

Internal Quality Management in Competence-Based Higher Education



Evaluation Report

— Lessons Learned

and

Recommendations —



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Background of the Evaluation

The evaluation consisted of formative and summative interviews conducted with each implementation partner that focused on each step of the IQM-HE procedure. Below, the main lessons learned and recommendation for implementation practice are summarized.

Step 1: Define competences

In discussing the suggestions concerning developing competence models with an IQM team, we follow the five quality criteria (QC) for competence models listed in the handbook. At the end, we provide some general recommendations for implementing Step 1 drawn from the interviews.

QC 1 (defining competence areas):

Three main recommendations were drawn from the interviews concerning the definition of competence areas and competences within these areas.

- 1) If you have already existing material, e.g. about learning outcomes or Day 1 skills, consider it, but try to also think outside the box. Do not stick too close to the existing material.
- 2) If there is a competence area that includes lots of individual competences, think about clustering them into sub-areas. As an example, in veterinary medicine, there are lots of sub-areas within the area of medical competences that could be introduced. However, each area or sub-area should contain at the very least two competences, and ideally more than two.
- 3) At the end, reflect again on whether you really have covered all relevant domain-specific and general competences relevant for your study program.

QC 2 (defining competence levels):

Three recommendations also emerged from the interviews concerning the definition of competence levels:

- 1) In order to make sure the IQM team understands the competence levels in the CSQ-HE, plan a special session with them to familiarize them with the levels.
- 2) If, for example, the intended level for one measurement occasion is never more than 3, you could add in an introduction to the model that there is e.g. one year left for students to reach a higher level and that the highest level can only be reached with professional experience in order to increase understanding.
- 3) Don't forget to define a success criterion (e.g. 75% of students are expected to reach the intended level).

QC 3 (defining competence development):

We again were able to formulate three recommendations from the interviews concerning the definition of competence development:

- 1) Consider competence development, meaning having two measurement occasions at different points during the study program, with your IQM team from the very beginning. Use the time that you are together with your team to define intended levels for both measurement occasions in order to save resources at the end.
- 2) If one measurement occasion is during the bachelor's and the second in the master's program, and the competences that should be obtained in the master's program differ from the competences in the bachelor's program, add the competences for the master's degree to your competence model from the very beginning. The intended level could be zero or one at the bachelor's level and higher at the master's level. This way, you can see the development from bachelor to master afterwards.
- 3) In the end, reflect again on whether your intended competence levels for all measurement occasions are realistic and whether the study program can really promote students' competences up to this level.

QC 4 (formulating domain-specific competences):

We again were able to formulate three main recommendations from the interviews concerning the formulation of domain-specific competences at a medium degree of abstraction:

- 1) If your formulations of competences are not domain-specific, it is important that you address the issue of domain specificity in the introduction to the survey. You should tell the reader that they should think about the context of their domain for each and every one of the competences. This applies especially to general competences, for which it is not necessary to specify the context when formulating each competence.
- 2) At the end, check again that all competences are on the same level of abstraction.
- 3) When formulating competences, it has proved helpful to use verbs instead of nouns in order to describe what has to be done.

QC 5 (addressing knowledge and skills):

We have only one recommendation derived from the interviews concerning addressing both the practical and the cognitive aspects. This recommendation also deals with the formulation of competences and has already been mentioned in QC4:

- 1) Try to avoid formulations like “Application of xy” that only address the practical aspect. Instead, formulate competences using verbs and address both the cognitive and the practical aspects of competence. Recheck all your formulations of competences and make sure that you are using verbs that address both aspects. However, do not use “knowing and doing xy”.

General recommendations for implementing Step 1 derived from the interviews:

Finally, we have some general recommendations for implementing Step 1 of the IQM procedure derived from the interviews:

The IQM team

Include all relevant stakeholders in the IQM team from the very beginning. This saves the time, as you do not need to give a subgroup joining later all relevant information about the group's previous process.

