

## 1. Introduction

This document presents three models for ECVET that operate from slightly different perspectives. The model A tries to incorporate all forms of learning activities (formal, non-formal, informal) and all elements belonging to a VET programme. The model B concentrates on formal learning and represents a lean and short-term ECVET-approach and model C concentrates on the calculation of the credit value within the formal VET system.

This paper is based on the papers and presentations of the three ECVET models made by Michel Aribaud (Model A), Peter Thiele (Model B) and Sten Petterson (Model C), taking into account the comments and questions of the TWG meeting (09/10 February 2004; teleconference on 29. March 2004) and of the chat sessions on models. Some of the elements might rely on my interpretation of the models proposed and are the results of consultation with the authors as well as the Kassel study. It is not a mere translation of the documents available.

First the models will be presented separately and in a second part with view of integrating them into a single ECVET model. This is to be considered in an exploratory perspective and a basis for the informal TWG workshop in April 2004.

## 2. Models

### 2.1. Model A

#### 2.1.1. Aims of the model

##### **The learners**

Model A starts from the perspective of mobile<sup>1</sup> learners. Taking into account the heterogeneity of learners' types, it can be set that they all find themselves on a lifelong learning pathway which contains various learning settings (schools, workplace, E-learning etc.) and learning forms (formal, informal, non-formal).

##### **Aims**

The model aims at the accumulation and transfer of learning results (*capitalisation des acquis des apprentissages*) within different mobility schemes. This model goes along with the modularisation (*modules de formation*) of the learning pathways.

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<sup>1</sup> Mobility is there meant in its full definition (horizontal and vertical).

### **2.1.2. Core elements**

The core elements of the model are units, modules and credits. A unit is embedded in a result-oriented perspective of the learning process which leads to outcomes or outputs; a module is oriented towards resources and management of the learning pathway (programmes, methods, duration) within a given organisation or process. Finally credits are set up in a perspective of transfer and accumulation, a quantitative depiction of learning pathways. They serve as communication instruments between different learning and education systems comparable with a currency establishing equivalences.

#### **Unit**

A unit is the smallest element of a VET programme and a coherent combination of competences and knowledge (resources) necessary for a professional activity. A unit and its components can be evaluated, recognised and if required certified. A unit can be specific to a qualification or professional profile or transversal (common to several qualifications or professional profiles). Blocs of units are a coherent ensemble of units that contains competences and knowledge necessary for a qualification, employment, function, profession, vocational profile, etc.

A unit has the following characteristics:

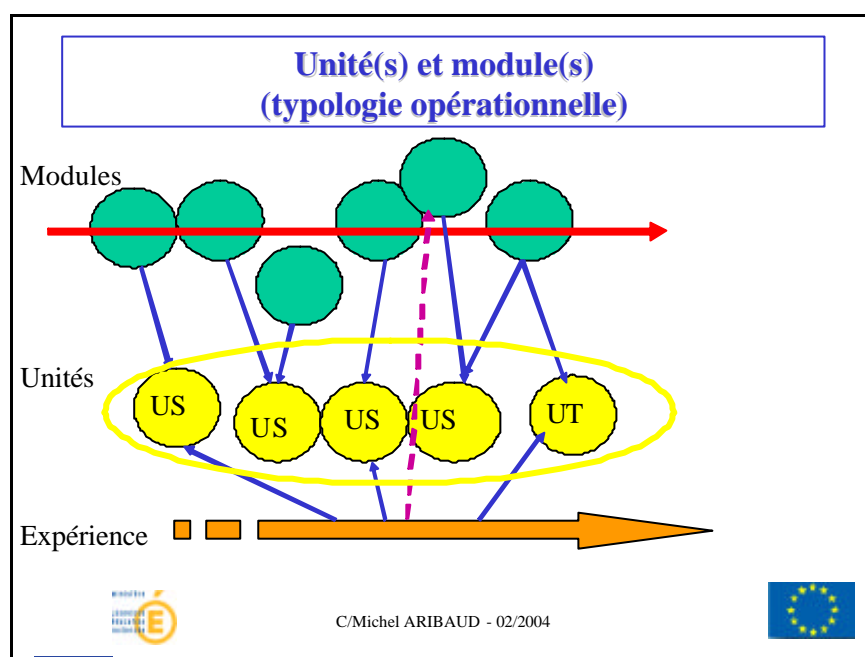
1. They indicate the “results of the education and training activities” specifying the objectives, contents, proficiency... for all national VET systems;
2. They are delivered at the end of an assessment/evaluation process of the learner;
3. They can be accumulated;
4. They are transparent and comparable;
5. They are transferable;
6. They can be recognised and taken into account to obtain a diploma or a certificate;
7. They are independent from the learning settings and methods;
8. They are compatible with national (NVQ in England, UC in France or Spain, etc.) and European systems (unités de professionnalisation durable).

