Discussion paper

Making learning visible: Representing skills, competencies and qualifications

Acknowledgment

Table of content

Background

This discussion paper concerns recent trends and major challenges in developing effective and trustworthy representation of skills, competencies and qualifications. It starts with the recognition that today's learning opportunities are limitless, borderless and immediate. It proposes a vision to reach a common international approach where all aspects of a person's learning is electronically documented, authenticated and can be accessed at anytime and anywhere, shared and amended by the owner or by an authorised party.

UNESCO's Member States have identified an urgent need to reform their qualifications systems. An important driver for these reform strategies is to make sure that learning achieved in different settings is recognised and valued within and beyond national boundaries. At the 3rd International Congress on Technical and Vocational Education and Training (TVET), held in Shanghai in 2012, participants recognised the importance of skills representation and recognition. The Shanghai Consensus recommended to Member States to support flexible learning pathways and the accumulation, recognition and transfer of individual learning through transparent, well-articulated outcome-based qualifications systems; reliable measures for assessment, recognition and validation of qualifications, including at the international level; exchange of information and development of trust; and partnerships among all relevant stakeholders. The Shanghai Consensus also recommended exploring the possibility of developing quality assurance (QA) guidelines for the recognition of qualifications, based on learning outcomes.

The Shanghai Consensus recommendations, were further echoed in UNESCO's new Strategy for TVET (2016-2021) and in the Organisation's revised Recommendation concerning TVET (2015), which calls on Member States to encourage a variety of learning opportunities and, if appropriate, made visible through recognition and validation mechanisms. The Recommendation also called on Member States to develop transparent and quality-assured TVET qualifications and the promotion of mutual recognition of qualifications at national, regional and international levels.

Since Shanghai 2012, skills development and qualifications strategies have been gathering momentum and global attention. In 2016, Member States adopted the Incheon declaration and the Sustainable Development Goal - SDG4 that seeks to 'ensure inclusive and equitable quality education and promote lifelong learning for all'. Member States adopted also the Education 2030 framework for action to support the achievement of SDG4. Education 2030 devotes considerable attention to the development and the recognition of skills. It suggests strategies to promote flexible learning pathways in both formal and non-formal settings; to enable learners to accumulate and transfer credits for levels of achievement; to recognize, validate and accredit prior learning; and to establish appropriate bridging programmes and career guidance and counselling services.

In this regard, this discussion paper is a direct outflow from the Shanghai Consensus and the Incheon declaration attention to lifelong learning and to recognising and valuing learning outcomes within and across countries. Together with several other UNESCO initiatives, such as the investigation into a World Reference Levels of learning outcomes, all point towards the need to better understand learning and the manner in which learning can be valued and recognized. This discussion paper provides an important basis for UNESCO's work going forward.

Introduction

Learning of all kinds and from all settings and all times can contribute to the self-worth, fulfilment, employability, pay, position and social status of a person. To make the learning visible so that it can be recognised and begin to make these contributions is a major challenge. The key contributor to visibility for most people has so far been formal qualifications, especially for initial entry to the labour market. However whilst formal qualifications are important, they are limited in what they can convey about the full and current learning achievements of the holder. They are mostly regarded as a proxy for a person's knowledge, skills and wider competencies and can also be seen as an indicator of potential for further learning. This paper considers learning achievements that may be valued and useful and discusses how they might be made more visible in domestic and global labour markets.

The concept at the heart of this paper is therefore representation – ways of making learning achievements visible and understandable in a learning and working context which is increasingly international, people are more mobile and communications increasingly sophisticated. In a sense it strives for lifelong recognition, which is a natural part of lifelong learning.

Key issues to be addressed in advancing the concept are:

- what learning achievements are likely to be valued domestically and across borders?

- how can they be described so that they are available for enquiry and updating anytime and anywhere?

- how can the description of learning achievements be quality assured?

1. Some broad considerations

A good time to look at better representation

Being qualified for a job usually depends on the formal recognition of a person's skills and competencies in the form of a diploma or certificate. For most adults the main qualification was achieved some years ago and their more recent learning is often invisible. Generally formal qualifications fail to reflect the reality of experience - valued soft skills and skills learned on the job are still difficult to assess, for example, generic competences, work experience, social and volunteering experience and other broader competences.

