

**EURO-VALIDATION PROJECT
LEONARDO DA VINCI – TRANSNATIONAL NETWORKS**

**WP 4 – Comprehensive system of competences recognition and
accreditation**

Report

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1. Examples of valuation of individuals learning career

The Euro-validation project has so far resulted in, among other things, a number of reports describing the validation situation in the various countries participating in the project. (Euro-validation, 2006). The participants responsible for the national reports have chosen from this material good and interesting examples of validation of the individual's learning career. These national examples are presented below.

1.1. Finland – ALUKE – Specialists of Regional Development

of Telle Lemetyinen, Ruralia Institute, University of Helsinki

Regional development has encountered number of changes and its importance has increased constantly. This is partly because the effective and skilful development work is seen as a key feature in the success of the regions. ALUKE – Alueellisen kehittämisen asiantuntijat (in English: the Specialists of Regional Development) is a progressively developing forum, which aim is to develop expertise in regional development and networking. The main activity of ALUKE is the Specialist of Regional Development programme. The programme is for those who work with regional development or planning tasks. The aim of the programme is to increase the understanding as well on regional development as on the current phenomena of regional development and their back grounds. (ALUKE 2006a.)

ALUKE consist of five components. These components are (ALUKE 2006b).

1. Contents and development challenges of regional development
2. Regional development and politics
3. Social capital and development networks of regions
4. Regional strategies and strategic development
5. Regional competitiveness and future of development

Varied teaching methods are used in ALUKE, for example eLearning, lectures, discussions and group and individual works. The participants of the programme make a project connected to a strategy from their own area. (ALUKE 2006a.) Participants of ALUKE have done group projects on varied regional development issues, like (a) partnership economy between municipality and social company, (b) LAGs as mediator organisation in regional development, (c) internationalisation as a challenge for the LAGs and (d) vertical networking supporting the production of rural well-being services. (Rantanen et al 2006.)

ALUKE programme lasts for a academic year. At the moment it has been carried out once, the next ALUKE group will probably start during autumn 2007. In the first ALUKE there were 25 participants. The participants were selected for the programme based on their pervious education and/or working experience. (Rantanen 2006.)

It was not possible to get courses credited by previous education or working experience in ALUKE. However the previous knowledge of the participants were taken into account in the programme. For example the sub groups of the participants were formed based on previous skills. In the whole programme the previous knowledge were taken into account in form of networking and division of information. It was also possible for a participant to negotiate alternative ways to perform the courses. In the programme mentors were also involved. Their knowledge were also at the use of the participants. (Rantanen 2006.)

ALUKE does not lead to an official degree, but the persons carrying it out receive a diploma, which is a certificate of their self improvement. According to the development manager Manu Rantanen a participant of ALUKE has received crediting for ALUKE studies from the University of Kuopio. Mr. Rantanen summarised that in ALUKE it is possible to connect previous, hands-on experiences to theory. The programme offers participants possibilities to discuss and develop their own professional regional development issues with the experts, mentors and other participants. (Rantanen 2006.)

1.2. The Netherlands – The VPL-process in 10 steps

From van Beek and Schuur (2006).

