11th International Conference on Higher Education Advances (HEAd'25)
Universitat Politècnica de València, València, 2025
DOI: https://doi.org/10.4995/HEAd25.2025.19745

Promoting competency-based education through the development of a competency model: lessons learned from a change perspective

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How to cite: Mücke, A.; Röhm, R. 2025. Promoting competency-based education through the development of a competency model: lessons learned from a change perspective. In: 11th International Conference on Higher Education Advances (HEAd'25). Valencia, 17-20 June 2025. https://doi.org/10.4995/HEAd25.2025.19745

Abstract

Competency-based education is linked to a shift from content to competencies. This shift does not happen automatically but requires a change process with corresponding strategies. Based on a case study it is outlined and linked to change strategies how developing a competency model can be a necessary and worthwhile step in this change process towards competency-based education. Main lessons learned include the support of management, a project team with a mandate and a joint, iterative development process as key success factors. Moreover, implementation needs at least as much effort and energy as the development and is an ongoing task including faculty development and taking visible actions. The lessons learned from this case support previous findings of successful change strategies for higher-education institutions.

Keywords: *competency model; competency-based education (CBE); organisational change management strategies; organisational sensemaking; stakeholder management*

1. Introduction

In addition to the structural standardisation of higher education, the aim of Bologna has been to focus higher education on competencies and no longer exclusively on content. However, evaluation studies have shown that this shift from content to competencies has not yet been fully implemented in many higher education institutions (Wehr, 2011, p. 9) and requires a change process.

Kezar and Eckel (2002) identify strategies for effective change in higher education institutions and stress the importance of processes that allow members of these institutions to engage in organisational sensemaking. These strategies are:

- Senior administrative/leadership support: support of those with authority over budgets, staffing, institutional priorities

- Collaborative Leadership: individuals with both positional and non-positional power (different stakeholder groups) collaborate and are involved in the change initiative from conception to implementation
- Robust design: consistency with the overall vision and culture of the institution
- Staff development: opportunities to learn related to the change effort
- Taking visible actions: making implementation activities visible and emphasizing the importance of the change through publications or transparent discussions to build and maintain momentum for the change

In addition, Dee and Leisyte (2017, p. 359) point out the importance for organizational development to jointly produce knowledge and to identify common interests, which can be achieved for example through the development of models and prototypes or the participation in pilot projects that involve members from different units.

Based on the case of the School of Business of the University of Applied Sciences Northwestern Switzerland (FHNW), this paper explores how developing a competency model can be a necessary and worthwhile step developing the organisation towards competency-based education. In this paper the chosen approach will be outlined and discussed as well as the lessons learned. In addition, an outlook on further implementation steps will be given. The focus will be less on competency-based education itself and whether and why these are the "right" competencies developed for the School of Business, but rather on how the competencies were derived, negotiated as an organisation and subsequently implemented from a change and organizational development perspective referring to Kezar and Eckel (2002) proposed strategies.

2. Developing a competency model

The FHNW and its School of Business have committed themselves to competency-based education (CBE). Initial discussions back in 2018 about competencies and competency-based education resulted in using Heyse and Erpenbeck's competency explorer (2004) to select competencies that were used in competency grids for study programmes. However, a common understanding that led to a jointly supported competency model and a broadly supported integration of the selected competencies in teaching did not take place. So, it was necessary to further develop the understanding of competencies and competency-based teaching and learning and to better implement them in strategy, structure and culture of the institution. Moreover, to ensure that the curricula and teaching are meeting the changing requirements of the job market and society, it was critical to regularly question the status quo. The starting point of the change process described in this case, was an assignment given by the management board "What competencies must our graduates have (developed) upon completion (of their studies) in order to be successful on the job market?".

2.1. Development process

With the assignment and support of the management board a project team of eight members was built representing different departments, functions (e.g. lecturer, quality management, study programme heads, representative continuing education), all genders, disciplines and tenure in the organisation. The project team had the mandate to drive and orchestrate the project. The formation and composition of the project team was already an initial measure to bring relevant stakeholders on board.

