Chapter

Active Learning Strategies in the Veterinary Medicine Programme under the Think4Jobs Project

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Abstract

Active learning has been introduced in the Universities to reinforce the students' skills development and increase their motivation and engagement while also fostering the transferability of knowledge into the profession, contrasting with a classical approach, where passive knowledge transfer occurs, and students act as sponges for information. Albeit not completely conceptualized, active learning demands the student's involvement with the learning activities, the analysis and ability to respond to specific situations, and a critical reflection on the learning process. In Health Sciences, case-based and cooperative learning are among the most used active learning strategies. They present multiple configurations and vary greatly in terms of implementation. Students' adherence to active learning depends on the perceived utility, level of effort requested by the activities, and self-confidence in the quality of achieved learning. Under the Think4Jobs, an Erasmus+ project, a University-Business collaboration was implemented to design work-based activities for pilot courses of the Veterinary Medicine program aiming to increase the students' adherence to active learning strategies while reducing any mismatch in students' competencies at graduation. In this chapter, we propose discussing how the collaboration was conceptualized and implemented. We also present some activities jointly designed to foster students' clinical reasoning/critical thinking and decision-making.

Keywords: skills development, competency-based education, work-based learning, university-business collaboration, learning activities, clinical reasoning, critical thinking

1. Introduction

Active learning has been the center of attention for researchers and teachers looking for less traditional meaningful learning activities. Active learning is an instructional approach that centers the learning process in the student. It uses different activities and situations designed to promote the acquisition of knowledge and skills, through the application of higher-order cognitive processing abilities, to construct new knowledge, train skills and competencies, and further reflect on their performance in the learning process [1].

During active learning, students are immersed in meaningful experiences, designed to conduct them toward the learning outcomes proposed, either in the domain of cognitive knowledge or skills development. The most interesting aspect of active learning is that it pushes the student to go beyond the factual knowledge to grasp conceptual and procedural knowledge, an "in-depth understanding". That will allow transferring factual knowledge into multiple and different situations.

The active learning concept embeds in the constructivism framework of learning since it empowers the student as the conscious constructor of his/her knowledge, allowing him/her to regulate the learning process [2] accommodating personal traits while also coping with the academic demands.

The interest in active learning has grown in the past decades. It contrasts with the classical teaching approach, where a passive knowledge transfer occurs, and students act as sponges for information [2], while the measurement of knowledge acquisition is usually focused on factual knowledge, focusing on memorization [3], without deep thinking of the content. In the classical passive learning, memorized knowledge is lost more quickly, making it more demanding for the student to translate it to solve new challenging situations, which command independent thought [4, 5].

Policymakers worldwide, including the OECD [6] demands educational systems thriving for more than factual or unreflective learning, fostering in the students the competencies need to understand the modern world and succeed in their profession. Those competencies encompass higher-order and complex thinking skills along with procedural knowledge and the ability to work in multidisciplinary teams. Two of the utmost sought skills in a broad scope of occupations are creativity and critical thinking., allowing the future professional to cope with the expanding digitalization and automation of the job market, and the multicultural aspect of the profession.

Active learning has been adopted by universities to reinforce the development of students' skills, and increase their motivation and engagement while also fostering the transferability of knowledge into the professional context [7]. Although not completely conceptualized [7, 8], active learning includes multiple learning strategies, as it also grows to adjust to the transformations occurring worldwide at multiple levels. Active learning demands the student's involvement with the learning activities, the analysis and ability to respond to specific situations, and a critical reflection on the learning process to be successful.

The closer to the professional context, the most motivational and enthralling the activity will be for students. Moreover, the need and importance of the course content become more explicit to students, which may be central in foundational courses [9]. It is generally accepted that active learning is a good way to train and enhance the students' abilities and competencies needed for the workforce. Besides, policymakers worldwide advocate the need to strengthen critical thinking in learners across all levels of education, preparing them as active and participative citizens, able to transpose into the labor market the competences developed during learning [6].