<i>‘VPL in the organisation’</i>		<i>the VPL-process in</i>		
Phase	Step by step	What to do?	Why?	internal input
I. Commitment	1. awareness <i>what kind of organisation is this & do we want to invest in human capital?</i>	<ul style="list-style-type: none"> • Vision of “the glass is half full”: focusing on all kinds of learning • responsibilities of organisation • mission 	Creating a vision of organisation targets and opportunities	<ul style="list-style-type: none"> • Giving space to ‘future-watching’ on levels of management and work floor • Using social events of the organisation • Getting knowledge on formal, non-formal and informal learning, incl. summative and formative goals
	2. starting up & target <i>what are the aims of the organisation? & what are the needs of the organisation in relation to the aims?</i>	<ul style="list-style-type: none"> • Inventory • Swot-analysis Organisation Development Plan, incl. planning and budget	Making the vision concrete	<ul style="list-style-type: none"> • Description of context organisation, ambitions and opportunities • Identifying the leaders/pioneers
II. Recognition	3. preparation: determination organisation profile <i>how is the organisation going to determine the need for half-filled glasses?</i>	<ul style="list-style-type: none"> • Function profiles • Portfolio format 	Demand articulation individual level + instrumentation of one’s half-filled glass	<ul style="list-style-type: none"> • Making up your mind concerning ‘language’ • Description of function profiles • Competence catalogue • Setting the portfolio • Setting the budget (time and money) • Intake of candidates
	4. retrospective, connecting to the organisation profile <i>how to demonstrate the individual profile or the state of the art of one’s half-filled glass?</i>	Filling in portfolios by candidates	Working on the individual contribution to oneself and the organisation	<ul style="list-style-type: none"> • guidance of candidates • quick scan or self-assessment • formats for eligible proof/evidence • setting up a portfolio-databank, including access to a 2-yearly update (voucher) • examples and role models
III. Valuation	5. setting the standard <i>how to match individual profiles to organisation profiles?</i>	Choosing the assessment-method	Making a choice is part of the ‘made-to-measure’ approach	<ul style="list-style-type: none"> • setting the actual standard according to the goals • self-assessment • assessment-protocol • showing perspectives (summative/formative)
	6. valuation <i>valuating the half-filled glasses</i>	Assessment	Finding out personal abilities and ambitions, within the organisation context Setting formative goals	<ul style="list-style-type: none"> • organising assessment • internal assessment • filling in formative perspective(s)

	<p>7. validation</p> <p><i>validating the half-filled glasses</i></p>	<ul style="list-style-type: none"> • Certification (summative goals) • Personal advice on development 	Capitalising on personal abilities and ambitions	<ul style="list-style-type: none"> • organising summative perspectives & filling in internal summative goals • portfolio's taken up in portfolio-databank for 2-yearly update
<p>IV. Development</p>	<p>8. prospective: connecting the individual to the organisation's future</p> <p><i>How to make up a personal development plan (PDP)?</i></p>	Formulation of PDP	Organising 'learning/developing made-to-measure'	<ul style="list-style-type: none"> • matching PDP with Organisation Plan • proposal for financing PDP • contract with public/private services • guidance • information on individual rights & duties
	<p>9. working on PDP's</p> <p><i>individual action: developing/learning made to measure</i></p>	Learning/developing made to measure	People learn and develop	<ul style="list-style-type: none"> • making sure services offer 'made-to-measure' • individual guidance • quality-control by VPL-team • internal learning services
<p>V. Implementation / empowerment</p>	<p>10. structural implementation & empowerment</p> <p><i>How did it go?</i></p> <p><i>If ok, how to embed VPL structural in the organisation policy (training/personnel-policy)</i></p>	Evaluation of the pilot	Making a decision on structural embedding VPL	<ul style="list-style-type: none"> • evaluation form for candidates • VPL-team advises organisation on future use of VPL
		Embedding the results in HRM	Structural embedding VPL	<ul style="list-style-type: none"> • VPL embedded in HRM • Knowledge how to use (demand-steered) public/private services • Vouchers for 2-yearly update of portfolios • PDP replaces 'classical' personell-cycle • VPL also sets the norm for customer-oriented guidance

1.3. Norway – Good practice examples

From Nilsen (2005).

The Oslo anti drug organisation was awarded the Oslo Kommune training award in 2004. 21 workers without any previous relevant education took their diplomas at Oslo University. The training programme was developed in close co-operation with the employees and based on their previous experience and competence working with clients. The employees have become much more confident in their decisions- especially in difficult situations. A new group of employees are taking the same programme in 2005.

Employees at Jotun Paint producing Company in Sandefjord have received the VOX price or good practise in 2004. The paint factory have in a very convincing way put competence and training on the priority chart for the company. They are especially taking good care of senior workers who might look upon school and training as too much to handle. Special considerations are also taken for those with reading and writing difficulties. All training and certification is free, and in 2004 100 workers took their full skills certificate. The programme resulted in very low sick leave rate and very satisfied workers.

1.4. Romania – The Romanian System of Competences Validation

From CDIMM, Maramures Foundation, Baia Mare (2005).

In Romania, the validation of non-formal and informal learning is a voluntary process. Persons, who want to obtain a recognised competency certificate, must address a demand to an authorised evaluation centre on that competency and follow the validation procedure.

The validation of professional competencies acquired through non-formal and informal learning is obtained in professional competencies evaluation centres.