The development process itself can be divided into two phases a) explore and collect b) decide and design. In the explore and collect phase the aim was to lay the foundation for a shared understanding. This included the clarification of the concept of competency, competence and competency-based education as there are different and conflicting definitions and informed and considered discussion have to take place (Holmes et al., 2021). Therefore, to clarify and develop a shared understanding was an important step. As result we followed Weinert (2001; p. 47) defining competence as *"the cognitive abilities and skills existing within individuals or which can be learned by them to solve certain problems as well as the motivational, volitional, and social dispositions and abilities to be able to use problem solutions in variable situations successively and in a responsible way."* In this phase also strategy, mission and preliminary internal work like the competency grids, further relevant studies (e.g. Ehlers, 2020; Sterel, 2018) and future requirements were collected, analysed and discussed with internal and external stakeholders (e.g. future employers of our graduates) as part of various events like annual development weeks, summer schools and workshops.

Using the results from the explore and collect phase, the project team derived in the decide and design phase an initial prototype from the wealth of material available. The resulting prototype was extensively sounded with different stakeholders (e.g. management board, programme heads, faculty etc.) based on key questions like "Are important competencies missing in your view, and if so, which ones and why?", "Are competencies obsolete and if so, which ones and why?", "Are the competencies and the descriptions understandable? If not, what is unclear? Are there missing aspects in the competency descriptions/possible behavioural anchors that are particularly important to you?" Based on the feedback received, the model was further developed in several iterations and finally approved by the management board end of 2023. The following figure 1 summarizes the development process.

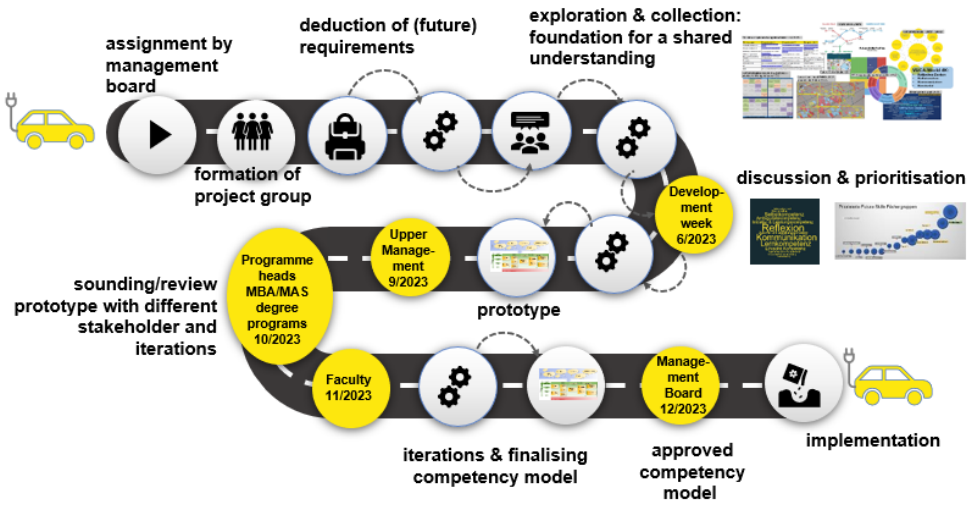

Figure 1. Overview development process

2.2. The competency model

The approved and visualised model is illustrated in the following figure 2.

Figure 2. The developed competency model

The competency model contains ten **self and social competencies** that are critical to success, e.g. reflect, learn or think critically (white bubbles). Each of these competencies were named, defined and provided with so-called behavioural anchors. These behavioural anchors can be used to determine how the competencies can be observed in different situations (e.g. classroom setting/assessment, everyday life). Table 1 provides the competency "communicate" as an example.

