E-PORTFOLIO COMPETENCY RECOGNITION AND ACCREDITATION FRAMEWORK

Authors: Janet Strivens and Rob Ward (the Centre for Recording Achievement, UK); Lourdes Guàrdia; Marcelo Maina; Elena Barberà, Ivan Alsina, (Open University of Catalonia) and Birgit Wolf (Danube University Krems)

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Introduction

This document is an attempt to set out a systematic approach to competency recognition and accreditation through ePortfolios. The document consists of two main sections: in the first we seek to clarify the concepts of competency, recognition and accreditation and we set out our understanding of these terms within the Europortfolio Network; in the second we show how processes of competency recognition and accreditation can be supported and enhanced through the use of ePortfolio technologies, by making links between the functionalities of ePortfolio technologies (both general classes of technologies and specific tools and artefacts) and the requirements of competency recognition. Some key dimensions have emerged from this work which we offer for consideration to anyone wishing to make effective use of ePortfolio technologies for competency recognition and accreditation purposes:

- **Trust** emerges as an overarching dimension central to competency recognition and accreditation. Goods and services are exchanged, bought or sold in all human societies: competency accreditation and recognition mechanisms exist (at least in part) to help people make decisions about whom they can trust to supply these goods and services.

- The second dimension refers to the forms of evidence for competencies, on a spectrum we characterise as ‘direct’ to ‘proxy’. ‘Proxy’ in this sense means forms of certification (whether digital or paper-based) and/or qualifications (also certified), as opposed to a more direct access to the product or performance displayed by an individual on which a competency claim is made. In terms of ePortfolio evidence there will be degrees of ‘directness’: for example, evidence of being a competent digital photographer is more directly accessible via an ePortfolio than is evidence of being a competent surgeon.

- The third dimension relates to the **granularity** – or level of detail - in respect of the competency claimed and/or certification given. There is some evidence that the disaggregation of competencies can have beneficial effects on the motivation of learners, particularly those with less experience of success, since it offers short-term, transparent and more achievable targets. Conversely, sophisticated applications of competencies are almost necessarily holistic: thus at higher professional levels evidence requirements for competency accreditation purposes may be quite broad and flexible.

- A final dimension is the extent to which **development** of the competence is significant. Some ePortfolio technologies facilitate a ‘snapshot’ of achievement whereas others offer a chronology or narrative of development. At the simplest level there may be a concern in some cases to know how long the learner took to develop the competence: in other cases, the unique path of development – and insight into the learners’ engagement and level of self-awareness - could hold significance.
Glossary

- **APL** (Accreditation of Prior Learning) – see RPL (sometimes differentiated into APEL or the Accreditation of Prior Experiential Learning and APCL or the Accreditation of Prior Certificated Learning)
- **Accreditation** is the formal attestation of competence and/or credibility, either of an individual (by an accredited institution) or of an institution which itself offers accreditation (usually by a professional body or standards agency). Individual accreditation may need to be regularly revalidated (see below).
- **Assessment** is the making of a judgement about the quality of a performance or product, typically (but not always) against an explicit standard or set of criteria. Typically the judgement will be concerned whether the product or performance meets the standard required (a pass/fail assessment) but may also involve grading the quality of the performance or product.
- **Certification**: the giving of a public document (certificate, diploma, badge etc.), not necessarily official, which attests some information relative to a person: level of study, qualification, competencies, etc.
- **Learning**:
  - **Formal Learning** refers to learning that occurs in an organised and structured context (in a school/training centre or on the job) and is explicitly designated as learning (in terms of objectives, time or learning support). Formal learning is intentional from the learner’s point of view. It typically leads to certification.
  - **Non-formal learning** may not be explicitly designated as learning (in terms of learning objectives, learning time or learning support) but is embedded in planned activities which contain an important learning element. Non-formal learning is intentional from the learner’s point of view. It typically does not lead to certification.
  - **Informal learning** results from daily work-related, family or leisure activities. It is not organised or structured (in terms of objectives, time or learning support). Informal learning is in most cases unintentional from the learner’s perspective. It typically does not lead to certification (CEDEFOP 2008).
- **PLA** (Prior Learning Assessment) – see RPL
- **Recognition** is the process of acknowledging the qualities of a person: talents, achievements, competencies, knowledge, etc. Recognition can be formal or informal.
- **RPL** (Recognition of Prior Learning) is currently the most widely-used term to describe the formal process used by institutions to take account of a candidate’s prior achievements when making decisions about admission or exemptions.
• **Registration** is the process of recognising a person as a member of a particular (professional) community so that they can practise as a member of that profession.  