The National Council of Adults Professional Training (NCAPT) authorises and monitors the evaluation centres and certifies the evaluators of professional competencies and the internal and external verifiers.

The Romanian Government published a “Procedure for evaluation and certification of the professional competencies acquired through other ways than formal way” (O. nr. 4543/468, 23.08.2004).

The validation centres are authorised for occupations/qualifications for which the occupational standards exist. The authorisations are received for 1, 2 or 3 years, depending of performance level.

The evaluation process of professional competencies obtained through non-formal and informal learning:

- is voluntary
- is in rapport with the criteria previewed in the Occupational Standard
- is independent from the training process
- for each competency, the result is “competent” or “not yet competent”

The evaluation duration is established by evaluation centre, in relation with the occupation/qualification specificity and the complexity and can be no more than 30 days. The methodology of evaluation is established by each evaluation centre, but is mandatory to include and to combine written tests and practical skills testing.

The professional competencies certificate has national recognition and represents a study act.

The authorised evaluation centres are included in the National Register of the Certification and Evaluation Centres for the professional competencies, authorised by the NCAPT.

At the present day (April 2006), 17 evaluation Centres are registered, for the following sectors: telecommunications, banking, finance, social assistance, public alimentation, tourism, fire protection, information technology, project management, agriculture, construction, mail servicing, education, dancing.

1909 certificates have been issued until now (April 2006), which is representing a too low level of skills validation.

Transferable Credits in Tertiary Education in Romania

The Romanian Ministry of Education and Research adopted the European Credit Transfer System – ECTS by the Ministry Order 3617/ 16.03.2005.

The aim is to promote the transfer of study credits between the faculties in the same university, or between the Romanian universities, or the Romanian universities and the foreign universities.

This measure is applying both for the license cycle and the master cycle.

In an university year a student has to accumulate 60 credits – the year workload.

The number of credits for a teaching line is established according with the workload (the number of hours necessary for courses, seminars, laboratory , the individual study and research, etc.)

To promote the transferability of study credits between the faculties and the universities is necessary the harmonization credits system at the national level of tertiary education.

Every university elaborates an informational package for their students and for the potential partners, which must include the study plans for each study year with the mandatory, optional and facultative teaching lines.

The universities elaborate their own regulations for the credits transfer. The aim is to facilitate the individual pathways for the students and to encourage the student free option for the teaching lines necessary for a specialization and the complementary teaching lines.

1.5. Sweden – NYN

From Weidow (2005).

The Swedish Vocational Board of Agriculture and Gardening (NYN, 2006) is a cooperation that supports vocational education, life long learning/training and recruitment in agriculture and gardening. The following organisations are members of NYN: Federation of Swedish Farmers, Federation of Swedish Forestry and Agricultural Employers, Swedish Municipal Workers' Union, Association of Swedish Growers, Association of Forestry and Agricultural Employees and Swedish Association of Landscape Gardening.

Recent years have seen increasing difficulties in attracting qualified workers into agriculture, and career paths in the sector can be indistinct. These were problems for the sector. NYN stated, as representatives for the branch, that they were to take responsibility for these problems. Therefore, a few years ago, NYN started working towards the goal of creating a national model for vocational education in agriculture. A clear model with a validation-system was supposed to raise interest in working in the agricultural sector.

The recently created model consists of a number of modules, organised on three levels. So far, defined vocational competences have been formulated for two of these modules. It is important to point out that the demands of competences are formulated by the branch. Then there are different schools that have possibilities to deliver according to the demands.

NYN started validation this year (2005). Candidates can have knowledge from upper secondary school, or competences acquired through work experience. Once approved, the candidates receive a certification, the 'Green Card' (Valideringsdelegationen, 2004).

2. Background

2.1 Important documents

Several documents have been published within the European Union since the year 2000 that directly or indirectly concern the identification and validation of non-formal and informal learning.

One of the extensive early documents, from November 2001, is The Commission White Paper entitled "A new impetus for European Youth" (European Commission White Paper, 2001). The document signalled a new framework for European co-operation on youth affairs, and stressed the importance of non-formal learning and education.

