

Introducing ECTS in III – an actual challenge

Georgeta CHIRLEŞAN, Dumitru CHIRLEŞAN
University of Piteşti, Târgu din Vale, no. 1, Piteşti – 110040, Romania

Abstract

The paper presents a methodology for introducing ECTS in Lifelong Learning which intends to draft a “program specification” which will be compatible with the needs and requirements of the following stakeholders: Users, especially those at risk of social exclusion; Social partners - employers and trades unions; Professional organizations, and other bodies involved in the *recognition* of learning; Universities and other higher education institutions; Providers of non-formal learning. The “program specification” identified *entry pathways* for the vocational area in terms of: *Previous certificated formal learning*, which should be a source of competence-based learning outcomes that can be used as criteria for APEL; *Typical occupations or practical activities* (whether paid or unpaid) which are likely to provide experiential competences that can be used as criteria for APEL; *Other forms of learning* especially in the fields of personal, social and civic and employment- related perspectives, including values.

I. Introduction

The result presented within this paper – a methodology for introducing ECTS in Lifelong Learning – was obtained in the framework of the SOCRATES/Grundtvig 1 pilot project titled “*European methodology for accreditation of prior experiential learning in Lifelong Learning [ECTS- LLL]*”. The project has been coordinated by the University of Piteşti and gathered a European transnational partnership composed by 16 institutions from 10 countries, as follows:

N	Organization	City	Country
1.	Universitatea din Piteşti	Piteşti	RO
2.	Katholieke Hogeschool Gent (KAHOG)	Gent	BE
3.	Katholieke Hogeschool Mechelen [KHM]	Mechelen	BE
4.	Universitaire Instelling Antwerpen	Antwerpen	BE
5.	Odense Tekniske Skole	Odense	DK
6.	Fachhochschule Osnabrück	Osnabrück	DE
7.	Kolleg für Management und Gestaltung nachhaltiger Entwicklung	Berlin	DE
8.	Universidad de Deusto	Bilbao	ES
9.	Ecole Supérieure de Commerce de Lille	Lille	FR
10.	Université de Lille 1	Lille	FR
11.	Università degli Studi di Catania	Catania	IT
12.	Università Degli Studi di Firenze	Firenze	IT
13.	Universidade de Aveiro	Aveiro	PT
14.	University of Strathclyde	Glasgow	UK
15.	Institut za povishavane kvalifikaciata na uchitelite “D-r P.”	Varna	BG
16.	Varnenski Svoboden Universitet “Chernorizets Hrabar”	Varna	BG

The methodology was developed for the recognition of skills and accreditation of prior experiential learning in order to meet the specified objectives and to contribute to the development of a European framework which builds on the achievements of Member States and especially the enhancement of employability through National Employment action plans.

This methodology intended to draft a “program specification” which to be compatible with the needs and requirements of the following stakeholders:

- Users, especially those at risk of social exclusion
- Social partners – employers and trades unions;
- Professional organizations, and other bodies involved in the *recognition* of learning;
- Universities and other higher education institutions;
- Providers of non-formal learning.

The “program specification” has identified *entry pathways* for the vocational area in terms of:

- *Previous certificated formal learning*, which should be a source of competence-based learning outcomes that can be used as criteria for APEL;
- *Typical occupations or practical activities* (whether paid or unpaid) which are likely to provide experiential competences that can be used as criteria for APEL;
- *Other forms of learning* especially in the fields of personal, social and civic and employment- related perspectives, including values.

In defining these pathways, we taken care to identify and describe *typical examples* of practice in the partner countries of the project, which form the case studies that provide scientific support for this methodology. Our work was related to 4 Vocational Areas, thus the partnership has created 4 Vocational Area Groups [VAGs]: Management of Schools, ICT, Law and Nursing. But the methodology is easy to be “cloned” and to be implemented to any other Vocational Area...

The case studies compiled for each Vocational Area are transnational. This means that the examples chosen have actual or potential relevance to all the countries concerned and draw on the work of the two *transverse strands* as well as their own students.

