Pan-European soft skills curriculum for undergraduate veterinary education – „SOFTVETS"

Competence Model

Christin Kleinsorgen, Evelyn Steinberg, Jelka Zabavnik Piano,
Rudolf Dömötor, Mira Mandoki, Lada Radin

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Output 1:
Recommendations of life skills competences for veterinary students

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In the following we, as the SOFTVETS consortium, present the competence model for Pan-European soft skills curriculum for undergraduate veterinary education. The competence model was developed by the project members of the

- Faculty of Veterinary Medicine Zagreb, Croatia, VEFUNIZG
- University of Veterinary Medicine Hannover, Foundation, TiHo
- University of Veterinary Medicine Vienna, Vetmeduni Vienna
- University of Ljubljana, Slovenia, UNI-SI
- Entrepreneurship Center of University of Economics and Business Vienna, WUV
- University of Veterinary Medicine Budapest, Hungary, UVMB
- The European Association of Establishments for Veterinary Education, EAEVE

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Recent research and surveys amongst veterinarians show an increasing need for integration of life skills training in veterinary education[1]. Skill acquisition and development are essential for the performance and modernization of the profession in order to provide new forms of flexibility and security for veterinary professionals[2].

The SOFTVETS project aims to create a competence model, by producing an ideal version of a soft skills curriculum which could be applicable in veterinary higher education throughout Europe.

The template used was developed during the course of the EU-funded project "Internal Quality Management: Evaluating and Improving Competence-Based Higher Education"[3].

According to the Manual of Standard Operating Procedure by the European System of Evaluation of Veterinary training (ESEVT)[4], the veterinary study programme must include the subjects listed and must allow the acquisition of Day One Competences (Annex 2).

"Competence is a concept that integrates knowledge, skills and attitudes. Competence requires acquisition of technical skills but further involves applying relevant knowledge, and having the confidence and ability to transfer what has been learnt to a variety of contexts."

(ESEVT 2016, p. 29)

The SOFTVETS Competence model adheres to the Day One Competences[4], which are in agreement with the EU Directives, Regulations and Proposals related to a veterinary professional qualification.

The competences are defined by their application within the context of the veterinary profession, including a variety of roles and careers a veterinary student can pursue after graduation (e.g. as Practitioner, Hygienist, Scientist, National Veterinary Services Officer, Animal Welfare Officer, Designated Veterinarian, etc.). In addition, continuing professional development will be required according to the field or role entered after graduation.

The SOFTVETS Competence model was derived after an iterative consultation process including veterinary experts, as well as experts within the field of the addressed competence areas.

The SOFTVETS Competence model is structured into the following three competence areas:

- Communication Competences (10 competences)
- Entrepreneurship Competences (9 competences)
- Digital Competences (8 competences)

The 3 competence areas are tightly integrated. The 27 competences are also interrelated and interconnected and as a result should be treated as parts of a whole. We are not suggesting that the learner should acquire the highest level of proficiency in all competences, or have the same proficiency across all the competences.

Within each competence area you will find the respective list of competences. Within this model competences have two aspects: a cognitive aspect (knowledge) and a practical aspect (skill). For each competence and for each aspect of a competence, a level is defined that students shall acquire by the study programme. This progression model consists of four main levels: Foundation, Intermediate, Advanced and Expert, and was developed for:

(1) Students at the end of their SOFTVETS Training.

(2) Students at the end of their undergraduate veterinary study.

The current report is the first publication to be released by the SOFTVETS project after an intensive process of research and expert consultation. The Competence model has not yet been adapted to, or tested in, real settings.

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Provisional list of Competences within the veterinary undergraduate study in Europe:

1. Communication Competences:

Communication is a core clinical skill. It is a set of learned skills, that needs to be taught[5]. The quality of communication between veterinarian and patient owner is of great importance for client's loyalty[6] and satisfaction[7], but also for the outcome of the consultation[8]. Lack of communicative competence of the veterinarian is a common cause of complaints and errors[9].

Therefore, teaching, learning and assessment of communication competence within veterinary undergraduate studies is essential. In Europe as well as in the United Kingdom and America, training of communication competences in veterinary education is already an integral part in many veterinary curricula[10, 11].

In alignment with existing Competency Frameworks[12] and validated communication competences for Veterinarians,[13] as well as Day One Competences,[4] a set of communication competences relevant for veterinary undergraduate students has been identified.

As the professional field of veterinarian is very broad, all the involved experts agreed that training of communication within veterinary undergraduate studies should not be limited to communication between practicing veterinarians and their clients. Students should be enabled by training to communicate, and adapt to different roles, situations and settings. This implies that the students are adequately performing and capable of establishing a relationship with their peers. They should be able to structure a conversation, obtain information and provide relevant information, adapted to the target audience, in a comprehensible way.

