



DECLARATION

Lessons learned from and recommendations for the implementation of the matching of competences between higher education and the work field and the implementation of competence-based education.

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This declaration has been developed within the Tempus project "COMPETENCE - Matching competences in higher education and economy: From competence catalogue to strategy and curriculum development."

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This project is financed by the Tempus program of the European Commission, and it has been implemented from January 2009 to January 2012.

This document provides an overview of the challenges encountered in the project and their respective solutions, developed by the partners of this consortium. It focuses on three levels: policy (government), university (management) and study programme (staff) and is the result of the collective reflection among all partners during the project meetings and workshops held in the last project phase in Kotor (Montenegro) and Zenica (Bosnia and Herzegovina). It aims to serve as a reference document for professionals who want to implement a similar approach in their own institutions in order to avoid repeating mistakes. This document not only includes lessons learned throughout this project, but also contains recommendations of EU professionals who have been working with this topic for several years.

This document is targeted to responsible persons on all levels, to demonstrate the most important findings and – in the long run – to support the education of students in order to enhance the employability of graduates.

We want to briefly summarize the main results, which are also described in the four "Manuals for Matching Competences in Higher Education and the Labour Market," as they have led to the development of this declaration:

- 1/ The creation, in the 'West Balkan countries,' of a Competence Observation Centre called COC, whose main objectives are knowledge transfer, training and acting as a service centre for the whole university (companies and other stakeholders).
- 2/ The results of 8 pilot projects (2 in each WB country), in which the matching of the expectations of the work field and the alumni, as well as the range of study programmes through focus groups and surveys, was established.
- 3/ From these pilot studies, each study programme developed its competence catalogue and competence matrix.
- 4/ A lot of learning and training materials and activities were developed with the intention to determine what the best learning and assessment activities are to achieve the expected competencies and thus the best learning outcomes (toolkit).

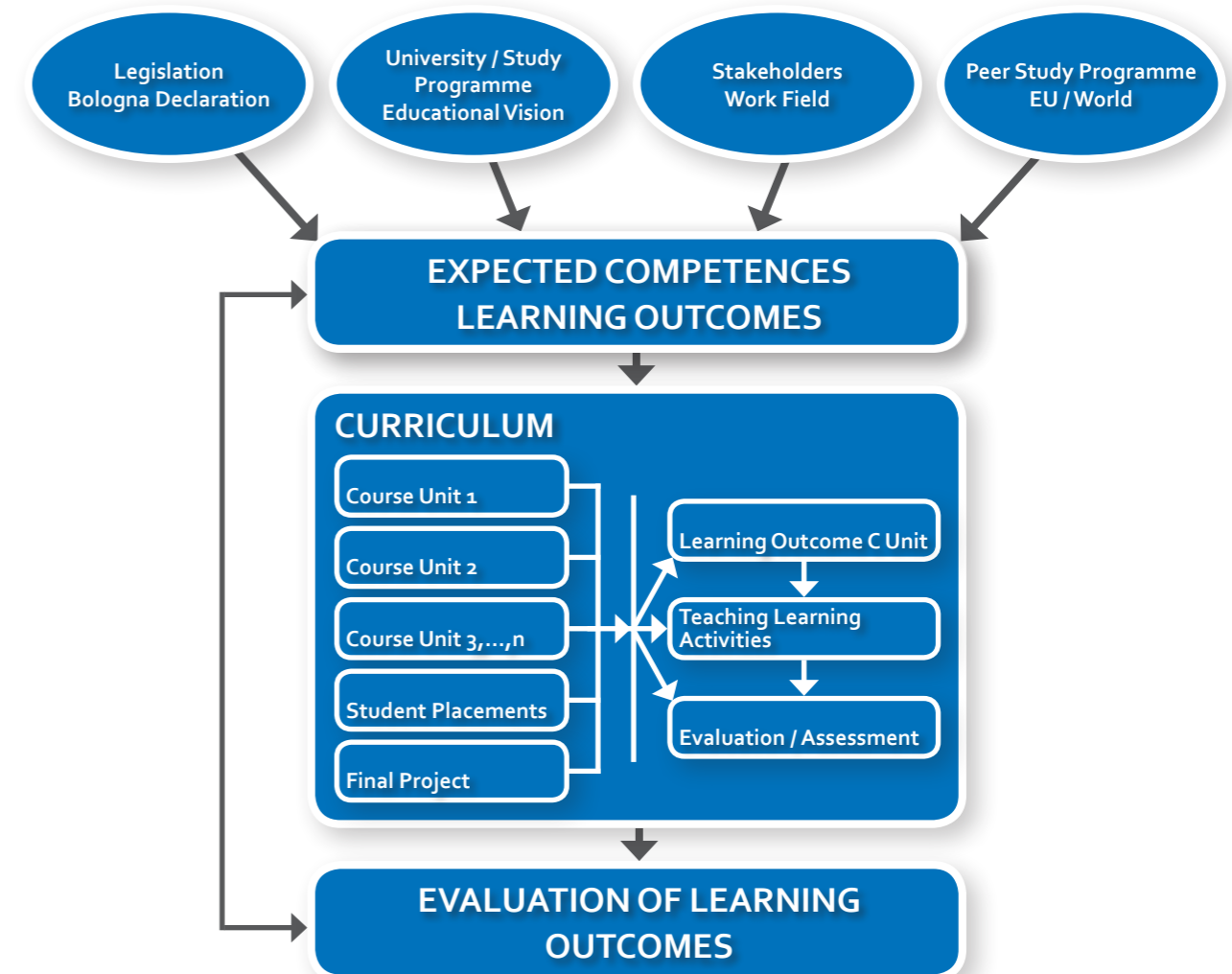
The figure 1 below depicts a model developed within this project that shows the **development and the monitoring of competence-based learning**.