Qualifications are part of the architecture of education and training systems - they also characterise specific sectors of the education and training systems. Modern policy for lifelong learning and interdisciplinary learning means that bridges have to be built between qualifications and the education and training sectors, the sectors have to be more permeable and allow flexible pathways to be developed according to the needs of individuals and the labour market. These new pathways vary from one to another and a new means of describing them is needed that works in addition to the main (sector specific) qualifications involved.

Qualifications frameworks can support these pathways. In recent years the benchmarks for levels of learning have been captured by an increasing number of qualifications frameworks that go beyond the levels described in formal qualifications. Qualifications and other achievements are allocated to a particular level based on their complexity and are often described in terms of 'learning outcomes'. These take the form of statements of the knowledge, skills and competences required at a particular level. Having levels of learning in a national qualification framework (NQF) facilitates more transparency and supports recognition, as long as procedures are in place for recognition and the NQF levels are genuinely levels of learning and not simply proxies for specific qualifications. Increasingly NQFs help with the validation of prior learning through providing benchmarks, access to standards, encouraging partial qualification (credit) and clarifying learning pathways.

Accepting the need to go beyond formal qualification

It may be the case that too much is expected of qualifications. The greater specificity that is often sought in describing the knowledge, skills and competence and other attributes that are needed for work (or are offered by a person) risks raising unachievable and possibly damaging expectations of what a qualification can provide. Qualifications can play an important part in representing the needs of a recruiter[1] (and the 'offer' of a person) but they cannot do this as well as performing a whole range of social, individual and lifelong learning functions. The concept of representation and the set of instruments and arrangements that underpin the concept, might help free qualifications from excessive expectations and leave them more fit-for-purpose.

In most recruitment situations a qualification is imperfect as a signal of a person's capabilities. Qualifications can represent a person's knowledge, skills and competence at the time of assessment and certification; they may be able signal aptitude in key competences (soft skills) or the potential of a candidate to be 'future competent'. However, it is unlikely that one form of qualification can act in these three ways simultaneously in a given recruitment process. Even if qualifications evolve to be better at representing an individual's abilities and potential there is a chance that some of the current valued characteristics would be reduced in effectiveness. For example, if a qualification aimed to show potential by valuing the traditions of certain proven institutions to recruit and educate people, then the signal about proven specific competencies may diminish. In other words it is better that qualifications are used for some purposes and that, where they are inadequate, recruiters look elsewhere for evidence of desired characteristics. Qualifications could then remain a highly valued part of representation of an individual's abilities. An individual could aim to optimise all aspects of representation so that they might be successful in recruitment. A recruiter could clarify all they require, including qualifications, in the form of a model of the broad fields of representation needed from an applicant.

A person's potential for further and higher learning can be made explicit through evidence of learning that signals higher level thinking skills such as metacognition and other thinking-related achievements. The literature on measuring the potential of individuals to show increased knowledge, skills and competence later in life is often linked with capability which can, among other qualities, be seen as the ability to learn from experience and, more than that, have the confidence to do it[2]. There is no consensus[3] on whether a person's potential is an absolute quality and is therefore fixed in an individual, or something that can be developed; nevertheless it is a characteristic that matters in some recruitment processes.

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1   The terms recruiter and recruitment are used in this paper, they are intended to convey the breadth of the use of learning achievements for work, jobs and for entering formal learning programmes. The terms also cover the way self employed people use their learning achievements to get work.

2   Stephenson, John; Weil, Susan (1992). Quality in learning: a capability approach in higher education. London: Kogan Page.

3   Brown, Reva; McCartney, Sean (2004). The development of capability: the content of potential and the potential of content. Education and Training, Vol. 46, No 1, p. 7-10.

Going beyond the CV

In one sense it is already possible to represent a persons full capability through a curriculum vitae (CV). Whilst steps have been made to formalise the format of CVs[4] and what is entered into them, CVs remain a symbol of 'self certification', they might be considered to map out a person's view of the broad trajectory of their learning and career. However they inevitably lack detail and mostly require authentication of one form or another. Whilst it is possible to map out the desired format of a CV and the important fields to be included, these CVs are unlikely to meet all of the preferences in a geographical region and some sort of basic world standard may be useful is guiding local provision and making CVs more useful for international mobility.

