



**VET4VN**

VOCATIONAL EDUCATION AND TRAINING FOR VETERINARY NURSES

**1** ECVET UNIT  
ECVET UNIT MANUAL

**2** WORK-BASED  
LEARNING MANUAL

**3** DISTANT LEARNING AND  
COACHING MANUAL



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ZONE.COLLEGE

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**DISCLAIMER:**

This document is not a scientific research. However, many sources have been consulted. Those sources are listed in the blue parts and called references, and in the appendixes given in the list sources. Sources are not specifically given regarding (international) APA rules.

Authors have done their best to refer to most used sources.

# WORK-BASED LEARNING MANUAL

## Abstract

In order to better prepare Veterinary Nurse students for their future jobs, Work-Based Learning is essential during their education. This Work-Based Learning must take place in a structured way, working towards pre-described learning outcomes, and assessment of competences, with a combination of knowledge, skills and personal, social and methodological abilities.

In this Work-Based Learning manual we define a common framework of learning outcomes, which educators can use to plan, monitor and evaluate students' progress during formal and non-formal Work-Based Learning.



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# 1 PROLOGUE VET4VN PROJECT

## Vocational Education and Training for Veterinary Nurse Students

It's being said that in politics, most ideas and decisions are made outside the boardroom. Why should it be different with teachers and their projects and creativity? We, the project partners of VET4VN, experienced the same. Where did we meet each other, and when did we decide to step into the boat to go for our KA2 Erasmus application called VET4VN?

We do have to thank the board of VETNNET for organizing the annual conferences, because the project partners' cooperation started at those conferences! Many, many years, teachers from our organizations visited the conferences. They met and got to know each other better every year. And then, during breakfast, or lunch, or dinner, or when walking in the beautiful gardens of one of the colleges, or during the boat tour at the river Cam, or during drinks afterwards, but to be precise IN Cambridge in 2017, we decided to make the first small steps that would later turn out into this KA2 project.

We do want to point out that creativity shows, and best ideas only arise, when teachers are out of their daily routine. And cooperation only starts, when people have the opportunity to get acquainted. The positive energy during the VETNNET conferences is so very supportive to that. And besides that, they contribute to show different cultures and educational systems. Altogether, that is a very strong basis for our successful project VET4VN!

We do hope that organizations will give lots of teachers the possibility to join the VETNNET conferences in future, to experience the same positivity as we did. And we wish the VETNNET board lots of success, and hopefully their conferences will be possible again every year from 2023 in Uppsala!

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*BIC Ljubljana:*

*Hansenberg Kolding:*

*Taitotalo Helsinki:*

*Terra MBO:*

*Zone College:*

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## About the project partners

VET4VN is the abbreviation of Vocational Education and training for Veterinary Nurses. In the project Vet4VN, six schools from four different European countries have worked together for three years.

These are the schools involved:

- Taitotalo (Helsinki, Finland),
- Hansenberg (Kolding, Denmark),
- BIC (Ljubljana, Slovenia),
- Aeres (Leeuwarden, The Netherlands),
- Terra MBO (Meppel/ Emmen/ Groningen, The Netherlands)
- Zone.college (Doetinchem/ Deventer/ Zwolle/ Almelo/ Hardenberg, The Netherlands)

All six partners educate veterinary nurses (VN) on EQF level 4. Despite the fact that these schools train their students towards the same European level of autonomy, responsibility and complexity, huge differences in the way students are educated exist.

The work field of the VN is changing at an incredible speed. Big changes are seen in technology, medications, ICT innovations, role of the clinics in human health, and customer behavior. The work field of veterinary nurses is becoming more and more internationally oriented. Large chains take hold of the work field. This change leads to the need for highly educated VNs in all countries, regardless of differences in educational systems. The schools participating in this project see the urgency to cooperate more internationally, in order to equip the students better for this trend.

The partners in VET4VN have a history of cooperation that goes back for years (starting 2010). Our mutual connection is VETNNET (Veterinary European Transnational Network for Nursing Education and Training). During meetings at international VETNNET conferences we got to know each other. In 2017 we took the next step: we decided to visit each other's schools to investigate how each partner was training their veterinary nurses. These visits back and forth, helped enormously in understanding each other's curriculum, student population, approach to education and examination and learning environment in and outside of the school. During those visits and meetings, we did not only investigate, but we also talked about what each school would like to improve and how we could benefit from each other. We built trust. We explored the ECVET system and decided that we wanted to move forward with working towards learning outcomes. We applied for a KA 2 project, which was granted to us by Erasmus. The project started in September 2020 and ends in August 2023.

## Project experiences

Three of the goals of Vet4VN are:

- students at all schools to be equipped with up-to-date and comparable knowledge and competencies
- increase employability of our students in a more international working environment
- to improve our education at level EQF4, to cope with higher demands of the work-field

Our project will have an impact on a broad variety of subjects. And in addition, with Vet4VN we are going to realize this impact on different levels. We aim for:

Short term impact -> accreditation and recognition of learning outcomes and curricula

Long term impact -> better employability, increased international awareness, and lifelong learning

In order to achieve these goals, we have worked on intellectual outputs and have performed pilots. In this project we worked on four intellectual outputs:



1. An ECVET unit/ unit of learning outcomes
2. An ECVET unit manual/ unit to develop and work with learning outcomes during exchange of students
3. A workbased learning manual
4. A distant learning and coaching manual

Those outputs are worked out by comparing educational systems, relevant literature, and experiences of student's activity pilots. The outputs are meant to be of great help to other educators. We ended up with three outputs instead of four. Output one and output two are combined. During the creation process the unit of learning outcomes turned out to be an essential element of the "ECVET" manual. It is now an appendix of this manual.

During the project the system of "ECVET" was discontinued. However: the system of working with learning outcomes is still an important way to cooperate internationally and agree upon what a person should be able to do when working in the veterinary sector. It is an important means to work around the enormous differences in education between the countries. ECVET used to make use of the terms knowledge, skills and competences.

**Reader tip:** when reading "ECVET", know that in all new documents made after this project the term "microcredentials" will be used. ECVET used to make use of the terms knowledge, skills and competences. The word "competence" will be replaced by "level of autonomy, responsibility and complexity". In the documents from this project the term "ECVET" and "competences" will be used, because when our project started those terms were in use and mentioned in the application.

The four intellectual outputs are linked to each other, as shown in figure 1.

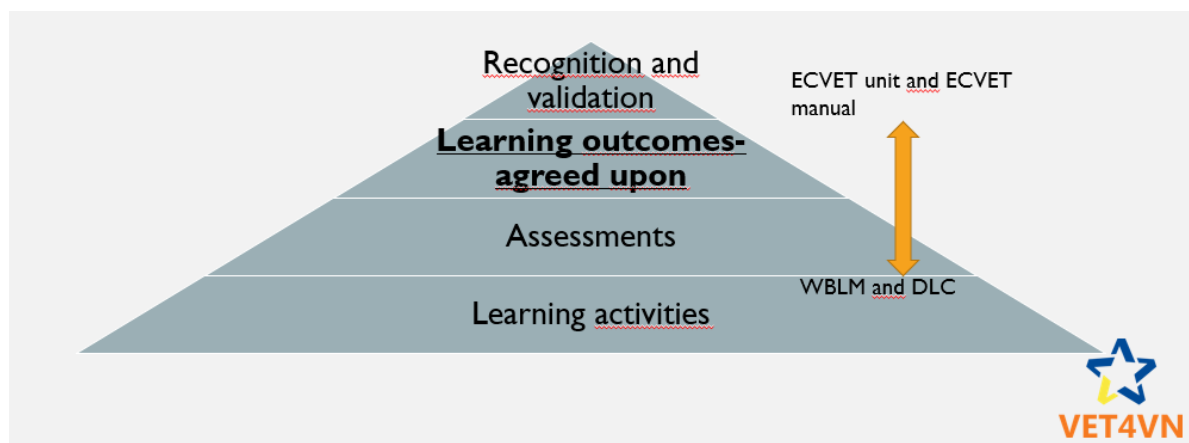


Fig.1. The connection between the four intellectual outputs and learning outcomes

In the center: a unit of learning outcomes. We agreed upon a set of learning outcomes on radiology. This output is called "ECVET unit"

Just below learning outcomes: assessments. In an assessment (parts of) a unit of learning outcomes is tested. Assessments should match with the learning outcomes and can be part of distant learning and coaching and work-based learning.

On top: the "ECVET manual". In this manual is described how to make use of a unit of learning outcomes when a student does (part of the) education abroad. By means of an assessment based on learning outcomes, one can recognize and validate the achieved learning outcome of a student who has been abroad.

The basis: learning activities. Despite a very different way of learning (for instance in another institution in another country), students can achieve the same learning outcomes. These learning activities can take place in a work-based environment. This is called work-based learning and we have developed a manual for this (WBLM). These learning activities also can take place from a distance,

where the student is not in the same (class)room as the teacher/ guide. This is called distant learning and coaching (DLC).

During the project we have had three pilots with students in which we have experimented with international work-based learning, distant learning and coaching and working with learning outcomes. In the first pilot we prepared an exchange; five students from each school went to Hansenberg in Denmark. During the exchange they had practical lessons on radiology, they made a theoretical assessment and performed a practical assessment. Prior to the exchange we built a distant learning/coaching unit (DLCU). We used the platform “Moodle” for this. Details on this DLCU are elaborated in the DLC manual. So, in the first pilot distant learning and coaching was part of/ a preparation to a live exchange. In the exchange we experienced with work-based learning in an international group and with an international assessment. This pilot was a so-called Learning-teaching-training activity (LTTA).

In the second pilot we decided to focus more on DLC. In this pilot we also organized a student exchange. Five students from each school went to Taitotalo in Finland. During the exchange they had theoretical lessons on radiology, they made an instruction video on positioning with peer teaching. They also performed a livestream to students abroad about this positioning. Prior to the exchange we used the same Moodle platform as in Denmark, but now it was obligatory instead of voluntary. This pilot was a so-called Learning-teaching-training activity (LTTA).

The third pilot on DLC actually was not planned in the original application, but was a spinoff of the second pilot. It turned out that the lessons, peer teaching and performing a live stream in Finland was successful, and that triggered us to try out more DLC. In Finland we had mainly experienced with online learning, but less with online guiding. During the third pilot there was no exchange of students and teachers. One teacher in Finland made connection with one teacher and three students in the Netherlands. All were in a room where normally practical instruction lessons are held. The teacher in Finland gave the instruction; the students in the Netherlands practiced; both the Dutch teacher and the Finnish teacher assisted the students.

All pilots were thoroughly evaluated. This was done by teachers observations and evaluations (Padlet) and student evaluations (google forms).

The whole planning and description of all activities can be found in the original KA2 (key action 2) application for the project.

## List of abbreviations

DLC – Distance Learning and Coaching

DLCU – Distance Learning and Coaching Unit

ECVET - European Credit system for Vocational Education and Training

ELO – Electronic Learning Environment (Dutch; Elektronische LeerOmgeving)

EQF - European Qualifications Framework for Lifelong learning

GDPR - General Data Protection Regulation

IT - Information technology

ICT- information and communications technology

LTTA – learning – teaching- training activities

OSCE – objective structured clinical examination

PEPAS – pan european practical assessment system

RCVS – Royal College of Veterinary Surgeons

VN – Veterinary Technician

VET – Vocational Education and Training

Vet4VN – Vocational Education and Training for Veterinary Nurses

VETNNET- veterinary European transnational network for nursing education and training

## 2 INTRODUCTION

**In order to better prepare Veterinary Nurse students for their future jobs, part of their education should take place in a combination of veterinary practices, school, and in a formal and informal setting. This Work-Based Learning must, in each situation, take place in a structured way, working towards pre-described learning outcomes. In this Work-Based Learning manual we define a common framework of learning outcomes which educators can use to plan, monitor and evaluate students' progress. The common framework will also help partners to guide students who are doing their internships abroad.**

During the project, VET4VN worked with a Work-Based Learning pilot in an international setting. Basically, Work-Based Learning (WBL), is an educational strategy which provides students with real-life experiences. WBL bridges the gap between learning and doing. When starting the project, the assumption was that veterinary nurses would only be able to experience WBL at a veterinary clinic. However, during the VET4VN project we noticed that WBL can include gaining practical experience both in a formal way and informal way, inside or outside school, or in any combination of these parameters. That is why we have extended the original research set-up.

In this manual we therefore not only discuss aids for Work-Based Learning at a veterinary clinic, but we also give practical information about learning in an international setting, formal and non-formal learning, and soft skills. This manual also contains a description of the pilot, the organisation of the pilot, and findings and conclusions. Finally, it gives most important recommendations for the organisation of Work-Based Learning in general, in and outside the veterinary clinic, and the monitoring and validation of useful student activities.