### 2.1.3. Architecture

#### Units and modules

Units might belong to different modules, that is to say, to different learning pathways (management perspective). The results of the assessment of prior learning activities or of prior experiences can be assessed in terms of equivalence to units as shown in the following graph.

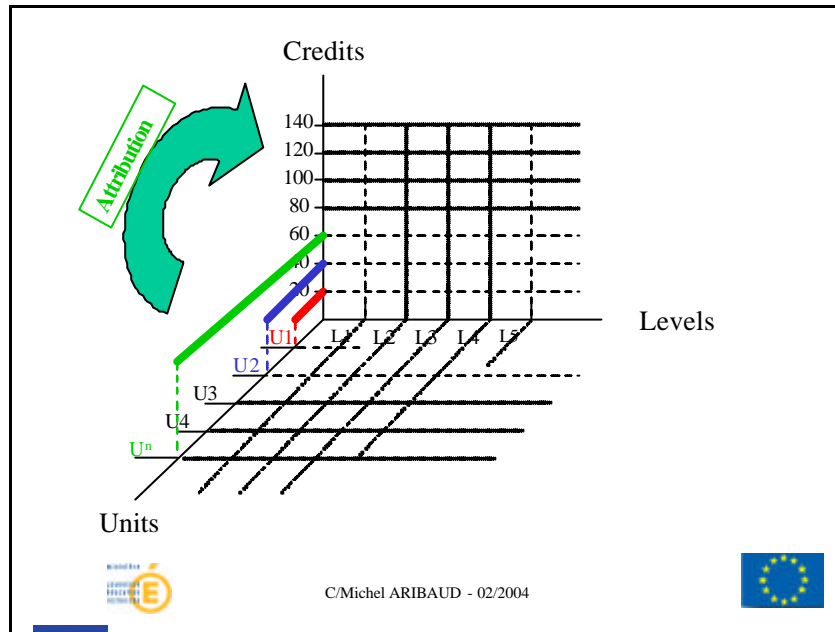
Graph 1: Units and modules



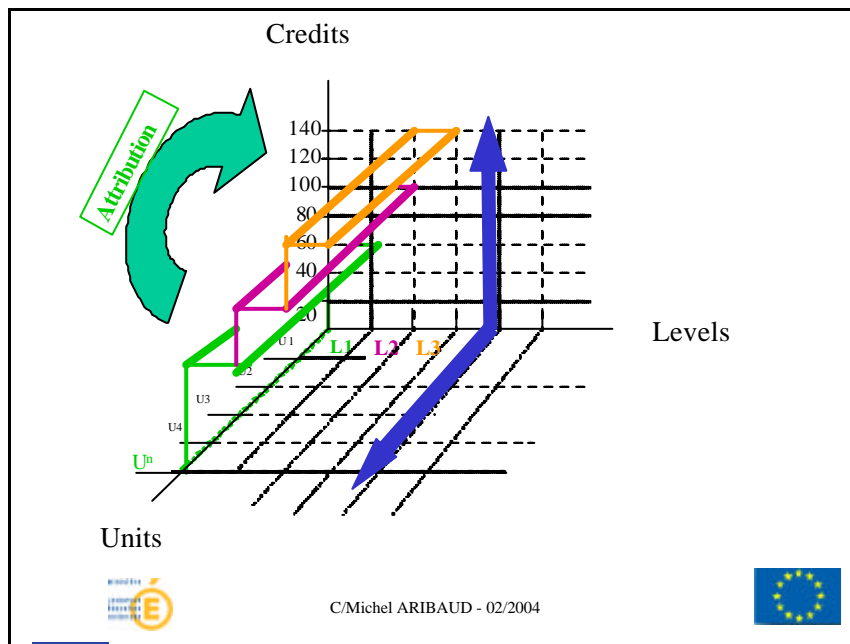
**The concept of attribution**

Units can be accumulated horizontally (within one level) and vertically (along the improvement of the professional proficiency across several levels up to the HE level). It happens through the attribution of credits to the units or blocs of units as presented in the following graphs.

Graph 2: Within one level



Graph 3: Accumulation across levels