• **Qualification** is a special case of recognition which generally signifies through certification the satisfactory completion of a publicly-recognised and coherent course of learning or the achievement of a coherent set of competencies, normally attested by an institution and leading to an individual becoming a recognized practitioner of a profession or activity. Qualifications generally form part of frameworks intended to offer wider interpretation and recognition of the learning being certified.  

• **Validation** is the step that usually follows a verification process, in order to declare publicly the validity of the claim. Verification is an internal (or external) process, while validation is the moment when the outcome of the verification process is valid. This generally leads to certification.  

• **Verification** is the process of establishing the truth, accuracy, or validity of something. The verification can be performed in order to check that the claims made by a candidate are trustworthy (the assertion). Verification of the evidence submitted can be followed by a process of validation and/or accreditation.
Section 1: Issues in the assessment and accreditation of competencies

1.1 Defining competency

'Competency' is a debated term (certainly in the English-medium literature\(^1\)) with a range of meanings:

- In some sources, competency is used in such a way as to be synonymous with skill. This usage implies an organised, repeatable action but critics have pointed out that this way of using the term can imply little cognitive content. There has been resistance because of this to using the term 'competency' to refer to learning outcomes in higher education and higher levels of professional learning;
- In other sources, competency refers to a complex set of actions drawing on extensive knowledge, aligned with values and involving creative problem-solving, judgement and decision-making, often under pressure. Using this definition of competency makes it an appropriate term to use for expert performance in a wide range of arenas, including the highest levels of professions, and it may equally be applied to the management of projects in practical trades. For example, the bricklayer building a wall will need to take instructions from the customer, advise on different options in terms of brick types and associated costings, estimate the necessary materials needed and time requirements in order to tender for the job.

Although the range of uses of the term ‘competency’ is broad, our focus here therefore emphasises:

1. the recognition that competency refers both to *functional performance* and (over time) *expert application*, the latter characterised by a capacity to integrate a range of functions successfully to achieve high level outcomes;

2. that competency is not passive knowledge; insofar as knowledge is involved it is knowledge-in-use. Thus, to demonstrate competencies there must be a *product* (something the learner has made) or a *performance* (something the learner does). In other words, it will not be sufficient to demonstrate factual knowledge alone, or one’s ‘information store’. This is important for the assessment of competency (see below).

**Examples of competency definitions:**

\(^1\) Even the spelling is contested – some sources use ‘competency’ and others ‘competence’. Here, competency is used throughout.
1.2 Developing competency standards and frameworks

Competency standards and frameworks are typically designed through a process known as ‘functional analysis’. This process starts by establishing the key purpose of a productive or service function, and asking the question, ‘what must be done for this to be achieved?’ Repeating this question at each stage results in a disaggregation of tasks and/or activities leading to specific outcomes, which must be carried out in order for the overall purpose to be achieved. The process of disaggregation continues until a description of the activities which can be carried out by a single individual has been reached.

For a more detailed description of the process of functional analysis, see http://www.unevoc.unesco.org/tvetipedia.0.html?tx_drwiki_pi1%5Bkeyword%5D=Function%20Analysis

1.3 Elements and levels of competencies

1.3.1 A developed competency framework can be represented as a hierarchy which can in principle be broken down into multiple elements, each of which can be separately learned and demonstrated. That is to say, the different elements of a competency framework can be regarded as building on each other, ultimately aggregating towards the ability to demonstrate the complex competence. These frameworks are often specified and ‘owned’ by professional bodies, who have carried out the original functional analysis of a professional role. Together with the specification of competence
elements and hierarchies (levels) professional bodies may also define how such competencies must be demonstrated for accreditation purposes. That is to say, they may define what kind of evidence and how many pieces of evidence (instances of the demonstration of the competency) will be required for accreditation purposes (see below, *Competency recognition*).

**Example of the design of a competency framework**


EIfEL has produced a competency framework for e-skills for teachers and trainers. The key role for this target population was described as:

*Employ knowledge, information and learning technologies to provide high-quality teaching and training, to create effective opportunities for learning and to enable all learners to achieve to the best of their ability.*

Below is a graphical representation of central activities and responsibilities in the e-learning value-chain, showing the relationships between the key areas. The focus on activities rather than on job roles means that a competency framework can provide a dynamic and flexible representation of evolving professional responsibilities.

The next step was discussion and analysis of the final content of the framework focusing specifically on presenting core competencies that need to be developed as a consequence of the adoption and the diffusion of new learning practices based on e-Learning.