In this model the learning process is illustrated, described and assessed throughout the study programme with the help of competences. The expected learning outcomes (expressed in competences) have to be a combined result of the legislative requirements (national legislation (e.g. implementing the Bologna Declaration), National Qualification Framework, etc.), the educational vision of the university (profiling) and the expectations of the work field. Also, the results of benchmarking with similar study programmes of other universities (national and international) should provide important input for this process.

These learning outcomes should be used as a starting point to develop (or adapt) a curriculum. For each course unit, the study programme team has to develop the goals, the learning outcomes, the study content, the study load, the learning methodology and activities, the assessment methodology, etc.

There must be a continuous evaluation if the expected competences are reached and a continuous adaptation of the curriculum to that evaluation and to the changes in the work field, legislation, society, etc.

Figure 1. The developed model on competence-based learning



In the past, good university performance was related to the reputation of the university's staff. These staff members were autonomous professionals. Professors were defining, measuring and delivering their own educational services.

Since the Bologna process started, more and more attention has been given to student-centred education, to competence-based education and to the link with the work field of the alumni.

As mentioned in the introduction, during this project we developed procedures and tools to improve the matching of competences offered to the university students and the expectations of the labour market. In this way we also delivered a strategy to implement the European Qualification Framework, the National Qualification Frameworks and the standards and guidelines for Quality Assurance in the European Higher Education Area (and the implementation in WB countries).

An important issue must be an information campaign and training programme about these subjects for all staff members and students. The role of the competence and observation centres is very important. Knowledge of the relevant legislation and also its impact is essential for the success of the necessary curricula reforms and for the acceptance of these changes. It is also important to show the differences in learning outcomes for bachelor and master courses.

The governments and the universities have to give more autonomy to the study programmes, so they can adapt their educational concepts and their curricula to the expectations of this legislation and the relevant work fields.

The most significant improvements will have to concern the competence-based and student-centred curricula.