IQM team decisions

If it is difficult to make decisions within the IQM team and there are different opinions, you could ask participants to vote their two or three favourite options by sticking stickers on visualizations of them. This will allow you to see the average decision and whether it differs from your own opinion. Prepare convincing arguments in favour of your favourite option, but regardless of the result, remain committed to participation and respect the IQM team's decision.

Timeline

It proved to be a challenge for the IQM teams to find and formulate all relevant competences for a study program whilst following the quality criteria. Plan enough time and sessions with the IQM team to develop your competence model. It took most of the implementation partners more time than expected.

Working groups

In order to save time and work more efficiently, create small working groups for in between meetings with the whole IQM team. The working groups can further develop the competence model based on previous feedback or develop different versions to discuss and vote on afterwards.

Introduction to the competence model

Add an introduction to your competence model that explains what it is, what it aims to do and how it should be used.

Suggestion for preparing step 2

It is important to make that students and faculty members understand the different competence levels in the CSQ-HE before screening for competences. Plan preparatory workshops for students and faculty members explaining the levels and how to understand them.

Step 2: Screen competences

We summarize our recommendations concerning screening competences at your institution into four aspects: 1) informing stakeholders and motivating them to participate, 2) how to proceed in collecting screening data, 3) collecting additional information, 4) informing stakeholders about the results.

1) Informing stakeholders and motivating them to participate:

In order to motivate new faculty members to participate in following rounds, it is important to ensure that faculty members are well-informed about the screening and provide feedback about the data, process and measures:

- a) Use existing channels to inform stakeholders. For example, the information workshop could be combined with an excursion and take place in the evening in order to make it more appealing. If new faculty members are joining the institution, a little event could be planned to introduce them to the IQM procedure or at least mention the screening. Don't forget to also plan activities like workshops or dinners to provide information and motivation to students as well, not just faculty members.
- b) You could also have multiplier events for students and faculty members to inform them about the screening. Similarity seems to be the silver bullet for informing and motivating different groups of stakeholders! Students (who are members of the IQM team) could inform other students, and faculty members (who are members of the IQM team) could inform other faculty members.
- c) If you receive feedback from stakeholders on the screening in a testing round or during the information campaign, react promptly to it, ideally before the screening even starts. One partner, for example, added a prominent explanation that Level 6 should not be reached during students' studies, as it is for the PhD level, and that students do not need to worry if they "only" reach Level 3 or 4, in accordance with feedback received during the info campaign. If you react to feedback on the screening, stakeholders should be informed that the feedback they provided has been addressed. Examples in our case include shortening the introduction, making the quiz not compulsory and reducing the time required for the screening.
- d) Make sure to keep stakeholders' motivation up for future screening cycles by telling and showing them that their feedback has been implemented and that the screening will be improved in future cycles, in particular by shortening it, which was a crucial point in the project implementations.

- e) Send friendly reminders to stakeholders to participate in the screening; however, do not only use emails as reminders, also talk to faculty members and students. If you send a reminder to participate in the screening and have problems with dropout, you could, in order to keep up motivation for upcoming screening cycles, point out already in the reminder that this is the first-time participants will complete the screening, meaning that this screening includes an introduction to the screening in addition to the screening itself. The following screening cycles will be much shorter since the introduction will no longer be necessary.
- f) Make sure that stakeholders know what a screening is and what the rationale of a screening is in order to avoid criticism that it is not objective. You could give examples and explain the difference to an objective test, which would take much more resources and would only be able to focus on single competences. Examples might come from the fields of diagnostics and medicine. If there are faculty members or other stakeholders who are still not convinced by the screening, you could think about making them part of the IQM team to get them more involved.
- g) Think carefully about when the screening should take place to ensure that stakeholders are available to participate. For example, the last week of the winter semester just before exam period appeared to be a difficult time for participation.