Competence Area	Number of competence	Long name of Competence	Short name of Competence	Aspect	Competence Level	
					Students at the end of their SOFTVETS Training	Students at the end of their undergraduate veterinary study
Communication Competence	C1	Use nonverbal and paraverbal communication principles with a range of stakeholders within the veterinary profession	Nonverbal communication	Cognitive	Advanced	Advanced
				Practical	Advanced	Advanced
	C2	Show empathy in veterinary professional situations (understand, and relate to client's perspective and express empathic concern)	Empathy	Cognitive	Intermediate	Advanced
				Practical	Intermediate	Intermediate
	C3	Reflect on own communication behavior, skills and limitations within the veterinary profession, as well as communication situations in general	Reflection	Cognitive	Advanced	Advanced
				Practical	Intermediate	Intermediate
	C4	Actively regulate one own's emotion, behavior and cognition within the veterinary profession, as well as in stressful communication situations	Self-regulation and self-care	Cognitive	Foundation	Foundation
				Practical	Foundation	Foundation
	C5	Check and ensure accurate understanding by active listening (receiving, attending, and assigning meaning) and react accordingly in veterinary profession	Active listening	Cognitive	Advanced	Advanced
				Practical	Advanced	Advanced
	C6	Communicate veterinary profession topics clearly and in a structured way with clients (gathering and giving information, consultation)	Structured communication	Cognitive	Advanced	Advanced
				Practical	Intermediate	Intermediate
	C7	Recognize sensitive topics in veterinary profession and communicate appropriately in difficult or challenging situations	Difficult interactions	Cognitive	Intermediate	Intermediate
				Practical	Foundation	Foundation
	C8	Communicate veterinary profession topics clearly and appropriately within an interprofessional and/or intercultural team	Communication in teams	Cognitive	Foundation	Intermediate
				Practical	Foundation	Foundation
	C9	Communicate veterinary profession topics clearly and appropriately with veterinarians as well as external stakeholders (e.g. professional colleagues, responsible authorities)	Networking and communication with stakeholders	Cognitive	Foundation	Foundation
				Practical	Foundation	Foundation
	C10	Communicate veterinary profession topics effectively whilst using appropriate language to the public	Public communication	Cognitive	Foundation	Foundation
				Practical	Foundation	Foundation

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2. Entrepreneurship Competence

The European Commission identified '*sense of initiative and entrepreneurship*' as one of the eight key competences necessary for European citizens[14]. There is a growing awareness that entrepreneurial skills, knowledge and attitudes can be learned, and in turn lead to the widespread development of entrepreneurial mind-sets and culture, which benefit individuals and society as a whole.

"EntreComp[15] defines entrepreneurship as a transversal competence, which applies to all spheres of life: from nurturing personal development, to actively participating in society, to (re)entering the job market as an employee or as a self-employed person, and also to starting up ventures (cultural, social or commercial)."

Within the veterinary profession entrepreneurship is seen as one of the essential competences[12] especially in terms of career success[16], which includes the personal development and competences that can be developed and used independently. In addition, competences dependent on working with others (either colleagues or stakeholders) which lead to an increased entrepreneurial activity of veterinarians, are also addressed; for example by adding value to existing companies or communities, creation of new businesses, innovation, creation of new jobs.

Scientific research and innovation have led to the development of new products and technologies, and it is expected that the sector will continue to provide an environment conducive to innovation, commercialization and entrepreneurship[17].

In alignment with the European Commission's Entrepreneurship Competence Framework (EntreComp)[15], the veterinary competency framework, including entrepreneurship competences[12, 18, 19] and the Day One Competences[4], have enabled a set of entrepreneurship competences relevant for veterinary undergraduate students has been identified.