The authentication of the content of a CV is also an issue for users since different parts of a CV may need to carry evidence of verification from different bodies. Currently most CVs lack third party verification and it is not possible to conceive of a CV being verified by a single body.

Information technology and the use of expert data management systems holds some promise in authenticating certain features of a completed CV, for example through credential verification. These expert systems may also allow CVs to be prepared so that they match certain job requirements and for recruiters to search for CVs that hold promise of their owner matching a job specification. These expert systems could enable a kind of active representation through CVs.

Limitations to recognising represented achievements

The theory of situated cognition and the functioning of communities of practice[5] tell us that learning is influenced by contextual factors. These contextual factors are nearly always invisible when the result of a person's learning is observed. One important contextual factor is the extent of involvement of social partners that set standards and/or operate good quality assurance models for qualifications or other learning achievements. Generally speaking these social partners and their practices are strong determinants of the credibility of achievements. If this line of logic holds then it will not be possible to represent all achievements in ways that link to expected standards (of content and quality assurance) from social partners, be they local or international. In this scenario there is a need to encourage the dissemination of accurate and up-to-date information on sectoral qualifications and skill profiles[6].

It is also likely that the quality of education systems affect transferability outcomes, they certainly influence the status of qualifications[7, 8]. This kind of changing, socially determined, status would be extremely difficult to capture in representation of learning achievements.

Problems of increasing the volume of validation of wider learning

Validation of non-formal and informal learning refers to the process of confirmation by an authorised body that an individual has acquired learning outcomes measured against a relevant standard. There is policy interest in the validation of non-formal and informal learning[9] because there are social and economic advantages for individuals and organisations when more of this learning is visible[10]. There is a need for more learning gained outside the formal education and training system to be properly assessed and validated so that it can count towards a qualification or become trusted evidence that an applicant is suitable for joining a learning programme, be given a job or establish effective self employment for themselves. Once validated this learning can be represented in a person's profile of achievements.

However, whilst there are pockets of success[11], the large-scale increase in volumes of identification of non-formal and informal learning and its documentation, assessment and validation is stubbornly obdurate. The individual seeking validation may find the processes time consuming and complex and they may also find the costs involved a disincentive.

One reason for the slow uptake of large-scale validation procedures may be that the route to a formal qualification is valued in itself as part of the credibility of the qualification. As described earlier, the institutional environment, the community of learning, the quality assurance practices involved hold a value that is additional to a validated learning outcome. Another reason may be that large volumes of validated learning from outside the formal system could potentially undermine the currency of formal qualifications and education and training provision.

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4   For example in Europe the Europass CV, see https://europass.cedefop.europa.eu/editors/en/cv/compose

5   Lave, Jean; Wenger, Etienne (1991). Situated learning: legitimate peripheral participation. Cambridge University Press.

6   ETF, 2014, Migration and skills development agenda in ETF partner countries, ETF position paper, Torino

7   European Commission, 2016, Report of the Berlin peer learning event on master craftsman qualifications.

8   Cedefop, 2014, Qualifications at level 5: progressing in a career or to higher education, Thessaloniki

9   Non-formal learning can be considered to be the learning outcomes gained in planned activities in work (such as in-company training) and in communities where people join together to develop common interests (such as art and crafts or cooking). Informal learning is gained during daily activities related to work, family or leisure where there is no explicit plan for learning and learning is unintentional from the learner perspective. Examples of learning outcomes acquired through informal learning are languages learned during a stay in another country or through activities at home such as taking care of a child or elderly person.

10   For example see the policy of the European Union countries in http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:398:0001:0005:EN:PDF

11   for example in France and Portugal

1. Some broad considerations

Whatever the reasons for the slow advancement of high volumes of validated learning from outside the formal education and training system new approaches to collect, collate, quality assure and display these competencies and experiences need to be opened up.

A proper place for international achievements

International benchmarks in the form of qualifications, licences and badges already exist and are used extensively to guide appropriate quality assured learning and labour market entry for jobs that require cross-national performance such as seafarers, aviation workers, welders, and information and communication technology specialists. The key aspect of these international standards and qualifications is that they originate and are managed by professional bodies that operate internationally. In some fields, for example in engineering, there are also international agreements[12] on the standards to be applied in accredited institutions.

