculum. This might be easier to control, but it provides less flexibility. With a more open-ended curriculum at macro level, schools, institutes and teachers have more freedom to adapt the curriculum based on developments in their region.

The key word here is flexibility. Whereas, traditionally, curricula were micromanaged at central level, the trend is to leave more and more space for teachers, trainers and learners to shape the learning experience in order to adapt to local contexts and individual needs. Where subjects, content and contact hours were dominant in traditional curricula, flexible curricula are modular in structure and can be organised in different ways. The modules define the expected learning outcomes, and are often interdisciplinary in content, integrating theory and practice rather than segregating skills and knowledge, as in traditional curricula. As the modules define *what* results are expected, rather than *how* they are to be achieved, it allows for using different approaches.

Designing the written curriculum can start with a curriculum conference. The conference could define trends, explore and translate trends into the curriculum, and define learning outcomes, design principles and pedagogical starting points. The conference should produce scenarios offering different options, and create a network for further development. Stakeholders should participate in this conference to ensure relevant outcomes. Participants could be national representatives of the specific occupation, educational methodologists, teacher representatives and, preferably, student representatives as well.

Issues that need to be addressed during the conference include:

- Who will be implementing the curriculum (vocational schools, private training providers, etc.) and what does this mean for the level of detail in the written curriculum?

- Besides the occupational standards, what other competences and skills need to be addressed in the educational standards and which ones would subsequently be part of the curriculum?
- Where the answer to the previous question results in an overloaded curriculum, the follow-up issue is to rank the competences and skills from most to least important.
- What is the role of different learning contexts, and to what extent do they need to be described at the macro level (e.g. the position of workplace learning)?

The outcomes of the conference should include a first draft of the educational standards. These standards are the primary source for the curriculum design process. Where schools have considerable autonomy in designing the curriculum, the educational standards can be sufficient, and schools will use them to develop the curriculum for the programmes they provide. In contexts with a stronger national curriculum, working groups could be established to develop the curriculum based on the educational standards. The second stage of the curriculum design process will focus on the actual curriculum: What kind of programme is needed to meet the educational standards?

Micro level

The actual models can be designed at micro level, by teachers teaching the same modules. They will have to plan the activities needed to achieve the learning objectives of the module by the end of the module. This is similar to the process described in creating the curriculum overview, but at a more detailed level. It is recommended that students be involved in this process, as they can provide more insight to their preferred learning activities and expectations.

The design process

Designing or revising a curriculum is a complex process. The desired outcome of this process is an up-to-date aligned curriculum. Aligned means that all activities and entities of the curriculum contribute to achieving the defined learning outcomes. They are the best way to facilitate the learning process. It also means that there are no gaps or endless repetitions in the programme and that the different activities build on each other and are provided in the right order.

For example, learning how to ride a bicycle can help to illustrate the meaning of alignment. The learning objective could be the ability to ride a bicycle from A to B in a safe way and without falling off. A programme consisting only of theoretical classes will probably not be enough to prepare someone to achieve this, even if it includes theory on balancing a bicycle. It is unlikely that anyone would be able to ride a bicycle based on only theoretical classes. This means the programme is not suited to achieving the learning objective, and therefore is not aligned. To be able to ride a bicycle in a safe way from A to B, theory about, say, traffic rules needs to be combined with practical sessions that give the learner real experience of riding a bicycle. In the optimal scenario, learners will have guided sessions in authentic traffic situations. Theoretical classes on how to balance a bicycle are probably not needed. A programme that takes into account these different aspects is purposefully designed to facilitate learning and, therefore, more aligned.

A curriculum design process is often based on 'backwards' design. This means that the final learning outcomes, and the way they will be assessed, form the starting point of the curriculum design process.

