Training Kit
UNIVERSITY - MARKET COOPERATION UNITS

UMCU
ARMENIA

ARARAT
Armenian Coordination Agency
"University - Employer"

www.ararattempus.org

April 2013

English / Armenian

With the support of the Tempus Programme
of the European Union
This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.
Edited by:

Nerses Gevorgyan - ASUE, Armenia
Luisa Ardizzone - CESIE, Italy
Dino Muškić - WUS, Austria
Alexandra Mayr - University of Alicante, Spain
Aivars Stankevičs - ISMA, Latvia
Piotr Wierzała - MCSU Lublin, Poland
Damian Rusinek - MCSU Lublin, Poland

Realised by:

CESIE - Centro Studi ed Iniziative Europeo
Office: Via Roma 94 – 90133 Palermo, Italy
Tel: +39 0916164224 - Fax: +39 0916230849
Info: luisa.ardizzone@cesie.org
www.cesie.org

Copyright

The ARARAT Partnership offers this material free of charge, and with no copyright restriction, in the hope that it will prove useful to HEIs. We ask only that users please reference our work when the materials are used, and please send us an acknowledgement, and ideally examples of the new uses, to tempusararat@gmail.com.

Thank you
Index

Foreword .................................................................................................................................................................................... 8
The ARARAT project. Needs and rationale for the establishment of UMCUs................. 10
UNIVERSITY-MARKET COOPERATION UNITS .................................................................................................. 10
Management principles ................................................................................................................................................. 14
University-market cooperation ........................................................................................................................................... 27
Strategic considerations for sustainable University-Enterprise Cooperation ..............34
Aligning study programmes with labour market needs. Case Study ........................................ 38
Questionnaire of work placement 2012 ......................................................................................... 48
University units promoting student employment & business development .............. 55
Stimulating university-enterprise links through knowledge & technology transfer .. 64
Employers’ involvement in the development of Professional Higher Education.
Latvian Experience and Challenges ................................................................................................. 77
Learning outcomes and syllabuses in Computer Quality Assurance System .......... 89
Teaching offer and students’ questionnaires in Education Quality Assurance System ........................................................................................................................................................................................................ 93
Acknowledgements ......................................................................................................................................................... 99
Dear Colleagues,

The ARARAT, Armenian Coordination Agency "University-Employer" (530321-TEMPUS-1-2012-1-AM-TEMPUS-SMHES) project’s overall aim is to overcome challenges of changed higher education system and go beyond: lead that changes. ARARAT project sets the goal to ameliorate the higher education sector provisions through establishment and operationalization of universities-employers cooperation nexus in Armenia.

To reach the goal ARARAT Consortia should fulfil the specific objectives:

- Establish a National University-Labour Market Network to promote cooperation between the partner universities and regional employers.
- Facilitate an active dialogue between universities and labour market around qualifications offered.
- Operationalize of NQF and keeping the Programme level generic learning outcomes up-to-date.
- Build on capacity of universities to effectively manage career centers and alumni associations.

We are happy to introduce the training module: Training Kit to assist Armenian universities in a way of establishment of University-Labour market Units (UMCU). The Training Kit is developed for capacity building of the university-market cooperation units’ (UMCU) staff based on Partner Universities specific needs. The training modules are evolving around management principles, approaches, tools and mechanisms for operationalization of such units. Capacity building will ensure active involvement of the partners and legitimacy of developments. To provide for a multiplier effect the trained staff will conduct in-house trainings for administrative, academic staff and students. Universities will engage in establishment of UMCUs: purchase necessary equipment; develop the regulations; job responsibilities and operational plan for UMCUs. For effective functioning of the database and relevant tools, UMCUs will be fully equipped with videoconferencing and other devices to provide cooperative work on long-time basis and to facilitate effective and efficient links between the stakeholders.
The UMCUs will be responsible for bringing in academic staff and employers, the alumni and the students to join the efforts in continual updating and development of learning outcomes necessary to boost the economic development of the country.

ARARAT project’s overall aim is to strength University-labour market cooperation so we can create better contemporary programs and curricula; better adjust programs, learning outcomes to national and European Qualifications Frameworks. This is a really student centred approach.

I hope that with joint efforts we’ll succeed and we’ll put one small but important brick to the building of Future Education.