It is particularly important that veterinary nurses are trained and competent in the tasks they perform. Veterinary nurses are qualified professionals who assist a veterinarian in the performance of their duties or carry out animal health procedures autonomously as part of a veterinary care system. A veterinary nurse should be competent to practise veterinary nursing on their own or under direction from a veterinarian, depending on the legislation. Their activities can affect the health of animals, and they are legally responsible for their actions. European countries have various systems of veterinary nursing education. The level of education differs from the European Qualification Framework (EQF) level 3 to university EQF level 6. The project partners of VET4VN all offer education for veterinary nurses at EQF level 4. The organization of Work-Based Learning in educational systems throughout Europe differs extensively. Whether students are employed by a veterinary clinic, or are on short placements arranged through their school, a clinical coach is involved in educating them, and supervising and assessing their progress.

Despite all differences in educational systems and levels, the basics of education for veterinary nurses are similar. The education is always a mixture of knowledge and skills. Furthermore, the professional attitude the students acquire completes the profile of the competent veterinary nurse who reaches the European competence level for veterinary nurses.

During our project the ECVET system was discontinued. However, the system of working with and towards learning outcomes has proven to be a successful way to cooperate internationally. And this will still be supported by Erasmus. ECVET used to make use of the terms knowledge, skills and competences. Also, when talking about learning outcomes, the word "competence" is changed into "level of autonomy, responsibility and complexity"

In this manual, we describe the basic elements of Work-Based Learning in veterinary nursing education, compare different systems, identify strengths and weaknesses, and give recommendations for Work-Based Learning that helps educate competent veterinary nurses.

In this manual, we use terminology and vocabulary as defined in the appendix.

## 3 ABOUT WORK-BASED LEARNING

Work-Based Learning, is an educational strategy which provides students with real-life experiences. WBL bridges the gap between learning and doing. The assumption of WBL for veterinary nurses is often that the nurses can only experience WBL at a veterinary clinic. However, during the VET4VN project we noticed that WBL can include gaining practical experience both in a formal way and informal way, inside or outside school, or in any combination of these parameters. Authentic work experience can be acquired in different ways. Student monitoring, however, is necessary in all situations

### Experience

In European educational systems, a broad definition of WBL exists. Work-Based Learning includes various strategies, such as: apprenticeship or internship or mentorship, job shadowing, field trips, entrepreneurial experience, school-based enterprise, and service learning. Whatever WBL strategy is used, the main objective is that WBL provides the student with an authentic work experience which asks participation and provides feedback for the develop of a professional identity.

Authentic work experience can be gained whenever the student performs a task that in a real life setting, for example at a veterinary clinic or somewhere similar. However, work experience can also be gained through simulated situations, for instance, through role playing or performing tasks in science classrooms.

An authentic work experience can be acquired in any formal way, during school classes or at the veterinary clinic. However, it is also possible to gain authentic work experience in an informal way, for example experience in communication skills, gained during any work outside school or the veterinary clinic.

However, as mentioned before, an important part for the educational system is accompanying and coaching of the students during the WBL. The students' progress needs to be carefully monitored and appropriate feedback should be provided that students can improve their skills. Only by monitoring the students' progress, all experiences, formal/ informal/ inside school/outside school, the student will be aware of their own experiences. The student has to be aware of the own progress and has to be able to reflect on their own progress.

### Evaluation

When we started the project, we did not have a clear and complete understanding about what Work-Based Learning exactly was. In our discussions about Work-Based Learning, we had to go through all different meanings and definitions to discover which would work best for our project. Finally we agreed upon the definition for our projectgroup: gaining practical experiences in a formal way, an informal way, inside school or outside school, or in any combination of these parameters.

An authentic work experience can be reached in those different ways. Student monitoring, however, is necessary in all situations.

## References

- Appendix 1
- Work-Based Learning, [https://en.wikipedia.org/w/index.php?title=Work based\\_learning&oldid=983674363](https://en.wikipedia.org/w/index.php?title=Work_based_learning&oldid=983674363) (last visited Oct. 21, 2020)
- Work-related teaching and learning, a guide for teachers and practitioners. Edited by P.Huddleston and J. Stanley.
- BSAVA Manual of Practical Veterinary Nursing, Mullineaux, E.; Jones, M.

## 4 EUROPEAN COMPETENCES FOR THE VETERINARY NURSE EQF 4

When putting together the manual for Work-Based Learning, the first question was: what learning outcomes have to be monitored? To answer this question, we had to look into the list of European competences for the veterinary nurse, and the various competences the project partners use in their educational systems. European competences for the veterinary nurse are listed and used by the Committee on Veterinary Technician Education and Activities (CVTEA), the Accreditation Committee for Veterinary Nurse Education (Acovene) and the Veterinary European Clinical Training and Assessment Record (Vectar). The Dutch schools have to use the national competence agreements, in Denmark the competences are described in the legislative order and in the educational curriculum from the ministry of education, and Slovenia do not have any national competence regulation. In Finland, the Board of Education defines the basis of professional qualifications for various fields, which all schools must follow in their teaching.

### Experience

At first, we did not know what the learning outcomes for students, performing their Work-Based Learning, should be. We decided to investigate this first. We decided to read the Vectar, the list of European competences, and the Acovene list of competences for veterinary nurses, and to compare our school systems. We looked for a suitable subject that all schools teach or could teach their students.

A basic level of competences will facilitate the movement of students across the EU member states and it will create the possibility to enter training in other countries. When employers know what level the students have reached and what competences they possess, the position of the veterinary nurse will improve in Europe. That is why agreements and transparency about competences are main issues.

That is why we had to investigate the definition of a European competence at the start of organising the pilot. A competence is a cluster of related skills, knowledge and attitudes that enables an individual to carry out their duties in a range of situations and/or contexts. Competence is related to a given level of responsibility, autonomy and complexity in a range from inexperienced beginner to expert, and experienced, practitioner.

It must be clearly understood that a student can only fully master competences for Veterinary Nurse (VN) with sufficient underlying knowledge and skills in the fields of:

- Biology
- Veterinary anatomy and physiology
- Animal reproduction
- Veterinary pathology
- Animal behaviour
- Taking care of healthy animals (feeding, animal care, animal handling, animal husbandry, housing, hygiene, knowledge of the sector, knowledge of species and breeds)
- General social skills

Comparing the educational systems of the four countries gave a variety of listed competences in their educational systems.

Differences were seen at subjects of:

- Dentistry
- Pharmacy management

Similarities were seen at the subjects of:

- Radiology
- Communication

Eurosyllabus:

The Eurosyllabus contains the basic skill requirements for veterinary nurse training within the European Community. The purpose of the syllabus is to describe the basic level for veterinary nurse training which should be the same throughout Europe.

This syllabus consists of 13 modules. The format of the syllabus is modular following the Scotvec model. This format is a model for modular descriptions in some European countries.

The Dutch national system:

The Dutch modular descriptions have the same content as the Eurosyllabus, but have a different format.

Vectar:

The Vectar system trains thirteen different skills which are described in detail. Students have to demonstrate the skills in accordance with the description and in a given time. Vectar evaluates the candidates' performance.

Acovene:

The Acovene dossier contains the professional competences that a Veterinary Nurse needs to have to function adequately at a veterinary clinic in Europe. All the European competences should be covered for the main animal species. The Acovene dossier is divided into 13 basic European competences.

## Evaluation

After comparing the different systems mentioned, the project partners decided to start the WBL pilot with the subject radiology. The competences asked for radiology were similar at the educational systems of the project partners, and well described in the different European competence systems. The learning outcomes wanted for the students were quite transparent and clear.

The general conclusion is that monitoring the VN student is most efficiently done by using clearly defined learning outcomes for different subjects. In order to make a proper list for monitoring, a combination of the Eurosyllabus for general competences and the Vectar for specific skills can be very useful.



## Links

- <https://kwalificatie-mijn.s-bb.nl/>
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- Vectar online coaching workbook, VECTAR 2011, Royal College of Veterinary Surgeons; 1, 18.
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- Hansenberg internal document for Traineeship Report and Certificate for Trainees with Traineeship Abroad / Final Approval of Traineeship Abroad
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- The British Medical Journal Vol. 1, No. 5955 (Feb. 22, 1975), pp. 447-451 (5 pages) tasks for the Veterinary assistant , Sonsthagen, T.F..
- <https://www.avma.org/education/accreditation/programs/cvtea-accreditation-policies-and-procedures-appendix-i> [acc. Dec 2<sup>nd</sup> 2020].
- 1997, VETNNET, EURO SYLLABUS, European basic training in veterinary nursing
- Royal College of Veterinary Surgeons Veterinary Nursing Department (ACOVENE)

## 5 NON-FORMAL AND INFORMAL LEARNING

Formal learning in WBL takes place in practice that is supervised by a mentor or supervisor. Informal Work-Based Learning, on the other hand, consists of implicit, unintended, occasional and unstructured learning, in the absence of a teacher. What do we mean by non-formal or informal learning? In the context used in this manual, informal or non-formal learning is learning outside, and independent of, an institute or a veterinary clinic. If non-formal and informal learning outside the veterinary clinic also can be done in a structured way, it can be valuable.

### Experience

During Work-Based Learning, more competences are developed than only the technical ones. It is important to gain information how to identify these competences, and to know how to monitor and validate them. So, when organising WBL, a monitoring and validation system should also be developed for informal and non-formal learning.

What is the benefit for students if the institute validates their informal and non-formal learning? The students will recognize appreciation of their input. In the long run, this will encourage them to take more responsibility for their own learning process. It will stimulate them to think out of the box, to innovate, and to try new pathways. It will make the students more pro-active.

What does your institute gain when validating your students' informal and non-formal learning? Validation of these forms of learning will lead to improved communication between all participants involved. It will lead to more diversity and a broader scope of competences of both students and teachers. Because competences can also be validated outside the veterinary clinic, it creates more ways to perform an internship or Work-Based Learning. In addition, because of the relatively small number of veterinary clinics, it will give opportunities for students to do internships and work on Work-Based Learnings outside the institutes, and nevertheless work at the defined learning outcomes.

### Evaluation

During the WBL pilot we included several elements of non-formal/ informal learning. After questioning the students, we found that these elements contribute to the students' self-confidence and are useful for improving communication and teamwork. If non-formal/ informal learning can be monitored and validated, it can be a very useful addition to learning experiences at a veterinary clinic and contribute to reaching the defined learning outcomes.

### Links

- <https://www.cedefop.europa.eu/en/publications-and-resources/publications/4153>
- Val Wass, Cees van der Vleuten: The long case. Medical Education 2004; 38: 1176–1180
- Gominda G Ponnamparuma, Indika M Karunathilake, Sean McAleer Margery H Davis. The long case and its modifications: a literature review. Blackwell Publishing Ltd 2009. MEDICAL EDUCATION 2009; 43: 936–941
- Appendix 4: Informal and non-formal learning

## 6 SOFT SKILLS

Soft skills include character, personal attitude, and abilities that help to communicate and work with others. Some soft skills are an intrinsic part of an individual, and some soft skills have to be learned. In each learning process, it is important to identify the soft skills that are already present and the soft skills that are necessary for the work environment. Comparison of the soft skills needed and the soft skills present, will show the direction for the student's development.

### Experience

Not all countries have a standard of soft skill competences for the veterinary nurses. Some countries however do have standards in which technical skills as well as soft skills are stated. We had to discuss which soft skills are required and customary. Acovene has listed soft skills in their dossier of European Competencies for the veterinary nurse, so we used those as a basis.

The veterinary clinics are very keen on the presence of soft skills in their employees. During job interviews, for jobs as well as internships, the first impression the candidate makes on the person they are talking to is hugely important. Furthermore, the soft skills that are shown by the candidate could determine whether the candidate will get the job or internship, or not.

The veterinary nurse's soft skills are of great importance for the interaction between nurses and customers. The better the veterinary nurse's soft skills are developed, the better the communication between the nurse and the customer is. The customer wants to be seen, heard, and understood, and wants a suitable advice. The veterinary nurse must be able to respond to the wishes and emotions of the customer, and, at the same time, perform their job.

### Evaluation

Comparison of the Acovene documents with preferences of the stakeholders has led to a list of important soft skills that veterinary nurses should develop. We think the following professional characteristics are important:

- Punctuality
- Presence
- Flexibility
- Cooperation
- Following directions
- Working independently
- Honesty
- Problem solving
- Loyalty (to the policies and procedures of the workplace)
- Commitment (to customer satisfaction and product quality, to client-patient confidentiality, to learn for a lifetime, to take and act upon constructive criticism without anger or defensiveness)
- Professional appearance
- Non-verbal communication

This list of soft skills could be added to a monitoring- and validation list, and added to the learning outcomes, in order to guide Work-Based Learning of students.

#### Links

- 1997, VETNET, EURO SYLLABUS, European basic training in veterinary nursing, page 7
- Royal College of Veterinary Surgeons Veterinary Nursing Department (ACOVENE), page 2
- CVTEA- recommendet skills list
- Appendix 3: Competences
- Appendix 5: soft skills

## 7 ASSESSMENT OF WORK-BASED LEARNING

The assessment of a Work-Based Learning learning process must be clear. The assessment should measure the expected learning outcomes. The assessment has to match the previously offered theory and practical work, the European competence list, and the preferences of the stakeholders, or in other words, the average real work situation. A Work-Based Learning assessment assesses both practical skills and the associated knowledge in practical context. Also, the professional attitude, that is, the way the practical work is performed, can be added.