6.4.3 Innovative curricula and pedagogies

In line with the foregoing discussion, and based on our current understanding of how learning takes place, innovative pedagogies are being developed and implemented. The pedagogical landscape offers a wide range of options to choose from. This diversity can be overwhelming, and the best advice is to evaluate the options with the design problem at hand. As the educational context will differ by country, region and programme, we will describe some of the latest developments in pedagogical approaches.

In general, during the last few decades it has been argued that activating learners in the learning process so that they construct conceptual knowledge and understanding themselves is more effective than lecturing and instructing alone. In instructional science, three main instructional theories are generally discerned: behaviourism, cognitivism and constructivism (Ertmer and Newby, 1993; 2013). Each of these learning theories has its own answers to questions about effective learning and instruction, such as: How does learning occur? Which factors influence learning? How should instruction be structured?

To deliver innovative curricula requires varied pedagogies. We have identified three learning styles that stand out: experiential, dialogic and blended. In essence, they hold much in common; a practice orientation, cooperation and dialogue between teacher and learner, and openness to diverse sources and methods of information, knowledge and expertise, and place of learning.

- **Experiential learning** is translatable as learning by doing. Learning environments should create opportunities to gain new experiences, promoting action and reflection to encourage reflective practitioners, including reflection in action, i.e. thinking while executing a task.
- **Dialogic learning** suggests a partnership of two people communicating to learn together. Learners explore and share knowledge, using reasoning techniques, questions and sentence starters. Collaborative learning expands the group numbers.
- **Blended learning** combines face-to-face learning with online or digital learning. It can include collaborative learning, or forums. Classroom learning might focus on content, while digital learning focuses, broadly, on skills development.

6.4.4 Teachers and trainers – experts, designers

Experience shows that top-down educational reform is a recipe for failure. The aim of professional development is, first, to change a professional's mindset from *restricted* (relying heavily on existing experience to face new situations) to *extended* (adopting a rational approach to new situations, supported by theoretical underpinnings of practices and experiences). This requires explanations, and the possibility to make further improvements if necessary. The focus needs to be on what the educational reforms are about and how they could be implemented, rather than on why and when (which tend to provoke attitudinal issues that all teachers have). Explaining the reform is a first necessary step for teachers to understand how their own practices will be affected.

Teachers will only be able to enter functional training if they perceive the need for change in their own practices. Teachers must have the space to relate reform elements to their own ideas.

End users (teachers and learners) need to take part in design processes. Teachers need to become able to design and re-design curricula, materials and learning environments, and align these with new assessment techniques. Curriculum development takes place in steps, typically including:

- needs analysis,
- defining objectives and outcomes,
- developing a prototype,
- implementing and evaluating,
- redesigning, and
- further implementation and dissemination.

Design-based research introduces evaluation of relevance, consistency, practicality, and effectiveness during all phases. There is a strong focus on the validity of contexts. Most teachers

have some experience with designing educational materials. Teachers often face closed problems in which the initial situation and outcomes are known, but these can become major problems if there is not enough support available (for instance, pedagogical content and process are poor, there is no supporting material, or there is a lack of teacher expertise). Therefore, teachers will need to learn to become designers in steps, moving from simple to more complex tasks.

Design is an iterative process. Collaboration between teachers and stakeholders from outside the world of education and training is very important at the beginning of the process. The design process should become as participatory as possible and include end users. Multiple voices are key to successful adoption, redesign and implementation of an intervention. Therefore, the design process should be organised as a collaborative effort of a team of teachers. Curriculum development at micro, mesa and macro levels is strongly interconnected.

VET curricula should be co-created, and connect teachers and workplaces in regional networks. This can be facilitated by school leaders, as well as by external facilitators. They can provide logistical support, and scaffold and monitor the design. During implementation there has to be the possibility for re-design (design after design), for example, by using an implementation scenario that invites teachers to analyse their understanding of the design, record local decisions, and collect anecdotal evidence on implementation.