A larger group of core competencies was refined to a short list as follows:
1. Preparing the learning event
2. Running the learning event
3. Supporting learners
4. Assessing learner progress
5. Promoting accessibility for learners
6. Evaluating learning programmes

Figure 1: Competency Framework for Teachers' and Educators' E-skills

1.3.2. Although competencies may be broken down into elements and levels for training/educational and assessment purposes, learning theories which interpret the progression from novice to expert recognise that expert performance uses ‘shortcuts’ in decision-making based on experience and the recognition of patterns in novel contexts. This makes expert demonstration of competency rapid and flexible. Nevertheless the different components of the complex decision are assumed to be available to be retrieved into working memory and attention, should the expert need to review and reflect on the novel problem which presents itself. Indeed, this type of reflection is essential if the expert is to continue to progress to the very highest levels of expertise, to keep that expertise at its highest possible level and to create innovative solutions to problems: see for example Ericsson (2008) and the work of the Engineering Council in...
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the UK as featured below. The latter, at: http://www.engc.org.uk/engcdocuments/internet/Website/UK-SPEC%20third%20edition%20%281%29.pdf provides illustrations of potential evidence to help the candidate, and is indicative rather than prescriptive about the detail required.
THE ENGINEERING TECHNICIAN STANDARD

Engineering Technicians apply proven techniques and procedures to the solution of practical engineering problems.

Engineering Technicians are required to apply safe systems of work and are able to demonstrate:

- Evidence of their contribution to either the design, development, manufacture, commissioning, decommissioning, operation or maintenance of products, equipment, processes or services
- Supervisory or technical responsibility
- Effective interpersonal skills in communicating technical matters
- Commitment to professional engineering values.

The Competence and Commitment Standard for Engineering Technicians.

The examples given below are intended to help you identify activities you might quote to demonstrate the required competence and commitment for EngTech registration. These are not exhaustive. Moreover, you are not required to give multiple examples to demonstrate competence and commitment.

Tell us about your career, education and training. Explain how the experience you have gained has made you more competent.

**A** Use engineering knowledge and understanding to apply technical and practical skills.

This includes the ability to:

1. Review and select appropriate techniques, procedures and methods to undertake tasks.

Describe:

- An example of work you did that went well, the choices you made and the outcome
- Or something in your work that you were involved in which didn’t quite work and explain why
- Or a technique, procedure or method you improved upon and explain why.
1.4 Competency and values

1.4.1 Although often ignored in discussions of competency, the values a person holds are a critical element of the decisions which he or she makes, and therefore critical elements of a competent performance. A number of competency standards make explicit reference to values, in particular those developed by professional bodies in the healthcare, education and social sectors, where the ‘learning’ of ‘professional values’ is often seen as a key aspect of training. Typically such professional values will incorporate the idea of inclusive ‘respect for persons’ – to be enacted in the egalitarian treatment of service users/clients/patients/pupils. ‘Respect for evidence’ also appears frequently, enacted as an openness to new ideas and the willingness to critically review the bases of one’s own decision-making.

1.4.2 As the above discussion implies, values cannot be assessed from traditional assessment formats, nor from what a person says about the values he or she espouses. Values can only safely be inferred from an individual’s actions in the real world. The way a doctor talks to her patients, the decisions a teacher makes in selecting curriculum materials, the responsibility accepted by a social worker for a service user’s wellbeing all demonstrate values in action. An individual charged with the assessment of competencies informed by such values will naturally be concerned about the authenticity of the performance: does the person being observed know that his or her performance is being assessed, in which case knowledge of the professional values which are expected might well influence behaviour?

1.4.3 Accreditation bodies recognise some different ways to respond to this challenge. They may require observations of actions over an extended period of time or on repeated occasions, on the assumption that if a person can maintain a standard of behaviour embodying professional values those values are more likely to be genuinely held. They may require observations from a range of stakeholders, in the manner of 360⁰ appraisal: observation from a stakeholder in a position of inferior power can be particularly strong confirmatory evidence of the genuineness of values claimed.

1.4.4 Even then, in complex situations it may be difficult for an observer to infer how an espoused value has informed decisions or actions taken. It may be necessary for the person undertaking the action to explain why they chose it. In this case, assessors need a commentary from the person concerned which would typically show what alternatives were considered, what consequences were weighed and why the final decision was made – in other words, a reflection.

