Internal Quality Management in Competence-Based Higher Education

Collection of IQM measures

– Collection of measures after the competence screening –

July 2018

What is the aim of the document at hand?

Step 3 of the internal quality management procedure concerns developing and implementing quality assurance and quality improvement measures. Each implementation partner in the IQM-HE project has already adapted templates developed for Step 3 and conducted workshops to develop measures.

Ideas and scenarios for how to improve competence-based higher education have been developed with Tool 15. Nevertheless, a look at the concrete measures developed by individual implementation partners can provide relevant insights.

What can be found within this document?

Since all of the implementation partners implemented the procedure, we provide some "real life" measures that can serve as examples to be improved upon. In this document, we present all implementation partners' central findings and measures in anonymous form (University a – University e). Please note that the measures are specific to the individual institutions and were developed in discussions and workshops taking specific institutional conditions into account. Therefore, the findings and measures presented here are just examples – the same finding can suggest a need for very different measures depending on the organisational circumstances. The following findings and measures are grouped into subtopics covering the same subject.

Findings and measures

Findings	Possible measures
General remarks	
■ ***University b:*** The gap between the programme's intended and achieved competence levels was no larger than one level in most cases. This means that the study programme is generally successful.	■ The study programme decided to focus on the few competences where major deviations appeared. ■ As the screening of competences will be continued, it was considered most useful to define general processes for what will happen after screening results are presented and discussed. Possible steps for reflection were defined: 1. The IQM Team should check to see whether the competence levels were mistakenly set too high (e.g. students have not yet learned this) or the competences were formulated insufficiently clearly. (Category A) 2. For competences judged to be clearly formulated and with appropriate levels, the IQM Team should consider which modules and formats might address them more prominently. (Category B) 3. For competences that fall in neither Category A nor Category B, a joint meeting with members of the teaching faculty, students and – if possible - practitioners as well – should be helpful for finding ways to better reach the set levels. (Category C)

- It was decided that changes to the curriculum and lowering the intended competence levels should be a last resort: it must be very well justified and may have consequences for the number of ECTS, etc.

- In defining such a process, it should also be specified how the results should be analysed / prepared for discussions, as well as how and to whom they will be reported back.

- The IQM-HE team will analyse the results of the most recent screening according to the above categories and a general process will be developed together with the QM.

- Including the perspective of students and practitioners from the labour market in this discussion process is highly recommended (e.g. via focus groups).

- **University c:** For nearly 60% of competences (53/90), students at the end of their third year of study rated their competences (knowledge and practical skills) as at the intended level. Faculty members rated nearly 60% of students' competences as at the intended level. For about 40% of competences (35/90), students at the end of their fifth year of study rated their level of competences (knowledge and practical skills) as at the intended level.

- For the majority of the other competences, the gap between the intended and achieved levels was no larger than one level.

- The study programme is generally successful. The instructions concerning the different competence levels should be more clearly explained in the next round of competence screening; however, competence gaps of one level should continue to be expected in the future.

- All competences where deviations of 2 or 3 levels were observed were considered in the preparation of the new study programme. Some courses were re-designed, some were moved from the last year of study programme to earlier years, and some new elective courses were proposed.

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- ***University c:*** For some competences, deviations of 2 levels from the intended levels appeared from the perspectives of both students and teaching faculty members. In one competence, both groups assessed the level of cognitive and practical competence 3 levels lower than expected.

- All competences where deviations of 2 or 3 levels were observed were considered in the preparation of the new study programme. Some courses were redesigned, some were moved from the last year of study programme to earlier years, and some new elective courses were proposed.

- ***University d:*** The students' estimates of their competence levels were lower than the faculty members' estimations by at least one level.

- In some cases, students' confidence regarding what they "know how to do" must be increased, because some students believed that they have specific competences, but are afraid to use them in practice without guidance or assistance due to the high responsibility involved in medical acts.

- Counselling classes could be offered to students by specialists in psychology and career orientation.

- ***University e:*** The subject-specific competences are far below the intended levels, especially in faculty members' reports. *Assumption: students abuse the summative assessment system and make a rational decision just to pass the exam instead of gaining high-level competences.*

- It is common in the faculty for teaching faculty members, who distribute the work and evaluate students throughout the semester, to be considered the owners of the learning process. This responsibility must be shifted to the students, who must learn to understand and manage risk. This message should be communicated to students explicitly.