Teachers can be invited to adapt design products to their own situation and thus ensure adoption and implementation. Teachers need to reflect on the proposed innovations, and align them with personal capacities and practice. In order to create a conducive environment for implementing innovative curricula, teachers need to be obliged to actively relate new materials by selecting and interpreting them, and reconciling them with their own and their students' beliefs. Design products that actively support redesign by local teams of teachers consist of building blocks and reusable resources, and are easily accessible. In addition, the creation of principle-based scenarios, which describe global lesson plans embedded in a strong pedagogy, leaving space for adding detail, is seen as helpful.

6.5 Conclusions

Qualification systems can look like perfect constructs that are difficult to implement. That is why many people prefer the language of 'skills' rather than that of 'qualifications'. In order to move

from paper to practice, countries should address qualification system reform integrally with career guidance, information needs, curricula and teaching. This is of great importance to ensure that individuals and employers can obtain benefits from skills and qualifications.

Learning as a process or experience yields gains to learners and employers, even where there is no formal certification. Adult learners already in employment benefit most from on-the-job training and other informal settings, compared to formal environments. Older learners, in adult education and CVET, are under-supported by government, but are especially receptive to learning opportunities. When supporting employers, partner country governments should prioritise the skills and training needs of SMEs, who in many cases lack the means to train staff independently.

The modern era is one of information overload. Where do you start when you want to know what kind of skills and qualifications you need? There is plenty of information about skills and qualifications. Qualifications, labour market intelligence and careers management are three areas challenged and changed by modern data flows. NQFs, labour market intelligence and career guidance all facilitate knowledge of skills and qualifications. NQFs are under-used as tools to communicate about qualifications. For the individual, career management is itself a vital skill now. At societal level, moreover, career guidance is arguably changing at a more rapid pace than some of the other systems and tools discussed in this chapter, because it is so closely linked to information sources, it is ICT and web-driven to a greater extent than the other areas we are discussing, and because individuals drive it in ways they cannot do in terms of directly influencing developments in curricula or qualifications.

In the development and modernisation of curricula and qualifications, partner countries can struggle to manage the transition to learning outcomes. Decision-makers should step back from over-prescribing what learners have to learn, and allow teachers and trainers to develop new curricula that promote the three broad categories of learning identified above – namely experiential, dialogic and blended – which seem especially well suited to VET.

The role of teachers and trainers is changing and, if anything, expanding. Partner countries need their expertise in multiple, boundary-crossing roles, and

in particular in functioning as curriculum designers. The strict separation of roles between classroom teachers and practice masters in schools and trainers in companies should diminish, in order to integrate theory and practice and strengthen learners' problem-solving capacities. In practice, teachers are acquiring more varied roles than that of instructor. They are experts, coaches, and curriculum designers and developers, working in teams to co-create VET curricula. Everybody acknowledges that more forms of learning exist now – from self-study and workplace-based to online and digital – granting learners more choice and altering the learner-teacher relationship. But this does not constitute a paradigm shift from teaching to learning.

Instead, attention needs to be given to the changing nature of that relationship and, indeed, one should consider if the role of teachers becomes more necessary in aiding learners to structure their learning and make sense of the ever-shifting world around them.

People sometimes see qualification systems as being detached from education and training systems, focusing only on setting standards and separating assessment and certification from education. However, benefits for learners largely depend on connecting education and training with other parts of qualification systems.

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Conclusions

In contrast to a focus on the creation and early establishment of qualifications frameworks in the conclusions of the third edition of the inventory, the present edition discusses trends that relate to a wider set of issues. This reflects both a challenge and an opportunity for regional and national qualifications frameworks. Their impact is growing in line with longer and increasingly effective implementation, but that inevitably brings them closer to areas that are undergoing significant change in policy and practice, or are facing the consequences of global factors beyond the scope of education and training systems to mitigate.