These international qualifications operate outside national jurisdictions and whilst valued within sectors, they are not formally located in qualifications systems and frameworks. There seems to be a gap between nationally accredited provision and internationally accredited provision and, whilst each carries value, the international provision may need to be more centre stage to serve people who are, or hope to be, internationally mobile.

Making the most of badges of achievement

Digital badges are a kind of mini qualification that testify achievement in a small but significant area of learning. Their use is expanding rapidly in many settings[13]. The motivation for people seeking badges includes the aim to stand out to recruiters whilst employers use badges to get the right people and to ensure recruits have the right skills. Tutors in colleges aim to use badges to recruit good students and to improve graduate employability. There is also a broader use of badges in communities and volunteering where badges give recognition for achievements. The expansion in use of badges also brings challenges of interoperability between different badging systems and between badging and the range of emerging skills passports[14].

Because badges are small and are not subject to the paraphernalia that surrounds larger qualifications, they can be tailored to specific areas of competence and experience and be more flexible in their operation. They can also be cheaper and easier to set up by providers and easier to access by learners. The standards on which they are based and the quality assurance processes associated with them is in the hands of the provider and so quality and status is inevitably variable from one badge to another. Some badging organisations bring some conformity to the quality assurance process in order to increase trust in the value of badges. These organisations pay attention to training the badge providers, guiding the design and use of badges and optimising their visibility. The Mozilla Open Badges Infrastructure is a set of open-source technical standards and software for badging. Other badging organisations[15] offer 'ready made' customisable badges, facilities to check the identity of earners, promote issuing organisations, offer more streamlined certification processes and qualification verification support.

An asset for identifying training needs

As with many processes that encourage people to consider the way recruiters see them, there is a way that representation offers a self-review of strengths and weaknesses. Training needs can be identified not just on the basis of qualifications gained, or career experiences, but also more holistically across the spectrum of achievements and qualities that are valued. More than that, the review of representation can be undertaken with specific personal, career or learning trajectories in mind.

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12   For example the Washington Accord (1989). It is an agreement between the bodies responsible for accrediting professional engineering degree programs. It recognizes the substantial equivalency of programs and recommends that graduates of accredited programs in any of the signatory countries be recognized by the other countries as having met the academic requirements for entry to the practice of engineering.

13   across the world there are possibly thousands of organisations involved in managing, providing promoting and quality assuring badges, for example see https://www.openbadgeacademy.com/

14   for example the EU initiatives - Europass; Youthpass and Europass Mobility; and the passports for sectoral skills, such as the skills passport for entrepreneurship, hospitality and tourism. See:
http://www.effat.org/sites/default/files/news/11260/en-european-hospitality-skills-passport-narrative.pdf

15   for example Credly (https://credly.com/), Digitary (http://www.digitary.net/)

2. What learning achievements are valued?

If better representation was made possible, the content of a person's profile would need to be populated with achievements that have value for self esteem and for furthering study and work careers. In the past it has been mainly qualifications that were used as measures of value of learning. The way qualifications are used in recruitment can be traced back to filter theory[16] or screening theory[17] which (for higher education) says that higher returns for individuals are not due to the acquired content of learning programmes but because employers use education to differentiate potential in candidates. Education is seen as a signalling[18] device that helps place the right person in the right job. Institutional quality is also identified as a screen or filter because employers prefer those graduates from the schools and colleges that they perceive to be the most prestigious. Whilst the institutional schooling element is signalled to recruiters, dimensions of education and training accomplishment, the actual knowledge, skills and competences developed, are often not signalled to potential employers and therefore have limited influence on the allocation of workers to jobs.

There are many classifications of features of learning that are important in different settings[19]. For higher education we have the following broad fields.

- Specialised knowledge or disciplinary knowledge;

- Integrative knowledge which is inevitably cross disciplinary;

- Intellectual skills which allow high level processing of complex information and ideas;

- Demonstration of autonomy in the learning process and exercise of scholarly rigour;

- Applied learning which includes the creative problem solving;

- Civic and global learning;

- Personal education that includes appraisal of ethical positions.

A more general study of graduate employment[20] analysed selection strategies as including the definition of selection criteria based on assessments of technical expertise, capacity, relevance, level of expertise, compatibility and motivation. Representation needs to be able to offer information that can be used as part of all of these processes.