"The Council Resolution on Lifelong Learning", from June 2002 invites the Member States to encourage co-operation and effective measures to validate learning outcomes. (Council of the European Union, 2004a)

Another document underlines the fact that the acknowledgement and validation of competences and qualifications is a prioritised task at European level. (European Trade Union Confederation, 2002)

A principal governing document is The Copenhagen Declaration of 2002. The document is the result of negotiations between European Union education ministers and the European Commission. It states that: 'the promotion of enhanced European co-operation in vocational education and training acknowledged that priority should be given to developing a set of common principles regarding validation of non-formal and informal learning with the aim of ensuring greater comparability between approaches in different countries and at different levels'. (The Copenhagen Declaration, 2002)

The Joint Interim Report of 2004 declares that the development of common principals can support national development in a useful way. Even where the common principals are not binding for member states, they provide support for change and development. The report

particularly emphasises the urgency in developing common European principals for the validation of non-formal and informal learning. (Council of the European Union, 2004b)

Strengthened by the Copenhagen Declaration, work has continued in many places to find common European principals for the identification and validation of non-formal and informal learning. In the long term, the identification of such principals satisfies a need that is present in teaching. It represents support for social integration and employment potential, and it supports the individual in the development of a positive attitude towards life-long learning.

It is probable that, by this time, a mixture of separate approaches to, and practical applications of validation have been developed in different places by the member states. This work has also given rise to a diverse array of implementers of validation. In addition to the traditional institutions involved in education and vocational training, various employment sector organisations also exist. The question of what forms the authorisation of validators should take may therefore become important in the future.

2.2 Common European principles

Common European principals are necessary to strengthen and guide the member states in their development work to find a system for the identification and validation of non-formal and informal learning. The principals must be of a high quality and trustworthy. Furthermore, it is necessary to ensure compatibility and to gain broad acceptance among the member countries. The following principals (Council of the European Union, 2004a) are directed at all those in member states and commissions who are engaged in the identification and validation of non-formal and informal learning. The desire is that they should be applied on a voluntary basis.

- *Individual entitlements*
The identification and validation of non-formal and informal learning should, in principle, be a voluntary matter for the individual. There should be equal access and equal and fair treatment for all individuals. The privacy and rights of the individual are to be respected.
- *Obligations of stakeholders*
Stakeholders, should establish, in accordance with their rights, responsibilities and competences, systems and approaches for the identification and validation of non-formal and informal learning. These should include appropriate quality assurance mechanisms. Stakeholders should provide guidance, counselling and information about these systems and approaches to individuals.
- *Confidence and trust*
The processes, procedures and criteria for the identification and validation of non-formal and informal learning must be fair, transparent and underpinned by quality assurance mechanism.
- *Credibility and legitimacy*
Systems and approaches for the identification and validation of non-formal and informal learning should respect the legitimate interests ensure the balanced participation of the relevant stakeholders.

3. Key competences for life-long learning

3.1. Competences for the future

Within the European Union, extensive work within education has been going on for a long time. There are several long-term reasons for this. One is that the world we live in is becoming increasingly globalised. Another important reason is social development that is causing a switch to a more knowledge-based economy. The movement of citizens between member states is increasing, and this creates a need to harmonise the educational structure between the Union's members.

With the starting point that people are Europe's most important asset for growth, insight has increased about the skills that will be needed in the future.

Until now, the skills that have usually been considered as basic are reading, writing and mathematics. The future will require many new skills. This applies to skills needed in the knowledge community and to computer and business skills. Many already have other skills, but these have not been as clearly defined as competences having a particular value. This includes social and communication skills for example.

The extensive work to develop documents relating to skills that is necessary in a knowledge-based society has been done within the work program Education 2010. As a result of this program, a European reference tool for key competences has been compiled. This work has established the central areas of competence that are necessary for personal development, social cohesion and employment potential in a knowledge-based society. (Commission of the European Communities, 2005).

Within the working program Education 2010, competence is defined as a combination of knowledge, skills and attitudes that are adapted to a given situation.

Key competences are those that promote personal development, social integration, active citizenship and employment.

3.2. Eight key competences

The eight key competences for life-long learning, compiled as a European reference framework (Commission of the European Communities, 2005) are as follows:

1. Communication in the native language
2. Communication in a foreign language
3. Mathematical ability and basic scientific and technical competence
4. Digital competence
5. 'learning to learn'
6. Interpersonal, intercultural, social and civic competence
7. Enterprise
8. Cultural expression

These eight key competences are defined as follows:

1. Communication in the native language

Definition:

Communication in the native language is the ability in speech and writing to express and interpret thoughts, feelings and facts (i.e. to listen, speak, read and write), as well as linguistic interaction of an appropriate form in a series of different social and cultural contexts-education, work, home and leisure.