2) Proceeding in collecting screening data:

There are some aspects that appeared to be important when you start collecting your screening data:

- a) It appeared to be good to come together with participants to provide instructions, take questions and complete the screening even though this is difficult to organize. Your physical presence is helpful for motivation, for the response rate and for taking questions. With students, you could complete the screening within a regular seminar or class session in order to guarantee high response rates. Kindly ask faculty members for an appropriate amount of time beforehand. For faculty members, you could take some time during a regular meeting they already have to attend. When you come together, make sure that the competences and levels are understood correctly during the instructions phase. You could also use an online tutorial beforehand and then only ask for open questions in order to keep the instructions shorter. In future cycles, the head of the IQM team does not necessarily need to be present her- or himself. It could be another member of the IQM team.

- b) Plan enough time for the survey beforehand so that participants don't experience stress in completing the screening. The current version of the screening took some time, and we received stakeholder feedback to shorten it. To do so, you could make the quiz in the instructions optional. Furthermore, the instructions could be decoupled from the screening itself. You could have a user-friendly, easy-to-complete online tutorial beforehand and then have participants only rate the competences when you meet for the screening. The introduction could also be part of an information workshop, for example, so that it is not needed during the actual screening. It is advisable to use examples in the introduction that suit your study program.
- c) If participants have taken part in previous cycles and are already familiar with the screening, they do not need to complete the instructions or tutorial again or could receive shortened instructions. This will keep the screening shorter and simpler. A question could be added at the beginning of the screening asking whether a participant has participated in the screening at least once before. If yes, the whole introduction could be skipped, and the participant immediately proceed to the screening of competences. The competence screening itself, however, cannot be shortened since it covers all the competences in the competence model that are relevant for the study program.
- d) If dropouts are a problem, i.e. participants start, but do not finish the screening questionnaire, and there are no scores for the competences at the end of the questionnaire, one possible solution could be to present the competences, or better yet, the competence areas, in a randomized order for every participant. However, this could create another problem if there are not many participants in total, as there might not be enough values to compare students and faculty members for every competence (area). A better solution would be to minimize dropouts preventively by increasing participants' motivation and commitment and reducing the length of the screening.
- e) It is good to have a translated version of the screening in your language to make it easier to understand for participants who are not that familiar with English.
- f) Using the automatically generated report *developed in the IQM project*, which includes both text and graphs, proved to be a practical option. If the report is used internally among people who are familiar with the procedure, the introductory part can be skipped. However, for external use, it is important to keep it in order to inform stakeholders.
- g) It is advisable to have technical support available when generating the report for the first time. You can follow the instructions for programming and testing the screening and creating a report before you use them the first time for real.
- h) Think about reflecting on your competence model again after the screening and be open to making revisions if necessary. The competence models often include lots of competence areas, and it is difficult to have an overview of all of them. Think about reducing the number

of competence areas for the screening - perhaps some areas could be summarized, or the screenings could focus on different areas. You could also not ask about every single competence in every screening. Instead, you could think about focusing on especially important areas each time you do the screening. This would also make each screening shorter. Also *reflect on whether all participants and stakeholders* understood the competences in the same way. Some aspects might have been clear to faculty members, but to students, since faculty members are more familiar with the curriculum. When seeking to obtain additional information or when revising the competence model and screening, try not to follow the formulations in the curriculum too closely. Instead focus on what is in fact perceivable or observable. This could also be discussed in a focus group after the screening has taken place and you have received feedback from the participants. Furthermore, remember to familiarize students with the concept of competences from the beginning on and talk to them about the competences they are going to develop from the first semester on.