In the case of Veterinary Medicine graduation, Universities are constantly challenged to provide day one, job-ready graduates into the labor market, while also keeping pace with the rapidly expanding technical and scientific knowledge and meeting the business expectations about the minimum competencies mastered by day-1 graduates [10]. This means that Universities must ensure the development of cognitive knowledge (or hard skills) as well as inter-personal, social, and communication abilities (or soft skills) [11]. Albeit the universities often focus on the former to grade the students, the latter should not be forgotten when assessing students' performance. Besides, it is noteworthy to stress that not all the active learning methodologies will

similarly develop specific cognitive or soft skills. Therefore, it may not be possible to use the same strategies to enhance soft skills and hard skills, and it may be necessary to select different active learning techniques, adapting them to the skills to be strengthened in students or the goals established [11].

Under the Erasmus+ project Think4Jobs (2020-1-EL01-KA203-078797), several focus groups (FG) were organized to gather the opinion of professionals' stakeholders and academics about an eventual mismatch in critical thinking competencies they found in recent graduates during traineeships. The FG showed that stakeholders have a different conceptualization about the skills and dispositions deemed as crucial in professional contexts than the academic representatives, even though they consider the trainees to possess a good level of cognitive knowledge [12]. Recently, it has been demonstrated that in most cases, the attendance of a university using the classical learning approach, is insufficient to promote students' creative and CT skills [13], somehow supporting the perceptions of the interviewed stakeholders.

Taking those findings into consideration a University-Business collaboration was implemented to design some work-based activities to be included in piloting course curricula for the master's Program in Veterinary Medicine at Univ of Évora.

In this chapter, we propose discussing how the collaboration conceptualized and implemented activities using a case-based strategy to reinforce critical thinking skills and dispositions in students. We also present some activities jointly designed to foster students' clinical reasoning, critical thinking, and decision-making.

1.1 Case- and problem-based learning as active strategies

In health sciences, case-based and problem-based learning (CBL and PBL, respectively) strategies, often developed cooperatively, are among the most common approaches to active learning. Both these strategies are based on problem or scenarios, but they present multiple configurations and varies greatly in terms of implementation and the content of the course. At their base, CBL and PBL present the students with situations that mimic real-life challenges or problems that need solving using core knowledge. By using a real work context in the activities, and requesting the students to engage with real-life tasks, would foster the transferability of the outcoming competences [14]. The problematization focus on the development of high-order thinking skills, teamwork, communication and other interpersonal skills, and the ability to act upon an informed, strong decision-making process. CBL and PBL strategies share common features and present also important differences. Still, in some situations developed in medicine and nursing, the format of the activities identified as CBL and PBL became similar and the limits between the conceptualization of the two strategies overlap.

Both strategies rooted in a constructivist approach to knowledge construction, allowing the students to combine theory with practice, to mobilize acquired knowledge and skills into the construction of a solution for an ill-defined situation issued from critical issues or case-scenarios faced by the workforce [15]. With time, CBL and PBL conceptualization suffered multiple adaptations; nowadays, in some situations is not always easy to distinguish between them. Still, in their purest forms, two main differences persisted [10, 16]: 1/ the possible solutions to the problem provided are roughly defined at the beginning (that is, the situation is somehow structured) and the student uses core knowledge previously acquired to solve the situation in CBL, whereas in PBL the student is requested to identify and acquire new knowledge that is necessary to reach a solution, which is usually not previewed at the beginning of

the activity (i.e., the situation is less structured); 2/ PBL extension is usually longer (up to one semester/term)than in CBL, which generally demands a solution in a short time frame (few hours). **Table 1** summarizes the major similarities and differences between CBL and PBL.