- Formative assessments should be used more intensively than is currently the case. Formative assessments would show the level of competence but would not influence exam marks.

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Practical components of the study programme

- *University a:* The assessed competence levels for the practical part of the programme are not as high as the intended levels.

- Expansion of the practical components of the programme

- Change the teaching methods employed → stronger integration of methods like practical training, role plays, case studies or projects, and research-based work

- Greater support for faculty members → workshops on how to teach in a practice-oriented manner; facilitating communication among faculty members about practice-oriented measures

- Greater support for students → helping them use learning strategies that facilitate transfer into practice; using competence-based assessment methods with a connection to practice

- *University d:* For some practical competences, the levels achieved by the students were higher than the levels for taught components due to training outside the faculty.

- The quality of practical activities should be increased by providing students with more cases in order to give them more individual practice. Another option is to reduce the group size from 13-15 to 10-12.

- The management of the practical traineeships should be improved in order to allow students to practice more in their last year of studies under the supervision of experienced private veterinarians.

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■ Voluntary work should be encouraged; however, practical work with veterinarians in different areas of work should also be organized by the institution for the final year of study (e.g. agreements with the private sector, administrative bodies, laboratories).

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■ *University d:* Students recommended more focus on practical activities in order to be prepared for the veterinary profession.

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■ The ratio of theoretical and practical activities should be adapted in favour of practical activities;

■ In the last year of study, students should have more elective courses focusing on their needs.

■ The curriculum could be adapted by re-organizing the practical traineeships in the 5th and 6th years. A very good approach would be to make it compulsory for students in the 2nd semester of the 6th year to complete practical traineeships outside the faculty: in private facilities under the supervision of experienced veterinarians and/or with state veterinarians working in public institutions.

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■ **University d:** The screening results show that there is a need for action in how the competences are taught, especially concerning practical aspects.	■ Teaching methods should be adapted by providing didactical assistance for faculty members; ■ More experts from other veterinary medicine faculties, state veterinary departments and from the private sector should be invited to host lectures and practical demonstrations; ■ Young faculty members could be encouraged to take part in external mobility programs (e. g. visiting other institutions) in order to improve their teaching skills.
■ **University e:** In most cases, the teaching staff reports lower student competence levels for the practical aspect than students do. *Assumption: Different understanding of the competence and the practical aspect.*	■ There should be better communication between students and faculty members on what each competence and its aspects mean. ■ Faculty members should plan to spend some course time reflecting on the competences taught.

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Communication about competences and the competence model

- *University a:* For some competences, the faculty members' estimation of the students' level and the students' estimation of the taught competence level are the same, while students estimate their actual level to be lower.

- Clear communication of the levels: In each course, faculty members should discuss the specific learning outcomes and ask for frequent feedback during the course → What do the levels mean and what level is realistic for the course? What do the competences mean? Why are they relevant? How can they be achieved?

- Reflection with students and faculty members on the overall aims of the programme: What are the aims? What are the demands/requirements? What is the current state of the art (e.g. topics, methods)?

- Changing the teaching methods selected → stronger integration of methods like discussions, flipped/inverted classroom, working in groups or problem-solving tasks

- *University a:* Students estimate their competences at a higher level than intended in some areas. This applies especially to the cognitive aspect of some competences (e.g. "soft skills"), where the estimated levels of all competences are higher than the intended levels, even though the curriculum does not foster these skills that much on a cognitive level.

- Clear and transparent communication about the meaning of the cognitive aspect and how and why it should/should not be addressed in the programme

- Training for faculty members on how to teach "soft skills".

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- **University b:** Students (and teaching faculty members) often rated the taught competence level lower than the "actual" acquired competence level. Thus, the results indicate that students might not realize what they are being taught in their study programme with respect to some competences or did not reach the levels for some reason.

- There should be better communication of what competences should be learned during the study programme and in which classes.

- A matrix should be developed to show the connection between competences and classes / curriculum.

- Students do not only acquire competences through the study programme or formal curriculum. Learning is an open and complex process that does not only happen in a predefined space. Information on how students are learning and how they are acquiring particular competences should be collected.

- If the reason is not related to knowledge about the curriculum, there should be discussions with students about other potential reasons.

- **University b:** The screening procedure should focus more on a better understanding of the competence levels among both students and the teaching faculty.