### Experience

When assessing the learning outcomes of Work-Based Learning, we must first clarify the basic outcomes wanted. At EQF level 4 the student is expected to exercise self-management, to supervise, to take some responsibility, and to evaluate and improve their performance. What?

When defining and writing learning outcomes of Work-Based Learning, and writing the additional assessment, the writers must make sure that these documents must connect to national standards, the European competence lists, the labour market, and specific assessment methods.

Learning outcomes are used in qualification frameworks. Standards and curricula mostly describe the desired targets, and these can differ from the actual achieved learning outcomes. Achieved learning outcomes can only be identified when following the learning process. Therefore, it is important that the Work-Based Learning manual clarifies the learning process of the student.

When learning outcomes are described in detail, it makes it difficult to leave room for innovation and exploration of unexpected situations. This can harm the learning process. The goal of defining learning outcomes should be to develop a common language allowing stakeholders and practitioners to work together at a different level, but in the same direction.

Demonstrations and assessments of achieved competences or skills in real life, are suitable to identify the achieved learning outcomes. In the Work-Based Learning manual the follow-up of the learning process must be clear. The assessment is part of this process. The formative assessment is optional during the learning process. The summative assessment is the final step of the learning process.

The final assessment should make clear if the student is able to apply learning outcomes adequately in the defined context of the (simulated) veterinary clinic. This competence approach during the assessment states that an individual student is part of the labour force and shows commitment to optimize their individual efficiency in the job.

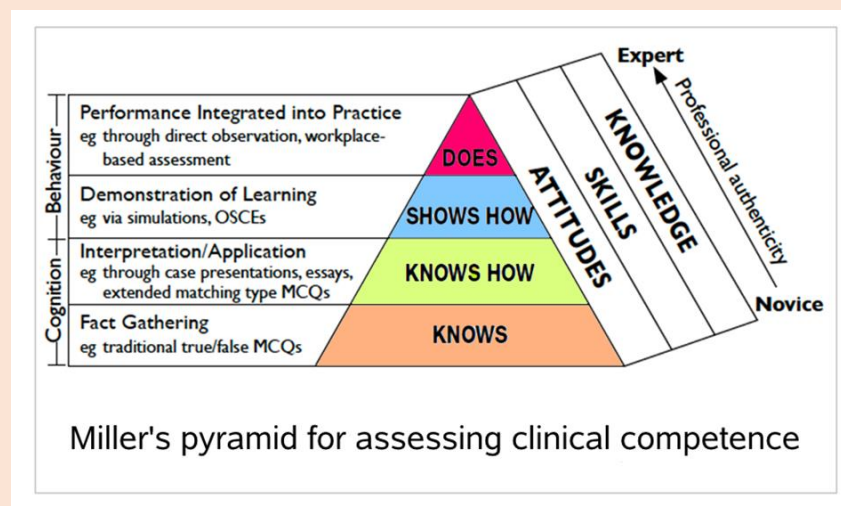
The work based assessment instruments, in particular, assess practical skills of examinees and how their knowledge is applied in practical context. Practical examination is of key importance in the assessment of the learner's competences and is most important in qualifying an examination. Before leaving vet nurse school, the veterinary nurses' practical skills must have been assessed, and the nurses must be certified. This means that the nurses will have the necessary competencies to meet the needs of patients care and of veterinary clinics.

## Evaluation

In general, the assessment can be divided in:

- Assessment of individual tasks when students demonstrate their skills and competences. Example is the objective structured clinical examination (OSCE), where the students demonstrate, in a controlled situation, what they are capable of.
- Performance assessments assess what students do in a practice. An example is that students do the nursing evaluations of a patient, develop a plan of care and implement nursing intervention.

We can find both in the Millers pyramid:



(Miller's pyramid: Design and teach a course: The Miller model ([unisa.edu.au](http://unisa.edu.au)))

An assessment that tests the competences of the VN - according to the learning outcomes, the needs of patient care and the general veterinary clinic- measures a combination of skills, knowledge and professional attitude.

## Links

- ECVET manual, chapters 4.3, 4.4, 4.5, about learning outcomes
- Assessment of clinical competence using Objective structured Long Examination record. Available from: [https://www.researchgate.net/publication/328093164\\_Assessment\\_of\\_clinical\\_competence\\_using\\_Objective\\_structured\\_Long\\_Examination\\_record](https://www.researchgate.net/publication/328093164_Assessment_of_clinical_competence_using_Objective_structured_Long_Examination_record) [accessed Nov 26 2020].
- Assessment Of Clinical Competence Using Objective Structured Examination. R. McG. Harden, Mary Stevenson, W. Wilson Downie and G. M. Wilson
- Appendix 2: general rules
- Appendix 6: assessment

## 8 THE VET4VN WORK-BASED LEARNING PILOT

The pilot of the Work-Based Learning took place during a Learning Teaching and Training activity (LTT) at the Hansenberg school in Denmark. Thirty students, five from each project partners' institute, participated in one week of activities. The subject of the week was radiology. Previously, students learned the theoretical part by digital learning autonomously. During the week at the Hansenberg school, they practised several skills. Finally, students were assessed on previously communicated learning outcomes. Students also joined a cultural programme. Goal for the Work-Based Learning manual was to gain information how students learn in an international group. The organisers of the pilot wanted to use this information for a first blueprint of the Work-Based Learning manual.

The goal of the week in Kolding was to experience how students learn in an international group. This included the questions: will students work together, are they able to express themselves in English, are they able to understand each other and the teachers, are they able to learn theory in English, will students from different nationalities match and socialise together? To be able to answer these questions, and to see what is necessary to reach the minimum level of being able to learn in an international group, the teachers made a lot of preparations, developed lots of materials, and monitored the learning process.

This chapter gives a description of the preparations for the week and the activities during the week. It describes the processes we observed during the student activities. Finally, it draws conclusions and lists the most important recommendations. We hope this will give an idea of the most important preparations and subjects to discuss and keep in mind according (international) Work-Based Learning.

### Experience

#### *Theoretical preparation:*

A group of teachers prepared theoretical lessons and the accompanying theoretical assessment. They used the Danish model, the Eurosyllabus, the Vectar tasks and the CVTEA skills, to agree on the learning outcomes for the theoretical part. Students worked at the theoretical lessons in a digital Moodle previous to the LTT.

#### *Preparation practical lessons:*

After reading the Danish model, the Eurosyllabus, the Vectar tasks and the CVTEA skills, the teachers agreed on the learning outcomes for the practical lessons and assessment. Because of the initial goal of this week, the group thought of practical lessons with a minimum of control of teachers. Therefore the group developed several games.

#### *Preparation practical assessment:*

The goal was to keep the assessment as clear as possible, so that language difficulties would be of minimal interference. That is why the group used the OSCEs of radiology as a basis.

#### *Preparation informal learning programme:*

The Danish students were asked to think of a nice cultural day programme. Goal of that day was: eat something typically Danish, meet Danish people, and experience some typically Danish culture.

*During the pilot:*

Students were asked to fill in a questionnaire about the theoretical and practical lessons and the theoretical and practical assessment.

Teachers were asked to observe closely what happened during the lessons.

**Evaluation**

Because students were interviewed, observed and monitored, we were able to make a list of recommendations.

1 It is important to focus on distance learning and coaching, as a preparation for theory and theoretical assessment, and practical lessons. An attractive digital system is needed. Students have to be forced to investigate the digital system before starting any other lessons or activities. So, it is wise to make the previous digital learning mandatory.

2 When offering theory prior to an activity, it is important that students can assess themselves. Some attractive quizzes, puzzles and materials can be very useful.

3 Before starting with the lessons, it is important for the participating students to start with an activity to get to know each other.. Some humorous activity seems most appropriate to break the ice, because students can be a bit nervous at the start of the programme.

4 It is a recommendation to use games for practical lessons. Make sure students can assess themselves and can ask guidance or help during the games.

5 When lessons are given by different teachers, make sure they use the same method and give the same information. For instance, for the practical tasks it is a recommendation to make films and have a look at them previously to the lessons.

6 Keep in mind that probably none of the participants is a native speaker of the English language. Also pay attention to the teachers' level of English . It is important that the teachers can express themselves in English well enough.

7 Prepare properly , and do not only think of assessments and lessons, but also think of what the students should do before, during and after classes, and what they need for that.

8 Think of what teachers should do before, during and after the lessons. A lot of guidance and observation should take place before and after the lessons.

9 The teachers participating in an international exchange should know each other a bit. This makes it a lot easier when communicating amongst themselves. Due to cultural differences misunderstandings or mistakes can occur. The better you know each other, the easier and better possible problems can be recognized and solved. So, really try to have dinner or a drink together and have some fun together.

**Links**

- Appendix 7: description of the pilot of Work-Based Learning in Kolding
- Appendix 8: feedback, conclusions and recommendations of the pilot



## 9 INFORMATION ABOUT THE PILOT DISTANT LEARNING AND COACHING

During a pilot week in Helsinki, Finland, students worked on a live stream of the subject radiology. The live stream was sent to several students at home, colleagues, and associated partners based in the different countries. Students worked in international groups and spoke English. The pilot brought interesting information about possibilities to light during Work-Based Learning.

Previously to the pilot week, students learned about the theory of radiology in a self-paced way. They took lessons on a digital Moodle platform. They assessed themselves with several quizzes and tests, also in the digital Moodle platform.

In Helsinki the students took a short theoretical lesson to refresh their knowledge. Students were then placed in international groups. The level of knowledge and skills differed a lot. Some students were in their first weeks of education, other students had already some practical experience with radiology. The groups received an assessment task: to do a position of the hip, hind leg or front leg. They could ask questions about the task, but did not get additional instruction about the positioning. The groups were asked to make a script for the live stream, to practice the scene with that script, and to make a tutorial video previously to the live stream.

### Experience

During the first morning of the pilot week, the programme was filled only with games and soft skills tests to get to know each other. There were many short breaks in between. The result was that students already had spoken to each other in English in a quite easy and relaxed way before starting the lessons. Of course, students were a bit nervous at the start of the activities, but that anxiety vanished quite quickly during the games.

Afterwards, students stated that they had no problems with the English language. They were able to understand the teachers and other students, to read the instructions, and to understand all information in the Moodle platform.

The overall scores were higher than they were in the first pilot week in Kolding Denmark. It seems that the ice-breaker games had a positive effect on the group dynamics.

About the theoretical lessons, the students stated that they could read and understand the information. They appreciated the additional face to face lesson, but the basic information was already made clear with the help of the digital tool Moodle.

When working on the script and the tutorial, students were able to communicate in a relaxed and open way. Noticeable was that they worked at the task without any help from the teachers. It seemed that the peer-teaching way of working at the task was very successful.

Some teachers stated that they were amazed when monitoring the students working at the task of the tutorial. They would never have thought it could be successful without instruction from the teachers. That students managed themselves, with peer-teaching in the group, was stunning for them. Some teachers stated they would try this kind of instruction at home in their classes. They want to see what happens when they distribute the tasks and just wait if students will go to work.

Students performed their radiology task in groups during the live stream. Other students, colleagues and associated partners at the veterinary clinics watched the live stream remotely. They found this method very interesting and instructive. They stated that they liked watching the live stream, that they learned new subjects, and that the subject was useful for their work at the veterinary clinic. An improvement point was the internet/ WIFI connection and the quality of the line. That could have been better.

Students stated that working at the subject radiology, with the self-paced digital learning of theory in the Moodle, and the practical task of making the tutorial, was useful for their work at the veterinary clinic.

## Evaluation

Striking was the fact that students were very well able to work together in an international group. It should be stressed, though, that extra time to invest in group dynamics and in getting to know each other is required for that. It also helps with the language barrier, to break through it before you start to work. This is what the teachers observed, and what students confirmed afterwards.

It seems a great opportunity to offer theoretical lessons with a digital tool. The Moodle was very convenient for that, but other digital systems are also accurate. Students liked the self-paced theory and assessment, and the result was fine. Using similar digital tools for blended learning/ distant learning, can be an opportunity for Work-Based Learning.

The live stream was a successful way to demonstrate skills to students and colleagues at home. Knowledge and skills were transferred to other people all over the world. It seems a great way to share information during Work-Based Learning.

Students might not be able to come to school for several reasons. One of the reasons is that they are involved in the Work-Based Learning outside the classroom.

This pilot brought to light some interesting conclusions:

- 1 Using digital tools to offer theoretical information is very useful. Especially, when adding self-assessments, and when the student can follow theoretical instructions at their own speed.
- 2 When there is no teacher to help the student face to face, peer-teaching with students or colleagues at the work spot can be of great value. However, it is necessary that people know and trust each other, which needs some investments before the activities.
- 3 A live stream seems an effective way for demonstrating skills during Work-Based Learning. In that way, teachers, coaches and other students can watch practical activities of students during their Work-Based Learning. Do pay attention to the quality of the internet line, and the screen, for the optimal result. And make agreements about safety and privacy issues before the activities.
- 4 For all kinds of reasons, some people cannot always get access to a digital tool or live stream. There must be an alternative in any case. It cannot be the case that students lack education due to technical problems.