Table 1. Definition and examples of behavioural anchors for the competency "communicate"

Communicate	
Definition	...is the ability to convey information in a way that is appropriate to the audience, context and credibility, to listen and to ask questions.
Behavioural anchors	e.g. communicates in analogue and/or digital form, in words and/or pictures, in a way that is appropriate to the purpose, situation and audience. listens actively and ensures mutual understanding by asking questions argues coherently and persuasively

Ethical, digital and sustainable are so-called **cross-cutting topics** that need to be considered in all competencies (e.g. ethical aspects of decision-making).

Professional and methodological competencies also have a placeholder (yellow) in the model. These are more (discipline) specific competencies and must be defined and specified for the respective degree programme and module. The definition and specification cannot be done by a project team or top down by management but by all lecturers based on the constructive alignment concept (Biggs, 1996). In a nutshell, the constructive alignment concept focuses the learning design and assessment on the intended outcomes. The following questions must hereby be answered and possible answers from the module "Organisational Behaviour and Human Resource Management" are used as examples:

- What are the professional competencies that must be taught e.g. in the module, the respective lesson? (e.g. recruitment, compensation, retention etc.)
- What are the specific methods to be used or taught? (e.g. group work, case study)
- Which of the self and social competencies does the module or course contribute to? e.g. "decide": Where are decisions relevant in the discipline (e.g. selection decisions, promotion decisions)? What contribution can be made to develop and promote this competency (e.g. identifying perception errors, "unconscious bias")?

3. Status quo implementation process

Implementation started in 2024. First, the model was professionally visualized and translated into English. The finalised model was presented, discussed and worked with during so called development week. Development week is an annual development and exchange forum that focuses on reflection and further development of teaching with all faculty and in addition with external stakeholders (there is a "stakeholder day" within the development week). These discussions were linked to the assignment to integrate the model and its competencies in already existing modules and into the design of new modules for the upcoming revision of the curriculum. This included the concretisation and contextualisation of the self and social

competencies as well as the selection and definition of the relevant professional and methodological competencies according to the concept of constructive alignment (Biggs, 1996). To support faculty doing so, further training on competency-based teaching were offered to all faculty members comprising of online courses and workshops (e.g. planning and design of competency-based teaching and competency-based assessment) in autumn 2024. As pointed out by Kazar and Eckes (2002) staff development and taking visible actions are key strategies. The model itself can be perceived as visible action as well as the other implementation activities described.

To summarize, all of the five strategies described were applied in the change process: during the two phases of the development process as well as in the implementation and have proven to be sucessful from our point of view. From a project team perspective, the development of a competency model was a necessary and worthwhile step to promote competency-based education and with the process described the awareness of the faculty has increased. Also changes in the module descriptions were made and the foundations for the curriculum revision were laid, so that the new curriculum is more (explicitly) competency-oriented compared to the old one. However, implementation is still going on and a systematic evaluation is missing. One next step will be the evaluation from a students' perspective in spring 2025 to investigate whether the development and integration of the model influences students' perceptions on competencies. We will furthermore explore to what extent they perceive their degree programme with its modules and the teaching taking place as competency-based and what their ideas are to promote competency-based education in the future.

4. Lessons learned and conclusion

Looking back at the development process, various lessons can be learned: The assignment with a mandate for the project team and the support of the management board throughout the process was an important success factor. This is in line with previous further studies (Kezar & Eckel. 2002; Dragoo & Barrows, 2016) stressing the importance of senior leadership support.

The joint development process was a central step and already represents an initial intervention for raising awareness of the topic and developing a common understanding of competencies within the organisation. A joint negotiation and production process is required for transformation (Dee & Leisyte, 2017) and is needed for organisational sensemaking (Kezar & Eckel, 2002). For this reason, we do not believe that adopting a ready-made model and/or a top-down model is expedient. However, it can be a necessary intermediate step and a first approach to the topic. The process described here would not have been possible in this form without the intermediate step we took using Heyse and Erpenbeck's competency explorer (2004).