1. Migration and mobility continue to spur efforts to prepare education and training providers, employers, authorities and migrants themselves to foster skills and promote employability. The internationalised labour market contributes to a growing need for comparisons between different systems' outputs, so that those outputs remain fair and sustainable. At the same time, the greater mobility of education institutions, through overseas sites and study programmes as well as 'borderless' digital opportunities, contributes to new types of credentials.

2. The World Reference Levels (WRL), constitute a response by the international community of qualifications experts to the growing internationalisation of labour markets, learning across borders, and migration and mobility. A group of experts, who collectively represent nearly all the world's countries, is currently developing and testing a tool to describe, compare and recognise people's skills, using learning outcomes as the conceptual basis, and so promoting a shared language of description, comparison and understanding. This has already proved a useful tool. For example, the Maldives, a member of the South Asian Association for Regional Cooperation (SAARC), is already working with other member countries to design and develop mechanisms for recognition, validation and accreditation of tertiary education qualifications.

3. In turn, the WRL both respond to, and draw on, the digital technologies which increasingly influence the development of qualifications. There is no longer any doubt about the potentially transformative impact of digital technology on education and training systems; the question is how that transformation can support inclusive and equitable quality education, and the promotion of lifelong learning opportunities for all.

4. Developments in micro and other alternative credentials are gaining pace around the world. Responses in Europe include, for instance, the Digital Education Action Plan, which supports the spread of digital competences and calls for a framework to recognise and validate digital credentials. In the US, an attempt at a comprehensive database capturing everything from open badges to PhDs is already in its third year of operation. The current review of the Australian Qualifications Framework (AQF) is also considering the inclusion of micro-credentials, or other forms of alternative credentials including from MOOCs, into the framework. These credentials may meet some of the criteria for inclusion in the AQF, although one important test is meeting government-approved standards.

5. We see a co-existence of 'traditional' qualifications with newer credentialing methods. In fact, the need for an individual to be equipped with formal certification to enter the labour market is growing, e.g. in Europe. However, it remains the case that in many economies, especially in transition and developing economies, people find work without formal certification. The open issue is the relationship between traditional, formal certification and digital credentials. Quality assurance – the set of systems, tools and methods, which generate the all-important ingredient of trust – remains essential, and countries and international bodies need urgently to develop solutions.

6. The rise of outcomes-focused approaches across post-compulsory education and training settings is now one of the most significant trends worldwide, both in vocational education and training, and, though in some countries to a lesser degree, higher education. Comprehensive frameworks including all levels and types of qualifications are gaining ground in Europe and elsewhere. European countries use their frameworks to create comprehensive maps of qualifications, including all sectors (VET, higher education, general education, adult training) and to help validate non-formally and informally acquired competences. This is seen as central to policies fostering people's lifelong learning and progression through different pathways.

Countries such as Azerbaijan and Ukraine establish in law outcomes as the basis of

qualifications and correspondingly stimulate development of associated tools such as occupational standards. At the same time, countries including Georgia and Moldova are moving to integrate qualifications frameworks for VET and higher education, hitherto only weakly linked. In Malaysia, the NQF was recently revised into a comprehensive tool that includes outcome-based qualifications in TVET and higher education. So, the learning outcomes principle is embedded in both policy and practice, albeit implementation may sometimes lag behind policy.

7. The rise of validation of non-formal and informal learning (VNFIL), also called, variously, recognition of prior learning or RPL, and recognition, validation and accreditation of prior learning, or RVA, is making learning outcomes visible and valued, as part of efforts to reduce or remove barriers between learning and work and, therefore, aid career progression. Learning-outcomes-based qualifications frameworks have been set up relatively rapidly in some countries to support learners, providers and employers. In some cases, progress may be more on paper than real, but in most countries progress is visible in implementation. Those that have the firmest foundations increasingly develop linked systems of quality assurance.

8. Outcomes also have a management dimension. They share the output focus of established management theories such as management by objectives and new public management, which, like outcomes approaches in education and training, combine central steering with local autonomy and scope for adaptation, in education, meaning regionally, locally, by schools and by individual teachers.