2. Communication in a foreign language

Definition:

Communication in a foreign language includes almost the same abilities and skills as communication in the native language. It is grounded on the ability in speech and writing to understand, express and interpret thoughts, feelings and facts (i.e. to listen, speak, read and write) in a series of different social contexts- work, home and leisure and education- depending upon the individuals own needs and preferences. Communication in a foreign language also demands competence in eg. negotiating technique and inter-cultural understanding. At the level of the individual, the knowledge level always varies between the four aspects, between different languages, and depends on a person's background, environment, needs and interests.

3. Mathematical ability and basic scientific and technical competence

Definition:

- A. Mathematical ability is the capacity to, with the aid of the four operations and decimals, to solve a series of everyday problems through mental and written arithmetic. Stress is placed on both the process and the practical application, and on theoretical knowledge. Mathematical ability is the capacity and willingness to use mathematical thinking (logical and spatial thinking) to various extents, and mathematical tools (e.g. formulae, models, constructions and diagrams).
- B. Scientific ability is the capacity and willingness to use the scientific knowledge base and scientific methods to explain the natural world, with the aim of identifying questions and making scientifically-based conclusions. Technical competence is considered as the application of these abilities and methods with the aim of providing for people's needs and wishes. Both areas of competence involve knowledge of the changes that humans have given rise to, and of the responsibility of the individual citizen.

4. Digital competence

Definition:

Digital competence involves secure and critical use of the information society's technology in working life, leisure or for communication. It is built on basic IT skills i.e. use of computers to collect, interpret, store, produce, edit and exchange information, as well as to communicate and participate in collaborative networks via the Internet.

5. Learning to learn

Definition

Learning to learn is the ability to devote oneself to learning and to show perseverance in this respect. One should be able to organise one's own learning, through effective use of time and information, both individually and in a group. Competence in this area means that one is aware of one's own learning processes and needs, can find out what opportunities exist and can solve problems in a learning situation. It means that one can acquire and make use of new knowledge and skills and, where necessary, seek and follow guidance. 'Learning to learn' aims to make people build upon existing knowledge and life experience to use knowledge and skills in a series of different applied situations- home, at work and in education. Motivation and self-confidence have decisive importance for an individual's competence in this area.

6. Interpersonal, intercultural, social and civic competence

Definition:

This competence encompasses all forms of behaviour that help an individual take part in social and working life in an effective and constructive way and, where necessary, resolve

conflicts - especially bearing in mind that society is to an increasing extent characterised by diversity. Civic competence gives an individual the possibility to fully participate in society with good knowledge of social and political issues and structures, as well as a commitment to active and democratic participation.

7. Enterprise

Definition:

Enterprise is an individual's capacity to turn ideas into action. It involves creativity, innovation and risk taking, and the ability to plan and lead projects to achieve the proposed goals. This is a support for all in their everyday lives (both at work and home, as well as out in the community) and makes employees more aware of the context in which they work, and more likely to likely to make use of the opportunities that are offered. It is also a basis for more specific skills and knowledge that entrepreneurs need to establish a social or commercial activity.

8. Cultural expression

Definition:

A good grasp of the importance of creative expression as applies to ideas, experience and feelings in different media, music, literature and the visual and performing arts.

4. A flexible, modular accreditation system

4.1. Experience and guidelines

It is important to the individual to be valued for one's actual competence. For the short- or long-term unemployed, this can have a decisive importance for the chances of gaining employment, being reintegrated into the society that he or she has been partly excluded from, and gaining a new attitude towards lifelong learning. It is also important to society as a whole that people are valued according to their actual competence. This gives an opportunity for education providers to make a better individual adaptation to the educational measures that are needed. The measures will, in turn, be more effective for the individual and save on resources for society. Validation- the valuation of a person's actual competence- also offers society an opportunity to increase mobility in the employment market.

The interest in validation of actual competence and its associated activities has increased greatly, and this has been especially evident over the last ten years. Validation has begun to play an important role in many fields in Europe. Thus, a great deal of experience has been gathered.