1.4.5 A value enshrined in the requirements of many professional bodies is the commitment to keep one’s knowledge and expertise up to date through continuing
professional development (CPD). Engaging in a minimum amount of CPD can be a requirement for remaining ‘in good standing’ for registration with one’s professional body (see for example http://www.engc.org.uk/engcdocuments/internet/Website/UK-SPEC%20third%20edition%20%281%29.pdf page 9).
Examples of competency frameworks which make values explicit

European Key Competencies for Lifelong Learning:
Although all the eight competencies make reference to attitudes, competencies 6 and 8 are most clearly values-related:
6. Social and Civic Competences - ‘... to show tolerance, express and understand different viewpoints, to negotiate with the ability to create confidence, and to feel empathy...should value diversity and respect others...full respect for human rights including equality as a basis for democracy, appreciation and understanding of differences between value systems of different religious or ethnic groups … displaying both a sense of belonging to one’s locality, country, the EU and Europe in general and to the world, and a willingness to participate in democratic decision-making at all levels. It also includes demonstrating a sense of responsibility, as well as showing understanding of and respect for the shared values that are necessary to ensure community cohesion, such as respect for democratic principles. Constructive participation also involves civic activities, support for social diversity and cohesion and sustainable development, and a readiness to respect the values and privacy of others' 8. Cultural Awareness and Expression - ‘... a solid understanding of one's own culture and a sense of identity can be the basis for an open attitude towards and respect for diversity of cultural expression’ (Commission of the European Communities 2007). See http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:EN:PDF

Alberta Education Ethics Curriculum
Alberta, Canada has sought to integrate values into the school curriculum: http://education.alberta.ca/media/768722/jhethics.pdf and http://education.alberta.ca/media/6857663/dimension_1_establishing_inclusive_values_and_principles.pdf (for a series of indicators). Note in particular the inclusion of Inuit values in the cross-curricular competencies: http://www.education.alberta.ca/media/6809246/e_chapter2.pdf (p. 84).

A Curriculum For Excellence
The Scottish Executive’s Curriculum Review Group in its 2004 framework for the curriculum from 3 to 18 also makes clear references to values (wisdom, justice, compassion and integrity): See http://www.educationscotland.gov.uk/thecurriculum/whatiscurriculumforexcellence/

1.5 Assessment of competencies
1.5.1 In order to arrive at an assessment decision, an assessor will look carefully at the evidence and is likely to ask the following questions (c.f. guidance from EdExcel, the UK’s largest Awarding Body, at:

- **Validity** - is it relevant to the unit of competency being assessed?
- ** Sufficiency** - is there sufficient evidence to cover all the performance criteria and contexts and to be sure that competent performance can be sustained over a period?
- **Authenticity** - is it the own work of the candidate, or, if it is a result of team activity, what part did he/she play?
- **Currency** - is the evidence drawn from recent activities, or have circumstances changed since it was produced?
- **Transferability** - does the candidate have the knowledge, understanding, skills, attitudes and values to be able to transfer this performance to other contexts?

1.5.2 Where the competency being demonstrated leads to a **product**, the factors to be judged are likely to include **measures of the quality of the artefact**. However, particularly during professional training, there may well be a concern to assess **aspects of the process**, e.g. the planning, problem-solving and decision-making that produced the outcome. An example of this might be any kind of design discipline, where the assessor is likely to be interested in how design decisions are made at each stage of the process. In this case it is likely that a reflective commentary concurrent with the process or following the completion of the artefact will be required. (The competency specification will determine the weight given to these different aspects.)

1.5.3 Where the competency is a performance, the main issue will be whether and how that performance can be validly assessed. In some cases, evidence provided by the candidate of the ability to reflect on the performance, e.g. through a ‘critical incident log’, may be regarded as acceptable. Where it is essential to have a judgement external to the candidate there may be reliance on the testimony of a third-party observer. Where the assessor him or herself must make a judgement, the performance must be captured e.g. through video or simulator. Simulations are generally allowed where:

- the occurrence is rare, sensitive, dangerous or confidential (for example, implementing disciplinary procedures)
- where there is a contingency which may not yet have arisen (for example, training for disasters and emergencies).

However, again there may be a concern to assess aspects of the decision-making process which can only be revealed through the performer’s commentary (concurrent or retrospective). Also, the standing of the observer will need to be considered: is he or
she a competent judge of the quality of the performance? Professional bodies are likely
to specify who may be an assessor and possibly require their assessors to undertake
specific training. In other contexts, testimony from a ‘lay’ person will be entirely
appropriate and the witness could be chosen by the learner.