9. Although evidence is necessarily limited by the recent application of learning outcomes, there are early indicators, which suggest the extent of its impact. In Europe, outcomes have improved visibility and transparency, and so understanding, of qualifications, through creating a common language. They also act as a tool to identify gaps in provision, for example in higher VET levels, as in Estonia; and to improve equivalence between types of qualifications. This is in part due to connections between the launch of the European Qualifications Framework, particularly – but not only – in Europe, the use of learning outcomes, and the spread of national qualifications frameworks as 'platforms for cooperation'. In Eastern Europe, progress in NQF development is most visible in increased numbers of outcomes-based qualifications, the adoption of tools such as registers and the advance of VNFIL. Elsewhere,

Turkey and Serbia are now making use of extensive qualifications registers and databases.

10. Studies are beginning to reveal the impact of learning outcomes on the management of education and training, but there are gaps in the process of moving from learning outcomes *plans* to teaching *practices*. Similarly, despite the apparent incorporation into pedagogies of the learner-centred perspective linked to learning outcomes, teaching practices seem not to be influenced to a comparable degree. More needs to be done to explore and explain the benefits, as well as the challenges, of learning outcomes, and to understand the real-world experiences of teachers and trainers tasked with applying them.

11. Outcomes also promote changes in assessment. Learner attainment of intended outcomes is measured against common standards and criteria. Assessment under outcomes-based approaches is criterion-referenced, moving systems away from comparative or norm-referenced assessment. In principle, criterion-referenced assessment should result in greater equity and fairness, as the objective is to assist all learners to achieve the intended outcomes.

12. Although it can be complex to implement and hard to scale, VNFIL is attractive to policy-makers and national authorities as it can reduce qualifications deficit among adults, and lower the costs of re-skilling and re-qualifying less-qualified people. India has ambitious plans for skills recognition and certification for people employed in the informal sector. VNFIL will here contribute to formalising labour markets. VNFIL can also be a tool to recognise the skills of migrants and refugees, thus supporting their economic and social inclusion.

13. However, implementation, or wider application, of VNFIL is hindered by difficulties in gathering data to inform more effective policies and practices. VNFIL concerns very individual, and voluntary, learning pathways, so lack of data is perhaps an inevitable corollary. The integration of data systems to take account of VNFIL and the use of digital technologies to develop and maintain learners' records – an existing trend as well as an explicit intention in places – presents important opportunities for better systemic analysis. The National Learners Record Database, operational in South Africa since 1999, is an example of such a data management system. It collects and manages information on most aspects of the South African education and training system, including qualifications and part qualifications registered on the NQF; recognised professional bodies registered on the NQF; accredited providers and registered

assessors; and learners' records detailing achievements of NQF-registered qualifications. One important issue in developing and using electronic databases is data confidentiality, which must be handled with due care and attention to individual privacy rights.

14. A longitudinal study conducted in France points to high levels of satisfaction among those accessing the country's VNFIL processes, including an encouraging proportion who report concrete personal and career improvements. In all countries, studies suggest a positive impact from VNFIL on people's experiences and outcomes, so vindicating the additional efforts to develop and adapt information systems to record evidence.

15. To make VNFIL initiatives viable for migrants and refugees, they need support and guidance to be able to present their needs, as well as their abilities and prior learning, in a way that links with the needs of the society to which they have moved. This is all the more necessary for women because of systemic gender bias in both sending and receiving countries, as well as for individuals with special educational or other needs. Some countries offer assessment services, which aim to match individuals with potential opportunities. Countries are combining human rights and labour market considerations to both capture new arrivals' skills, and allow for their personal and vocational development.