Nerses Gevorgyan
Armenian Coordination Agency "University-Employer" Project Coordinator
ASUE – Armenian State University of Economics
The ARARAT project. Needs and rationale for the establishment of UMCUs

UNIVERSITY-MARKET COOPERATION UNITS

One of the national priorities in Tempus programme 2012 in the field of higher education and society was development of partnerships with enterprises. There is still little or no recognition of the tri-partite relationship between student, employer and HEIs able to challenge conventional educational thinking in Europe and Partner Countries.

There is much to be gained from a closer collaboration between Universities and Industry as foreseen by the University-Market Cooperation Units (UMCU). This tri-partite relationship makes a powerful collaboration concerning the updating of learning outcomes, bringing in market demands, student placements and preparation for employment. The student is ensured of a qualification that is career relevant and employment focused, the HEI can apply their expertise to ensuring academic rigor to their content and last but not least, the employer can ensure that the delivered collaborative curriculum is focused and relevant for the company development and maximises profit. Employers criticise academia for not adapting to their needs lamenting that departments do not have suitable processes in place to find out industry’s requirements and to respond effectively, and for being inflexible in their teaching approach. ¹

There the need for ARARAT!
The UMCUs will be responsible for bringing in academic staff and employers, the alumni and the students to join the efforts in continual updating and development of learning outcomes necessary to boost the economic development of the country.
Such sectors as economics, engineering and pedagogy will be targeted for pilots, since those are the professions that are most demanding in Armenia and are in urgent need of revision.

Among the main missions of the university-market cooperation is to make the qualifications offered at universities relevant to the market needs. Thus, the UMCUs will consult to design of a methodology and procedure for sectorial

qualifications framework development (SQF) - drawing on the *Armenian National Qualifications Framework (ANQF), the *CEDEFOP 2010 Methodology and the good practice in EU countries- will take place within the ARARAT PC universities. Sectorial learning outcomes are broad goals that describe what the learners are supposed to know or be able to do in a specific field of study, based upon the needs of the society, of the institution of the learner. Drawing on the general concept each PC country will refine it to the specific country needs and produce a national concept for SQFs.

The 8 UMCUs will be coordinated by an ad-hoc established body, the National University Labor Market Network (NULMN) - secretariat will be hosted at ASUE. The NULMN will facilitate the activities of the UMCUs, promote interplay between different stakeholders thus, bringing together business representatives, student and professional associations, the RA Government bodies and ANQA, contributing to the improvement of professional education provisions and relevance to the market demand. The students will be well equipped with the necessary skills and knowledge about labor market demands concerning employment and be capable of meeting the demands. The network created will be underpinning an active dialogue between the stakeholders to solve the issues of fragmentation that hinders development of Armenian higher education.

The Quality Assurance will pay monitor and support to UMCUs to include in their actions a constant feedback-gathering system from businesses on their cooperation with academics as well as feedback of the stakeholders at large.

Main tool for this purpose will be the development of a database and relevant tools, which will enable input of various stakeholders in the university-market cooperation. The resulting data will be analyzed for further refinement.

The database will be operationalised at NULMN level through its secretariat at ASUE and at a local level through the UMCUs. Specifications for the database will be designed, developed and piloted to check its functionality, refined and put into on-going practice.

Actions to be undertaken:

* questionnaires addressed to the graduates, alumni, employers, students;
* questionnaires collecting statistical data on graduates, alumni, employers, students;
* focus group templates for academic staff to explore the academic capacities crucial for a given qualification.
Latest literature review on Higher education governance in Armenia expose that

‘(...)
In the light of the Bologna Process and with Tempus support, Armenian universities have succeeded in improving their administrative and organisational structures and study programmes. Universities had an opportunity to join the international academic community approaching the European Higher Education Area. They increased their capacities by creating working teams, establishing new contacts and changing their approach, focusing on the younger generation of academics

Still there are challenges the ARARAT project with its UMCU wants to overcome and keep sustainable:

‘(...) There are almost no horizontal links among various departments and divisions of the institutions. The structure itself is segmented. As a result, the managerial, organizational, professional and financial resources could be used more effectively, which further contributes to the fact that the system needs to centralize the management. Absence of initiatives at the departmental level ends in decision making processes that occur without prior consultation, which later leads to problems in the implementation stage. This situation impedes the emergence of an atmosphere of creativity and innovation, which is required for the modernization of higher education institutions.