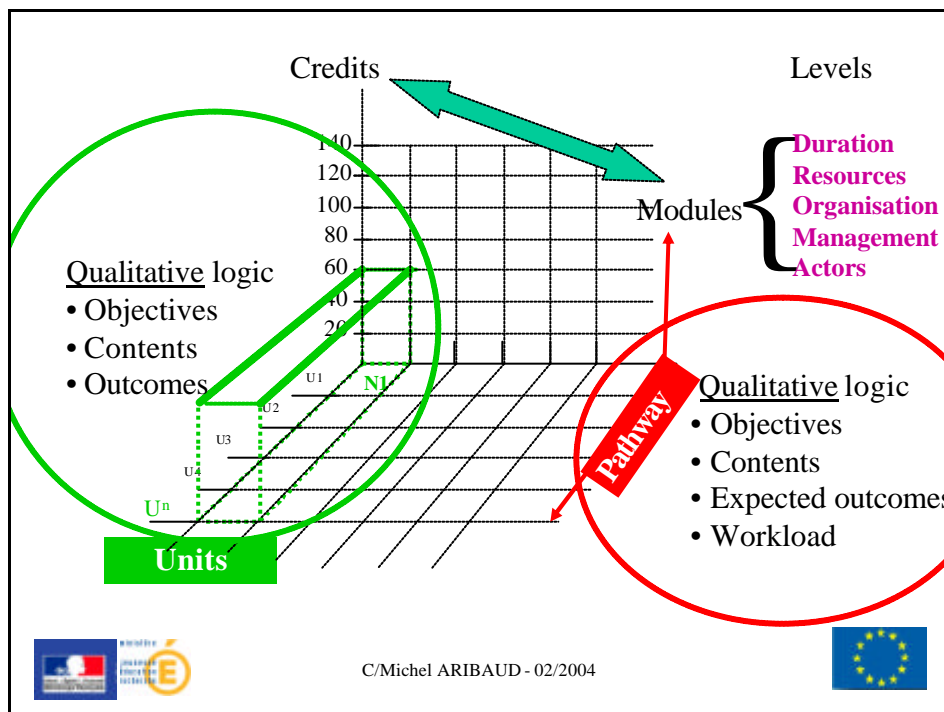


### Credit measurement

Units are considered in a qualitative perspective as they give information on the objectives, contents and assessment results of the individual learning activities. The quantitative approach in terms of duration can be approached by stipulating the resources engaged and the learning pathway to acquire the competences and knowledge contained in a unit. This information can be obtained by consulting the characteristics of the modules to which units belong.

Credits are building a link between units belonging to different VET programmes, between units and modules

Graph 4: Qualitative approaches



## 2.2. Model B

### 2.2.1 Aims of the model

The aim of this model is to allow and improve short-term mobility of initial VET students between formal national VET systems.