In this pilot the digital systems of Moodle and live stream were used, but there are several other digital tools that can be very useful for distant learning and coaching during Work-Based Learning.

There are many suitable digital tools one can use during Work-Based Learning. Please read the Manual Distant Learning and Coaching for more ideas.

**Links**

- Distant learning and coaching manual – VET4VN
- <https://todaysteachingtools.com/digitale-tools-page/>
- Today's teaching tools, praktische tips voor digital onderwijs – Irene van der Spoel (2020) – ISBN 9789402149616

## 10 HOW TO USE THIS MANUAL: AN EXAMPLE OF LEARNING OUTCOMES FOR ASSESSMENT OF WORK-BASED LEARNING, SUBJECT RADIOLOGY

In this manual, Radiology was the subject used in all student activities. The manual gives a lot of information. In this chapter, we give an example of how all information can be used to make a list of learning outcomes which the assessor can use to assess the student at practical work, inside or outside the veterinary clinic. Defining and describing learning outcomes are explained in the ECVET manual.

Previously, competences of the Veterinary Nurse were added in the manual,. This included:

- European competences for the Veterinary Nurse for general competences
- Vector/ OSCEs for specific skills
- The Dutch national (mandatory) model
- Soft skills preferred by stakeholders

Comparing these competences for the subject radiology gives a logic summary, with the opportunity to combine competences as preferred by the institute.

DUTCH MODEL	OSCI LEARNING OUTCOME SKILLS	SOFT SKILLS
Image-forming techniques Student know how to:		Punctuality
	Positions the animal in a way that is suitable for the type of X-ray that needs to be taken.	Presence
Turn on the X-ray equipment and have tools ready		Flexibility
Takes safety precautions X-rays	Selects and puts on protective clothing correctly.	Cooperation
Assists with X-rays	Uses positioning aids in the right way. Uses the right method of restraining an animal and fixating the animal.	Following directions
Set up X-ray equipment		Working independently
Instructs owner about precautions for X-ray	Informs the clients about risks of radiation, if the client wants to stay with the patient during the X-ray examination and on the legislative demands for attending.	Honesty
Provides instructions on X-ray safety precautions		Problem solving
Takes X-rays	Positions the patient considering what is correct for the specific patient.  Positions the animal in a way that is suitable for the type of X-ray that needs to be taken.  Marks the X- ray images correctly.  Takes only the justified quantity of X-rays. Indicates the location and boundaries of a controlled area and designated area.	Loyalty (to the policie sand procedures of the workplace)  Commitment (to customer satisfaction and product quality, to client-patient confidentiality, to learn for a lifetime, to take and act upon constructive criticism without anger or defensiveness)
		Professional appearance

## Experience

Before joining the project Vet4VN, BIC Ljubljana had been facing difficulties evaluating, assessing and guiding practical work and Work-Based Learning of veterinary nurse students. The school used flexible guidelines for monitoring the required tasks according to the syllabus and could not evaluate the progress of the students sufficiently.

BIC Ljubljana looked for a method for guidance, monitoring and assessment of veterinary nurse students during Work-Based Learning.

The method had to be clear and easy to use at the veterinary clinic inside and outside Slovenia, when guiding and assessing veterinary nurse students, and it should connect to European EQF 4 levels. At the same time, it had to be precise enough to evaluate all the different tasks, competences and skills, and it had to enable monitoring these elements.

Before the pilot, Slovenian syllabuses did not contain practical tasks for radiology and contained only basic information on the subject.

## Evaluation

BIC Ljubljana used the lists of competences from all the sources mentioned above and tried to compare different models for guiding and assessing WBL that would be suitable for the Slovenian needs. BIC Ljubljana extracted the samples that could be adapted for the national specific requirements, such as: a relatively short period of apprenticeship, no obligatory work with specific animal types, or clinic type, a different syllabus etcetera. BIC Ljubljana also adapted the methods for monitoring.

BIC Ljubljana organised the list of competences into the six main sets, which are the following:

- Safety
- Communication and administration
- Hygiene and sanitation
- Surgery
- Applications and professional procedures
- Soft skills

Each set of competences (except for soft skills) is divided into the more detailed competences and skills list of which all can be assessed as one of the following:

- The student has seen the procedure
- The student has tried the procedure on the model
- The students has tried the procedure under the surveillance of the vet/mentor
- The student is confident to perform the procedure independently

The students' soft skills are assessed using the following scale that rates to which degree the student achieved the intended results:

- True
- Mostly true
- Mostly untrue
- Untrue

BIC Ljubljana will use this list to guide and assess veterinary nurse students in-, and outside Slovenia. After the experiences in the VET4VN project, BIC Ljubljana now also includes practical radiology in

classes at school.

BIC Ljubljana has used the positive experience of the project as a basis for a learning strategy. Using this strategy, BIC Ljubljana has integrated the practical tasks for radiology in the syllabus. Furthermore, BIC Ljubljana's strategy now includes practising the indirect instructions and peer-to-peer learning which turned out to be very successful during the project.

VET4VN project greatly contributed to both organisation of Work-Based Learning and documentation for guidance and assessment of Work-Based Learning.

**References:**

- ECVET manual, chapter 4.3, 4.4, 4.5, defining and describing learning outcomes
- Attachement 9: Slovenian model of WBL monitoring

## 11 GENERAL CONCLUSIONS AND RECOMMENDATIONS FOR ORGANISATION OF WORK-BASED LEARNING

Comparing literature, educational systems, competence lists, assessments, and feedback at the WBL pilot has given a lot of information. All this information can be confusing. However, each institute that teaches students has to cope with similar questions VET4VN came across. The conclusions of the WBL pilot can be helpful for the first small steps when starting with WBL, or when starting to improve WBL.

### Conclusion:

The Work-Based Learning Manual should monitor and validate practical experiences in veterinary clinic, but also in a formal way, an informal way, inside school, or outside school, or in any combination of these. An authentic work experience can be reached in all these different ways. Student monitoring and validation, however, is necessary in all situations.

When making the WBL manual, the first question is: what learning outcomes have to be monitored? It must be clearly understood that a student can only fully master competences for Veterinary Nurse with sufficient underlying knowledge and skills in the fields of:

- Biology
- Veterinary anatomy and physiology
- Animal reproduction
- Veterinary pathology
- Animal behaviour
- Taking care of healthy animals (feeding, animal care, animal handling, animal husbandry, housing, hygiene, knowledge of the sector, knowledge of species and breeds)
- General social skills

Monitoring of the VN student is done best by using clearly defined learning outcomes according to the different subjects. In order to make a proper list for monitoring, a combination of the Eurosyllabus for general competences and the Vectar for specific skills can be very useful.

During Work-Based Learning, more competences are developed than only the technical ones. It is important to gain information how to identify those competences, and how to monitor and validate them. So, when organising WBL, a monitoring and validation system should also be developed for informal and non-formal learning.

Non-formal or informal learning experiences can be very useful for the students to gain self-confidence and for improving communication and teamwork. If non-formal/ informal learning can be monitored and validated, it therefore can be a very useful addition to learning experiences at a veterinary clinic and contribute to reaching the clearly defined learning outcomes. This can contribute to the professional attitude of the students, one of the three parts of a proper assessment.

The assessment of a Work-Based Learning traject has to be clear. The assessment should measure the described learning outcomes. A Work-Based Learning assessment assesses both practical skills, and the associated knowledge in a practical context. Also, the professional attitude, so the way the practical work is performed, can be added.

An assessment that tests the competences of the VN in accordance with the learning outcomes, the

needs of patient care and the general veterinary clinic, measures a combination of skills, knowledge and professional attitude. Therefore the assessment can be a mixture of competences described in the of Eurosyllabus and in Vectar, and a professional attitude as mentioned above.

Remarks when working with foreign students:

- Students and teachers need time to get to know each other and to learn how to get around. Some introductory games can be useful for this purpose.
- Language difference does not have to be a problem, as long as it is mentioned, and participants are aware of differences.
- Differences in background and knowledge are no problem, as long as people communicate and open up to others.
- Information has to be clear, and accessible for everyone. A digital system like Moodle or Padlet can be very helpful.
- Don not overload a programme, and keep in mind that breaks are also useful. People meet, discuss and learn a lot in an informal way during the breaks.
- Try to get a balance between lessons, formal learning, and informal learning like a cultural or social programme.
- Guide students carefully and be there to help if anything stressfull occurs.

Recommendations when working with foreign students:

1 It is important to focus on distance learning and coaching, as a preparation of theory and theoretical assessment, and practical lessons. An attractive digital system is needed. Students have to be forced to investigate the digital system before starting any other lessons or activities. So, it is wise to make the (preceding) digital learning mandatory.

2 When offering theory prior to an activity, it is important that students can assess themselves. Some attractive quizzes, puzzles and materials can be very useful.

3 For the participating students it is important to start with an activity to get to know each other, before starting with lessons. Some humorous activity seems most appropriate to break the ice, because students can be a bit nervous at the start of the programme.

4 It is a recommendation to use games for practical lessons. Make sure students can assess themselves and can ask guidance or help during the games.

5 When lessons are given by different teachers, make sure they use the same method and give the same information. For instance, for the practical tasks it is recommended to make films and watch them prior to the lessons.

6 Keep in mind that probably none of the participants is a native speaker of the English language. Also pay attention to teachers' level of English. It is important that teachers can express themselves in English well enough.

7 Prepare properly preparation, and do not only think of assessments and lessons, but also think of what the students should do before, during and after classes, and what they need for that.

8 Think of what teachers should do before, during and after the lessons. A lot of guidance and observation should take place before and after the lessons.

9 The teachers participating in an international exchange should know each other a bit. That makes it a lot easier when communicating. Due to cultural differences misunderstandings and mistakes can occur; the better you know each other, the quicker and better these problems can be solved. So, really try to go and have dinner or a drink together and have some fun together.



**Summary:**

Veterinary nurses in the work field have a role of assisting the veterinarian, to take care of hygiene, do laboratory and diagnostic work, take care of stocks, and to inform owners. That is why a veterinary nurse is called "Jack of all trades". However, in the previous 2-3 years, the workfield of the veterinary nurse has changed very rapidly. Big changes are seen in technology, medications, ICT innovations, the role of the clinics in human health, and customer behaviour. Veterinary clinics merge to large international conglomerates, which demand highly educated veterinary nurses in all countries, regardless differences in educational systems.

The project VET4VN began after the previous cooperation of six schools in four countries which offer vocational education and training of veterinary nurses at EQF level four. Despite the cooperation that goes back many years, and despite the clear view that we have on the different developments that are needed, we can not keep up with changes in the work field individually. To deliver new highly skilled veterinary nurses to the workfield, the educational systems need to constantly be adjusted to new developments. These changes are large, and it is highly recommended to work on these changes together with colleagues with a different background, and with colleagues with an international view, like colleagues from other European countries.

That is why we are very honoured to have this VET4VN project, greatly subsidised by Erasmus. The budget that we received from Erasmus gave the project partners the possibility to visit each other's schools, meet, discuss, and finally work towards the four project products. The other three products are:

- 1 A manual for ECVET Unit
- 2 A manual for distant learning and coaching
- 3 An ECVET Unit

This international cooperation needs to cope with the large international changes..

This manual for Work-Based Learning can contribute to some current changes in the work field. It can have a positive influence on training unskilled workers, on the coaching of veterinary nurses, on the European orientation of teachers and veterinary nurses and the cooperation of veterinary clinics and institutions in the workfield. All together, it can contribute to better chances of employment for the veterinary nurses, and better personal, technical and social skills that are needed in the work field. The four products combined can, besides those advantages mentioned, also contribute to the teachers' knowledge, the mobility of teachers and veterinary nurse students, and to technical and ICT innovations. Working with the manual can help and guide students. Even students who live in secluded areas can be more involved in (international) projects, and with the wider workfield.

A final conclusion of project VET4VN is, that it is a great advantage to be member of VETNNET. Being a member of this organisation gives the opportunity to network, to meet colleagues of other schools in different countries. It is of great importance to meet colleagues, to discuss items, to learn from each other.

Members of VETNNET have access to the website, which contains all kind of extra information. It also gives access to the OSCEs, the newest lists of European competences. Important information to keep up with European thoughts and developments.

The better we know each other, the better we can adjust!

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- Appendix 8: feedback, conclusions and recommendations of the pilot.

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- Today's teaching tools, praktische tips voor digital onderwijs – Irene van der Spoel (2020) – ISBN 9789402149616

## APPENDIX 1: ABOUT WORK-BASED LEARNING

Work-Based Learning (WBL) is an educational strategy that provides students with real-life work experiences where they can apply academic and technical skills and develop their employability. It is a series of educational courses which integrate the school curriculum with the workplace, to create a different learning paradigm. Work-Based Learning deliberately merges theory (knowledge) with practice (skills) and acknowledges the intersection of explicit and tacit forms of knowing."

WBL programmes are targeted to bridge the gap between learning and doing. Work-Based Learning encompasses a diversity of arrangements including apprenticeships, work placement and informal learning on the job en non-formal learning outside the job. The key driver is the need for active policies to secure learning that meets the needs of the workplace.