Features that are important for recruitment into business depends on the size and type of enterprise/job, level of qualification required, any regulation in labour market entry[21]. A survey of advertisements identified the following list of what it is recruiters seek:

- quality/ambassadors (getting the best people for best brand);

- reputation for success;

- social capital, contacts, network access;

- effort/labour/willingness to work hard;

- technical skill and knowledge;

- cognitive and reasoning skills;

- creativity;

- physical strength and resilience;

- manual dexterity, tool usage, hand to-eye-coordination;

- soft/generic/inter-personal skills;

- appearance, voice, accent (aesthetic skills);

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16 Arrow, Kenneth J. (1973). Higher education as a filter. Journal of Public Economics , Vol. 2, No 3, p. 193-216.

17 Layard, Richard; Psacharopoulos, George (1974). The screening hypothesis and the returns to education. The Journal of Political Economy , Vol. 82, No 5, p. 985-998.

18 Bishop, John H. (1987). Information externalities and the social payoff to academic achievement . Ithaca (NY): Cornell University.

19 For example: the Lumina Degree Qualifications Profile, https://www.luminafoundation.org/files/resources/dqp.pdf, or the subject profiles in the Tuning project, http://www.unideusto.org/tuningeu/

20 Dafou, Efthimia (2009). Qualifications and skills: the organisational perspective. Journal of Education and Work , Vol. 22, No 2, p. 91-104.

21 Keep, Ewart; James, Susan (2010). Recruitment and selection: the great neglected topic. Cardiff: Cardiff University. (SKOPE working paper, 88).

2. What learning achievements are valued?

- personal attributes, behaviours and characteristics (someone who will fit in);

- motivation, hunger, drive to succeed;

- willingness to tolerate less appealing aspects of job;

- experience (proof of ability to perform, proof of limited need for training);

- potential (ability to fill future jobs).

The question arises of which of the listed requirements are commonly represented by a person's qualifications or CV and, even if some of them are, to what degree does a qualification or CV signal these to an employer? The transmission of a signal from employer to potential recruits and vice versa is now more complicated than it once was. The growth of specialist recruitment agencies is now a significant moderator of signals in both directions.

The Ontario Skills Passport[22] includes a field named work habits, which are seen as basic requirements for everyone. There are no skill levels associated with work habits which include working safely, teamwork, reliability, organisation, working independently, initiative, self advocacy, customer service and entrepreneurship.

Some professional bodies see it as important to document the added value provided by employment to maintain professional standards and allow qualified people to move freely between countries. For example, the European Association of Chemical and Molecular Sciences has established the title European Chemist[23]. In the literature for the title the association states:

> *'… academic qualifications alone have limited value. In providing an acceptable common professional standard, the European Chemist requires experience in the application of knowledge, level of skill, safety and environmental consciousness, sense of responsibility, ability to communicate and level of supervision received.'*

There is no doubt that recruiters for many jobs and learning programmes place value on personal attitudes that may or may not be signalled by qualifications. Often personality is used to discriminate between applicants with similar qualifications levels. For example, in a large UK study of recruitment[24] personality and attitude was the highest ranked element in recruitment, followed by performance in interview, previous experience, academic qualifications, and vocational qualifications. All qualifications were lowly rated compared to other factors. What these results indicate is not that qualifications have little value but that, in deciding on a new recruit, factors that the employers decide for themselves are more important and qualifications are used as a baseline for the selection process. Methods that provide information about a person's range of skills and attributes are now being used more frequently in increasingly diverse recruitment practices[25].

Aptitude (or psychometric) tests are standardized assessments and now commonly used in recruitment as a proxy for a range of abilities. They have significant weaknesses because they are often necessarily general – but they are still perceived to have value as an objective metric for 'unseen' skills and attitudes.

Most of the discussion above considers the value placed on aspects of learning achievements in formal settings. However there in informal settings for employment, which involve huge numbers of people, such as those self employed in communities, there is a also a valuing of specific skills and learning[26] and these would also be made more visible by better representation.

Taking an overview of the literature, it seems that the status of qualification as a success factor in securing a job, while important, is declining in importance: this is especially so after initial labour market entry. Factors related to work experience and general competences are growing in importance.