- i) You could complete the report every year in order to track developments in students' competences. It would be helpful for a development graph to be added to the report automatically in order to illustrate not only the status quo, but also variations over time. As a start, you could also begin increasing the number of cohorts and comparing them. Collecting data in the middle of a study program and before the end seemed manageable, and thus can still be improved upon. Another idea that popped up was to add a measurement occasion after students have finished their master's theses in order to see if writing the master's thesis has an effect on the students' competences. Another measurement occasion could be added before students start the study program in order to determine their level of pre-knowledge. However, students might overestimate their competence levels before starting the study program because they do not know yet how much they don't know. Thus, one might expect the students' perceived competence levels to decline after they begin their studies before start to rise again later on.
- j) After you finally get your screening results, remember that someone needs to initiate changes (see Step 3 for that). Be the one to do it. You could begin by conducting focus groups to discuss the specific competences with the most interesting results. In doing so, remember the success criterion of 75% for quality management. If 75% of students have reached the intended level or higher, your study program is effective in fostering that competence. If fewer than 75% reach the intended level or higher, action should be taken. However, the success criterion does not necessarily need to be mentioned in the questionnaire, and you can delete the part describing it there.

3) Collecting additional information:

The following recommendations can be given based on reflecting upon the necessity of collecting additional information alongside the screening:

- a) It seems helpful to add some open-ended questions to get further information about competences you are especially interested in. These are good for supplementing the screening questions. However, no additional questions about competences apart from the open-ended questions already proposed in the online questionnaire are needed.
- b) You could add another open-ended question on participants' feedback on the screening at the end of the screening instrument and inform them that they can give feedback at the end. This helps you obtain relevant information about how to keep stakeholders committed and could potentially prevent dropout.
- c) If you think you need some more questions for students and faculty members related to competences where they think a reaction is needed, consider whether personal communication might be a more appropriate way to obtain this additional information rather than expanding the questionnaire.

4) Informing stakeholders about the results:

When informing stakeholders about the screening results, considering the following tips derived from the evaluation interviews could be helpful:

- a) To share information, you could have an informal event to which all the stakeholders are invited, and the results are presented, such as a so-called "impulse breakfast" or a dinner which is also audio- or videotaped for stakeholders to listen to or watch afterwards. Plan enough time for providing information in such events.
- b) You could use webinars in addition to workshops to discuss the results and measures with a wider audience that is not on-site.
- c) If you have an annual report or what is known as a "knowledge-balance" at your institution, mention the screening there and make sure that the results, implications and measures are also reported there.
- d) Make sure to reach all stakeholders -- not only faculty members, but also students, decision makers and employees. Students turned out to be very interested in the results and had lots of comments.
- e) Make the results available to external stakeholders as well and involve them in the process. Think about how to reach them (e.g. alumni networks).
- f) To disseminate the results, you could use summaries, conclusions, recommendations and main issues. Think about uploading the report or at least parts of it or a summary on your institution's website.

Step 3: Enhance competences

Our recommendations for enhancing competences at your institution follow the five aspects used in evaluating Step 3 of the IQM procedure: 1) further recommendations to improve the screening procedure and report; 2) presenting the results and planned measures; 3) discussing the results, developing working theories and measures; 4) establishing a process for developing and initiating concrete measures; 5) planning for the following cycle and sustainability.

1: Further recommendations to improve the screening procedure and report

There were three further recommendations for improving the screening procedure and report that came up when implementation partners started to implement Step 3:

- a) The importance of the timing of the screening for guaranteeing for a good response rate was again stressed. When planning your screening, choose the timing of data collection wisely, preferably at a point in which faculty members' work load is a little lower.
- b) You could fine-tune some aspects of the screening report, e.g. add information on the number of participants who assessed each competence to the respective graphs. This is especially important for drawing conclusions – or not - if your overall sample size is small. You could also add a passage to the report's discussion section in which you reflect on implementing the procedure at your institution if you feel this could be an important contextual feature for interpreting the results.
- c) It is good to have both a summary of the main results as well as a detailed report for different purposes and stakeholders.