As previously stated, the level of engagement in questions that affect education has been high in the European Union. One of the more important steps in the development of validation is the Union's establishment of eight key competences for life-long learning. These must be seen as an essential signpost for the road ahead.

An interesting next step would be to establish a common basic model. Such a model cannot be connected to any particular profession, but should be applicable to all validation activity. It should not be nationally limited in its basic form, but in its applied form should be suitable for individual professions, cultures and countries. A suggestion for such model is presented below.

4.2. Competence profile

The PRIM-group is a Research Group for Assessment of Knowledge and Competence (PRIM-gruppen, 2006). The PRIM-group was tasked by The Swedish National Agency for Education to develop national testing for high schools. The group consisted of representatives from the Stockholm Education Institute (Lärarhögskolan i Stockholm, 2006) and The Institute of Pedagogy at The University of Växjö (Växjö universitet, 2006). As a result of this work, the 'Competence Profile' was presented. The Swedish National Agency for Education retains copyright on this material (Skolverket, 2006a).

4.2.1. Ten overall competences

The basis of a competence profile consists of the following ten overall competences:

1. Competence to handle information
2. Competence to act verbally and in writing
3. Competence to perform tasks and solve practical problems
4. Competence to solve problems, plan and organise tasks
5. Competence to cooperate
6. Competence to use equipment
7. Quality awareness competence
8. Aesthetic behaviour competence
9. Ethical behaviour competence
10. Developmental inclination competence

4.2.2. Explanation of the meaning of each competence

A more detailed explanation of the meaning of each competence is given below. The contents of this section are a translation of text available online, on which The Swedish National Agency for Education retains copyright. (Skolverket, 2006b)

Competence to handle information

To be able to function in working life, and as a citizen, one must develop a capacity to handle information i.e. to seek, gather, analyse and organise different types of information. This may apply to information that exists in writing, as images, drawings, in nature or in interpersonal interaction. This has become a necessary area of competence, not least due to the development of information technology. To remain critical and be able to objectively evaluate information gathered is a necessary condition of this information handling.

Competence to act verbally and in writing

An increasingly important ability in our society is to be able to formulate and communicate ideas and information verbally, in writing or by other means. Communication competence also encompasses the ability to meet different kinds of people in specific situations.

Competence to perform tasks and solve practical problems

A competence that involves the ability to put plans into action, and to complete what has been planned. It also involves the ability to deal with problems that occur in the process in such a way that the task can be completed with good results.

Competence to solve problems, plan and organise tasks

The problems and tasks one faces in the real world are often complex and unstructured. The ability to plan and organise actions according to the problem can be described as a capacity to

analyse what the specific problem is, identify the resources needed to solve the problem, and judge whether the chosen solution is the best given the conditions. It also involves being able to draw up a plan for one's own work that is realistic in relation to the work's content and time frame.

Competence to cooperate

In an increasing number of fields, one must be able to work with others in groups or work teams. To be able to cooperate means that one can contribute to the group's work, and is willing and able to accept the thoughts and ideas of others. In order for a group or work team to function, its members must be prepared to take different roles within the group and work to develop the cooperation.

Competence to use equipment

Most fields are built on an interaction between people and equipment that is often technical in nature. The ability to use and operate relevant equipment is thus necessary for one to function in the workplace.

Quality awareness competence

To be quality aware is to be keen that both processes and products retain a high quality. High quality is a condition for continued commission, whether services or products are in question.

Aesthetic behaviour competence

Aesthetic aspects are becoming important in more and more fields. This includes everything from the aesthetic of actions to services or products that are supposed to be aesthetically pleasing for those they are aimed at.

Ethical behaviour competence

Every field of activity has its underlying ethical values that should be followed. To be competent therefore implies to be able to act with ethical awareness.

Developmental inclination competence

This implies a readiness to be able to contribute to improving one's own professional activities. The condition for this competence is a questioning and testing attitude toward a given task, goal or other working condition. It also implies a capacity for alternative thinking.

4.3. Application of competence profiles

4.3.1. Competence requirements in different professions

The ten listed competences that make up the competence profile can be used to clarify the needs of individual jobs and professions. The workplace can form its own competence demands for each profession, using the competence profile as a starting point. The application involves formulating exactly what the profession requires for each competence.