- A better explanation of the competence levels should be implemented for both groups during the next screening phase.

- Developing an instructional video may be a possible solution.

- Generally, communicating competence levels from the beginning of the study programme seems to be a good starting point for developing an understanding of learning progress and competence development as a rational outcome of the study programme.

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■ ***University b:*** Overall, discussions about the competence model itself were considered a possible reason for the identified gaps: The competence model was developed in 2014 (before the implementation of a new curriculum) at the university and no screenings have been conducted since then.	■ It was decided to reflect on the competence model with other relevant stakeholders after the next screening phase. ■ The further development of the screening instrument – which was conducted as part of the IQM-HE project – will surely provide helpful further information. ■ A meeting with the other project partners that also focus on veterinary medicine is planned. ■ The EAEVE visit next year will be also used for reflection.
■ ***University c:*** Students often rated the taught competence level lower than their own competence level.	■ Students should be made aware that many skills can be learned through various activities outside of the study programme. These activities should be encouraged by the teaching faculty. Students should be made aware of the wide range of learning opportunities outside the curriculum.
■ ***University c:*** Faculty members rated some competences lower than students did.	■ The teaching staff should be familiarized with the competence model that was agreed upon at the faculty staff meeting to enable them to teach to the agreed level. For example, it could be made available on the intranet for teaching staff.

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- **University d:** There are many gaps between the intended competence levels and the actual competence levels assessed by both students and faculty members.

  - Communication between faculty members and students at the beginning of courses should be improved. This should include defining faculty members' expectations about students' competence levels at the end of the course (learning outcome);

  - Faculty members should select appropriate teaching methods that allow students to achieve the learning goals;

  - The intended levels for some competences should be re-evaluated by the coordinators of disciplines (some could be too high and therefore not achievable in the time available)

- **University d:** The study programme does not seem to foster students' competences up to the intended level for all competences, especially in the 12th semester and concerning the practical aspects.

  - The next survey should place greater emphasis on the competence levels for both faculty members and students. The current gaps might be due to misunderstandings of the competence levels;

  - The intended levels for some competences should be re-evaluated by the coordinators of disciplines (some could be set too high);

  - The teaching methods should be adapted in order to be more attractive and interactive for students.

  - The students should adapt their learning strategies so that they are learning throughout the semester instead of only during the course sessions.

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- **University d:** The screening procedure should focus more on a better understanding of the competence levels among both students and faculty members.

- The next survey should better explain the competence levels to both groups.

- More time for explaining the competence levels should be planned.

- **University e:** In most cases, the 3rd-year students reported that the study programme promotes their competences to a higher level than intended, but the students are not reaching the intended level (especially in the faculty members' reports). *Assumption: A lot of material is presented; the teaching is fragmented and not cross-integrated.*

- The teaching staff should collaborate more closely than is currently the case. Faculty members must highlight that particular algorithms, technologies, etc. will be required for courses in later semesters;

- The 3rd semester teaching staff decided to cross-integrate subjects: students will use the PBL project as an opportunity to complete tasks in other study subjects.

- An orientation week for 1st year students is planned beginning Autumn 2018 in order to:

1. explain the prerequisites for different subjects;
2. highlight the connections among different study subjects and the continuity of the topic, theme, ability development, ...;
3. emphasize and explain the competences to be developed in the study programme, the competence and learning outcome matrix;
4. emphasize the importance of being able to learn/study individually;
5. present the differences in processes and responsibilities between high school and higher education.

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Specific competences

- **University b:** There are a few competences where larger deviations (more than 1 level) from the intended levels appeared from the perspectives of both students and teaching faculty members. This applies in particular to the area of hygiene — in which both students and faculty members stated that the intended levels are clearly not being reached.

- The IQM team and the rector reflected on the curriculum design (Where in the curriculum and in which courses are these competencies actually addressed? Is there sufficient time to achieve these competences? etc.), students' skills (Do students have enough prior knowledge? Do they have sufficient learning skills? etc.) and teaching methods (Should faculty members change or adapt their teaching methods? etc.)

- For competences concerning the area of hygiene: A film will be developed by the programme staff and distributed during the modules.

- **University c:** There are two competencies (social responsibility and material responsibility) where deviations of 2 levels from the intended levels appeared from the perspectives of both students and teaching faculty members.