In general, the students' perceptions about the use of PBL or CBL strategies in learning are positive [1, 17]. However, in the practice, it is often debated that students' adherence to PBL or CBL, as in other active learning strategies, is not always similar, and may depend on their perceptions of the components of the strategy used (including the relationship established with the teacher or tutor), the perceived utility, the

Parameter	PBL	CBL
Activity goals	Aims at the development of students' skills in solving problems, collecting information, critical thinking and collaborative work	Mainly targets the students' learning based on clinical cases: how to reach a diagnosis, to prioritize information, medical management, how to select therapeutic approaches, etc.
Focus	The resolution of the problem is at the focus of the activity, not the content of the problem or scenario	The construction of knowledge related with the clinical practice (learn how to address a clinical situation, identify a disease or a health problem, to engage with the patient, to manage the patient) Albeit the solution for the clinical condition is often request, it may be in the second plan.
Type of problem/ scenario	Usually, the starting point is an ill-defined situation	Often, the problem or scenario is rather specific
Learning outcomes	The learning outcomes are poorly defined at the beginning of the activity. The students narrow them through the activity, generally after brainstorming meetings where the available solutions are discussed, and they select the one to use to solve the problem.	The learning outcomes are pre-determined, even if faintly, by the teacher at the beginning of the activity.
Learning	The acquisition of specific learning is a crucial goal of the activity; therefore, it is not presented at the beginning of the activity. Often request the mobilization or acquisition of a multidisciplinary knowledge Tutorial sessions are coordinated in small group of students.	Students are challenged to mobilize previously acquired knowledge, also defined before the activity begins. Nevertheless, it may be possible that students need to deepen the level of knowledge or acquire new information.
Student's role	Students are active participants. Expectably, students must raise questions and explore the topic. Students must enroll in self-learning supported by the tutorial sessions. The discussion of possible solutions drives from self-direct learning to support the learning outcomes definition directed to the solutions to propose. As a team member, the student should contribute to the team success	Students are active participants Expectably; students must prepare in advance and to raise questions directly respecting the problem or scenario. Ever so often, students may need to complete they knowledge, if the need arises. As a team member, the student should contribute to the team success

Parameter	PBL	CBL
Tutor/ teacher role	The tutor must provide the triggering situation or problem and any additional information according to the need. Expectably, he will have limited intervention regarding the alternatives or solutions offer. Instead, he should provide students with soft scaffolding questioning. The tutor should play a more passive role, more observational in nature, shepherding the group through impasses, and avoiding participating directly in the solution proposal.	The tutor must provide the situation or problem or scenario. Expectably, he orientates the discussion and the acquisition of specific knowledge, as well as the entire activity, so the learning outcomes may be reach. The tutor must maintain the students focus on the case provided, avoiding out-of-context discussions. He ensures that the correct answers are made aware of the participants.
Content	The activity usually lasts for multiple sessions (classes or weeks) as the focus is put in the process.	Often the activity is developed for a short time (one or two sessions or classes), around a case.
Activity outcomes	The outcomes should be assessed according to the defined for the learning outcomes, to determine the students' achievements.	The activity outcomes focus on the cognitive process besides the skills defined in the learning outcomes, and the assessment should encompass both.

Table 1.
Main differences between case-based and problem-based learning as used in health sciences.