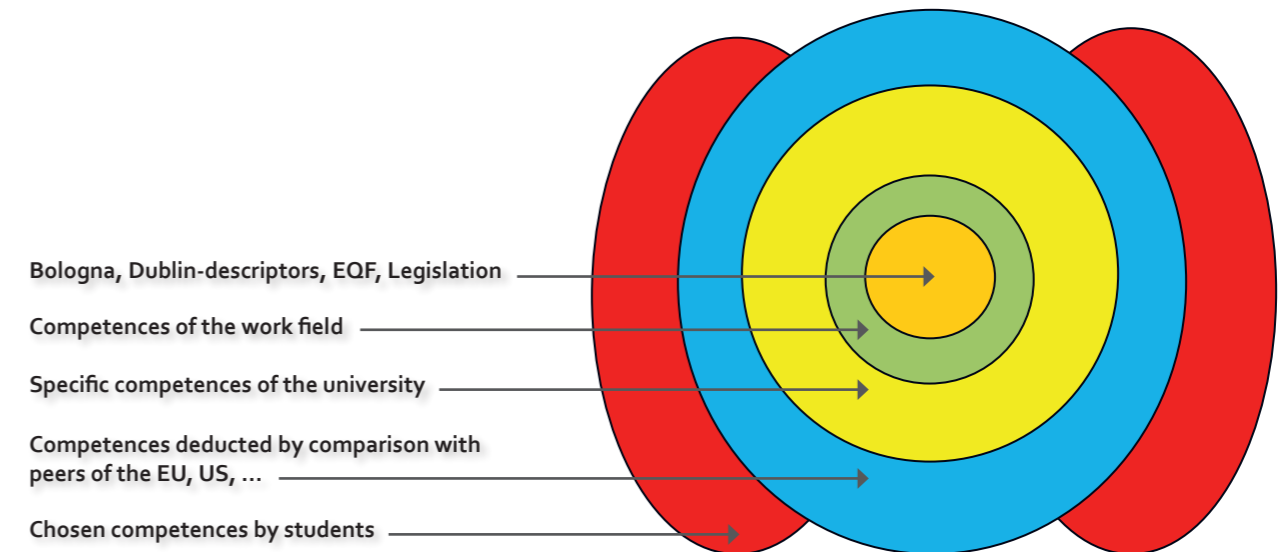
To aid in understanding, we would like to provide some definitions:

Competences: the capacity to apply the integrated (theoretical and practical) knowledge, skills and attitudes that are described in the learning outcomes of a study programme in a concrete working situation, at the end of an educational process.

In competence-based education, the selection of the content and the evaluation is based on the tasks alumni have to perform competently and on the (problem) situations they have to solve competently and realistically.

As we also mentioned before, the learning outcomes (or the expected competences) have to be defined by the team members of the study programme as a combined result of the legislative requirements (national legislation (e.g. implementing Bologna Declaration), National Qualification Framework, etc.), the educational vision of the university (specific competences expected by the university, faculty, study programme, profiling) and the expectations of the work field. In addition, the results of the matching of these competences with the expected competences by similar study programmes of other universities (national and international) are important input. Also, some competences must be selected by the student himself/herself (optional courses (languages, bookkeeping, social legislation, etc.) in preparing his/her professional career.

Figure 2. The development of the competences / the learning outcomes in a study programme



Student-centred learning, which is putting students first, is an alternative to teacher-centred learning. Student-centred learning is focused on the students' needs, abilities, interests and learning styles, with the teacher serving as a facilitator of their learning. Student-centred learning requires students to be active, responsible participants in their own learning. Teacher-centred learning has the teacher at its centre in an active role and students in a passive, receptive role.

Independent learning, team learning and preparation for lifelong learning are very important tools for students to acquire the necessary competences.

Both student-centred and teacher-centred approaches have many implications for the design of the curriculum, the course content, and the interactivity of the courses.

Curriculum reform

In the process of the development of competence-based education, we start with the most motivated and experienced staff members and go step by step. It is vital to give a lot of positive attention to these experiences and to arouse the interest of other staff members. An essential requirement is that the person responsible for the study programme is a good team leader and communicates with all staff members on the team. The coaching and training during the process should be done by a central unit, such as the competence and observation centre.

Competence-based education implies changes in the content but also in the organisation.

Our main objective should be to reach a common vision of the whole team on competence-centred education supported by each team member.

In some European countries the governments have required the universities – after the implementation of the Bologna Declaration – to transform all study programmes to a competence-based curriculum. To stimulate these reforms, each study programme must draft a competence-based education profile. The best way to do that is to make a list of the different professional situations of the alumni and to ask which competences they need (and will need in the future).