22 See http://www.skills.edu.gov.on.ca/OSP2Web/EDU/Welcome.xhtml

23 see http://www.euchems.eu/members-3/european-chemist-designation/

24 Shury, Jan et al. (2008). Skills for the workplace: employer perspectives. London: UK Commission for Employment and Skills. (UKCES Evidence Report, 1).

25 See Lloyd, Caroline (2008). Recruiting Sectoral for fitness: qualifications and the challenges of an employer-led system. Journal of Education and Work , Vol. 21, No 3, p.175-195.; Iglesias-Fernandez, Carlos; Llorente-Heras, Raquel (2007). structure, qualification characteristics and patterns of labour mobility, The Service Industries Journal , Vol. 27, No 4, p. 411-434.

26 Adams, A., Johansson de Silva, S. and Razmara, S., 2013, Improving Skills Development in the Informal Sector: Strategies for Sub-Saharan Africa, World Bank

3. How can learning achievements be communicated?

Recruiters provide recognition in work and in learning careers. The process and he extent of recognition is entirely in the hands of recruiters. A person can optimise the chances of good levels of recognition by making their learning achievements (including broader experience, interests, ambitions and other personal qualities as transparent and as visible as possible.

Recruiters use a range of filtering techniques and, as described earlier, most of these include setting a formal qualification as a baseline. After this baseline is taken into account there will be other factors such as work experience that will take precedence over others and there will be a hierarchy of requirements that will vary from position to position including all the broader characteristics indicated above. Candidates have to represent themselves in ways that best matches the job requirements or, when these are less clear, in ways that enable recruiters to find, understand and value the information they seek.

The task of representing oneself is not easy, there is much evidence to suggest that there is often a skills mismatch between people and jobs[27]. People are often over educated or over qualified for their work. This situation does not diminish the need for better representation, in fact it can be argued that the need for clearer matches between people and their jobs, notwithstanding the capacity of people to grow in their job and ambitions, is supported by better representation.

What methods of communication do we have now?

There are different ways people can represent themselves, often these are combined in some way in a recruitment process. Even within a particular method of representation there will be differences and distinctive features. The main methods are summarised in table 1 below.

Table 1: general methods of representation

Methode	Strength	Weakness
Application on paper	Designed by recruiter to seek relevant information	Is recruiter specific and is limited in its flexibility to capture some information
Electronic application	Can be tailored by applicants to better meet the needs of the recruiter	Limited flexibility for applicant and needs to be completed separately for every application
CV	Can be a full description of a person's learning achievements, career trajectory and sometimes wider competences and interests	Is often difficult to tailor to the specific application and is in practice mostly unverifiable
Letter of application	Offers a chance for applicant to promote the things that may be seen as most important for the position	Applicant may omit information that might be considered important
Qualification profile or diploma supplement	Puts stress on formal qualification achievements and some of the detail of the learning experience	Ignores wider characteristics of the applicant
A personal record, profile or skills passport	Will be up to date and is likely to be verified by the body managing the process of completion	Will not be tailored to the position applied for unless expert data systems are available

Table 1 signals the need for a new way of combining the strengths and weaknesses of current methods of representation if the needs of applicants and recruiters are to be met more fully.

4. How can the description be quality assured?

Currently each field in a person's profile may be quality assured independently of other fields. Usually there are high levels of quality assurance applied to the qualification process and relatively little attention paid to other aspects. However the development of bodies that manage credentials on behalf of learning organisations[28], including international awarding organisations[29], means that more aspects of a persons learning falls under a quality assurance process. These agencies can accept achievement data from learning institutions and workplaces, organise electronic access for students, enable sharing of data when permitted, and check the authenticity of entries in a person's profile. Already there are mechanisms where the self-directed learner amendments can be checked[30]. Some of the managing bodies also offer assessment[31].

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27 Cedefop, 2015, Skills, qualifications and jobs in the EU: the making of a perfect match? Thessaloniki
28 for example Dignitary, Europortfolio
29 City And Guilds offer a quality assurance service to the recognition service World Association of Chef's Societies
30 through for example electronic ledger systems analogous to Bitcoin's blockchains
31 for example the entrepreneurial skills pass – a certificate to reference in a cv which is assessed remotely

5. A view of the future

In the discussion above arguments have been made to go beyond qualifications, beyond CVs and extend personal profiles. The path to new ways of representing learning achievements is currently not clear but there are advances that are promising, for example the growth of a diverse badging industry, the advances in expert data systems, the expanding range of learning profiles or skills passports and specialist social media[32].