4.3.2. Quality of different professional competences

The competence profile can also be used to assess whether an individual has attained the different competences that a particular profession demands. This means that the teacher, or whoever carries out the validation, must make a judgement of to what degree the individual has achieved each of the competences required. The simplest form of assessment is, of course, to judge whether the individual has gained an acceptable level of competence for the

profession in question. It is also possible to apply a scale with several grades to each competence. In this way, an assessment matrix is developed.

4.4. Examples of competence requirements in a profession

For several professions, competence requirements have been prepared according to the competence profile model, examples of which are given below.

4.5. Service material on the Internet

A natural possibility is to openly report the competence requirements of particular professions using the competence profile as a model. The Internet is a means of doing this that is widely available to most people. For many of the high school professional programs in Sweden, validation tests have been developed and published on the Internet (Skolverket, 2006c). These tests are problem-oriented and are based on authentic situations in working life.

The tests also represent a service for teachers, who can use the material as a complement to the other assessments that are performed. For teachers, there are also prepared tutorials in certain cases that can be an aid to assessment, and these work as a support to the assessment of competence.

These tests also play a role in making the requirements of the branch or workplace clearer, and create equal conditions for the assessment of individuals.

4.6. Competence profile model – conclusion

It is possible to use this model internationally to formulate the national competence requirements that are to be applied for each profession. There are probably good conditions for many of these competence requirements to be very similar between different countries in the European Union. As an additional step, the fact that competence certificates are borderless has a good chance of increasing trans-national mobility. Once the competence requirements are formulated, they increase the chances of all validation activity increasing and being applied in a fair and equal way to all individuals regardless of nationality.

From the workplace's perspective, the benefit of the competence profile model will be to formulate the competence requirements for specific professions in a systematic way. Because the eight key competences are included in the basic design, it will also be possible to formulate the competence requirements that individual professions will need in the future.

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Appendix 1

Competence criteria for the profession of animal handler- pigs

The following comprise the competence criteria for the first five of the ten general competences

1. Handle information

It is an advantage to be able to receive and handle both verbal and written information. Where there is a supervisor/animal owner with overall responsibility, the animal handler need not have knowledge of different information sources or the critical ability to judge these. The animal handler however must be able to take instructions either verbally or in writing. It is important to remember that there are many skilled animal handlers who are unable to deal with written information. Those with dyslexia can function extremely well as animal handlers. People with foreign backgrounds who speak as yet limited Swedish can also succeed in our animal facilities. It is important that the received information be translated into actions.

Animal handlers must be able to keep journals, both on paper and on computer, and be able to read these. Certain journals must be kept according to the relevant laws. Journals are kept to retain control over what is happening, and they provide a basis for decision making and production control. Examples of what might be recorded in journals are: inseminations, length and appearance of rut, number of births etc.

2. Competence to act verbally and communicatively

A basic condition for achieving results in the workplace is an open climate in which everybody can communicate and listen to each other. In large facilities, it is necessary to have good relations between workers as well as among the employers. Often it is the animal handler that comes to the supervisor with good ideas. Social competence is thus important, especially when working in large facilities.

The ability to understand and express oneself in Swedish means that a great deal of misunderstanding can be avoided, and it is an advantage to know the Swedish union terms.

It is important for animal handlers to be aware of how they communicate with animals. A calm persona is needed, and an impetuous personality is best avoided. One can communicate with animals through body language, different tones of voice and words. This communication works best if the animal handler remains calm and collected. It is important to have good contact with the animals, so they may develop a trust in the animal handler.

3. Competence to solve problems, plan and organise tasks

In order to work with animals, one must be prepared to solve various problems and have the capacity to be a problem solver. Animals are biological organisms that do not show the same behaviour from day to day. Those working with animals must be ready to find new solutions, thus it is an advantage to have practical ability and good initiative.

Animal handlers must be flexible- what worked yesterday will perhaps not work today. The more one structures and organises one's work, the easier it becomes.

Those working with animals must feel a strong sense of responsibility. It is not always possible to go home at 5 pm. If a birth is taking place, one may have to stay until it is completed. It is important to follow the routines of the facility. Certain routines are to be made each day, such as inspection rounds, mucking out, providing fodder, milking, journal keeping, treating sick animals etc. Other routines may be done, for example, once per week,

such as checking equipment, adjusting fodder amounts etc. Others still may be done quite rarely, such as checking silos, pipes, fans and fodder and water quality.