These competences can serve as the start of a competence catalogue for each study programme.

Some general recommendations:

- The previously mentioned catalogue is used to develop the competence-based curriculum. Each course unit is described with the specific content, learning outcomes, learning activities and assessment methodology, and each one is related to one (or two) concrete competences. The ECTS description file can be used as a tool.
- The assessment of the students is a powerful tool in introducing competence-based learning because the assessment steers all learning processes.
- As shown in Figure 1, a close link between the desired competences and the learning and evaluation activities must exist.
- Curriculum reform requires carefulness and a systematic approach. Planning is crucial.
- General competences (team work, critical reflection, creativity, etc. are very important but are not learned in a specific course unit. Students learn by doing in real situations.
- In this way we develop a curriculum with a strong relation to the work field. The personal development of the student and his/her competence development is the main objective.
- Using authentic situations and real problems from the work field must form the foundation of the learning process. Students learn better when real, complex situations are the starting point. The complexity of the expected competences is important for the amount of basic scientific knowledge that must be introduced. Thanks to a strong cooperation with the work field, professors can improve their course units annually.

Cooperation with the work field

In our opinion the task of a professor is more than merely teaching courses and doing research. A professor must also continuously improve his/her learning materials and activities in conjunction with the expected learning outcomes of the students. An essential task of any professor is to establish close contacts with the work field of his/her alumni. The manager of the study programme has to coordinate these contacts and follow up on the vision of his/her unit on this subject.

The main aim of this cooperation is that the professor becomes more competent in teaching the expected competences.

In some Western European countries the work field is also represented in the management board of the university or the faculty and there are many possibilities to cooperate: company visits, industrial tourism, work placement advising, and thesis and/or dissertation advising, as well as inviting people from the work field to assess final bachelor's or master's projects, or to serve as guest professors, on panel discussions and at job fairs. Of course, work place learning and (applied) research activities can broaden these activities.

Some general recommendations:

- For supporting the competence-based learning, advisory boards and focus groups are very useful.
- Staff members need to be convinced that these practices increase the employability of their students.
- The contact of the students with the work field has to start from the beginning of their studies in higher education.

Alumni

Alumni (also as members of the work field) **are important players in the processes described above.** Therefore, the university's active support of alumni organisations is of great importance. The maintenance of the contact details and the contact with alumni is very time consuming. However, they are useful not only by providing their experiences in the process of setting up the competence-based education (learning outcomes), but also as ambassadors of the university, as guest professors, by participating in the governance or on advisory boards, as mentors of students (master's thesis proofreading, final work, etc.), by networking, and by helping with the mobilisation of resources, etc. for students to acquire the necessary competences.

Both student-centred and teacher-centred approaches have many implications for the design of the curriculum, the course content, and the interactivity of the courses.

Starting with the above text, the consortium set up a reflection session with the intention to verify the obstacles to competence-based learning and a target better cooperation with the industry. We tried to transform these obstacles into challenges and to make recommendations to the parties involved in this transformation process.

During the brainstorming session we tried to divide our recommendations into 3 different levels: **policy, institution and study programme. These "levels" strongly influence each other.** Decision-making at the higher level will certainly strongly influence the levels below. However, we argue that just as when introducing major reforms and quality management, **a top-down and bottom-up approach should be applied here simultaneously.** Sometimes the local situation will determine to which level the challenges and recommendations belong. Here below is an overview of the challenges discovered during this project and in colour, the appropriate recommendations that have been included.

1/ POLICY LEVEL

With policy makers we mean the national (or regional) policy makers in the area of education and economy (e.g. national and regional ministers, members of parliament), national quality assurance agencies and offices (accreditation agencies), national employment organisations, etc.

The four WB countries that are involved in this project have signed the Bologna Declaration. At the moment the legislation to implement all aspects of this declaration is very different in each of the four countries (stocktaking report). In some countries there is no requirement for implementation. In those in which it exists, the implementation is lacking. The development of the National Qualification Framework (concretisation of the EQF for each country) is in different stages of development and implementation depending on the country.

Considering this status quo, we have identified the main issues and have offered our specific recommendations to each one of them, as presented below.