A critical point in our process was the transition from the explore and collect phase to the decide and design phase. There was a threat of no longer seeing the wood for the trees and losing sight

of the goal to derive an actionable number of success-critical competencies for a competency model. The successful transition required the ability to leave things out and to make conscious decisions. In our view, the formation of a project team with a clear mandate to drive and orchestrate the project and to make those necessary decisions was key especially in an expert organisation. For acceptance of the process, the proposals and decisions made, it was moreover important that the various internal stakeholder groups felt well represented in the project team.

Regular and transparent information and the involvement of all stakeholders was central not only for organisational sensemaking, but also for the acceptance and subsequent use of the model and again must be supported by the management. Particularly in an expert organisation, it was important to keep in mind the process and when and to what extent participation and collaboration were useful and expedient and when this was not the case (e.g. fundamental discussions should be held at the beginning and not at the end of the process) and to communicate accordingly. The chosen approach with a comprehensive exploration and collection phase and targeted sounding has proven its worth here. Recurring information and discussion on different occasions, in different settings and with different stakeholder groups over the entire duration of the project was important to raise and keep awareness of the topic and provided visible action needed for successful change (Kezar & Eckel, 2002).

Furthermore, it was important for acceptance to keep in mind the future use of the model during development and to demonstrate and communicate the expected benefits. It has to be stressed that the aim is not developing a model, but to develop a model that is useful and integrated in teaching and learning now and in future.

And finally, the subsequent implementation requires at least as much effort and energy as the development and is never complete. There is a risk that a lot of energy and resources are invested in development, but then the project "runs out of steam" and the effort required for implementation is underestimated and no longer carried out to a sufficient extent. The assignment and commitment from the management board must not be limited to development but must include implementation with the necessary resources. It also needs the willingness of all those involved to continue working on the topic and to develop further.

References

Biggs, J. (1996). Enhancing teaching through constructive alignment. *High Educ, 32,* 347–364. https://doi.org/10.1007/BF00138871.

Dee, J., & Leisyte, L. (2017). Knowledge sharing and organizational change in higher education. *The Learning Organization, 24*(5), 355-365. https://doi.org/10.1108/TLO-04-2017-0034

Dragoo, A. & Barrows, R. (2016). Implementing Competency-Based Education: Challenges, Strategies, and a Decision-Making Framework. *The Journal of Continuing Higher Education, 64*(2), 73-83. https://doi.org/10.1080/07377363.2016.1172193

Ehlers, U.-D. (2020). *Future Skills. Lernen der Zukunft - Hochschule der Zukunft.* Springer. https://doi.org/10.1007/978-3-658-29297-3

Heyse, V., & Erpenbeck, J. (2004). *Kompetenztraining: 64 Informations- und Trainingsprogramme.* Schäffer-Poeschel Verlag.

Holmes, A.G.D., Tuin, M.P., & Turner, S.L. (2021). Competence and competency in higher education, simple terms yet with complex meanings: Theoretical and practical issues for university teachers and assessors implementing Competency-Based Education (CBE). *Educational Process: international journal, 10*(3): 39-52. https://dx.doi.org/10.22521/edupij.2021.103.3

Kezar, A., & Eckel, P. (2002). Examining the institutional transformation process: The importance of sensemaking, interrelated strategies, and balance. *Research in Higher Education, 43*(3), 295–328. https://dx.doi.org/10.1023/A:1014889001242

Sterel, S. (2018). *Ausbilden nach 4K. Ein Bildungsschritt in die Zukunft.* HEP

Wehr, S. (2011). Nicht nur belehren, sondern auch befähigen – zur Förderung des Kompetenzerwerbs an der Hochschule. In S. Wehr & T. Tribelhorn (Hrsg.), *Bolognagerechte Hochschullehre* (S. 9-12). Haupt.

Weinert, F. E. (2001). Concept of competence: A conceptual clarification. In D. S. Rychen & L. H. Salganik (Eds.), *Defining and selecting key competencies* (pp. 45–65). Hogrefe & Huber Publishers.