Evidence requirements in some of the competency frameworks might state that
evidence from simulated activities is not acceptable. This is because candidates
working at certain levels are expected to carry out these activities in real life and should
be able to demonstrate that they are competent from evidence collected in real life
activities. When it is important for the performance to be ‘authentic’ i.e. demonstrated in
a real context of practice, it will be particularly important for the learner to be aware of
potential appropriate witnesses, and to be prepared to solicit testimony ‘on the spot’ (or
to activate other means of capturing the evidence) when the opportunity arises to
demonstrate the competency.

1.6 Competency recognition

1.6.1 As previously stated, competencies are demonstrated by an individual through
the products (artefacts) s/he makes or the services s/he performs. Human societies are
characterised by the exchange of services. As societies become more advanced there
tends to be specialisation of the services offered by any individual (and these are likely
to be bought and sold rather than exchanged). In buying a service the buyer needs to
have confidence in the quality of the service being bought. Competency ‘recognition’
has to do with the degree of confidence or trust which the individual requiring the
service (whether employer or customer) can place in the purveyor of the service.

As noted by the European Institute for the Promotion of Informal Learning (EIPIL-PAN,
2009), the means of establishing this trust lie on a spectrum from informal to formal.
Informally a competency is often recognised within a local community through word-of-
mouth testimonial (for example, I want a wall built, my neighbour is happy with the wall
someone has built for her, I accept my neighbour’s recommendation). More formal
recognition of competence through certification (for example, this person has
qualifications in bricklaying) may be of secondary importance. However as communities
grow larger, forms of certification may be used as proxies for direct evidence of
competency, as suggested in paragraph 2.7.2. At the most formal end of this spectrum,
typically for services which are highly skilled or involve high risk, professional bodies
have formed to monitor and accredit who may offer the service. An elaborate structure
of qualification, accreditation and registration may have evolved, usually justified by the
desire to protect the public.

1.6.2 Formal recognition - the accreditation process:
Whether demonstrated by a product or a performance, it is likely that the accreditation
of competency will include a concern with the context in which the competency is
demonstrated and the reliability of the demonstration. Thus the accreditor is likely to
specify the range of circumstances under which a competency must be demonstrated and/or the number of times it must be demonstrated to satisfy accreditation. There may be within the competency specification a notion of contexts appropriate to different levels of expertise: for example, a student healthcare worker could be expected to demonstrate a clinical skill with a co-operative adult patient prior to professional registration, but the professional body expects that the adaptation of this competency to children or unwilling adults will come with more experience.

The degree to which the precise nature of the product or performance is specified will vary. In some circumstances the specification will be very exact (the accreditation body will demand a particular type of evidence, specific contexts and/or specific assessors). In other circumstances, the learner may be given a wide degree of freedom to select a product or performance which in his or her judgement will meet the assessment requirements, the context and the assessor or witness. There is also likely to be (though not always) a specification of the context within which the competency has been learned (typically a recognised institution with an accredited programme) and even a specification of the period of time required for the learning.

1.6.3 Informal recognition of competencies:
As illustrated above, informal recognition processes happen all the time in many different settings. The question one has to ask is how to facilitate this process and extend its impact? While the answer is relatively straightforward when addressing formal recognition, there is not a single answer or a limited number of answers that would cover the different contexts where informal recognition actually happens. At the minimum, an individual needs to be able to articulate or specify the competency which he or she aims to demonstrate (the service which he or she offers) and to understand what kind of evidence would best demonstrate this competency. The value of claiming a competency will depend on such factors as the perceived value to others of the competency specified and the clarity of the specification in relation to the evidence. There may be some form of direct evidence which the individual can collect, or there may be testimony from others: in this case the value of the claim may be influenced by the standing of the attester as a valid judge.

An important difference between more formal and less formal recognition processes is that the formal recognition process is fundamentally asymmetric, i.e. it is based on a power relationship between an institution and an individual, whereas the informal recognition process has the potential to be more fully symmetric, i.e. to empower all the members of the community. Recognition is a mutual, or ‘reflexive’ process: when I recognise you, I also say something about myself.

It should also be remembered that an individual learner may wish to develop competencies for their own sake, without any intention to offer services (for example, learning a language, playing a musical instrument). Such an individual may still choose to seek some form of recognition (perhaps because an external assessment helps to
validate a personal sense of competence) or s/he may choose not to - particularly where such recognition is associated with formal certification and educational contexts which is not seen as appropriate to the meeting of a personal goal.