We can usefully draw a comparison between the process of representation and the process of credit accumulation and transfer. In both processes the first stage is learning and building up of evidence of this learning. In both processes the types of evidence (units, types of learning and working achievements) is classified in some way, it is organised into something meaningful to users (a qualification, a personal statement). In both processes the organised evidence is then matched on to requirements that gives access, admission or exemption, in other words the learning is recognised. However, even though credit systems are often described as flexible they are in fact static: units are achieved and qualifications are built. Generally the qualifications remain monolithic in nature. Only when a profile of units is the outcome, and these units can be organised in different ways according to need can credit systems be seen as flexible. CVs and skills passports are inflexible in the sense that the content, whilst up-to-date and detailed, is fixed. Previous attempts to introduce records of achievement for individuals have mainly been short lived. To make them useful these records of achievement need to be well known and understood in a community and be given legitimacy by a body or bodies of high reputation. With the diversification of employment and careers, and the international dimension of careers becoming more important, there is a need to reflect on whether a general form of record of achievement is now unlikely to succeed unless its form and format and the IT system on which is based, is capable of the flexibility required to fully represent a stage in a person's learning[33].

The future organisation of representation needs to have an international dimension. Not only does this enable engagement of a full range of stakeholders and allow learning from the various past and current forms of representation but it also avoids a debilitating perception of complexity and competing priorities for different models. Users of systems of representation see the variety of tools to document their skills and the variety of systems, formats and languages used, this can confuse and prevent the effective recognition of skills. Coordination is needed at international level to provide a basis for cooperation and the development of common approaches.

A vision for the future is that there is a common international approach to representation where all aspects of a person's learning is electronically documented and authenticated. It can be accessed at any time and anywhere and amended by the owner. It always remains the property of the owner even though other bodies such as learning institutions, professional bodies or hosting data management bodies may contribute to it. More than that the documented learning is in a format that can be linked (with the owners permission) to other databases where job applications are described and a matching process can take place.

Making it happen

Support for the move towards this vision for representation can come from many interested groups and it is possible to argue that there exist right now cases in different institutions, regions and countries where better representation is growing and is already effective. For articulation of diverse initiatives so that global value is attached to these initiatives and ones that will emerge there is a need for:

a. a synopsis of recent attempts at making a wide set of learning visible, identifying points of weakness and potential;

b. adoption of a common name for products that offer better representation

c. definition of valued content fields;

d. electronic protocols for exchange of information and automatic matching;

e. organisation of methods of creating representation;

f. promotion of methods of representation; and

g. guidance on the quality assurance of the process and content of representation.

These aspects all have an international dimension and they can form the agenda for future action in this area.

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32 such as linkedin

33 UNESCO's Quindao Declaration supports this point effectively – it calls for the recognition of the potential of innovative ICT-based approaches in certification and assessment, including competency, portfolio, online badging and peer assessment, as these tools can promote recognition, validation and accreditation of the knowledge, skills and competencies acquired through informal and non-formal settings. See the full declaration on: http://unesdoc.unesco.org/images/0023/002333/233352E.pdf

6. Some issues to consider

1. Is representation a sufficiently robust a concept for it to form the basis of analysis of ways of improving the description of learning achievements?

2. There is a wide range of organisations and practices in the field of learning recognition - how can exchanges and effective practices be encouraged?

3. What kinds of guidance and support for organisations involved in representing learning achievement might bring about synergies in practice and common (standardised) approaches?

4. How can the requirements of all forms of work be evaluated so that a common understanding of valued learning achievements can be generated?

5. The current high level of interest in qualifications, qualifications frameworks and recognition processes often has an international mobility focus. How can representation take on an international role in supporting mobility?

6. Can expert data systems make use of a world standard for documenting learning achievements that would include tailoring of content and verification of key aspects of content?

7. What are the main quality assurance issues involved in all the levels of creation and use of representation?

8. At international level what kind of high-level governance could:

- champion the concept of better representation across all learning and working contexts;

- work with all of the international bodies with a legitimate interest in recognition;

- guide and coordinate processes of recognition to create interoperability; and

- raise awareness of end users about the availability of international tools and passports for recognition?