Work-Based Learning is classified in three ways based on the:

- Duration of assignment: The Work-Based Learning experience might take a few hours to two to four years.
- Relation to course work: Work-Based Learning is generally related to a specific subject taught at school or university.
- Stipend: Work-Based Learning assignments may be paid or unpaid.

Work-Based Learning includes different strategies as apprenticeship or internship or mentorship, job shadowing, field trips, entrepreneurial experience, school-based enterprise, and service learning.

Key persons are:

- Student: The student is central to the WBL process. The student engages in a WBL programme and completes all requirements of the programme, maintains a high degree of professionalism and acquires necessary competences for which the WBL programme was designed.
- Mentor /clinical coach: A mentor sets realistic goals for the student to acquire, engages with the student, and supervises them to complete their tasks and is a role model for the student.
- Teacher Coordinator: A teacher coordinator is a certified educator who manages the WBL programme and checks the students' progress and supports the students whenever required to ensure successful completion of the WBL programme.
- School Administrator: The school administrator is key in introducing WBL programmes within the curriculum after identifying the appropriate courses that can be learnt through the programme.
- Family surrounding: Family support enables successful completion of the WBL programme. Important are: suitable guidance, support and motivation of their wards and the approval of the WBL programme that is most suitable for meeting their ward's learning needs and career aspirations.

Learning on the job in the clinical environment offers a number of advantages:

- WBL focuses on real problem. It provides students with the satisfaction of doing a real job in an authentic work setting.
- WBL requires active participation and feedback.
- WBL can be designed to meet the needs of students, can be individualized.
- WBL offers students work in team and that they develop their professional identity.
- On-the-job experience can help students to make a career choice.

Problems and difficulties of WBL:

- The learning can be based solely on the clients and patients seen by the students. It can lead to excessive repetition of the same cases.
- The level of responsibility allocated to students in the delivery of patient care may be a problem. It is important that students are not given tasks before they are well trained and that they are authorised to perform the tasks.
- Relationships between the education and service components should be made explicit and the education integrated with the service delivery.
- The students' progress needs to be carefully monitored and appropriate feedback should be provided so that students can improve their skills.

Implementation of WBL:

- Plan which conditions the students are expected to see and which procedures they expected to carry out. Learning experiences have to match the expected learning outcomes.
- Make the expectation explicit, and draw up and agree on a learning plan together with the students.
- Monitor the students' progress and provide constructive and timely feedback.
- Students should feel welcome in work environment. This helps to stimulate the students to engage actively in the full range of learning opportunities provided and to play an active role within the team.
- Students should be an integral part of the patient care. This may involve the students participating in some aspects of the patient's management. The students' notes may become part of the patient's record.
- The learners may benefit from a job aid that provides step by step guidelines for the tasks expected of them.
- This is particularly important when a task is complex, and the consequence of error is high. The job aid may be presented in print format or electronically through a mobile device.
- A study guide can help the students to understand what is expected of them in the workplace and how they can obtain the maximum educational benefit from the experiences.

WBL strategies:

Work-Based Learning includes different strategies as apprenticeship or internship or mentorship, job shadowing, field trips, entrepreneurial experience, school-based enterprise, service learning. In education of veterinary nurses clinical environment is an established effective and powerful setting for WBL, yet the current increase in WBL in education means it is crucial to identify how to best support learners and supervisors in the clinical environment.

## Apprenticeship

An apprenticeship involves the student working for an employer where he or she is taught and supervised by an experienced employee of the chosen organization. The student is periodically evaluated for progress as per the skills and knowledge acquired, and maybe granted wages accordingly. At the end of the course, the student receives a certificate of service. The student learns in a realistic environment and gets the opportunity to apply his or her knowledge in real-world scenarios.

## Work placement

A limited period of time, usually forming part of a course of study, during which someone works for a company or organization in order to get work experience, which may be paid or not paid.

## Internship

An internship is a period of work experience offered by an organization for a limited period of time.[1] Once confined to medical graduates, internship is used for a wide range of placements in businesses, non-profit organizations and government agencies. They are typically undertaken by students and graduates looking to gain relevant skills and experience in a particular field. Employers benefit from these placements because they often recruit employees from their best interns, who have known capabilities, thus saving time and money in the long run. Internships are usually arranged by third-party organizations that recruit interns on behalf of industry groups. Rules vary from country to country about when interns should be regarded as employees. The system can be open to exploitation by unscrupulous employers.

Internships for professional careers are similar in some ways. Like internships, apprenticeships transition students from vocational school into the workforce.[2] The lack of standardization and oversight leaves the term "internship" open to broad interpretation. Interns may be high school students, college and university students, or post-graduate adults. These positions may be paid or unpaid and are temporary.[3] Many large corporations, particularly investment banks, have "insights" programmes that serve as a pre-internship event numbering a day to a week, either in person or virtually.

Typically, an internship consists of an exchange of services for experience between the intern and the organization. Internships are used to determine if the intern still has an interest in that field after the real-life experience. In addition, an internship can be used to create a professional network that can assist with letters of recommendation or lead to future employment opportunities. The benefit of bringing an intern into full-time employment is that they are already familiar with the company, their position, and they typically need little to no training. Internships provide current college students with the ability to participate in a field of their choice to receive hands-on learning about a particular future career, preparing them for full-time work following graduation

## Job shadowing

Job Shadowing is a short-term opportunity that introduces the student to a particular job or career by pairing the student with an employee of the workplace. By following or 'shadowing' the employee, the student gets familiar with the duties and responsibilities associates with that job.

### Business/industry field trip

Field trips offer the students an insight in the latest technical advancements and business strategies of an enterprise. Students also gain awareness that various career opportunities are available and understand the driving forces of the economy of the community.

### Entrepreneurial experience

This includes setting up of specific business, right from the planning, organizing and managing stage to the risk control and management aspects of a business.

### School-based enterprise

A school-based enterprise is a simulated or actual business run by the school. It offers students a learning experience by letting them manage the various aspects of a business. School based veterinary clinic is not a profit-based enterprise so the purpose of such a clinic is the training of students. Mentors (veterinarians) have more time to explain procedures to students.

### Service learning

This strategy combines community service with career, where students provide volunteer service to public and non-profit agencies, civic and government offices etc.

In veterinary nursing education students can obtain experiences and competences in animal shelters and animal protection associations.

### Conclusion

The two main ways of WBL in the education of veterinary technicians are apprenticeship and work placement. However, this manual for Work-Based Learning is going to be written towards more educational situations than those two. Earlier we pointed out the different ways in which students can gain experiences. Of course, veterinary nurses improve their skills whenever working in their own work field, the veterinary clinic. But, with this manual, it is also possible to guide the students in totally different situations, and make sure they develop the skills needed and make them develop into competent veterinary nurses.

Therefore, this manual will give guidance to Work-Based Learning in all situations where a student can gain practical experience and develop practical competences. Situations where veterinary nurses can gain practical experiences and competences are:

- At a veterinary clinic – apprenticeship, work placement, internship, practical lessons
- At a veterinary school clinic – practical lessons, work placement
- At a school (their own or another)– practical lessons, ECVET units
- At another field of business – practical lessons, work placement, apprenticeship, internship, entrepreneurial experience

### Mentoring WBL:

In a study identifies effective mentorship and a positive learning culture in the workplace to be key factors for success.

WBL teachers need to learn how to encourage an active learning style, engage learners in problem-solving, and enhance learners' skills of enquiry. In this way, responsibility for identifying and taking opportunities for learning must be shared by supervisor and learner. It is important that learners can question what they see, as staff whose competence in particular skills is limited cannot be effective role models. Furthermore, the participants identified some of the challenges and advantages of being supervised and assessed by those who are long-standing colleagues, which may lack robustness or conversely be based on mutual understanding and respect.

Supervisors need to learn how to make what they do explicit to learners as one of the participants described consultants having had to learn to do at ward round. Often activities seem to be routine or intuitive to those performing them, and they may therefore not find it easy to explain them clearly to learners. It is also essential that learners are taught how to reflect on their experience, as the link between theory and practice is not always easily bridged, and students may, for example, find it difficult to identify the key points for analysis from an incident that they witness.

### Sources:

- Essential skills for a medical teacher Ronald Harden
- study of the journey of Assistant Practitioners undertaking WBL, Thurgate (2018)

## APPENDIX 2: GENERAL RULES ASSESSMENT

When assessing the learning outcomes of Work-Based Learning, at first, we must clarify the different benefits to the different people involved.

- For the learner: clarify what a learner is expected to know and be able to do and understand having completed the task, or module.
- For the teacher or coach: to orient teaching and to select methods to support the learning process.
- For the assessor: to clarify the criteria for success or failure and performance.
- For the institution: to clarify needs for planning activities and dialogue.
- For labour market: to provide a common language and criteria so different stakeholders can follow up the students.

At EQF level 4 the student is expected to exercise self-management, to supervise, to take some responsibility, and to evaluate and improve.

Defining and writing learning outcomes of Work-Based Learning, and writing the additional assessment, these have to connect to:

- The qualification frameworks if existing in countries
- The qualification profiles and standards if existing in countries
- Occupational standards asked for by (inter)national labour market stakeholders
- The curricula for planning learning experiences
- Specifications of methods and criteria underpinning assessments, summative and/or formative

Fundamentals of writing learning outcomes:

- Student is at the center
- Achieved learning outcomes are identified by following the learning process
- There is a feedback loop between intended and achieved outcomes.
- Learning outcomes have to stay open and authentic, for exploration, expected and unexpected outcomes.
- Must be ready to use in real life and for a broad context
- Both result-orientated, and open-ended
- Balanced in regulation and autonomy
- Combined with teaching specifications, method, duration and assessment
- Written down from general to specific, with limited statements, one action verb for each learning outcome

See the ECVET Manual for more information on learning outcomes.

Possibilities how to assess:

The use of verbs:

To describe learning outcomes and assessment it is of great importance to use verbs that are suitable for the situation and the goal.

Precise verbs are verbs like assemble, adjust, solve, identify, write, compare. With precise verbs it is possible to be objectively, measurable, and observable.



Ambiguous verbs are verbs like know, understand, determine, appreciate, be aware of. When using ambiguous verbs, it is not possible to be objective, it is not observable or measurable.

Declarative knowledge is about recalling and representing theories and facts. It uses short-term memory most. Procedural knowledge requires that facts and theories be turned into use in other settings. Verbs used must point out the direction and complexity.

Declarative verbs are repeat, describe, identify, memorise, recall.

Procedural or relational verbs reflect, hypothesise, solve unseen problems, generate new alternatives.

The learning process seen by the teacher:

Speaking of learning outcomes, it shows the direct relationship between learning outcomes, learning process, and teaching and learning. Whenever coming to and guiding to learning outcomes, the teachers will have to solve:

- What do I intend to teach students
- What can be used to encourage them
- What assessments, tasks and criteria show that the student is developing
- How can formative and summative assessments be combined?
- How can feedback have a positive impact
- When can students be awarded, when do they reach the level of qualification

Assessment:

How do we cope with assessment criteria: measurability, validity, reliability, objectivity? The more precise, the less open-ended. The assessment should be written in a way that the tasks mirror the learning outcomes. The outcome should be judgeable. For exact information on assessments, also have a look into the ECVET Manual.

The assessment is related to teaching and learning outcomes in the following way.

Teaching/ learning	(Intended) learning outcomes	Assessment tasks
Suits the individual learning outcomes. Activities are managed by: <ul style="list-style-type: none"> <li>• Teacher</li> <li>• Learner</li> <li>• Peers</li> </ul>	Use verbs that are appropriate to context. Describe the best outcomes that could reasonably be expected. Highly satisfactorily outcomes applying to professional practice. Quite satisfactory outcomes for standard situations.	Format of tasks. Verbs are in context. Specific criteria that allow judgement.

**Conclusion:**

Taking all information into account, we can advise to give notice to at least the following subjects:

- Incorporate existing (national) qualifications
- Involve stakeholders
- Keep it short and clear
- Write from general to detailed
- Get balance in regulated and open-end tasks
- Give a lot of attention at choosing the appropriate verbs
- Write in a way that allows judgement

## APPENDIX 3: COMPETENCES

As a clinical coach involved in work based education, the coach is in a very powerful position to influence and guide students towards a professional attitude and to affect both how much they learn and the quality of their learning. The professional capabilities are usually expressed as “professional competences”.

Competence means a proven ability to use knowledge, skills and personal, social and methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.” To ensure knowledge and skills, education for veterinary nurses involves a combination of college and practice-based teaching and learning.

Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. Knowledge as the outcome of the assimilation of information through learning mostly at school.

Skills means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments).

Social and methodological abilities are described and listed in some educational systems, and in some obligatory to assess in some countries. Social and methodological abilities can be learned in all different situations, in both formal and informal learning situations.

The ECVET systems uses the terminology and system of competences when speaking of learning outcomes. During our project the ECVET system was discontinued. However, the system of working with and towards learning outcomes has proven to be a successful way to cooperate internationally. And this will still be supported by Erasmus. ECVET used to make use of the terms knowledge, skills and competences. Also, when talking about learning outcomes, the word "competence" is changed into "level of autonomy, responsibility and complexity".