Competence Area	Number of competence	Long name of Competence	Short name of Competence	Aspect	Competence Level	
					Students at the end of their SOFTVETS Training	Students at the end of their undergraduate veterinary study
Entrepreneurship Competence	E1	Reflect on own career goals (motivation, aspiration) within the veterinary profession and being determined to take action	Motivation and determination	Cognitive	Foundation	Intermediate
				Practical	Foundation	Foundation
	E2	Apply financial and economic principles within the veterinary profession (Estimation of costs and revenue, financial project management, evaluation of financial decisions)	Financial and economic literacy	Cognitive	Foundation	Intermediate
				Practical	Foundation	Foundation
	E3	Recognize and exploit opportunities (develop and evaluate ideas) within the veterinary profession	Entrepreneurial mindset	Cognitive	Foundation	Intermediate
				Practical	Foundation	Intermediate
	E4	Make informed entrepreneurial decisions within the veterinary profession and deal with uncertainty	Decision making	Cognitive	Foundation	Intermediate
				Practical	Foundation	Intermediate
	E5	Mobilize entrepreneurial resources within the veterinary profession by teamwork, networking and cooperation with external stakeholders	Mobilizing resources	Cognitive	Foundation	Intermediate
				Practical	Foundation	Intermediate
	E6	Apply leadership styles and advocate professional conduct of services, science and research within the veterinary profession (for leading organizations, the self as well as others)	Leadership	Cognitive	Foundation	Foundation
				Practical	Foundation	Foundation
	E7	Plan and manage business operations (define goals, establish action plans, consider risk management) within the veterinary profession	Business planning and Management	Cognitive	Foundation	Foundation
				Practical	Foundation	Foundation
	E8	Initiate processes that create value or change, advance the veterinary profession and understand principles of creating new businesses, products or services	Innovation	Cognitive	Foundation	Foundation
				Practical	Foundation	Foundation
	E9	Consider consequences of entrepreneurial actions within the veterinary profession regarding One Health and animal welfare, the environment, society as well as evaluating sustainability and long-term effects	Ethics and sustainability	Cognitive	Foundation	Foundation
				Practical	Foundation	Foundation

3. Digital Competences:

The rapid digital transformation of the economy and society means that all citizens of Europe need an increasing level of digital competences. These competences are applied in many life spheres, such as at work, at home, as a citizen, and as a consumer.

The European Commission defined that "digital competence involves the confident and critical use of Information Society Technology (IST) for work, leisure and communication. It is underpinned by basic skills in information and communications technology (ICT): the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet."[14].

A more frequent use of information and communication technologies at work is associated with higher wages and increased employability, therefore the integration of digital competence training in higher education is essential[20]. The rapid development of technology invades and spreads out to various areas within business, social and private life, which affects the veterinary practice from different perspectives. Therefore, digitization affects types of available jobs in the market as well as the requirements and resources needed for existing businesses.

Whereas the use and application of technologies in veterinary education increases[21, 22], to our knowledge there is no broad competence model for digital competences for veterinary undergraduate education, yet.

In alignment with The Digital Competence Framework for Citizens (DigComp)[23, 24] by the European Commission and the Day One Competences by ESEVT[4], a set of digital competences relevant for veterinary undergraduate students has been identified.

Competence Area	Number of competence	Long name of Competence	Short name of Competence	Aspect	Competence Level	
					students at the end of SOFTVETS training	students at the end of their undergraduate veterinary study
Digital Competence	D1	Search data and veterinary profession content in digital environments (information systems, databases, access, navigation, search strategies)	Search for data	Cognitive	Intermediate	Intermediate
				Practical	Intermediate	Intermediate
	D2	Evaluate digital content used within the veterinary profession (credibility, reliability of sources)	Evaluation of digital content	Cognitive	Intermediate	Intermediate
				Practical	Intermediate	Intermediate
	D3	Organise, store, retrieve and create digital content used within the veterinary profession	Managing digital content	Cognitive	Intermediate	Intermediate
				Practical	Intermediate	Intermediate
	D4	Handle copyright issues and licensing of digital content used in veterinary profession	Copyright and licences	Cognitive	Foundation	Intermediate
				Practical	Foundation	Intermediate
	D5	Protect digital content used within the veterinary profession (privacy and devices, digital risks, tools, techniques for digital safety and security)	Digital safety and security	Cognitive	Intermediate	Intermediate
				Practical	Foundation	Foundation
	D6	Share digital content within the veterinary profession (principles, rights, risks) appropriately through digital technologies	Sharing through digital technologies	Cognitive	Intermediate	Intermediate
				Practical	Foundation	Intermediate
	D7	Create digital content within the veterinary profession collaboratively (digital tools and technologies), innovative co-construction and co-creation of resources and knowledge	Collaborating through digital technologies	Cognitive	Foundation	Intermediate
				Practical	Foundation	Intermediate
	D8	Create, manage, and protect a digital identity within the veterinary profession (principles, digital tools)	Managing professional digital identity	Cognitive	Foundation	Intermediate
				Practical	Foundation	Intermediate

Background Information

The template used was developed during the course of the project "Internal Quality Management: Evaluating and Improving Competence-Based Higher Education".

The project "Internal Quality Management" developed a European Toolkit for internal quality management in competence-based higher education[3].