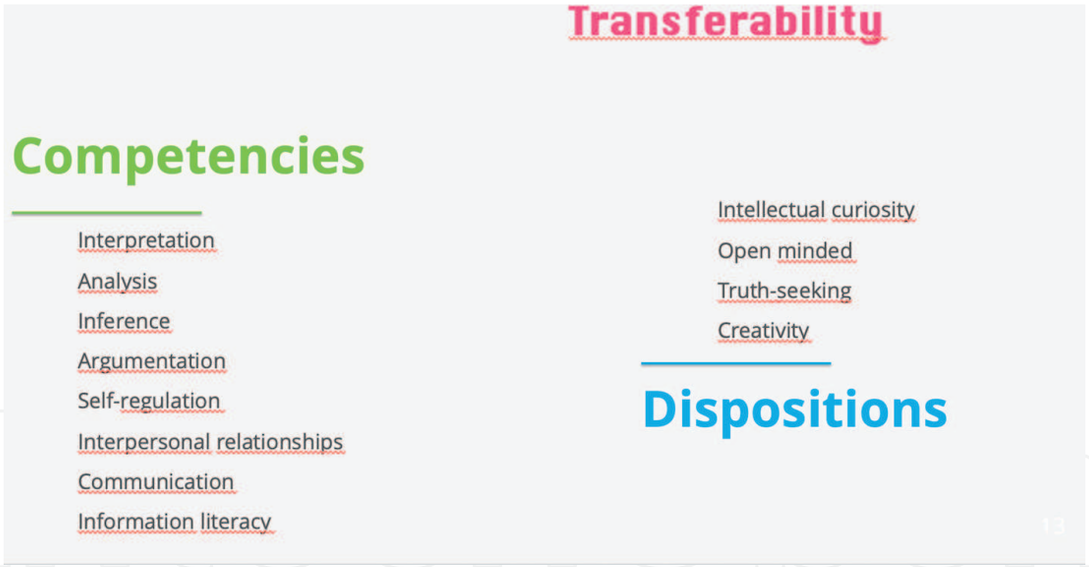

Figure 1.
Summary of the main competencies endorsed in PBL and CBL.

level of effort requested when engaging in the activities, or their self-confidence in the quality of learning achieved [18, 19].

In addition to the acquisition of cognitive knowledge, PBL and CBL allow the student to develop multiple competencies, some of which are illustrated in **Figure 1**. Ideally, when assessing the activity outcomes, and considering that the student must be graded at the term end, the achievements in both cognitive and ex-cognitive competencies should be foreseen. **Table 2** presents available tools to be included in PBL and CBL activities that will be useful to assess the students´ achievements.

Skills/learning outcomes	Assessment tool
Knowledge acquisition or application	Critical case-based assays, depicting the reasoning process, presenting identified difficulties or knowledge gaps, and explicating errors or missteps occurring across the activity and the way they were overcome.
	Written assessments
	Concept maps or diagnostic algorithms, constructed by students.
Problem solving and critical thinking competences	Triple Jump [*assessment method focusing both the quality of knowledge gained through the activity and how they learned it*] [20]
	Written assessments or assignments
	Viva voce/oral examinations, based in structured questions combined in cards that encompass different knowledge levels and skills
	Script concordance tests, that compare the degree of concordance between students' solutions with those of experts [21]
	Presentation of the proposed solution before a group of stakeholders or experts
Communication and teamwork skills	Participation in tutorials—via the reports of tutor and peers
	Auto- and hetero-evaluation questionnaires, used to the appraisal of the group performance.
	Written reports
	Role-playing [not necessarily as acting according to a role, but rather thinking form the position of someone in that scenario]
	Online blogs/chats/forums
Self-direct learning skills/ self-study	Independent study report
	Report of search strategies
	List of references (e.g., introduced in an assay or in other assignments)
	Oral presentation / written report
Reflection	Reflective diaries
	Oral presentation
	Portfolio

Adapted from Ref. ([22], p.175).

Table 2.
Tools available to assess the students´ performance in active learning strategies.

2. Business-university partnership in the designing of active learning activities

Stage one of the Think4Jobs project established the recommendations for the Veterinary Medicine Program and allowed to identify the crucial competencies stakeholders deem as essential at the entrance of the final traineeships and in young graduates. Briefly, the competencies identified to fit the skills and dispositions already identified under the critical thinking concept [23] including the ability to question, the analytical skills, a structured way of reasoning, decision-making, autonomy, and self-correction [12]. These recommendations were used as a starting point for the design of the work-based activities, adequate for the course content, to be implemented in piloting courses on the master's Program in Veterinary Medicine. The ultimate purpose was to increase the students' adherence to active learning strategies while reducing any mismatch in students CrT skills and competencies at graduation,

as perceived by stakeholders. Moreover, the activities aimed at representing situations currently found in the routine of the profession, bridging the course content directly to the critical reflection and decision-making often requested from a Veterinary Surgeon in a wide scope of occupations.