2: Presenting the results and planned measures

Some useful recommendations could be formulated for presenting the results as well as the planned measures to stakeholders:

- 1) First, it is important that the procedure is explained properly before presenting the results or measures to make sure they can be understood. The structure and content of your presentation is crucial. So, think carefully about what you present, how you present it and to whom you present it.
- 2) Make your results publicly available, not only in the form of a presentation, but also, for example, on your website to ensure that it reaches a larger audience.
- 3) Make sure both internal and external stakeholders properly are informed; for both groups, detailed but still brief information is most useful. Also take care not to overload stakeholders with information.

- 4) Don't forget to make the overall results available to (all) students. Communicate the results and the measures that will be taken to them, so that they see that their participation in quality management really makes a difference. Additionally, provide feedback on students' individual results at different measurement occasions, so they can track their own competence development. In addition, if you have data about students' development in general or from different cohorts, don't forget to present the overall developments or cohort comparisons.
- 5) You can use established events, such as summer celebrations, to inform stakeholders, especially students, about the results and measures taken.
- 6) If stakeholders, especially students, are not on-site, you can use a webinar to communicate the results and measures.
- 7) If the audience has problems understanding the concept of a screening compared to an objective test, you can compare the procedure to what a doctor does before coming to an actual diagnosis in order to make it more concrete and easier to understand what a screening is for.

3: Discussing results, developing working theories and measures

We learned the following when it comes to discussing the screening results in order to develop working theories and measures to address possible gaps between perceived and intended competence levels:

- 1) It is important to look at the results in detail and discuss them with stakeholders. Really focus on the discussion. Invite not just internal, but also external stakeholders to discuss your working theories in order to identify the most adequate measures.
- 2) Your results have provided evidence to inform taking measures. This evidence can be useful for justifying the measures to be taken, even (or especially) if the results turn out as expected.
- 3) Agree on more than one date to discuss measures with the IQM team, especially if you are implementing the procedure for the first time. Later on, it could take less time.
- 4) Before discussing the results with the whole team, you could preliminarily discuss with the leader or two selected members of the IQM team which aspects are the most important to discuss with the whole IQM team in order to make the discussion process easier and to keep the meetings shorter.
- 5) You could first look at and discuss the competences where the gap is largest (e.g. two levels at least). You can present these and have a printed handout for your team as a basis for discussing related measures.

- 6) Reflect together with your team about possible reasons for gaps in selected competences. Afterwards, you can hand out the information from io7 about possible reasons for gaps for deeper reflection. Presenting this tool on possible working theories and measures proved to be very helpful for sparking discussions on your own results and measures.
- 7) When looking for working theories, also consider the definitions of competences and intended levels as reasons for gaps between the intended and perceived competence levels (maybe they do not fit your curriculum anymore), and think about whether it is necessary to revise them. Also make sure that the competence levels have been understood correctly by holding a tutorial before the screening, for example. If you are not sure afterwards whether the competences were correctly understood, you could set up a focus group of participants about how they understood the levels. This will allow you to better comprehend how the levels were understood and take adequate measures if necessary. However, do not simply lower the intended levels if they were not reached. Review the levels intensely if you think they were set too high at the beginning.
- 8) Also make sure that you have chosen the measurement occasions for the screening in line with the points in the study program you defined the intended levels for.
- 9) If you assume that the curriculum or teaching is responsible for possible gaps, take measures to improve the quality of teaching for that respective competence, not only the quantity by simply having more courses on the topic. You could check the curriculum and courses and discuss whether it would be possible to include, for example, more practical work earlier in the study program, if especially the practical aspect needs more attention. However, also keep in mind that pre-knowledge must be established as a prerequisite for some practical work.
- 10) Think about also planning small and easy-to-implement changes, e.g. aspects that faculty members could stress in already existing courses, since bigger changes are more difficult to implement. Pay attention to such details. It is also good to strive for small improvements rather than revolutionizing your whole study program. Students will recognize such easy-to-implement changes earlier and be thankful for them. However, if revolutionizing the study program is necessary, don't be afraid to do so.
- 11) Finally, and most importantly, make sure that your planned measures align with the problems detected in the report.
- 12) Before you initiate measures, discuss the consequences of these changes properly. It could be wise to validate the results before you try to change things.
- 13) If your results are very good and you think there is nothing to improve, shift your attention to the IQM procedure itself, which is valuable because it creates greater awareness of competence-based teaching and learning and the intended competences of your study program among students and other stakeholders.