The list of Competences was developed in alignment with Day One Competences[2] by ESEVT and List of Competences of the European Commission:

- DigComp: A Framework for Developing and Understanding Digital Competence in Europe[24]
- EntreComp: The Entrepreneurship Competence Framework.[15]

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References:

1. FVE. VETFUTURES – shaping the future of Veterinary profession. 2017. Retrieved from https://www.fve.org/publications/vet-futures-brochure-action-plan/
2. FVE. Survey of the Veterinary profession in Europe 2015 [Available from: https://www.fve.org/publications/survey-of-the-veterinary-profession-in-europe/.
3. IQM-HE. Handbook for Internal Quality Management in Competence-Based Higher Education. 2016. Retrieved from http://ec.europa.eu/programmes/erasmus-plus/projects/
4. ESEVT. Manual of Standard Operating Procedure 2016. Retrieved from: http://www.eaeve.org/fileadmin/downloads/SOP/ESEVT__Uppsala__SOP_May_2016.pdf
5. Kurtz S, Silverman J, Draper J. Teaching and learning communication skills in medicine: CRC press; 2016.
6. Butler C, Rollnick S, Stott N. The practitioner, the patient and resistance to change: recent ideas on compliance. CMAJ: Canadian Medical Association Journal. 1996;154(9):1357-62.
7. Stewart MA. What is a successful doctor-patient interview? A study of interactions and outcomes. Social science & medicine. 1984;19(2):167-75.
8. Stewart MA. Effective physician-patient communication and health outcomes: a review. CMAJ: Canadian Medical Association Journal. 1995;152(9):1423.
9. Kinnison T, Guile D, May S. Errors in veterinary practice: preliminary lessons for building better veterinary teams. Veterinary Record. 2015;177(19):492-.
10. Gray C, Blaxter A, Johnston P, Latham C, May S, Phillips C, et al. Communication education in veterinary education in the United Kingdom and Ireland: the NUVACS project coupled to progressive individual school endeavors. Journal of Veterinary Medical Education. 2006;33(1):85-92.
11. Van Beukelen P, van der Maazen W. Programme Outcomes of the Veterinary Curriculum. Faculty of Veterinary Medicine, Utrecht University. 2006.
12. Bok HG, Jaarsma DA, Teunissen PW, van der Vleuten CP, van Beukelen P. Development and validation of a competency framework for veterinarians. Journal of veterinary medical education. 2011;38(3):262-9.
13. Kurtz S. Teaching and learning communication in veterinary medicine. Journal of Veterinary Medical Education. 2006;33(1):11-9.
14. Council EPat. Recommendation of the European Parliament and the Council of 18 December 2006 on key competences for lifelong learning. Official Journal of the European Union. 2006:L394. Retrieved from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2006.394.01.0010.01.ENG&toc=OJ:L:2006:394:TOC
15. Bacigalupo M, Kampylis P, Punie Y, Van den Brande G. EntreComp: The entrepreneurship competence framework. Luxembourg: Publication Office of the European Union. 2016. Retrieved from: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101581/lfna27939enn.pdf.
16. Lewis RE, Klausner JS. Nontechnical competencies underlying career success as a veterinarian. Journal of the American Veterinary Medical Association. 2003;222(12):1690-6.
17. Henry C, Treanor L. Entrepreneurship education and veterinary medicine: enhancing employable skills. Education + Training. 2010;52(8/9):607-23.
18. Sasidhar PVK, Van Den Ban AW. Management, Entrepreneurship and Private Service Orientation: A Framework for Undergraduate Veterinary Education. The Journal of Agricultural Education and Extension. 2006;12(3):201-11.
19. Draper DD, Uhlenhopp EK. A veterinary business curriculum model. Journal of Veterinary Medical Education. 2002;29(2):73-80.

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20.   OECD. Does having digital skills really pay off? Adult Skills in Focus, No. 1, OECD Publishing, Paris, https://doi.org/10.1787/5js023r0wj9v-en. 2015.

21.   Short N. The use of information and communication technology in veterinary education. Research in Veterinary Science. 2002;72(1):1-6.

22.   Valliyate M, Robinson NG, Goodman JR. Current concepts in simulation and other alternatives for veterinary education: a review. Veterinarni Medicina. 2012;57(7):325-37.

23.   Ferrari A. DIGCOMP: A framework for developing and understanding digital competence in Europe. Publications Office of the European Union Luxembourg; 2013. Retrieved from http://digcomp.org.pl/wp-content/uploads/2016/07/DIGCOMP-1.0-2013.pdf

24.   Carretero S, Vuorikari R, Punie Y. DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use. Joint Research Centre (Seville site), 2017. doi:10.2760/38842