2.1 Conceptual aspects to consider when designing the activities

The activities were designed considering the following conceptual views:

1. Regarding the CrT instruction—the development of CrT competences followed a mixed approach, i.e., combining the Abrami et al. [24] definitions of an infusional (CrT is taught in an explicit way within a particular subject matter or content) and immersive (CrT is taught implicitly within a particular subject matter or content)

2. Regarding the blended-learning conceptualization—the activities were designed considering the methodical level (i.e., combining both self-directed with instructor-led learning, and the individual with cooperative learning) and the level of the media (ie., combining face-to-face with online elements) [25]

3. At the level of media used, the blended-learning design followed a low-impact blending model [26], i.e., extra online activities were added to an existing face-to-face course

4. The situations to be used in the blended activities would be retrieved from daily professional contexts and its selection would result from a previous discussion between HEI and LMO representatives. Until now, in the project, the *University of Évora* partnered with *Hospital Veterinario do Atlântico*, but the partnership will be extended to other LMO, because of the wide range of expertise areas tackled by the Veterinarians

5. The activities will be scaffolded with debates or questioning allowing a dynamic interaction between the student and the teacher and a critical reflection on the reasoning process, and the decision proposed by the students (from among different approaches, the student must select the one he/she considers the most adequate for a particular situation), while allowing the students to learn from mistakes and errors, in controlled settings [12].

6. Whenever necessary, the proposed activities can be bridged to additional activities of a practical and technical nature, to be developed during intramural traineeships (using entrustable professional activities—or EPA)

For the design process of the active strategies, and because most courses in the clinical area share common goals (the need for the critical assessment of a medical situation that needs solving through a corrective medical or surgical intervention—decision making), the HEI and LMO partners decide on proposing a common framework that could be used across multiple courses. By sharing the same framework, the differences in the clinical case used for stating the activity would provide wider flexibility to the process, promote multiple repetitions of the framework in different

contexts which would likely foster the sought transferability of skills, and would also cope with the individual content of the syllabus of each course (which has been validated by a national entity that evaluates the programs' curricula).

In the veterinary daily practice, the professional intervention involves either well-structured situations (e.g., for vaccination or sanitary procedures, and some routine or elective surgeries) or ill-structured challenging situations (e.g., during emergency situations). The partners decide on the use of a moderately ill-structured situation for starting the proposed activities, allowing to use different difficulty levels to match the level of difficulty to the students' program level as well as to the topic at hand in a particular course or apprenticeship. Moreover, the activities aimed at the development of factual and conceptual knowledge and high-order thinking so in the end, they would enhance the student's autonomous decision-making.

The learning scenarios designed will support CrT skills and dispositions development and will allow students to switch their reasoning from a disease- or system-based thinking into patient-based thinking conductive of a successful medical decision-taking for problem-solving [12].

2.2 Proposed activity framework for courses in the clinical areas

The framework for the learning scenarios aims at engaging students in the analysis of clinical condition-issued from everyday practice of a veterinary hospital and to decide on the best intervention possible for the clinical condition considering the animal and owner context, resourcing to high-level reasoning, scaffolded by questions. Overall, this approach will contribute to the enhance students´ CrT skills.

The case scenario used as starting point is purposely left blank allowing the teacher to select particular situations, adapted to the course content, considering the targeted species or the medical specialties (e.g, Gynecology and Obstetrics, Infectious Diseases, Ruminants Clinics, Small Animals Clinics, Surgery in Companion Animals). The elements to be included in the scenarios and the activity steps follow a medical model [27].

These activities can be implemented during classes, but they may also be transposed into a traineeship context, and to improve the discussion of clinical situations during the clinical rotations. Through the activities, students are encouraged to develop their autonomy in core medical procedures (e.g., collection of clinical history, deciding on the complementary exams needed to direct the diagnosis, discussing available therapeutic approaches with a third party, and engaging in smaller entrustable professional activities mimicking those performed during external traineeships). In the later, students will train communication, empathy, inquisitiveness, systematicity, autonomy, and self-confidence, as well as self-assessment.