In Europe, several systems are being used. One is more detailed than the other. It is useful to have the lists with the different systems, it gives the opportunity to compare the systems, and use the subjects when making an own Work-Based Learning manual. We will now give information about the 6 systems. Please note that the 7<sup>th</sup> system, the OSCEs cannot be listed, because the OSCEs are confidential. The OSCEs are released for members of VETNNET, and accessible through the website of them.

### 1-The Danish model:

The Danish model is used in the Danish veterinary nurses training programme. The Danish model is grading 5 different basic competencies:

1. Handling and care for healthy animals,
2. Communication, management and advice,
3. Carry out the daily maintenance of the clinic,
4. Basic Laboratory functions and
5. Clinic assistance.

These main competencies have different subgroups that are periodically divided during all years of schooling and accordingly gaining in difficulties and responsibilities.

## 2-The Eurosyllabus:

The Eurosyllabus contains the basic skill requirements for veterinary nurse training within the European Community. The purpose of the syllabus was to describe the basic level for veterinary nurse training which should be the same throughout Europe.

This syllabus consists of thirteen modules. The format of the syllabus is modular following the Scotvec model. This format is a model for modular descriptions in more countries, as the Dutch modular descriptions have the same content but a different format.

The Eurosyllabus is divided into four chapters:

1. Units in the basic training programme
2. Practical task lists.
3. Module descriptions.
4. Worksheets for practical assessment.

## 3-The Vectar system:

The Vectar system describes 13 different practical tasks. The Vectar system suggests evaluating candidates according to time and to skills gained.

- Time: How often do I do this activity? Choices: Often/ Some-time/ Never
- Skills: How strong are my skills in this activity? Strong/ Fair/ Weak

The Vectar tasks:

1. Monitor and maintain health and safety
2. Develop personal performance and maintain working relationships
3. Carry out veterinary reception duties
4. Manage clinical environments for procedures and investigations
5. Providing emergency first aid to animals
6. Provide and administer nursing care
7. Support clients in caring for animals
8. Perform laboratory diagnostic tests
9. Prepare for diagnostic imaging techniques and conduct radiography
10. Prepare for veterinary surgical procedures
11. Assist the veterinary surgeon during surgical procedures
12. Assist the provision of anaesthesia to animals
13. Dispense and administer medication
14. The tasks end with an evaluation.

In the Vectar system the definition of clinical coach is:

- “Clinical coach” is a term used to describe the role of veterinarians or veterinary nurses/technicians who train, supervise and support student veterinary nurses whilst they gain experience, and learn essential practical skills, in a veterinary practice. Although students learn from what they see and do in practice, this experience needs to be structured and supervised in order to be effective. This entails getting to know your student and making a conscious effort to plan the valuable practical training and experience your practice has to offer.

- Being able to plan and organise, clinical coaches must also be able to recognise competence and make judgements about student performance. This means that you should be experienced, competent and confident in your own knowledge and skills, and able to demonstrate best veterinary nursing practice to your students.
- Being a clinical coach can be an extremely rewarding experience. The mentoring skills you will be developing through this training package will help you to encourage, motivate and stretch your student. This, in turn will maximise their opportunities to learn, progress and reach their goal of qualification.

#### 4-The Acovene dossier:

The Acovene dossier contains the professional competences that a Veterinary Nurse needs to function adequately at a veterinary practice in Europe.

The dossier is divided into 13 basic European competencies.

1. Monitor and maintain health and safety
2. Develop personal performance and maintain working relationships in health and safety
3. Carry out veterinary reception duties
4. Manage clinical environments for procedures and investigations
5. Providing emergency first aid to animals
6. Provide and administer nursing care
7. Support clients in caring for animals
8. Perform laboratory diagnostic tests
9. Prepare for diagnostic imaging techniques and conduct radiography on animals
10. Prepare for veterinary surgical procedures
11. Assist the veterinary surgeon during surgical procedures
12. Assist the provision of anaesthetics to animals
13. Dispense and administer medication

All the European competences should be covered in relation to the following animal species:

- Dogs
- Cats
- Exotics (exotics are small pets other than cats and dogs, and may include birds, rabbits, reptiles, amphibians, rodents and other small mammals)
- Horses and / or farm animals can be included where appropriate.

#### 5-CVTEA- Veterinary Technician Student Essential and Recommended Skills List:

CVTEA is the Committee on Veterinary Technician Education and Activities. It is a resource for veterinary technology programmes to utilize for curriculum development and instruction as well as an accreditation monitoring tool for CVTEA. The Skills List represents the complex role of the veterinary technician and encourages instruction in motor, critical thinking and clinical application skills at the entry veterinary technician level.

The skills list is divided by thematic chapters, where each has a subchapter, divided by abilities, tasks and skills required.

- Office and hospital procedures, client relations, and communication.
- Pharmacy and pharmacology
- Nursing
- Surgical nursing
- Laboratory procedures
- Imaging
- Laboratory animal procedures
- Avian, exotic & small mammals procedures

#### 6-The Dutch model:

The Dutch model is divided into a basic part, that is mainly concerned with taking care of the healthy animal, and a profile part, that is concerned with the veterinary nursing at a veterinary clinic. The basic and profile part are described in a qualification document.

The qualification document appoints competences. The competences are described in different subjects and are grouped in the three sections skills, knowledge, behaviour, and related to complexity of subject in the daily the work field.

The qualification document is updated every few years, but changes are not very huge, because the work field does not know major changes.

The assessment that Veterinary Nurses must do is also at national level. An independent organisation creates the final assessment, based upon the qualification document. So the assessment is an extension of this qualification document.

Basic part: Takes care of healthy animals.

Complexity: The vn has to work hygienic, and with care for welfare. The vn is aware of clients/visitors who watch the handling with animals.

A safe environment for animals and people involved is very important, but very difficult to realise. Sometimes handling animals can be dangerous.

Work as a vn differs a lot. It is important to create a balance between hospitality, and acting nice, and taking care of the business. To work with animals that are ill, or recovering, asks extra hygiene and special treats. The vn has to work ethical. The vn advises about health and welfare in the environment of the animals. She considers long term effects of work. She has special skills and knowledge that are essential for her work.

Responsibility: The VN works in a team with colleagues and/or a chief, but is responsible for her own work.

The VN has to organise, to act and to control. She is responsible for her own work and can discuss the work afterwards with her chief. She uses laws and rules for all her own work, and that of her colleagues. She can do more than one task at the same time and cooperates with colleagues.

### Competences:

- Feeds animals:
- Nurses animals:
- Takes care of the environment of animals and workspace.
- Take care of transferring information.
- Informs colleagues, clients and visitors.
- Organises an event for visitors.

### Profile part:

- Takes care of sick animals and performs clinical work.
- Performs general practice work.
- Manages pharmacy.
- Manages surgery rooms and instruments
- Surveys the care demand and gives advice
- Performs VN actions
- Assisting veterinary consultations
- Assisting veterinary surgery
- Carry out a professional dental cleaning
- Carry out Laboratory techniques
- Prepares and conducts diagnostic imaging or assist the veterinary clinician

### Sources: (last opened Febr 2023)

- European Commission: The European Qualifications Framework for Lifelong Learning
- The Danish model: <https://www.retsinformation.dk/eli/lta/2022/496>  
[https://www.eud.uddannelsesadministration.dk/Reports/VisRapport.aspx?rapport\\_navn=Uddannelse\\_sordningUdvidet.rpt&rapport\\_type=1&where\\_clause=%2BLv2ihn6ZeMLkkY5%2BCx%2Fu1Sz26sFblUbTqnrnwew%2BbXSANI8D0o7VzjqsQleueaJDOcrv%2FyhGlaaeKgZkG3JBLY4qKLYLK8%2FYg96Uopr%2F0%2Blo9MT511D24%2Beai0mjCpR5cN%2F1%2FS%2B%2BHIW%2FRbvlidEMvsxgigRWKmhcljP5qd8rD4LoSrvMjvMBwodU5ZmREgfc38kNUOPppwQBP81jwMh8vsxgigRWKmhcljP5qd8rBHmCZpnBIGuQF5VbTRkD1kJbGSP%2Brcclov0u7GTIZvva%3D%3D&param\\_clause=QbN37spYIuZ16W%2BgwZfBSMdwth5%2FIpaZQ63Eh3JVuv6pl4nfGYoq09ZqkCzXpkjU](https://www.eud.uddannelsesadministration.dk/Reports/VisRapport.aspx?rapport_navn=Uddannelse_sordningUdvidet.rpt&rapport_type=1&where_clause=%2BLv2ihn6ZeMLkkY5%2BCx%2Fu1Sz26sFblUbTqnrnwew%2BbXSANI8D0o7VzjqsQleueaJDOcrv%2FyhGlaaeKgZkG3JBLY4qKLYLK8%2FYg96Uopr%2F0%2Blo9MT511D24%2Beai0mjCpR5cN%2F1%2FS%2B%2BHIW%2FRbvlidEMvsxgigRWKmhcljP5qd8rD4LoSrvMjvMBwodU5ZmREgfc38kNUOPppwQBP81jwMh8vsxgigRWKmhcljP5qd8rBHmCZpnBIGuQF5VbTRkD1kJbGSP%2Brcclov0u7GTIZvva%3D%3D&param_clause=QbN37spYIuZ16W%2BgwZfBSMdwth5%2FIpaZQ63Eh3JVuv6pl4nfGYoq09ZqkCzXpkjU)
- The Eurosyllabus: <https://www.vetnnet.com/projects/eurosyllabus/>
- The Vectar tasks: <https://www.vetnnet.com/projects/vectar/>
- The Acovene list: <https://www.acovene.eu/>
- The CVTEA list: <https://www.avma.org/education/center-for-veterinary-accreditation/committee-veterinary-technician-education-activities/cvtea-accreditation-policies-and-procedures-appendix-h>
- The Dutch model:  
[https://kwalificaties.sbb.nl/Details/Index/5732?type=Kwalificatie&item\\_id=1383081](https://kwalificaties.sbb.nl/Details/Index/5732?type=Kwalificatie&item_id=1383081)

## APPENDIX 4: INFORMAL AND NON-FORMAL LEARNING

Validation of informal and non-formal learning helps to provide wide recognition of learning that takes place during internships and/or Work-Based Learning, in or outside the sector. Therefore, non-formal and informal learning should be made visible and valued. To validate, four mechanisms are being used. The four phases of validation of learning outcomes of non-formal and informal learning are:

- Identification
- Documentation
- Assessment
- Certification

In a manual for WBL these four mechanisms should be included and described clearly.

Role of stakeholders: Great focus should be on communication between the institutes and their stakeholders. Involvement of stakeholders according validation of informal learning is of great importance. The degree of organization of stakeholders varies in the different countries. Some countries have organization of stakeholders at national level, some countries have no organization whatsoever.

For validation of informal and non-formal learning, the institute should investigate the organization level of the stakeholders. At least a delegation of stakeholders should be involved in the process of validating informal learning. For the education of Veterinary Nurses, this could be a delegation of internship supervisors working at the veterinary clinics joined to the institutes.

This delegation can play an important role in developing and giving feedback on products according three steps of validation: Identification, Documentation and Assessment. Their feedback can be compared to agreements at a higher level of organization, e.g. regional or national level qualification systems and frameworks.

Identification - defining standards: The definition of standards is a central element for the legitimacy, trustworthiness and reliability of the validation of informal and non-formal learning. Standards for informal and non-formal learning do not have to differ from the standards used in formal learning. But if different standards are used, they should be of equal level as those used in formal learning.

The delegation of stakeholders also plays an important role in defining the standards of informal and non-formal learning. At this point, there should be agreement on defining the standards.

Documentation: For the documentation different systems can be used. The following systems are suitable for documentation of informal and non-formal learning:

- Portfolio
- Simulation and observations
- Evidence extracted from work
- Formal declaration
- Test, examinations and assessments



To gain all information needed to value the obtained competences and skills, it would be ideal to use a combination of the systems. A combination of methods can build on the complementarities between them.

Standardized tools for validation: Standardized tools can mainstream processes and increase awareness of validation in informal and non-formal learning, both in students as well in internship supervisors and stakeholders. The following subjects have a positive effect:

- Use of a digital system
- Use of formats and templates

There is a strong advice to invest in those standardized, digital systems. It will have a great positive effect.

Certification: Certification is mostly dictated nationally. So how to organize the final step towards certification, is for each institute to decide.

However, valued competences and skills, gained through informal and non-formal learning, can be a proof of the underlying competences and skills, that give access to the final national examinations/assessments, and finally certification.

Sources: (last opened Febr 2023)

- <https://www.cedefop.europa.eu/en/publications-and-resources/publications/4153>
- European inventory on validation of non-formal and informal learning - 2016 update: synthesis report (europa.eu)

## APPENDIX 5: SOFT SKILLS

In The Netherlands, competences that a VN needs are described thoroughly. In the (national) assessment, those competences are assessed. Some of the VN competences are part of the personality, and can be measured previously to entrance at the education. That's why students are being asked to perform a test before entrance of the VN education. This test can predict the extend of input the student has to make, and the professional help of teachers that's needed for the students' success at the end.