Each Vocational Area has *exit pathways* where students leave the education and training system and enter the professional labor market. These exit points are defined by professional qualifications and the requirements of national and (in the case of the “recognized professions”) European standards which, in some cases, relate to specific levels or titles of qualifications (such as Diploma, Degree, Bac+2). Typically these requirements include a level of professional competence that is common to all entrants.

The development uses the five general *Levels* of competence from the level at which entry to the first cycle occurs “the Access Level” to the Level at which the award of the Bachelor’s degree takes place. This process is based on the Scottish Qualifications Framework as discussed in paragraph 3 of the paper “Toward the European Credit Accumulation System for Lifelong Learning”. This framework provides the basis for a coherent framework of criteria for recognition.

The *Levels* of the learning outcomes developed by each VAG are related to the *volume* of the outcomes described in terms of the number of credits. As in the ECTS system, each credit is based on an estimate of the amount of time that an average learner would require to achieve the given outcomes. This is normally a range of 20-25 *notional* hours of learning time per credit with a year of study being represented by 60 credits.

Each VAG defines appropriate specialist criteria for the recognition of competence at least for the Access and final Bachelors degree levels [SCQF Levels 6 and 10] using characteristic general outcomes under the five broad areas:

- *Knowledge and understanding* – mainly subject based, but including appropriate professional values such as a client-centered focus, systematic approaches;
- *Practice* (applied knowledge and understanding), including such specifics as laboratory and other skills, as well as more general work-based competence, and shared learning experiences and principles of professional practice;
- *Generic cognitive skills such as: an understanding of methodologies, critical analysis, evaluation,*
- *Key or transverse skills* such as: communication, numeracy, the use of information technology and learning how to learn;
- *Autonomy, accountability and working with others*

II. Details

II.1. Conceptual Definitions

The term “standard” (“competencies”, “occupational”, “skills”, etc.)

The instruments describing in a standardized manner the content of an occupation have different denotations, as, for example: Skill Standards, Occupational Standards, Competency Standards, and certification referential, professional profiles. All these instruments are based on the same principle, defining the content and the requirements of an occupation.

Competency Standards represent the document indicating the map of competencies subscribed to an occupation and the map of performance levels validated through sets of evaluation exercises.

The Occupational Standard has the following structure:

1. unit title (major activity with, an assessed result);
2. unit description (detail and clarify the unit title aliened);
3. competency elements (key-activities forming the major activity described in the unit);
4. achievement criteria (quality marks associated to the result of the activities in the competency elements);
5. variables scale (the scale of the contexts and the conditions in which the activities described in the unit are developed);
6. guide for evaluation (gives general information regarding the proofs which are necessary to demonstrate the competencies of the unit as a whole: knowledge, habits and skills).

Competency Standards are of an “examination model” type (NVQ). These operate on five levels of performance according to preparation levels and complexity.

Each level has a descriptor in order to define different degrees of: responsibility, autonomy, team work, communication, using the ITC, knowledge and understanding, putting knowledge in practice, calculation habits, managerial skills, creative and operational solving of work tasks, adapting to a specific work environment to unforeseen situations.

Professional competencies are a functional and integrated ensemble of knowledge, habits, attitudes and skills which ensure the fulfillment of tasks in a professional field (occupation, profession), at a level of performance, in variable contexts, based on certain criteria/indicators (efficiency, output, safety, accuracy, etc.) listed in an occupational standard and validated through evaluation examinations.

Competencies Typologies

On the basis of content elements, which are defining for a competency, we can distinguish between:

- general/fundamental competencies;
- competencies specific to a professional (job, occupation, profession);
- trans-disciplinary competencies (transversal, polyvalent);
- *intellectual competencies;*
- *methodological competencies;*
- *personal and social competencies;*
- *communication competencies.*

The element of competency describes a key-operation, as part of a competency unit and its result.