16. As much as individual learners need to be flexible enough to be able to seize opportunities, so too systems need to offer flexible pathways in order to allow newcomers – and, indeed, all learners – to succeed. To make that flexibility work requires the recognition of prior learning and appropriate supporting mechanisms. Many countries acknowledge the need to reform VNFIL from legal, financial, labour market, and civil society perspectives, and to align VNFIL with the implementation of national qualifications frameworks. In the Republic of Korea, for example, the Lifelong Learning Account System is designed to validate all types of learning by promoting the recognition and certification of both academic and vocational qualifications. This allows individuals to accumulate lifelong learning experiences, and to use the qualifications obtained in the labour market.

17. While much good practice is in evidence, more needs to be done to realise the full potential, both in terms of newcomers' qualifications and employment, and in their personal learning and development. Integrated social, economic, and educational perspectives offer the best setting in which the benefits of RVA can unfold.

18. Policy-makers need to present a stronger and more holistic case for the benefits that frameworks, skills and qualifications can attract, for individuals, employers, and wider society. While those benefits typically relate to labour market access and longer-term career prospects, they also contribute to improved physical and mental health, reduced demands on criminal justice systems, and lower rates of anti-social behaviour.

19. Public perception and stakeholder use of national frameworks is indeed growing, notably in Europe. In recent years, a number of countries have subjected their frameworks to systemic monitoring and evaluation, aiming to sharpen their relevance and better steer their implementation. In Montenegro and North Macedonia, for example, we see efforts to make NQFs more visible to learners and employers via dedicated web platforms, and of course via indicating NQF and/or RQF levels on certificates, as is now the case in most EU countries and among EU Neighbourhood countries such as Moldova and Georgia. Visibility is key to the implementation of the South African Qualifications Framework. Its lead agency, the South African Qualifications Authority, engages with a diverse and extensive range of actors from more than 90 organisations – public, private and third sector – and has already hosted several hundred meetings, workshops, and other events.

20. There is no shortage of information about skills and qualifications. On the contrary, there is a 'hosepipe' supply, which makes filtering and selecting relevant material difficult. Skills and qualifications information systems, ranging from online portals and national agencies to qualifications frameworks themselves, both provide information, and communicate it through various means. Quality assurance and standards bodies also participate in this process, since part of their purpose is to generate trust in the products of skills and qualifications. This is coming under renewed scrutiny, as digital technology generates new types of credentials and qualifications.

21. Labour market intelligence systems are also being transformed by digital developments, such as the collection and analysis of so-called big data. Countries and inter-governmental agencies, particularly EU institutions, are applying a range of new tools to the capture and dissemination of the resulting insights. This in turn feeds into the complex, but often under-represented area of careers information and guidance. By its nature, career guidance has always needed a future-oriented focus, and this

is even more the case in an era of widespread labour market unpredictability.

22. With good information, decisions can be made about *which* skills and qualifications to acquire; the spotlight then moves on to *how* to acquire them. This involves the art and science of teaching and learning – from the identification of essential transversal competences to the design of curricula at their different levels, macro to nano, and their different representations; intended, implemented and attained.

23. Teachers and trainers are shapers of the learning experience, which extends from the design of an overall plan to the day-to-day management of learning activities. Presenting teachers and trainers as both designers of a learning process and experts in its delivery opens up the prospect of greater integration between policy making and practice, and stronger support for innovation. Outcomes approaches promoted or facilitated by NQFs in qualifications are leading to the introduction of modular curricula, as in Albania for example. In some countries, it is true, these changes do not yet apply in all sectors of education and training, but they mark significant changes to long-established practices.

24. The authors of this volume intentionally identified issues and challenges of broad, global interest to policy-makers, experts and other actors and stakeholders. We see scope to increase the profile of national qualifications frameworks as communication tools, giving them a role in both the delivery and the communication of the fundamental benefits that people can gain from skills and qualifications. National qualifications frameworks look likely to remain valuable tools for modern education and training systems. The challenge for national and international institutions which run qualifications frameworks lies in adapting them to the issues outlined above; issues that affect their remit and that will continue to be generated by ongoing change.