1.7 Competency recognition in Europe

The *Copenhagen Declaration* of 2002 gives a mandate to the EU and EEA-EFTA Member States and the European Commission, working with the European Social Partners, to develop the concrete means to improve transparency, recognition and quality.

This includes the development of an approach to the recognition of acquired skills and competences that builds on, and is compatible with, policies and practice at a national level as expressed in the *Communication on Lifelong Learning* (Commission of the European Communities 2001), the *Concrete Objectives for European Education and Training Systems* (Eur-Lex 2002) and the *Copenhagen Declaration* (2002).
Section 2: Integrating ePortfolios (and related technologies) into competency recognition processes

2.1 What ePortfolios offer to the recognition of competencies

EPortfolios offer many features which support both the recognition and accreditation of competencies. The Australian Flexible Learning Framework (AFLF 2009) lists the main benefits as:

- utilising templates to structure the presentation of evidence, and tags to organise and find artefacts (which helps to streamline the assessment process);
- reducing the need for paper-based, hard copy evidence and limiting excessive evidence collection;
- developing ICT and digital literacy skills.

AFLF (2009) also notes when using ePortfolios in accreditation processes that good practice includes: support for self-assessment; links to external sources setting units of competence and qualifications; increased opportunities for evidence validation; use of a variety of evidence forms that corroborate competence; and the possibility of a conversational approach to assessing (in terms of dialogue between the assessor and candidate).

2.2 Technologies for the collection and organisation of evidence

EPortfolios are commonly used as an electronic space to hold any supporting evidence relevant to learning and achievement which demonstrates competencies (Barrett, 2007). For the assessment of competencies, two functionalities enhance the use of ePortfolios as repositories:

- Organisation: it is likely to be possible to organise the evidence against criteria, rubrics or competencies elements, sometimes by importing the template structures into the system. This makes it easier for both the assessor and the candidate to see progress and gaps where further evidence needs to be generated, cross-referencing the evidence against the standards. Some platforms use dashboards to make it easier for both candidate and assessor to plan and monitor progress;
- Linking: items of evidence may be accompanied by or linked to reflective...
commentaries or claims, which interpret the evidence for the assessor by allowing insight into the decision-making and meaning-making processes of the candidate;

- A ‘tagging’ function also allows the user to see relationships and navigate the evidence easily.

2.3 Tools for presentation/’showcasing’

It is also a common practice for ePortfolios to serve as a showcase of the gathered evidence, using different types of digital elements (video, .pdf files, and so on) (AFLF, 2009). At least two functionalities are important here:

- Differential views of the items: it is usually possible for the ePortfolio owner, by setting viewing permissions, to be able to make a selection of this evidence to be reviewed by a selected audience (the tutor, peers, different employers interested in different capabilities and so on);

- Personalisation of the appearance of the ePortfolio pages by the user. This may range from a simple facility to change fonts, colour schemes etc. to a more sophisticated range of design capabilities.

2.4 Tools for evidencing a process over time

Some kinds of competency lend themselves to a different organisation of evidence, an organisation which is chronological and charts a developmental process. For example, in fields where design skills are important the assessor may find it useful to be able to track the development and refinement of design ideas. A blogging tool affords some of the functionality associated with a more conventional ePortfolio platform, collecting evidence chronologically of the development of ideas and often allowing the author to set permissions for others to view and/or comment. Where such a tool incorporates a commenting/reviewing functionality (see below) the assessor can also see how constructively the individual responds to feedback and the ideas of others.

**Example of an ePortfolio designed to develop over time**

(From the Training Portfolio of the Royal College of General Practitioners, UK


“Competence progression over time

Evidence of progress in the WBPA competences areas is gathered throughout the training programme. You’re unlikely to be able to show evidence of full competence at the start of training, but you will gradually build up evidence as time goes on.

As your Trainee ePortfolio begins to demonstrate areas of strength and developmental needs, your trainers will adapt the learning programme to facilitate collection of new evidence.”
2.5 Tools for the self-assessment of competencies:

Beyond the collection and showcasing of evidence, there are different ways an ePortfolio can support competency recognition and accreditation process (AFLF, 2009).

EPortfolios can either incorporate or be linked to tools that help the individual in identifying their current level in relation to specific units of competency or skills. Some specific ePortfolio platforms such as eTransfolio (Mas et al., 2008) (Figure 2) directly include the use of rubrics that are used for self-assessment and/or peer assessment. As a result, the user creates an individual skills profile that can be used as the starting point for evidence validation with an assessor, matching evidence to units of competency.