Competences measured in the test to enter the VN education in The Netherlands:

- Takes charge
- Being able to cooperate
- Being able to support others
- Capable of making decisions
- Ability to influence others
- Ability to present something
- Analytic
- Can make interpretations out of complex situations
- Creative
- Able to learn new things
- Can organize
- Can perform tasks
- Able to work under pression
- Able to adapt to others situation than usual
- Makes attempts to finish the job in regular and original ways

Competences stated in the Dutch National qualification:

- Can make observations
- Is pro-active
- Reacts and adepts to changes
- Communicates with others
- Works towards a good relationship with colleagues
- Customer-orientated
- Friendly to customers
- Participates in the positive image of the company
- Takes care of environment and durability
- works precisely
- Works with attention
- Works as instructed
- Pays attention to animal welfare
- Follows procedures
- Can give presentations and information to different groups and persons
- Reacts in a professional way to own emotions of owners and those of owners
- Knows which work has to be done

Competences asked for at Zone College:

Habit when working:

- Can communicate about the work that has to be done
- Is interested in the company
- feels responsibility for the work
- keeps to agreements made
- behaves correctly in different situations
- adapts to the uses and agreements of the clinic
- has no problem with getting critical remarks
- has an open view on different opinions
- is flexible in scheduling
- tries new systems
- communicates when problems arise
- tries to solve problems

Performing the work:

- has the right working speed
- sees what work has to be done
- works efficiently and logically
- is careful when working with animals
- is careful when working with materials
- can work individually on tasks

Communication

- can communicate
- can express problems
- can cooperate
- dares to stay for her opinion and express it
- asks questions

## APPENDIX 6: ASSESSMENT

The search for the ideal mode of assessment of clinical competence for undergraduates, which is both valid and reliable, remains controversial. The objective structured clinical examinations (OSCEs) has been increasingly replaced by other systems and methods like the long-case assessment. The tensions that exist between the validity and reliability of this assessment method and the feasibility of its delivery are difficult to resolve, but are similar to those experienced with any other form of assessment. Adequate sampling across a range of content is essential for any test of competence. Yet, the long case has educational advantages and, as more focus is placed on performance-based assessment, can be undertaken in the workplace.

When choosing an assessment form, it is good to point out the characteristics of three different assessment used.

### Traditional long case assessment

In the traditional long case candidates spend one hour with a patient from whom they take a history and whom they examine. An examiner is not present. The student is then examined by a examiner over a 20– 30 minute period. This has been to the extent that the problems associated with the long case in terms of objectivity; validity and reliability

### The objective structured long examination record (OSLER)

The OSLER was proposed to replace the long case components of a clinical examination as being a more objective and valid assessment of the students clinical competences.

Over a short time period the examiner uses a structured score sheet to assess the student's performance with a patient. The student is graded taking into account the difficulty of the case with a ranking from excellent to seriously below pass.

### The objective structured clinical examination (OSCE)

To avoid many of the disadvantages of the traditional clinical examination the structured clinical examination have been developed. In this students rotate round a series of stations with different tasks. At one station they are asked to carry out a procedure. The students may be observed and scored at some stations by examiners using a check list. In the structured clinical examination the variables and complexity of the examination are more easily controlled, its aims can be more clearly defined. The examination is more objective and a marking strategy can be decided in advance.

In the field of veterinary nursing education in PEPAS project (The creation of a Pan European Practical Assessment system for veterinary nurses) develop a European practical assessment system based on the Objective Structures, Clinical Examination (OSCE) system. This system is developed to assess the practical learning outcomes as described in the Dossier of European Competencies. The PEPAS database contains over 100 practical tasks designed to be used as either a training aid or as part of a practical examination.

## APPENDIX 7: DESCRIPTION OF THE PILOT OF WORK-BASED LEARNING IN KOLDING

**The pilot of the WBL was organised during a Learning Teaching and Training activity at Hansenberg school in Denmark. Thirty students, five from each project partners' institute, participated in one week of activities. The subject of the week was radiology. Previously students learned the theoretical part by digital learning autonomously. During the week they practised skills. Finally students were assessed on previously communicated learning outcomes. Students also joined a cultural programme. Goal for the WBL manual was to gain information how students learn in an international group. This information should lead to a first blueprint of the WBL manual.**

The goal of the week in Kolding was to experience how students learn in an international group. That included the questions: will students work together, are they able to express themselves in English, are they able to understand each other and the teachers, are they able to learn theory in English, will students from different nationalities match and socialise together. To be able to answer those questions, and see what is necessary to reach the level of being able to learn in an international group, the teachers made a lot of preparations, developed lots of materials, and monitored the learning process.

In this chapter we will give a description of the preparations for the week and the activities during the week. We will describe the processes we observed during the student activities. Finally we will draw conclusions and give most important recommendations. We hope this will give an idea of most important preparations and subjects to discuss and keep in mind according (international) Work-Based Learning.

Experiences:

We will describe our experiences and preparations of the pilot. Preparing the pilot was difficult, we had to think and discuss a lot of different subjects. It took a lot of time to think everything over and agree on details and coming together and finally develop an interesting week programme.

The main preparations held:

- Hotel accommodation and way of travelling
- Package list
- Schedule for the week activities
- Student selection
- Digital learning theory, tasks and self-assessments
- Developing lessons and materials for the practical work
- Developing practical assessment
- Instructing the Danish students

Preparations for travelling:

One of the first things to prepare was the hotel accommodation. The larger the group, the less opportunity to stay together. The teachers made a room division, students were in an apartment or room with students coming from their own school.

A package list was made, so that all students would bring everything they would need. In the package list there was also taken care of climate, cold, rain, walking distances, towels, and Danske Kroner.

#### Preparations for activities:

The schedule for all week activities was a puzzle. We had to focus on availability of classrooms, materials and teachers. Transport of students and teachers was also something to keep in mind.

#### Student selection and background considerations:

Student selection was done in different ways at the different schools, but all students joined on voluntary base. Some schools asked students to write a letter with motivation and selected the most motivated students. Other school made a lottery out of those motivation letters. Some schools just asked in the classes who would like to join, and some students stepped forward.

#### Theoretical preparation:

A group of teachers worked on the theoretical lessons and accompanying theoretical assessment. They used the Danish model, the Eurosyllabus, the Vectar tasks and the CVTEA skills, to agree on the learning outcomes for the theoretical part. After agreeing on the level and lessons, they created some text, and added pictures. They tried to keep the English at a B2 level at the max. Then they created a Moodle platform and made a nice lay-out with all theoretical parts. Once the text was ready, they created self-assessments. They also developed a theoretical assessment. Some of the self-assessment questions were also used in the final theoretical assessment, but also new questions were added in that one.

#### Preparation practical lessons:

Another group of teachers worked on the practical lessons. After reading the Danish model, the Eurosyllabus, the Vectar tasks and the CVTEA skills, they agreed on the learning outcomes for the practical lessons and assessment. Because of the initial goal of this week, the group thought of practical lessons with a minimum of control of teachers. Therefore the group developed several games. Students could play those games in small groups. With some games a self-assessment system was included. Teachers were only there to guide and answer questions, or to help after being asked for.

- Games that were developed were:
- Dog puzzle - anatomy
- Match the pairs – memory with positions and explanation
- The forbidden word card game – explain terminology
- What am I – directional terms
- Card game positioning Lotto – practising positions
- Game stick the organs on the plush animal - practising anatomy
- Game stick the position labels on the plush animal - practising positions
- Card game safety regulations – everything about safety

After practising with the games, students could practise with dummies, and later on the positioning with real Beagles and practising the actual assessment. Therefore, a rotation schedule was made for the different practical lessons, the games, and working with the Beagles.

#### Preparation practical assessment:

The practical assessment was also developed by the group that created the practical games. The goal was to keep the assessment as clear as possible, so that language difficulties would be of minimal influence. That is why the group used the OSCEs of radiology as a basis. The original OSCEs were simplified, so that they matched with the theoretical lessons, the practical lessons, and the initial learning outcomes.

### Preparation informal learning programme:

The Danish students were asked to think of a nice cultural day programme. Goal of that day was: eat something typical Danish, meet Danish people, and experience some typical Danish culture. The Danish students organised a diner at their school with typical Danish Smørrebrød, which was made by the gastronomy department. They also organised a tour through the Kolding Castle Museum and the city centre. They made a photo quest. Students had to look for the real spot of the different photos and take a photo with their group on that same spot. Groups had to make a presentation of their photos and tell something about it. The Danish students also prepared a Kahoot quiz with lots of photos, as a kind of assessment of the photo quest. Danish students were also instructed and asked to guide the different groups to the cantina, do a tour around the school, and make sure that the groups met the time schedules.

### Preparation of student information:

After all different subjects were prepared, most essential information was put in a small manual for the students and teachers. This manual was printed and uploaded in the Moodle platform. Final preparations were of course making sure that all materials were available, games ready for use, classrooms reserved, catering organised, assessments printed, check and double check...

### Evaluation

We faced different problems while preparing the pilot.

There is always an uncertainty if you do or cannot travel. In our case it was the Covid pandemic. But in all situations troubles can occur which you have to face.

It was difficult for all teachers to imagine the activities, because we did not know what the school in Kolding looked like, and not all teachers knew the classrooms and materials. We recommend, if it is possible, to travel ahead and have a look at the school, the classrooms and all materials, previously to the activities.

Make sure you check the hotel reservation. Initially our group would stay in the boarding school, but only a couple of weeks before the pilot, that reservation was cancelled. Luckily, we were able to find two other hostels. We would recommend to have a look into the expenses on beforehand. It is also nice to stay in the city centre, so students can go around on their own and enjoy.

Think of the devices, discuss which students will take a laptop.

Sometimes the school is not in the centre of the town. We had to adjust to the public transport timetables, and the possibilities of the private bus driver. We also had to investigate the available lunchtimes and possibilities for diner.

Because of differences in our school systems, our pilot group was very different. You should take this into consideration when developing the programme. Students had a totally different background, previous experiences and age.

Students got access to the Moodle platform some three weeks before leaving to Kolding. They were instructed by email about the Moodle, and they could ask for help by email also. To get used to the Moodle, students were asked to write a short introduction of themselves in the Moodle. That was a nice way to get to know the participants a little bit. And it gave information about the students who did and did not had opened the Moodle previously to the week in Kolding. A mandatory system was recommended afterwards.

When working with living animals it is important to pay extra attention at welfare of the animals and safety of the students. In the schedule, the maximum time to use the Beagles was taken care of, as

well as the different classrooms, and examination tables, because the Beagles were not allowed to get close to each other.

Experiences of activities during the pilot:

Arrival and start:

One of the first tasks arriving in Kolding was dividing the students into groups in their rooms. Teachers also asked students to join them for dinner, and some of them did. That first day some teachers already prepared the different classrooms, so everything was ready for use.

After a small introduction on Tuesday, all students were divided into groups. The Danish students were asked to stand next to each other. After that all students from each school were asked to join. So, the 30 students were divided into 5 groups, with 6 students coming from different schools. Those groups were joined for the rest of the week.

Practical lessons:

After a small introduction the groups started to play the games developed for the practical lessons. The groups turned after some 20 minutes, so after some time all groups had played all games.

Some teachers were scheduled to give lessons to the different groups about the positioning. The practising of positions with toy dogs was made with the practical printed assessments as guideline. Some teacher taught the positions, and after that groups could practice by themselves.

Before practising with the Beagles, all groups were instructed how to handle the Beagles. The Danish students collected the Beagles, and accompanied them, because they were familiar with working with the dogs. The groups practiced the positioning with the Beagles, as they had done before with the pluche toy dogs. Teachers were there to guide each group and keep a look at the dogs.

Observation and assessment:

Teachers were asked to look closely what happened during the lessons. The question was “how do students learn in an international group”. Teachers were supposed to monitor and observe the students and their behaviour.

The theoretical assessment was scheduled to be made in pairs. The Dutch students brought their laptops. One Dutch student and one other nationality of their own group were asked to join and make the digital theoretical assessment together. After completing the assessment, the result was shown at once.

The students were assessed for the positioning, in half of the groups, three students at a time. The teachers who had taught the positioning before, also did the assessments. The assessments were done with toy dogs again, and additional questions were asked. In between, the groups had some time to go around the school. The Danish students guided the groups.

Evaluation:

After this official programme, students were asked to fill in a questionnaire about the theoretical and practical lessons and the theoretical and practical assessment.

and during that day, teachers evaluated the two days of lessons and assessments. They read the results of the questionnaire and discussed what they had seen during monitoring and observation of students.



### Informal learning:

The cultural day was organised by the Danish students. The cultural day was finished with all participants and teachers, and lots of cake. The student groups were asked to give a presentation of the photo quest. After that, the Danish students did a (hilarious) kahoot quiz.

### Evaluation

At the arrival some students were nervous. You have to pay attention on the individual wellbeing, and some students really need help and guidance at that time.

The groups had different arrival times. It has been very useful to have each others phone numbers, to be able to stay into contact.