### **2.2.2 Core elements**

#### **Principles**

Model B rests on the principle of “bottom up” cooperation as the local actors involved (e.g. schools, firms, students) define the specific conditions by consensus. The local actors come to an agreement on the workload. It is conceived so as to be adapted to different VET systems without requiring harmonisation.

#### **Credit points**

Credit points are defined on the basis of workload and timescale, both resulting from conventions or agreements. The workload is linked to the learning package within a qualification. The timescale is expressed as “notional learning time”.

Both variables are combined and their values are established by the mobility partners. Partners are the school or the enterprise where the student usually learns (sending institution), the school or enterprise abroad (receiving institution) and the student.

#### **Reference framework**

Training courses are embedded in reference framework. At this stage of development, the model rests on the ISCED levels acknowledging that it should be “fine-tuned” and adapted to meet the specific requirements of a credit system in VET.

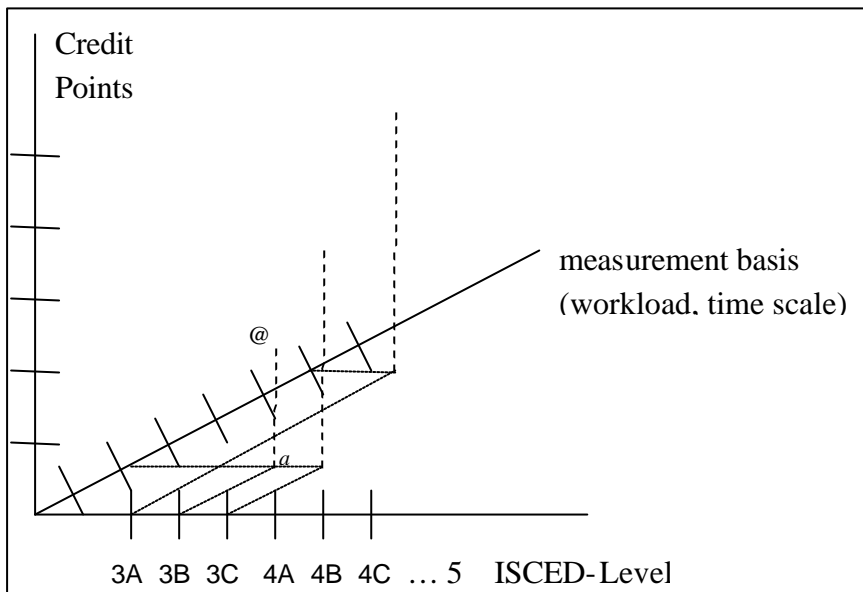
#### **Recognition**

At the end of the VET-students’ stay abroad successfully finished, the student gets a document that includes the sum of credit points. The utilization (e.g. recognition) depends on the national VET-system in the home country.

### **2.2.3 Architecture**

Within a short-term mobility at ISCED level 3B for instance, a given training course which equals two credits according to the sending institution settings (based on trilateral agreement on workload) is marked in the graph with the point “*a*”, might be rated at point “@” within the mobility agreement between sending and receiving institution.

For example the training course abroad is (centrally defined by the reference framework) on ISCED-level 3B, and the locally and workload trilateral imparted is two units (point *a*), the sum of credit points resulting is identified (by point @). In result, the sum of credit points depends positively on both the reference-level (given by ISCED) and the workload. The procedure is the same for different combinations of ISCED-levels and workloads



## 2.3. Model C

### 2.3.1 Aims of the model

The model is aimed for support individual international mobility between VET institutions.

Credit transfer system is a tool for comparisons of *how much* of something an individual is supposed to have learnt. It cannot be used in isolation, but has to be combined with tools for showing *what* and to *what extent (depth)* and individual has gone through when taken a training programme at a certain *level*.

### 2.3.2 Core elements

#### **Reference levels**

According to the Bologna process, there will be three levels for higher education. The levels are linked to exams and are: (1) basic (ground) level, (2) advanced level and (3) research level. All courses (parts, modules) should be classified by level. Courses at advanced level are characterised by deepening, broadening or other *progression* relative the ground level.