![Figure 3: Using Rubric in eTransfolio (Mas et al., 2008)](image)

Examples of tools which can be linked are Skillsbook (https://www.skillsbook.com.au/) and iRubric (http://www.rcampus.com/indexrubric.cfm).

2.6 Tools and technologies to support communication and review:

Some tools facilitate a conversational style and the discussion and – sometimes - negotiation of the evidence between the student-candidate and a tutor-reviewer. An ePortfolio could support these processes using different types of communication tools:

- **Embedded feedback** on the ePortfolios pages or within the evidence files. Some ePortfolio platforms include comment posting mechanisms. Inclusion of an annotation tool will allow an even greater flexibility to add comments and feedback. In other cases online virtual meeting technologies are used (e.g. Google Hangouts, Skype, and so on);
- **Journals and/or Blogs** (e.g. Wordpress) could help the candidate to reflect on
their own skills and the recognition-accreditation process through permitting peers to view and comment on posts;

- **Group Forums** - participation in group forums and postings can be a form of evidence and/or way to communicate and share relevant information.

These tools offer the facility to the reviewer/assessor to review the evidence, submit feedback and guidance to the user and validate (or invalidate) digital evidence. They may also facilitate peer review which can be a key element in the developmental process.

### 2.7 Tools and technologies to support quality processes

The same technologies that allow communication for review purposes also support formal recognition processes in other ways. An assessor can choose a sample of portfolios for review, and extend the sample as needed without difficulty; portfolio artefacts can be submitted to anti-plagiarism tools; submission deadlines can set to ensure that the ePortfolio is ‘frozen’ at a particular point for assessment\(^3\).

### 2.8 Tools and technologies for recognising learning and achievement:

#### 2.8.1 As already identified, ePortfolio technologies provide a means of collecting, organising and presenting evidence on which decisions can be made to recognise learning and/or achievement. This recognition may be external to the ePortfolio (as when the ePortfolio is used as an assessment tool within a qualification) or it may depend on an evaluation of the direct evidence contained within the portfolio. However, it is also possible to gather digital ‘certification’ (sometimes referred to as ‘credentialing’) within an ePortfolio.

Most recently, ‘digital badge’ systems provide such a recognition of learning and/or achievement (Ravet 2013; Hamilton 2014). This may be in both formal and informal learning contexts. For example, Open Badges, led by the Mozilla Foundation, has the objective to facilitate the informal recognition of informal learning. It aims to build an ecosystem where digital badges can be offered for skills, abilities, and achievements in ways that traditional certifications do not. Some badge systems are more organisation-centric (most badges, so far, are issued by organisations). The issuing of a badge describes a criteria- and evidence-based trust relationship between a badge issuer and a badge recipient. Criteria, evidence, issuer and recipient are represented as a set of metadata ‘baked’ into a picture, the actual visual representation of an Open Badge (see Fig. 4 below).

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\(^3\) This can happen in a variety of ways: for example in PebblePAD+ in the Institutional Space called ATLAS, “‘Live’ work can be paused and archived to support rigorous assessment and quality assurance processes” (see PebblePad Functional Overview at: [http://www.pebblepad.co.uk/cms/uploads/5050585d-2254-4bf6-b184-ec8c160c84f3/Functional%20Overview.pdf](http://www.pebblepad.co.uk/cms/uploads/5050585d-2254-4bf6-b184-ec8c160c84f3/Functional%20Overview.pdf) p.2)
EPORTFOLIO COMPETENCY RECOGNITION AND ACCREDITATION FRAMEWORK

Authors: Janet Strivens and Rob Ward (the Centre for Recording Achievement, UK); Lourdes Guàrdia; Marcelo Maina; Elena Barberà, Ivan Alsina, (Open University of Catalonia) and Birgit Wolf (Danube University Krems)

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Another specification, xAPI (previously named Tin Can, see http://tincanapi.com/learning-record-store/), an offspring of the SCORM community, aims at providing a learner-centric flexible framework to record learning events and outcomes where the learning environment, for example a LMS, generates statements that are recorded in a Learning Records Repository (LRS).

Figure 5: xAPI and LRS (de Waard 2014)

2.8.2 For the informal recognition of competencies, in addition to the possibilities provided by ePortfolios of storing direct evidence of artefacts, ‘crowd-sourced’
evaluation systems are evolving where individuals can display feedback on the services they have provided (such as http://www.ratedpeople.com/ in the UK). These systems still have some issues to resolve in terms of trust and confidence but they do perhaps demonstrate that formal certification may be less desirable in certain circumstances than testimonials and recommendations, together with images of products or (in such cases as digital photography) the direct evidence of the products themselves.