In some facilities there are detailed work descriptions, but far from all have these. In many facilities however, there is an unwritten rule that such routines should be followed.

4. Competence to perform tasks and solve practical problems

An animal handler on a pig farm needs to be able to carry out the following tasks and to solve certain problems:

4 A. General care

It is important for an animal handler to independently perform all the tasks that make up the daily care of a pig farm i.e. take care of a facility with sows, piglets and meat animals.

The handler should:

- know the care routines for piglets and economic animals
- know the care routines for sows
- know the differences in care routines for pigs of different weights and ages
- know the care routines for birthing
- know various mucking out systems
- be able to keep a journal of events
- be able to mark and register pigs
- recognise and reduce accident risks
- know good practice for hygiene during visits, birthing, rutting, foddering and watering, mucking out and cleaning of other equipment and areas.

4 B. Animals

It is important to be able to assess animals growth and behaviour etc.

The handler should:

- recognise the animals' normal behaviour
- be able to detect if an animal deviates from normal behaviour
- know how to prepare for birthing, and the common problems that can occur
- recognise a sow's mothering characteristics
- know the different problems than can occur during weaning
- be able to detect if an animal deviates from its expected growth
- know how to judge flesh quality

4 C. Fertility

It is important to know the different measurements of fertility and their importance to achieving good productivity

The handler should:

- recognise heat/rut in boars and sows
- know suitable methods of servicing/insemination
- be able to judge the right time for servicing/insemination
- be able to recognise lack of pregnancy and fertility problems
- know the correct time for pregnancy testing

4 D. Birthing

The animal handler should know the usual course of events for birthing, be able to detect abnormalities, and to take measures to ensure good care of both sows and piglets.

The handler should:

- know the usual course of events in birthing, and be able to detect abnormalities

- be able to care for sows and piglets during birth
- recognise the importance of mother's milk, and know the time window in which piglets should have access to it
- be able to take suitable measures should complications arise
- be able to take suitable measures against birthing fever and retained afterbirth

4 E. Fodder

Animal handlers should know and recognise the most common fodder materials that may be present on a pig farm, and be familiar with appropriate fodder routines.

The handler should:

- know the appropriate fodder routines
- know the common technical aids for foddering
- know and be able to recognise the most common fodder materials
- know the relationship between nutrition and growth in pig production
- be able to make assessments of fodder conditions
- be able to assess different fodder components in respect to suitability and hygiene requirements
- know the measures to ensure good water availability and cleanliness

4 F. Technique

An animal handler should be informed about, and should be aware of, the following accident risks, and how to avoid serious injury

The handler should:

- know the correct techniques for lifting, cleaning etc.
- know the risks involved with moving animals and be able to move them safely
- know the risks of slippery surfaces
- know the risks of crushing injuries, especially involving gates
- know the risks of chemicals
- know the risks of handling fodder in silos
- know the risks of dust and mildew
- know the risks of ladders
- know the risks of high noise levels
- know the risks of handling liquid manure

4 G. Animal health care

An animal handler should know how to recognise and prevent the most common health problems, and have knowledge about handling, storage and administration of medicines.

The handler should:

- know how to prevent the most common diseases through practical measures
- know about infection and how to limit it
- know the regulations for handling of medicines and vaccines

5. Competence to cooperate

There are opportunities for people with limited capacities for cooperation to work as animal handlers. This is on the condition, however, that the person is responsible and can handle information. In some facilities, one may be the lone animal handler or stand-in handler, meaning one must work independently by the employers rules and routines, depending on one's experience. Lone handlers must be able to discuss and follow instructions, and take onboard information from their employers.

For animal handlers working in large facilities with many employees, the capacity to cooperate is very important for effective working. To cooperate means that one listens and is receptive to the knowledge and experience of others. If everybody shares their knowledge in a willing and engaging way, the whole work group can contribute to the success and development of the company. If this is not so, the opposite will result.

It is also important for the animal handler to cooperate with the animals. Verbal abuse, shouting and, most seriously, striking or beating are signs that cooperation has broken down on both sides. If the animal handler cannot cooperate with animals or other employees, the risks for accidents, injuries and stress-related illness all increase. This is especially apparent during birthing, sickness and movement and transport of animals.