The proposed activities are limited in time; they were designed to be completed in 3 h or 2×2h, and they can repeat twice or thrice during the semester. The framework proposed herein was devised to be developed in the courses of the 4th and 5th level of the master's program in veterinary medicine, and in a face-to-face format, even though some support can be provided in a blended approach. For the activities, students will be grouped in cohorts of five elements, which will also reinforce the development of teamwork competencies.

The steps of the framework are detailed in **Table 3**, along with the skills and dispositions they address.

2.3 Additional support during implementation

The implementation of the activities requests the production of supporting materials, to be developed by the teacher and made available to students some days in advance, for preparing their participation. Among the course material to be provided

Activity step by step			**CT skills**	**CT dispositions**
General action		**Specific action**		
Step 1	Present the patient's problem	Depict the patient's initial story, question, complaint, or evident symptoms before history taking.	Interpretation Inference	Systematicity Cognitive maturity
		Identify the focus of the problem [Why the animal was brought to the consultation]		
		Provide all the hypothesis that may be associated with the problem [I: likely, II: less likely, III: not very likely]		
Step 2	Choose the questions to be asked to discriminate between the most relevant hypotheses	Query differential diagnoses Assess the quality of the information collected	Inference Evaluation	Communication Autonomy Evaluation Inquisitiveness Open-mindedness
Step 3	Provide the patient's clinical history information	Revise how the information influence the differential diagnosis	Analysis Interpretation Evaluation	Cognitive maturity Analyticity Systematicity
		Consider of the focus of the clinical problem has changed		
		Rank the most important information according to the value to raise the differential diagnostic list		
		Contrast the diagnostic approaches		
Step 4	Deliver additional information on request	Ponder if additional parts of the clinical exam are now required in order to exclude some unlikely, but important hypotheses	Analysis Interpretation	Systematicity Analyticity Communication Truth-seeking
		Discuss how the findings contributed to redefine the diagnostic list (if it changed)	Interpretation Evaluation	
		Discuss the additional exams necessary to confirm the most likely hypothesis and to discriminate between others	Analysis Interpretation Evaluation	Analyticity
		Interpret the findings from the diagnostic Tests	Evaluation Inference	
		Identify the discarded hypotheses on the bases of the additional information provided. Present your diagnosis	Interpretation Inference	

Activity step by step			CT skills	CT dispositions
General action		Specific action		
Step 5	Therapeutic options	Discuss the therapy that is now indicated, given this diagnosis and patient circumstances	Analysis Evaluation Interpretation Explanation	Communication
		Select the most suitable treatment for a particular situation (consider the animal background, animal problem, co-related health issues, etc.) Identify arguments to support the selected therapeutic options using a SWOT matrix		
Step 6	Schedule the follow-up	Present your prognosis Discuss it with the teacher/trainer	Inference explanation	Systematicity analyticity
		Provide a timeframe for when you expect to see the results of the treatment		
		Describe the changes expected and the timeline for those changes		
		Schedule the moments when the animal should be observed for the condition improvement [either for ambulatory or non-discharged animals in hospital care]		
Step 7	Metacognition	Revise your reasoning: verify your diagnosis	Inference self-regulation metacognition	Analyticity open-mindedness
		Suppose that the animal fails to show health improvements or presents additional complications. Detect what could have been wrong		
		Anticipate the critical point(s) in the animal' tutor compliance [time in treatment; effort; costs of treatment; failed expectations for the animal value]. Propose a mitigation plan for them		

Table 3.
Framework to be used in the case-based activities developed for courses in the clinical area in the veterinary medicine program.

to students, we include a list of recommended scientific or academic publications, to be used during self-study to construct background and specialty-specific knowledge; a regulatory document, setting the topic, the learning outcomes, and requirements, with an estimation of the time spent in preparing the activity, and defining the outputs to be used for assessment, and also presenting the rubrics to assess the competencies set for the activity.

During the activity, it is critical to have all files related to the case in analysis: the case vignette, the complementary information pertinent to the case analysis (to be provided upon the students' specific request and justification), and the file containing the guiding questions.