On this basis there could be for VET:

1. An initial level (ground or basic level) corresponding to training after compulsory school for (two) three years of study - ISCED  $\frac{3}{4}$ ;

2. A threshold level corresponding different kinds of training settings. Training at work place after a more general initial training making a person able to perform by him- herself or specific training ending up in a specific qualification. In both (all) cases the individual should be able to hold an occupation.
3. The third level – *advanced level* – are more advanced and comprise training that can differ in time and content, but are characterised by being more deep or more broad or more in some other respect in relation to the other two levels. The borderline to higher education could be blurred and a benchmark master level within handicrafts or management loaded work within a branch.

### **Documentation**

The model does not consider outcomes or contents of the training as constituents of the credit transfer system for VET. It is self-evident that the mobile individual will have to carry with him/her information on his/her field of training for training institutions abroad. There are documents as curricula, syllabus, course plans, diplomas.

### **Unit/module/course**

Programmes are made of units/modules/courses although those terms are used to describe one phenomenon: parts of programme covering something that can be distinguished from other parts and can be assessed and “certified” (given a mark).

Modules/units are located within the reference levels grid and are given credits based on the student workload. Modules/units correspond expected learning outcomes and competencies which can be divided in knowing and understanding, know how to act and know how to be or subject theory (knowing and understanding), subject-related work and experiences by practical training (know how to act) and transversal skills/basics (know how to be)<sup>2</sup>.

Characteristics of units:

1. They are parts of VET programme. Programmes can comprise different amounts of units.
2. They can be added to blocks of units and to a programme.
3. They can differ in length and consequently different units are given different credit points.
4. They have a minimum size. They should not be too small or too long. In Sweden the shortest unit (course) at upper secondary school is 50 points which corresponds to two weeks of study.

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<sup>2</sup> Arthur Schneeberger



### **Marks**

Marks give information on the quality of the individual learner performance. They are given for parts of the programme (units/modules). It is a qualitative dimension of a quantity.

### **Credit measurement**

Credits are linked to the notions of workload and notional time. The total duration should rely on conventions such as in the Bologna process where one year of full time study is 60 credits (points). If an academic year is 40 weeks (1600 working hours) one week of study is 1,5 ECTS.

Notional time is an estimation of the time needed by an average student to learn the part. Experienced teachers and experts can estimate this value. It gives a quantitative value to a part of a programme.

“Credits” is a school related term or term related to training (formal). You usually don’t get credits/points at work (an exception perhaps is if you have been a citizen of the former Soviet Republic). Validation of non-formal or former learning should use criteria going further than those used at school even if those may be a part of the set of criteria used.

### **2.3.3 Architecture**

Model C approaches the issue of credit transfer system from the viewpoint of the reference levels. A programme is embedded in a progression logic across different levels (from initial to advanced level) which are defined in terms of knowledge and competences.

Each programme contains units/modules. Each unit/module get a credit transfer value on the basis of credits allocated to the modules (qualitative approach) and on the basis of the marks/grades given to individual students (quantitative approach).

The grades are coefficients applied to credits. Given a grade scale from 1 to 4, the credits given to each module will be multiplied by the grades to obtain the credit transfer value of a module.

#### Example A

Programme A, initial level	Module 1	Module 2	Module 3	Module ...
Credits	10	7	5	...
Marks	2	3	1	...
Credit transfer value	20	21	5	...

### 3. Commonalities and pitfalls of the models

As mentioned by Sten Petterson and concluded on during the Dublin Conference, we have to link our reflections to the Bologna process. While writing this document it became obvious that we can combine the three approaches to get a comprehensive model. We also use most of the definitions set in the 2003 progress report.

**Model A** takes on the perspective of the **learner** and explains the way to set up equivalencies between different formal and non-formal VET national systems. It stipulates some requirements towards the **organisation of the VET programme syllabus** such as modularisation. As modularisation is already widespread in VET systems, it is not a matter of harmonisation but of transparency on the concepts of modularisation and as a consequence on the concept of unitisation. It seems furthermore convenient to use the terms of units and blocs of units as it is compatible with many national VET systems. In Sweden (for instance) the smallest dimension for units is 2 weeks.