2.9 The formal recognition/accreditation of prior learning (RPL/APL/PLA)

2.9.1 ePortfolios can help to overcome existing limitations and maximise the potential use of APEL (Cameron 2011). In fact, the artefacts and technologies of ePortfolios could promote an authentic, experiential and evidence-based learning (for ex.: a student can provide greater context to their learning by linking sections of the portfolio to external materials, a reviewer can create rubrics, and so on.

2.9.2 Typical steps in an ePortfolio-based RPL process are:

- initial discussion with the candidate (which could be face-to-face, via telephone or online);
- identification of units of competency, qualification and national training packages that link to the candidate skills;
- candidate’s self-assessment (against criteria, rubrics or elements within competency statements);
- evidence identification and presentation (and evidence development and capture where gaps are identified);
- evidence validation.

As pointed by the UK-based Quality Assurance Agency (2004) two factors place considerable strain on the resources allocated to the actual recognition and accreditation processes. Firstly the manual system for Accreditation of Prior Experiential Learning (APEL) cannot easily be scaled up to meet any increase in demand. Secondly, much of the work required by APEL needs to be undertaken before the potential student makes a commitment to study and pays any fees.

Hoffmann et al. (2009) studied 34 PLA programs across higher education institutions in the United States and Canada and determined five critical factors for the success of the process:

- institutional philosophy statements and policies supporting PLA practices;
- institutional support, including financial, administrative and academic buy-in;
- PLA program parameters that set the structures for how credit is assessed and applied;
- professional development for assessors and content experts; and
- programme feedback and evaluation processes.
Perry (2008) and her associates present a Good Practice Model for the recognition of skills through an RPL process:

![Figure 6: Perry’s Good Practice Model](image)

2.10 Selecting tools, technologies and platforms

A frequently asked question to those thought to be familiar with ePortfolio technology is 'Which product should I choose?' Usually the only reasonable answer is, 'It depends...on what you want to do'. Having a clear idea of the purpose for using any tool or technology is a prerequisite for making an effective decision. Unsurprisingly, technology usually works best in relation to the context or problem for which it has been designed to provide a solution. Whereas it may well provide a service beyond that envisaged by its designers, this is sometimes at the expense of usability. A further problem with any recommendation of products is the speed at which the market changes, new products are developed and old ones disappear.

Two options here might be:
Starting with the tools: In terms of available tools, Baumgartner (2011) provided a list of twelve products which could be used to support recognition and accreditation. The list is based on a checklist which was set up in 5 main categories:

- Collecting, organising, selecting
- Reflecting, testing, verifying and planning
- Representing and publishing
- Administrating, implementing, adapting
- Usability

Starting with the purposes, and ensuring the tools chosen support such purposes: many authorities on ePortfolios favour this approach. JISC Infonet's Infokit on E-Portfolios (2008) is clear about this: ‘For successful implementation of e-portfolios, it is imperative to clearly identify the purpose of the e-portfolio and to embed this into practice’. Similarly Barrett states, ‘a portfolio is actually several different elements, depending on purpose and audience’ (2009 p.3). This may be illustrated further by the Higher Education, Employer and Employee Engagement through E-portfolios Project (‘HE5P’) in the UK (Ward and Strivens 2010), which sought to establish the relevance of e-portfolio technologies to the agenda seeking to involve higher education more closely with employers in workforce development. Project evidence identified three key ‘affordances’ that e-portfolio technologies could potentially provide to this context:

- linking and networking users (i.e. distributed peers, tutors and workplace mentors): this corresponds to 2.5. above, ‘communication and review’;
- holding, organising and linking digital items: and
- presenting artefacts to a range of audiences online: these correspond to 2.2. above ‘collection, organisation and presentation of evidence’.

Each of these ‘affordances’ serves different pedagogical purposes. The first serves communication (facilitating feedback, formative assessment and potentially offering learners alternative perspectives on their learning) and collaboration (facilitating teamwork, problem-solving and peer learning). The second serves reflection (facilitating the metacognitive process, higher levels of integration and application of learning) and recognition of achievement (facilitating enhanced confidence as learners, increasing the likelihood of lifelong learning). The third serves the purposes of assessment – particularly summative assessment - using diverse evidence and with the possibility of seeing the presentation at a distance; and facilitates transition/progression by using such presentations, or new presentations built from a re-selection of the material, as rich CVs.
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