The division of the groups will be divers, because of differences in school system. Students of the Netherlands were around 19 years old, and some Finish students were already around 40 years old. Most Danish students had substantial experience in their veterinary clinic where they are working. The Finish students however had been to school for only two weeks before. Some Slovenian students had learned about radiology before, and had experienced the practical work making x-rays, but other Dutch students did not have any experience. Despite all differences, students worked together very well.

It is good to have the groups formed for the whole activity, because they really get to know each other in that way, and students will get more confident.

Students came from different environment, but differences were small. Students were enthusiastic to work with the games, they helped each other. During preparations for the practical assessment, the teachers had to make sure to get the students on the right track.

You have to schedule many (mini)breaks, because the activities in an international group are very exhausting. It also helps the teachers to discuss and get on the same level again.

In between the assessment you should schedule some extra time. It takes some time for the students to get to the right place and prepare themselves.

Students really liked the tour around the school. That should be in any programme.

Students took all activities, and the questionnaires, very seriously. Therefore, the feedback given is very useful.

While students were doing their cultural day, it was good that teachers could come together to evaluate the pilot right after the activities. Observations were still clear. Conclusions were useful.

The informal learning during the cultural day was very useful. The closure of the week, with cake and Kahoot, was a great. For students and teachers it was great to spend some time in a more relaxed environment, and close the pilot in that way.

Main conclusions so far are:

- Students and teachers need time to get to know each other and to know how to getting around. Some introduction games can be usefull fort hat purpose.
- Language difference does not have to be a problem, as long as it is mentioned, and participants are aware of differences.
- Differences in background and knowledge are no problem, as long as people communicate and open themselves to others.
- Information has to be clear, and accessibel for everyone. A digital system like Moodle or Padlet can be very helpful.
- Do not overload a programme, but keep in mind that breaks are also useful. People meet, discuss and learn a lot in an informal way during the breaks.
- Try to get balance between lessons, formal learning, and informal learning like a cultural or social programme.
- Guide students carefully and bet here to help if anything stressfull occurs.

## APPENDIX 8: FEEDBACK, CONCLUSIONS AND RECCOMENDATIONS OF THE PILOT

During the WBL pilot teachers observed the participating students. Students also answered detailed questions in the different questionnaires after the WBL activities. Both teachers and students gave useful feedback. In general, feedback at the WBL pilot was positive from both teachers as well as students. Some improvements are possible at different subjects of organisation of the WBL activities.

Both students and teachers were asked to evaluate the activities. They filled in the questionnaires. The questionnaires were analysed. Results were combined:

About the theoretical lessons:

There are great differences between the students in their knowledge of radiology. The differences between the students is larger than the differences between the different schools.

The Moodle seems a success: most students find it attractive, easy to find and good to follow.

Almost all students see the link between the lessons in the Moodle and the theoretical exam.

The subjects are rated useful for their work at the veterinary clinic.

About the practical lessons

The lessons were mostly attractive, clear, instructive, nice to play and easy to perform with a group (average 8+). Note that the Danish students overall gave lower marks on these questions than the students from abroad. What would/ could be the explanation? Would it have something to do with the fact that they were not abroad? And/ or hosts?

Two questions rated higher (average 9-): students answered that the lessons were certainly important to perform the assessment; and the assessment is important for their work at the clinic.

So, all in all these conclusions come to mind: we are on the right track with this assessment, AND students do need to be educated before taking this exam. And by performing games this is a good possibility to prepare them for such an exam, if they are abroad.

About the theoretical assessment:

Also with the theoretical assessment: students find this assessment very useful for their work at the veterinary clinic. So, we are moving in the right direction with this exam.

Not all students found the questions clear, and/ or experienced that they were prepared for this exam by doing the theoretical and practical lessons. Although the averages on these questions are quite high (7-8), there is a wide range of scores. From the different countries there are students who experienced more difficulty and less coherence between the lessons and the exam.

We know (from what students told us in Kolding) that not all students had thoroughly studied the Moodle beforehand. This could be one explanation.

The way to prepare a student for a theoretical exam (the “knowledge” part of a set of learning outcomes in an ECVET unit) must be explored further. We have already decided to focus on distance learning in our next LTT.

Recommendation for the next LTT: focus on distance learning and coaching/ how to prepare for theoretical test.

#### About the practical assessment

Here we see almost the same picture as with the theoretical assessment, although with the practical assessment the overall scores are slightly higher and the scores from the individual student vary a little less than with the theoretical assessment.

So: we are on the right track with the practical exam: very useful for the work in the clinic. Also, the preparation for this exam was rated good enough overall, with some individual exceptions.

Recommendation for the next LTT: focus on distance learning and coaching/ how to prepare for practical test.

#### About the cultural programme

Average rate cultural programme without Danish: 8

Foreign students learned about Danish culture; Danish less.

All students learned about differences and similarities between the countries.

(This is good for Erasmus: more understanding creates more European awareness)

The school tour was rated really high. Point for improvement: “I really liked the school tour at first, but would prefer earlier in the week managed to find more ways during the breaks.”

Also, some prefer the city tour at the beginning of the week. Tip: with real tour guides? (This came both from the Danish and some foreign students). If it is placed in the second part of the week, then fatigue plays a role, and the fact that some of them have already taken a tour themselves.

Sometimes better with a group and sometimes better alone. So not all students want to always join in the international group.

Food: nice to get an impression of other food. and sometimes surprisingly tasty and not always tasty, but that is okay. Point of attention: vegetarian options.

#### General conclusion:

General conclusion of the first Learning Teaching and Training activity I Kolding is that the pilot was very successful. Students have had a good time and looked back at a nice week full of experiences. Students with different backgrounds and different levels of knowledge and skills reached the learning outcomes. Despite all differences, the theoretical and practical assessment were met by all students.

The English language sometimes was a problem, mainly for participants to express themselves. But most problems were solved in the groups, students helped each other.

The theoretical lessons in the Moodle platform were a success. They were at a good level and matched the assessment. The practical lessons were a success, also at a good level, and they also matched with the assessment.

Students stated they had gathered theoretical and practical information about radiology. They thought it added extra knowledge and skills to their experiences, and it would be very useful for their education at home, and for their work at the veterinary clinic. Approximately 66% of the students were triggered to have (more) international experiences after the pilot in Kolding. Students said the pilot really improved their personal situation, the impact on personal development was huge.

Teachers collected information on the different fields. The initial goal of the pilot was reached: answers at the question “How do students learn in an international setting?”

→General recommendations:

Because students were asked, observed and monitored, and teachers also gave feedback, we were able to make a list of recommendations.

1 It is important to focus on distance learning and coaching, as a preparation of theory and theoretical assessment, and practical lessons. An attractive digital system is needed. Students have to be forced to investigate the digital system before starting any other lessons or activities. It is wise to make the (pervious) digital learning mandatory.

2 When offering theory previously to an activity, it is important that students can assess themselves. Some attractive quizzes, puzzles and good-looking materials can be very useful.

3 For the participating students it is important to start with an activity to get to know each other, before starting with lessons. Some humorous activity seems most appropriate to break the ice, because students can be a bit nervous at the start of the programme.

4 It is a recommendation to use games for practical lessons. Make sure students can assess themselves and can ask guidance or help during the games.

5 When lessons are given by different teachers, make sure they use the same method, and give the same information. For instance, for the practical tasks it would be a recommendation to make films and have a look at them previously to the lessons.

6 Keep in mind that probably none of the participants is native speaker of English language. Also pay attention to the level of English language of the teachers. It is important that teacher can express themselves in English well enough.

7 Do a proper preparation, and do not only think of assessments and lessons, but also think of what the students should do before, during and after classes, and what they need for that.

8 Think of what teachers should do before, during and after the lessons. A lot of guidance and observation should take place before and after the lessons.

9 The teachers participating in an international exchange should know each other a bit. That makes it a lot easier when communicating. Due to cultural differences many mistakes can be made, and the better you know each other, the better one notices and can adjust. So really try to go and, maybe have a dinner and have some fun together

## APPENDIX 9: SLOVENIAN MODEL OF A WORK-BASED LEARNING MANUAL

Before the start of the project, the colleagues of BIC in Slovenia, wished to work on a model for Work-Based Learning and Coaching. During the project they got inspired, and developed their WBL frame. They used information from the visits, the job-shadowing, the two project pilots, and the Work-Based Learning manual. The framework is in Slovenian, obviously, but easy to translate with Google Translate.

SEKCIJA	KRATEK OPIS	Sem vi-del/-a	Sem posku-sil/-a na modelu	Sem opravi/-a pod nad-zorom	Sem sposo-ben/- a izvesti sa-mostojno	Opombe
<b>VARNOST</b>						
	Varna fiksacija neagresivnega pacienta - pes - mačka - mali glodavci, plazilci, ptice ipd. - farmske živali					
	Varna fiksacija agresivnega pacienta - pes - mačka - mali glodavci, plazilci, ptice ipd. - farmske živali					
<b>KOMU- NIKACIJA IN</b>						

ADMINISTRACIJA						
	Formalni pozdrav lastniku, podajanje osnovnih ne diagnostičnih informacij (obratovalni čas, prosti termini...) tako v živo kot po telefonu					
	Podajanje osnovnih informacij o preventivi z antiparazitiki, cepljenju, prehrano ipd.					
	Dijak prispeva k dobri komunikaciji v kolektivu, ustrezno sprejema in prenaša informacije					
	Zaposlene, stranke in ostale naziva primerno, vljudno in suvereno, ve, katere informacije lahko predaja in katerih ne					
	Pozna sistem arhiviranja dokumentov, datotek in ga zna tudi uporabljati					
	Pozna pravilno pripravo, pakiranje in odpošiljanje bioloških vzorcev					
SKRB ZA ČISTOČO IN HIGIENO						
	Po vsakem pacientu samostojno pospravi in pripravi opremo za nadaljnji potek dela (miza, inštrumenti, tehtnica, potrošni material)					
	Ustrezno loči odpadke (infektivni, ostri, drugi)					
	Čiščenje in razkuževanje boksov, posod, stranišč					

	V izolatoriju pozna osnovne preprečevanja zoonoz in se obnaša v skladu s temi načeli					
	Čiščenje in avtoklaviranje inštrumentov					
	Pakiranje in sortiranje inštrumentov					
	Skrb za zalogo (sanitnega material, igle, brizge, inštrumentarij, administrativne potreščine...)					
	Razkuževanje rok					
	Natikanje kirurških rokavic					
<b>KIRURGIJA</b>						
	Priprava pacienta					
	Monitoring osnovnih funkcij sediranega ali anesteziranega pacienta/spremljanje vitalnih funkcij					
	Aseptično odpiranje in podajanje inštrumentov					
	Nameščanje EKG, pulzni oskimeter, ...					
	Pomoč pri intubaciji					
	Pomoč pri premikanju sediranega pacienta in nameščanju v pravilni položaj					
	Pooperativna nega (priprava boksa, gretje, nameščanje, opazovanje)					
	Pozna anestetske dihalne sisteme					



	Zna pripraviti primerni dihalni sistem					
	Skrb za delovanje (dovolj anestetika, kisika, čistoča...)					
<b>APLIKACIJE IN STROKOVNI POSEGI</b>						
	Izračun in priprava primerne doze					
	Per os					
	Očesne kapljice/ kapljice za ušesa					
	I/m					
	S/C					
	I/V					
	Vstavljanje kanile					
	Odstranjevanje kanile					
	Samostojna priprava pripomočkov za aplikacije/kanile					
	Čiščenje sluhovodov					
	Krajšanje krempljev					
	Čiščenje zob					
	Oskrba enostavnih ran					
	Oskrba težjih ran					
	Priklop in odklop iz infuzije					
	Uporaba centrifuge					
	Priprava razmazov					
	Mikroskopiranje					
	Vnos podatkov v analizator za biokemijo/hemogram					

	Asistiranje pri ultrazvoku/RTG/endoskopiji, cistocintezi					
	Zna kritično ovrednotiti spremenjene vitalne parametre in osnovna kritična stanja (krvavitev, dispnea, ...)					
	Hranjenje, napajanje, sprehajanje					
	Nudenje prve pomoči					
	Kateterizacija samcev					
	Mikročipiranje					
	Asistirano hranjenje					
	Odvzem krvi					
	Odvzem ostružka ali drugega površinskega vzorca					
	Ekstubacija					
	Zna kritično ovrednotiti bolečino pri pacientu					
<b>MEHKE VEŠČINE</b>		<b>Ne drži</b>	<b>Bolj ne drži kot drži</b>	<b>Bolj drži kot ne drži</b>	<b>Drži</b>	
	Točno in redno prihajanje na prakso, morebitno odsotnost vnaprej najavi in opraviči					
	Dijak je prilagodljiv, se zna primerno odzvati glede na situacijo in je naravnani k proaktivnemu reševanju morebitnih problemov					
	Upošteva navodila vendar je tudi zmožen samostojnega dela					
	Spoštuje dogovorjena pravila in pravila ter					

	načela delovnega mesta, je predan svojemu delu in učenju					
	Primeren profesionalni videz					
	Primerna nebesedna komunikacija					