Accomplishment criterion – represents the quality standard associated to the successful fulfillment of the operation described in the competency unit.

The evaluation method is the procedure through which we pick competency proofs.

The evaluation instrument represents the operation evaluation method and includes objectives of evaluation, expected result and the modality of appreciation of the final result.

Competency proofs are the results of using the evaluation instruments.

The evaluation of professional competencies obtained on other ways than the formal ones is the process of collecting proofs of competency and their judgment taking into consideration the occupational standard requirement, in order to establish if the evaluated person is “competent” or “is not competent” in the units of competencies for which he/she has been evaluated.

II.2. The Analysis of the Occupational Field

In defining occupational competencies the main purposes are: elaborating a set of minimal competences; the core-list of competencies (basic competencies); an extended list of competencies. The occupational analysis is made through the following steps:

- studying the position/work place form;
- direct observing at the work place of the activities developed;
- relishing individual interviews;
- identifying the main activities of occupation;
- identifying the major activities of occupation which represent units of competencies;
- identifying key-activities forming major activities and which will become element of the unit of competencies;
- identifying operations forming a key-activity;
- determining quality levels (performances) when these operations should be accomplished in conformity with job requirements, levels which will define the standard criteria of performances;
- establishing the variables scales of different contexts where we try competencies, as confronting situations.

II.3. The Competence Standard Structure

We shall present the way of establishing the short or extended list of competences (structure and content elements), with an illustration of the VAG-MOS.

a) The occupational standard for educational management

Standard level /qualification level is established in accordance with the following criteria: coordinated territorial area; number of persons in subordination; impact and responsibility of certain adopted decisions; level of capitalized credits and qualifications, as follows:

Level I = EMP (Educational Management of Preschooler Institution).

Level II = EMS (Educational Management of Secondary Schools – primary and secondary)

Level III = EMH (Educational Management of High schools, colleges and vocational schools).

Level IV = EMU (Educational Management of University Institutions).

Level V = EMT (Educational Management at a Territorial level).

Level VI = MEN (Manag. of Educational structures at a National level).¹

Basic structure of a standard of competencies is rendered below:

No	Competencies and Elements of competencies ²	Performance criteria (of realization)	Scale of variables and contexts in which competency is used	Evaluation modalities
I	C-I EC-I-1 EC-I-2 EC-I-3 etc. C-II EC-II-1 EC-II-2 EC-II-3 etc. C-III EC-III-1 EC-III-2 EC-III-3 etc. C-IV EC-IV-1 EC-IV-2 EC-IV-3 etc. C-N...	No. Of products realized in the time unit; Correctness of execution (no. of admissible errors) Output, efficiency, profit etc.	Execution of a work in conditions of workshop, building site, difficult conditions, exception conditions, etc.	Portfolios; Recommendations from other persons; Practical tests; Projects etc.
II	Etc.			

b) Short list of competencies and elements of competencies for the educational management

¹ For each level one should elaborate a distinct standard, which contains different competencies and responsibilities; credits obtained for one level are capitalized and ensure the passing to the superior levels obtained.

² C-I, C-II, C-III etc. = competencies; EC-I-1, 2, 3 = elements of competency subscribed to C-I etc.