1 Better understanding of the Bologna process

In some countries there is a lack of awareness about the importance of the competence-based approach in education.

Encourage the decision makers to **take steps toward a better understanding of the effects of the Bologna Declaration**, e.g. competence-based teaching and learning. This can be done by organising trainings and information campaigns.

2 Accreditation system

In some of the WB countries a rigid accreditation system exists: Every change in the curriculum leads to changes in the accreditation documentation and requires the reaccreditation of the study programme. This makes the process of reform extremely slow. Flexibility of the study programmes, also a very important issue in EHEA, is also difficult in WB countries.

Introduce a more **flexible accreditation process**, which should allow more creativity and flexibility in designing and adapting the study programmes.

As a first step we propose that smaller changes in the curricula to be allowed without requiring the reaccreditation of the study programmes. In the future, reaccreditation has to be done after 4 or 6 years so that all study programmes can adapt themselves to the criteria of the Bologna Declaration.

3 Learning outcomes

At the moment there is no requirement to describe the learning outcomes of the study programme in the accreditation process. The different stages in the accreditation system (external evaluation and self-evaluation) do not include criteria for competence-based education.

This would be an enormous support for introducing the competence-based approach at all university levels. The risk, however, that competences are only formally included in the accreditation processes can be avoided by planning follow-up activities and assessments (for example, by regularly monitoring the implementation of the competence-based approach by an external panel or the accreditation agency). It will become necessary that the national accreditation agencies become members of EQAR (European Quality Assurance Register for Higher Education - www.eqar.eu) and introduce the standards and guidelines for accreditation in the EHEA. (www.eqar.eu/fileadmin/documents/e4/050221_ENQA_report.pdf)

4 ECTS description files / Diploma supplement

It will be beneficial to include and define learning outcomes in the **ECTS description files** and in the **diploma supplement** to convince the universities to deal with them in a systematic way.

Include the learning outcomes in the ECTS description files so that prospective students have the opportunity to find out in advance which competences they will acquire in all course units.

Include the acquired competences by describing the learning outcomes in the diploma supplement as well (not the list of expected competences to be acquired during the study programme, but the list of the actual acquired competences by each student separately). This also helps the employers and HE institutions to have a clear picture about the profile of the student or the recent graduate.

In the WB countries new legislation is necessary to allow the HE institutions to implement international and EU standards (e.g. more student-centred and outcome-based learning) and to take into account the requirements of the labour market. A reform of the existing curricula is needed to improve employability.

The recommendations of the 2009 Stocktaking Report of the Bologna process (<http://www.ond.vlaanderen.be/hogeronderwijs/bologna/actionlines/stocktaking.htm>) clearly underline what we have already mentioned:

- There still is not enough integration between the qualification frameworks, learning outcomes, ECTS and the diploma supplement.
- The full-fledged introduction of learning outcomes must be enforced by the government.
- To stimulate the international mobility of the students and the flexibility of the study programs, the credits (ECTS) should be expressed in terms of student workload and learning outcomes.

2/ INSTITUTIONAL LEVEL

The management of the universities and the faculties has a great responsibility to further develop the cooperation with the work field and to implement the competence-based education. The COC in cooperation with the quality office will play an important role in implementing these items. The chambers of commerce and other umbrella organisations of employers should hereby assist the universities. Competence-based training, as a strategic aim of the university, should receive a high level of importance. It should be approved by the senate and ideally be part of the university's mission and vision statement. This strategy must also take care to build on a systematic link between the HE institutes and the labour market. Entrepreneurial universities must provide the real answer to the future needs of the region.

The implementation of this strategy should respect the **combination of a top-down and a bottom-up approach**.

At this level we offer specific recommendations to the following issues:

1 Lack of awareness

There is a lack of **awareness** in the fields related to this project (learning outcomes, competence-based learning, student-centred learning). At the moment the management (university, faculty, staff members and students) is **not familiar** with the relevant fields mentioned.

Organise trainings and information campaigns for awareness-raising before starting the implementation of this reform. Therefore the training materials developed in this project can be used and are available at www.link-competences.org. This is the responsibility of the university and/or faculty management.