- Responsibilities in veterinary medicine should be explained more precisely in all courses dealing with animals, owners, food production, the environment, food of animal origin, and notifiable diseases. Focus groups with faculty members involved in these courses could be introduced. Signing a declaration of material responsibility could be introduced where applicable.

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- **_University c:_** There were some answers from students indicating that they would welcome the following changes:

  - [5]For the competence "data management in veterinary medicine", students expect to learn more about where to get and how to critically evaluate information;
  - [6]They would like more information on how to communicate with animal owners;
  - [7]They would like to be more involved in research work;
  - They would like to have more group work;
  - [8]They propose having contact with animals earlier in the study programme; more practical work with patients earlier in the study programme;
  - [8]They suggest moving up some courses from later in the study programme to the first years;
  - [9]They suggest more hours for the course in "Pathophysiology";
  - [8]They propose that course "Epidemiology" ought to take place later in the study programme;
  - The course on "Animal breeding" should be more about animal selection.

- Some of these were addressed in the proposed adaptation of the study programme:

  - [5]Faculty members should be provided with the information they need to address this question in their courses;
  - [6]Discussions were conducted with the faculty member teaching the corresponding elective course, and cases on how to communicate with clients will be added to the course;
  - [7]The workload for some courses was decreased and allocated to research work that was added to the proposed study programme;
  - Faculty members should be informed of this proposal at the next faculty meeting;
  - [8]Some courses dealing with animals were moved to the first year of study in the new study programme;
  - [8]Some courses were modified and will now also be given in later years of the study programme;
  - [9]The workload for some courses was decreased and partially allocated to the course on "Pathophysiology" for practical work (five hours);
  - [8]"Epidemiology" will be moved to the 8th semester.
  - A meeting was held with the faculty member who will lead the course according to the approved curriculum.

- **University c:** There were some answers from students indicating that they would welcome the following changes:

  - How to communicate with clients;
  - [10]More external faculty with professional experience;
  - More hours dedicated to "Pathophysiology";
  - More courses on diagnostic imaging;
  - [11]More content on the interpretation of haemathological and biochemical analyses;
  - [12]More content on databases of notifiable diseases;
  - [11]Course on "Epidemiology" should be placed later in the study programme;

- These suggestions were taken into account in the adaptation process as well:

  - The communication topic was discussed with the faculty members teaching the elective course and will be added to the course;
  - [10]Faculty members were invited to ask professionals to participate in their courses;
  - Five additional hours were added to the course on "Pathophysiology" for practical work;
  - A change in the curriculum was proposed;
  - [11]Some preclinical courses will be divided up and presented to students in a different form in later years of the study programme;
  - [12]Faculty members will be asked to devote more time to databases and prepare a list of databases;
  - [11]Course on "Epidemiology" was moved to the 4th year.

- *University e:* The generic competences are taught at a high level, but the intended level is not reached (as reported by students and faculty members), especially for the practical aspect. The problem is clearly with respect to task/time planning, and this trend holds for the subject-specific competence IT project management as well. *Assumption: Students do not have sufficient opportunities to apply their skills in practice and integrate cognitive skills in a practical environment (real project management).*

- Generic competences are developed during all subjects, but English classes play an important role in competence development due to its specific role in the study programme. The study programme committee plans to discuss possible changes in the curriculum with the institute that coordinates foreign language teaching.

- Competence development might be increased by ensuring a coordinated schedule of task deadlines across subjects. Faculty members plan to collaborate on scheduling deadlines.

Participation of faculty members

- *University b:* The teaching faculty's participation rate in the survey was seen as too low. The teaching faculty's perspectives are very important for the evaluation of the curriculum.

- It was decided to identify multipliers who could promote the competence check in their own environments.

- These multipliers were invited to a working breakfast.

- The purpose and potential uses of the competence check were emphasized, particularly with regard to how the screening was integrated into university b's QM as well as the opportunity to really participate in an important developmental process for university b.

- In addition, a short description of how the results will be used and a link to last year's results and discussions will be added to the next invitation to participate in the competence check.

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The measures were collected during the course of the project

'Internal Quality Management: Evaluating and Improving Competence-Based Higher Education'

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Further information on the project is available on the Erasmus+ platform for project results:

➡ Go to http://ec.europa.eu/programmes/erasmus-plus/projects.
➡ Enter the project title 'Internal Quality Management: Evaluating and Improving Competence-Based Higher Education' in the search bar to get to the project homepage.

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