- C-I = competency regarding prognosis, pacification and schedule;
- EC-I-1 = analysis of tendencies, choosing priorities and clearly establishing goals and organizational objectives (on a long term);
 - EC-I-2 = staging and pacification of activities (on a medium term);
 - EC-I-3 = programming the actions and judicious distribution of human resources and materials (on a short term);
- C-II = organizational competency and management of the human resources;
- EC-II-1 = establishing organizing structures (on the basis of regulations, norms, rules and school legislation) and ensuring the functionality (correlation of compartments, efficient coordination...)
- EC-II-2 = distribution and role articulation, establishing responsibilities and delegation of tasks;
- EC-II-3 = operative co-working with other factors (organizations) and representation of the team to exterior;
- C-III = competency regarding information and communication management;
- EC-III-1 = ensuring the optimal circuits for the circulation of the information;
- EC-III-2 = the justification through documentation of important decisions;
- EC-III-3 = ensuring into information systems (banks of data) for computational management;
- C-IV = competency to guide and control – ensuring feed-back in management;
- EC-IV-1 = evaluating organization staff on the basis of performance and success;
- EC-IV-2 = organizational improvement;
- EC-IV-3 = guiding and motivating the stuff in order to achieve common objectives;
- C-V = decisional competency;
- EC-V-1 = building the educational marketing at the level of the respective leadership area;
- EC-V-2 = adopting certain optimal variants of decision, through consultation of the responsible factors (organisms de leadership and decision organisms);
- EC-V-3 = establishing concrete measures to apply decisions and verify their correctness.

II. 4. Methodology to Allocate the Number of Credits, Related to the Specific Competences of a Job Standard

Within this methodology the following steps are taken:

- Acknowledgement of the way the credits are allotted for a specialty;
- Defining the competences and the unities of competency they belong to, according to the job standard in a certain field;
- To form the general and specific competencies on a hierarchical system, according to some criteria of relative importance of the competencies.
- Establishing value determination principles for the credits value.
- Achievement for a calculation system of the number of credits (matrices) that have to be allocated to a number of competencies.

Manner of allocating the credits for the university:

Stipulations	Value
Minimum credit for a matter	3
Minimum credit accumulated yearly	60
Minimum credit accumulated for a semester	30 +/- 5
Minimum credit accumulated for yearly practice	3
Credit for license work	10
Credit for diploma	20
Transferable credit	According to ECTS

Two indicators are very important in the methodology for credit allowance: the *physical time* and the *difference between various matters*.

Thus we have:

D.F. = fundamental disciplines D.T. = technical disciplines

D.S. = specialty disciplines D.E. = economical managerial disciplines

D.U. = humanist disciplines

Disciplines can also be differentiated as: D.C. = compulsory disciplines D.nc. = non compulsory disciplines; D.F. = facultative disciplines

- When **forming a hierarchy system for general and specific competencies**, according to some criteria of relative importance of the competences, they will accomplish:
 - *Basic criteria for competences hierarchy*: complexity, frequency for competency solicitation, autonomy while applying it, transfer of it to other contexts, the degree of responsibility involved, originality, creativity;
 - *A matrix for the competences*, according to some scores function of the above mentioned criteria, according to the following model:

II. 5. Methodology Framework - to Link Credits to Competencies

During a project meeting of the VAG “Nursing”, a methodology framework was designed to link credits to competencies which aims at incorporating some objective, quantitative measurement of a given competence.

Application to practice

To add rigor to the framework, four dimensions were introduced, namely;

- **Complexity** – of the skill or knowledge
- **Frequency** – the number of times that the individual may carry out a competency
- **Autonomy** – the degree of professional autonomy an individual applies via the demonstration of the competency
- **Transferability to other contexts** - the ability of the individual to adapt and apply the skill and/or knowledge in a range of other contexts

Scoring mechanism In order to be able to use quantitative data, a numerical scoring system was devised, that was meant to be simple and workable;

- Zero / not relevant = 0
- Medium = 2
- High = 3

Process

A score is attributed to *skill* and *knowledge* under the four headings/dimensions (see table below). It is recognized that there is an element of subjective, qualitative judgment in allocating the score, but that acknowledges the 'art' of nursing, whereas the numerical representation attempts to capture the 'science' of nursing. However an important factor to address is consistency of score attribution, and this can be enhanced by working up an element matrix (e.g. in some nursing measurement tools, e.g. Glasgow neurological assessment scale).