**Model B** takes on the perspective of **formal VET institutions** and explains the way to come to an **agreement** on the measurement between stakeholders. It gives details on the measurement or on the valuation process that leads to credits. It underlines the notions of **workload** and **timescale**. Those variables are also embedded in a level framework (here the ISCED classification has been exemplarily used).

**Model C** is oriented towards **formal VET institutions**. It integrates the architecture of VET programmes with the **reference levels** perspective. It bridges the quantitative aspects relying on the credits with a qualitative aspect linked to the **proficiency** acquired by the learner in terms of merit. This reminds of the US “Grade-Point-Average” system. It gives to VET teachers an active role in defining the quantitative value of formal learning activities within a convention arrangement on the total duration in terms of credits.

The **measurement of credits** is somehow central to all models. They could bring some light in the black box<sup>3</sup>. If we sum up the ideas we have:

- In model A, we have credits attributed to units which are “carrying” information on the objectives, contents and assessment results of partial or full qualification programmes though we do not know how credits are calculated.
- The calculation is central to the both other models. Model B introduces two variables (workload and timescale) and recommends linking it to reference levels. The link to the learning outcomes in terms of skills, knowledge and/or competences

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<sup>3</sup> José Luis Molina <http://cedefop.communityzero.com/credittransfer?go=331743>

is not explicit. Model C goes further in the calculation details. It introduces the notion of “merit” of the individual learner as a qualitative variable.

It means we have an alternative: in models A and B credits are attributed to a VET programme and in model C credits are related to a VET programme and attributed to the learner via the definition of credit transfer value.

The three models are oriented towards the transfer of credits, the question is whether the suggested features or which supplementary features secure the **accumulation** of credits.

We can use **modules** and grades to give qualitative information (modules will then be defined as in the 2003 progress report, and give information on programme contents and management as in model A; grades will give information on an individual basis in terms of merit). Credits would carry quantitative information. In all models the question of linking credits to **reference levels** has been superficially addressed that might be due to the complexity of this specific issue. Reference levels give (among other things) information about the competence proficiency reached by a learner at a given level, about the formal timeline to reach a qualification (as in Model C).

Models B and C aim at the formal VET system, especially model C as it contains learning at schools and formal learning settings. The question of attributing credits to workplace learning is not solved. As underlined by Sten Petterson, validation of non-formal or former learning should use criteria going further than those used at school even if those may be a part of the set of criteria used. Introducing grades could also represent a possibility to ease the consideration of **non-formal and informal learning** which is a weakness of all three models. With such a system, a mobile VET learner might get credits for his/her learning activities and go for final examination which will ponder his/her credit account in view of lifelong learning.

Further details for the allocation of credits are to be discussed such as whether notional learning time fluctuate depending on the age of the learner (young or adult learner), whether we can draw a learning density curve that will ponder the credit value.

All three models agree on the flexible credit value for units depending on the national VET systems but on the need for unique translation system or comparability rules. All models agree further on the foremost role of VET providers and learners to determine the credit value of units.

#### **4. Further work**

##### **Workshop (TWG members, 06. April 2004))**

Aim of the workshop: Clear understandings of all models (including the model in the progress report) so as to come to a list of characteristics for the ECVET and eventually to a description of ECVET.

Preparation for the workshop: Formulate questions from the viewpoint of the national VET system and the European VET perspective to challenge each model and the synthesis of the three models (presented in this working paper, see also individual papers on the VC).

**Mai TWG meeting:**

Presentation of ECVET, scenario development with case studies.

Phase one of the case studies: definition of descriptors for case studies linked to various models of mobility a) within formal VET, b) for mobility across the informal/non-formal and the formal VET system)

**April-Mai 2004:**

Building of expert reference groups to work on scenarios and reflect on the applicability of ECVET schemes (VC members, TWG)