4: Establishing a process for developing and initiating concrete measures

When developing and initiating concrete measures, we discussed and would advise establishing an entire multi-step process with your team in order to avoid deciding on a specific measure in blind activism:

- 1) You could follow a 2-step approach to decide on measures by pre-selecting relevant competences where the gaps are largest and then discussing only these measures.
- 2) Having many meetings that each address just one aspect is a good approach. This procedure proved to be very effective.
- 3) When thinking about measures, you could first check the formulation of the competences, then check the definition of the intended level. If both are okay and fit your curriculum, you could then check how the competence is implemented in the courses and whether there is room for improvement. If this is the case, you could form a focus group with students and faculty members to reflect on the teaching process and possible measures for improvements here, etc.
- 4) Really listen to the suggestions of the students in your team, and also include administrative employees to get information from their perspective.
- 5) It is helpful to have a person who is specially responsible for developing and moderating the process of addressing your evaluation results and developing and implementing measures and who is in direct contact with the decision makers and the leader of the IQM team/QM board at your institution. The measures you decide on probably need approval by your university's academic senate.
- 6) Keep in mind that the process and the specific measures decided on should be sustainable. Therefore, both should be formally incorporated into your institution. Again, do not lapse into simple activism. Rethink and properly discuss your process and measures to ensure a sustainable improvement process – and don't forget to inform all stakeholders, especially students, about the improvement processes, because they won't be able to pick up on long-term measures at first glance for some time.

5: Planning for the following cycle and sustainability

Last but not least, there are some recommendations derived from the project that address planning for following cycles and sustainability:

- 1) In order to make it easier to recruit participants, you could train multipliers beforehand to help with motivation. You should talk to the multipliers and define an estimated target number of participants beforehand.

- 2) If some faculty members only have little contact with students, define beforehand whether there is a cutoff criterion for student contact when deciding who will be invited to participate in the screening. This limits your population and could lead to a higher response rate.
- 3) Talk to faculty members who are involved in the IQM procedure and discuss with them how they deal with the fact that students are heterogeneous when assessing their competences during the screening. You could let some faculty members think aloud while assessing a group of students during the screening or have stimulated recall interviews with them in order to find out how they dealt with their students' heterogeneity when they assessed their competences. You can then tell the faculty members participating in the next screening cycle how they can deal with this issue in order to make participation easier for them.
- 4) If you identify something about the procedure that should be changed, make the changes as soon as possible. It is often more difficult to make changes when procedures have been implemented in the same way for a long time.
- 5) Higher education institutions should think generally about how to promote innovation in teaching. Teaching has to be made more attractive since scientific and teaching staff members have so many different functions and responsibilities.
- 6) If you had already planned to change your study program and curriculum before you started implementing the IQM procedure, use the existing forums and participate in them when implementing the procedure. Also use the existing forums when you obtain your screening results.
- 7) Remember, it is important to have the full support of your team and decision makers in order to implement the IQM procedure and make sustainable changes.
- 8) In future screening cycles, you can plan to include additional measurement occasions and cohorts in order to track developments. It is particularly interesting to see what happens in the screening reports for future cycles after you have made larger changes. Comparing your present findings with future ones will give you longitudinal data. Furthermore, it might make sense to look at more than one screening report in order to validate your results prior to implementing major changes in order to develop fitting and meaningful measures.
- 9) Finally, remember that making sustainable changes is a long-term process.

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- 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.