2 Training

Implementing competence-based education is not possible without **training** and **coaching** of the different target groups (e.g. management, staff and students).

Coaching and training is an important task of the COCs. The COC should be a central service at the level of the rectorate and have a close link with the quality office.

3 Employability (Institutional level)

There is a need for a more efficient and systematic feedback system from the **work field** of the alumni to the universities. In this project a lot of effort was invested in contacting and obtaining feedback from the work field.

Develop and strengthen relations between universities, faculties, study programmes and employers.

This can be achieved via, e.g., internships, students' master theses, job fairs, guest professorships, applied research and collecting systematic feedback from the employers. It is vital to establish and maintain both contacts with employers and with alumni, via, e.g., establishing a database of employers and alumni and organizing activities for alumni (e.g. postgraduate courses).

4 Motivation of staff

The **motivation** of staff is essential when implementing new learning approaches. We learned in this project that many staff members are not motivated because they fear the additional workload and the increase of the transparency of the teaching process. It is difficult to describe and implement competence-based curricula. How can we motivate the staff members to use a competence-based approach?

Start implementing the new processes with the most motivated staff members and disseminate examples of good practice.

Describe each course unit with the specific content, learning outcomes, learning activities and assessment methodology always related to concrete competences. To this end we can use also the ECTS description files as starting points (Figure 1).

In our opinion the legislation and the support of the management is fundamental. Perhaps in some WB countries the status and the job profile of university staff members need adaptation.

5 Coordination of the long process

As we mentioned before, introducing a competence-based educational approach is a long and complex process requiring motivation and involvement of **the whole team**. How can we properly manage this long, complex process?

Introduce the competence-based educational approach successfully by **planning carefully and by systematically involving the whole teaching team**. As mentioned before, coaching and training can be done by the COC. This process should be directed by the coordinator of the study programme. Thus we have internal leadership and external coaching. **Good coordination is essential in order for the process to succeed!**

In the WB countries we noticed that many employers and HEIs still have to learn how to work with each other. Therefore a strategy plan is necessary and employability should be a part of the mission of the universities.

The management of the universities should encourage and support all staff members in translating their study programmes and course units into learning outcomes.

The university management has to support the COC to coach the cooperation with the work field and the implementation of the competence-based education. Progress reports can provide important feedback to the management.

3/ STUDY PROGRAMME LEVEL

On the study programme level the most important stakeholders in developing the process of cooperation with the work field and implementing competence-based learning are the coordinator of the study programme, the teaching staff, the students, the alumni and all people from the relevant work fields, all of whom work together with the study programme.

We will specifically address the following issues, which include our recommendations:

1 Common understanding of the Bologna process

Different staff members interpret the entire **Bologna process** differently, which causes difficulties in implementing processes like competence-based education. Thus it will be a challenge to have a common understanding of all team members of the study programme (as well as for policy makers and the university management).

Organise training sessions (COC) and team meetings to reach a clear vision shared by all team members.

2 Employability (Study programme level) – Requires involvement of the whole study programme team

All staff members of the study programme need to have a clear picture about the **employability** and the requirements of the work field for graduates (i.e. profiles). We noticed that this picture is often missing.

Introduce a **system for continuous evaluation of the employability of the graduates in all study programmes**. The teaching teams and the management at the study programme level should have a joint vision of continuous contact and cooperation with the stakeholders in the professional fields of their graduates.

This can be achieved, among other ways, through the following activities: company visits, industrial tourism, work placement advising, and thesis and/or dissertation advising, as well as inviting people from the work field to assess final bachelor's or master's projects, or to serve as guest professors, on panel discussions and at job fairs. Of course, work place learning and (applied) research activities can be added in the future.

Establishing close contacts with the work field of alumni should be considered as a **basic task** of all teaching staff members.

3 Generic competences

The **generic competences** are very important in competence-based learning as well as for the career development of graduates (this is an important conclusion from our questionnaires as reported by the employers). Attention to this concern is important at all 3 indicated levels. During this project we learned that a systematic way to integrate generic competences into the curriculum is missing. It is left to the individual awareness of the professors. There is a lack of general vision about the importance of generic competences and a lack of knowledge about their successful integration into different course units. The challenge is to integrate the generic competences into the study programmes properly. We learned that teaching generic competences by organising specialized course units in this area is a mistake. It is better to teach the **generic competences** throughout the entire teaching process, making use of the authentic situations connected to the specific professions of the graduates.