2.4 Assessment of the activities

The assessment of the students' performance during the activities must match the proposed outcomes, meaning that the rubric to be used should address both the cognitive knowledge and the CrT skills and dispositions. The evaluation will use the documents produced by students. These documents represent a critical assay of the reasoning process the students engaged with across the activity; scaffolded by the questioning provided by the teacher, the rational underlying the analysis of the situation and data from complementary exams, and the decision made regarding the solution proposed for resolution of the primary condition and the proposed schedule for follow-up interventions should be detailed, in an approach resembling the "think aloud" method.

The questions provided to support the analysis, and the corresponding rational, are categorized as factual, conceptual, procedural, and metacognitive knowledge, for scoring using a 4-point rubric for evaluation of the quality of reasoning. The knowledge categories have different ponderations: 1.5× for the factual; 2× for conceptual knowledge; 2.5× for procedural knowledge and 3x for metacognition [28].

3. Implementation of the activities and anticipated challenges

These activities have been implemented in the current term in the course of Gynecology, Andrology, and Obstetrics (8th semester of the Veterinary Medicine Program), in a piloting test. At this very moment, two activities were developed (namely for the themes andrology and gynecology) with 45 students distributed in five-elements groups.

From the application of this framework, we found that the perception of the closeness of the requested tasks to the ones Veterinary Practitioners perform daily in a clinical context engages and motivates the students to learning experiences that both increase their cognitive learning and empower them with other skills or dispositions requested in the workplace. Students themselves recognize that the activities are good strategies to increase their learning.

Besides, the involvement of LMO representatives in the construction and modulation of the activities brings work-based learning opportunities into the classroom. Based on Business-University Cooperation, these activities allow bridging the distance between the academy and the workplace, without the need to send students to extramural workplaces during their academic track.

Still, some constraints must be anticipated. Both the students and teachers are strange about these kind of learning activities. They request the students a different level of investment in the self-study routines and are critically dependent on their self-regulation skills; moreover, they will not guarantee the same performance (grading) as a memorizing-based assessment of student's cognitive skills, since the focus on students' reasoning competences will be placed on the assessment and accounts for their learning outcomes; thereby, including the CrT skills in the final assessment might impact the grades the student are used to obtain. The major positive effect—not always clear for students at this stage—may be a softer transition into the demands of the workplace, better integration into larger teams, and an improved quality in decision-making and animal healthcare.

As it is viewed by some as a liability, the proposed activities will be more time-consuming to teachers in comparison with the traditional teaching and learning

styles, may compromise long syllabus teaching, and certainly increase the teach-related workload, while also imposing the need to be self-confident, open-minded, non-conformist and not be afraid of being challenged. Moreover, it will request constant contact with the routine and reality of the profession, to build networks with LMO along with coping with the rapidly changing workplace and the ever-growing advancement of science and technology.

4. Conclusion

This chapter describes the rational and the design of learning activities based on clinical case scenarios, as conceptualized under the Think4Jobs project. The activities were designed to reinforce students' clinical reasoning and critical thinking, recreating work-based experiences that can occur in the everyday activity of a veterinary practitioner. The current study presents some limitations: the conceptualized model is not yet tested for veterinary medicine courses, and only has been piloted during the current semester; therefore, no results are available yet to analyze its suitability or its success. Despite that fact, the current research contributes to the discussion of the topic of active learning strategies and provides the first steps for a framework that can be applied longitudinally and transversal to the courses in the clinical area. Therefore, the proposed framework is still pending validation, which will be performed in the near future.

Finally, some issues may be anticipated when introducing new and different activities that might impact the students' grades or the teacher workload. On the one hand, activities like the one described herein will request the students to develop new and unclear (unperceived) skills, such as self-regulation and autonomy, as well as to embark on a different way of studying, driving a resistance toward active participation. On the other hand, teachers may need further support, either regarding their own empowerment and confidence, as well as to be able to respond in time to the added responsibilities to develop the activities and provide timely feedback to students.

Still, using activities like the ones contemplated in this framework will contribute to better preparation of graduation students to the labor market expectations.

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