COMPETENCY X:

	Complexity	Frequency	Autonomy of	Transferability to other	To tal
Skill	0 – 1 – 2 – 3 3	0 – 1 – 2 –	0 – 1 – 2 – 3	0 – 1 – 2 – 3	0 ◇
Knowledge	0 – 1 – 2 – 3 3	0 – 1 – 2 –	0 – 1 – 2 – 3	0 – 1 – 2 – 3	0 ◇

Scoring Table "Linking credits to competencies"

The result of such a scoring exercise for an individual competency, would be a certain number which is either the summation [(1) + (2)] or the multiplication [(1) x (2)] of the summations of the results at the levels skill and knowledge. This result than represents the relative value of this competency.

If all competencies are scored in such a way, the final result is that there is a certain 'weight' attached to each competency. These weights can then be transferred into competencies.

Level of competency

It is envisaged that an element matrix could be devised for each competency at each level required, as all competencies can be developed to difference levels of achievement. This would mean that the scoring is not merely focused on "Competency X" but at "Competency X at level Y". We recognize that such an inter-subjective scoring exercise would be time-consuming, but we are convinced that this argument is outweighed by the advantages at the moment of further program- design.

III. Conclusions

The core of this paper is to try and achieve a kind of consensus in the ECTS-LLL project on the role of ECTS-credits in an APEL-procedure. Although the **Validation and/or Accreditation of Prior Experience, Learning and/or Experiential Learning (APEL)** is a process focused on the outcomes (in terms of competencies) of non-formal and informal learning, it should be clear that it is only possible to *accredit* these competencies in a formal educational setting. This means in short that **acquiring and recognizing** the competencies can be done outside (higher) education institutions, but **giving the credits** (and the amount of it) will be the autonomy of the (higher) education institution. The mechanism to facilitate this transition is then **to link credits to competencies** (rather than to course components). The Nursing VAG has developed and tested this methodology in the form of a matrix with two horizontal 'layers' and four vertical 'components' of competencies and a scoring mechanism. Although we certainly recognize the potential of this approach, this group at the same time **recommends** that further work be done on the tool in order to:

1. Test *rigor*
2. Further develop the element *matrix*
3. Develop matrix to capture different *levels* of competencies
4. Acknowledge the impact of differing world views on competency development, and subsequent allocation of credits.

In order to be successful overall, the whole process will need **efforts at two ends**:

1. The curricula within formal learning schemes (including but not only these in higher education) will need to become more flexible, competence- and credit-based (following the lines as set out by the TUNING-project) and
2. The APEL-procedures will need to tune into the results of these efforts in the field of educational development.

It will **not** be an **easy** process: it will take time to convince stakeholders in the informal and non-formal learning debate as well as the (higher) education institutions and other providers of formal learning. But the result will be clear: ECTS will then be ready to become a system for accumulation of credits and to play a role in lifelong learning.

If there would be any doubts about whether this is the right way forward, the following **call of the ministers** for higher

education in the Berlin-communiqué in which they urge “*Higher Education Institutions and all concerned to enhance the possibilities for lifelong learning at higher education level including the recognition of prior learning [and] emphasize that such action must be an integral part of higher education activity*” should make it clearer than ever.

References

- Commission of the European Communities (2001), *Communication from the Commission: Making a European Area of Lifelong Learning a reality*, Brussels, COM (2001) 687 final, 10; Scottish Credit and Qualifications Framework [SCQF], <http://www.scqf.org.uk/>; APEL methodology, <http://www.qaa.ac.uk/academicinfrastructure/apl/guidance.asp>
NVOs in UK, http://www.uknrp.org.uk/Pages/UK_Voc_Quals/National_Qualifications.asp
TUNING Project, “Tuning Educational Systems” <http://www.relint.deusto.es/TUNINGProject/index.htm>;
SEEC (2003), *Revised SEEC Code of Practice for the Assessment of Prior (Experiential) Learning* SEEC;
Merrifield, J., McIntyre, D., Osaigbovo, R. (2000), *Mapping APEL: Accreditation of Prior Experiential Learning in English Higher Education*, London, Learning from Experience Trust. SOCRATES/Gruntdvig 1 pilot project: “*ECTS in LLL*”.