Introduce a systematic approach to integrate generic competences into the curriculum. Some possible instruments that can be used for that purpose (e.g. competence matrix) have been developed within this project (www.link-competences.org).

Learn and assess generic competences (team work, creativity, critical reflection, etc.) by integrating them in several existing course units rather than teaching them in separate course units.

4 Challenge of the assessment of competences

Teaching staff and students are used to the classical way of evaluation and exams. It is important to strengthen the evaluation and **assessment** of competences of students in order to have a more competence-based learning approach. But how do we evaluate competences, especially the generic ones, in a systematic way?

Steering the entire learning process by assessing students is a powerful tool for introducing competence-centred learning. **Competence-based assessment should also be integrated in the evaluation activities.** *The evaluation process should consist of several different evaluation methods and activities.* The assessment should be planned and described before the teaching starts. The ECTS description files can serve as a contract with the students. The ECTS description file is an important tool used to transfer and accumulate credits. In this file the content, the learning outcomes, the learning and evaluation activities must be clearly described. It is also a necessary condition for obtaining the ECTS quality label.

5 Tools

For the implementation of the competence-based educational approach, staff members have to be trained in the use of adequate **tools**. One should start with very simple tools at the beginning and they should evolve into more sophisticated ones as the process progresses.

Develop tools to help the teaching staff to manage the competence-related information. The toolkit developed within this project can be used (www.link-competences.org). The improvement and adaptation of the tools is recommended after receiving feedback from the users.

6 Small steps

The introduction of competence-based learning is a long process.

Please take small steps in order to reach the goal.

As we mentioned before, in introducing competence-based learning and in developing the strategy about cooperation with the work field, the study programme coordinators are the main responsible persons. They are also in charge of the HRM and the quality management (self-evaluation report, external visitation, accreditation) of their study programmes. Not all universities use the same title to indicate the position of the study programme coordinators. In some cases there is no study programme coordinator at all, despite the fact that this position is essential to follow up on the cooperation with the work field and the successful implementation of competence-based learning. In any case, cooperation with the whole team and coaching by the COC are essential.

In the quality framework of the study programme, it is important to stress the cooperation with the work field (internships, guest lectures, applied research, etc.) as an important strategic goal.

As described in Figure 1, the complete list of the learning outcomes must be composed before starting the transformation process into a more competence-based education. The whole team under the guidance of the study programme coordinator has to allocate the competences among the course units. The results of this allocation can be graphically presented in a matrix (course units/competences).

The recommendations of the 2009 Stocktaking Report of the Bologna process clearly underline what we have previously indicated:

- Linking programs with learning outcomes and designing assessment procedures to measure the achievement of the intended learning outcomes are the most difficult parts of the Bologna process.
- Universities have to include the involvement of employers in various ways: in curriculum design and in the development of quality assurance, in the governance and in the preparation of professional standards and profiles.

Conclusion

This is the final document of the Tempus COMPETENCE project, aiming at providing guidance to higher education institutions for learning/teaching those competences which are needed by a dynamic labour market and thus supporting the employability of graduates by translating the expected competences into learning activities and actions.

As mentioned in this document, not all changes can be achieved by the universities on their own. Without an **adequate legal framework** and adapted **external quality assurance procedures** such as accreditations, these objectives cannot be achieved.

The universities have almost no formalised connections with the work field of the alumni. It is recommended to tackle this issue as a strategic matter by the management of the universities.

Much more attention should be given to the question of competence development on the part of the teachers. There are practically no adequate management structures in place to enable systematic **staff development** processes. The didactic factor in this reform is crucial. Competence-oriented education requires **new teaching** and learning methodology, not only an adaptation of the course content. Especially **generic competences** are not taught, but rather learned by applying them in specific situations and contexts.

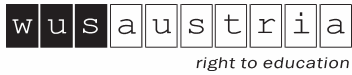
COMPETENCE CONSORTIUM



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