Cooperation between HEIs, research institutes and private businesses or state enterprises in Armenia is still rare. The situation is due to the lack of a legal system regulating such cooperation activities and also the lack of specialists in HEIs (including fundraising specialists) trained to build these contacts. It is also linked to the lack of industrial demand for the services that research institutes can offer.

Back to 2009 there were only 25 to 50% of institutions involved in joint degrees and the same percentage of those involved in joint programmes. In all cycles (first, second and third) interdisciplinary and flexible training packages that require cross-faculty cooperation were limited in numbers and the overall level of joint degree/programme cooperation was still quite low. Moreover, the lack of

2 Higher education in Armenia, National Tempus Office Armenia, July 2012
experience of academic staff of industry working environments and their often poor ability to link “ideal theoretical” knowledge suitably to reality is also a hindering element.

In 2013, Joint programmes are allowed in the higher education legislation. Partners mention the successful experience of the ‘Tuning Methodology’, that developed a model for designing, implementing and delivering curricula offered within one institution, or, jointly, by two or more institutions as a ‘knowledge alliances’, i.e. ventures designed to bring together business and education/training institutions to develop new curricula to address gaps in skills and improve matching to labour market needs. While Joint degrees are not foreseen in the legislation.

Luisa Ardizzone  
CESIE, Italy
European Higher Education Area and the Bologna Process

Launched in 1999 by the Ministers of Education and university leaders of 29 countries, the Bologna Process aims to create a European Higher Education Area (EHEA) by 2010; it has further developed into a major reform encompassing 46 countries. Taking part in the Bologna Process is a voluntary decision made by each country and its higher education community to endorse the principles underlined in the European Higher Education Area.

The Bologna Process does not aim to harmonise national educational systems but rather to provide tools to connect them. The intention is to allow the diversity of national systems and universities to be maintained while the European Higher Education Area improves transparency between higher education systems, as well as implements tools to facilitate recognition of degrees and academic qualifications, mobility, and exchanges between institutions. The reforms are based on ten simple objectives which governments and institutions are currently implementing. Most importantly, all participating countries have agreed on a comparable three cycle degree system for undergraduates (Bachelor degrees) and graduates (Master and PhD degrees).

The main elements of the Bologna Process are:

- **Three Degree Cycle**: Two basic degrees, Bachelor and Master, have been adopted now by every participating country; sometimes in parallel to existing degrees during a transition period, sometimes replacing them completely. European universities are currently in the implementation phase, and an increasing number of graduates have now been awarded these new degrees. Typically, a Bachelor degree requires 180-240 ECTS credits and a Master programme between 90-120 ECTS credits, with a minimum of 60 ECTS at Master level. This allows for a flexible approach in defining the length of both Bachelor and Master programmes. Many participating countries have made substantial changes to their systems in response to the Bologna Process. Introducing the new degrees has required a tremendous effort in reviewing curricula and expectations toward students. Already over half of European universities have reviewed their curricula entirely,
using the Bologna reforms to implement a more student-focused approach and new quality procedures. In the third cycle, European PhD programmes are not defined by ECTS credits, however, common principles are currently under discussion.

- **Qualifications Frameworks** based on learning outcomes have become a central part of the Bologna Process and of the European Higher Education Area. The official Bologna seminar held in Edinburgh described learning outcomes as “the basic building blocks of the Bologna package of educational reforms” and endorsed the proposition that this methodological approach is at the heart of the paradigm shift from teacher to student-centred learning. It is increasingly recognized that qualifications frameworks have a pivotal role to play in bringing together various elements of the EHEA, including learning outcomes and ECTS credits. National qualifications frameworks (NQFs) have a pivotal role as the nexus where national reforms articulate with the Bologna Process/EHEA. Equally, NQFs provide an articulation between local developments in universities, with national developments and context. At the Ministerial Conference held in Berlin in 2003, Ministers encouraged Bologna member States to develop NQFs for their higher education systems. They also undertook to develop an overarching framework of qualifications for the European Higher Education Area. At the following Ministerial conference held in Bergen in 2005, Ministers adopted the overarching framework for qualifications in the EHEA, and committed themselves to elaborating NQFs compatible with the overarching framework for qualifications in the EHEA by 2010. Ministers meeting in London in 2007, recognising the challenging nature of the task, invited the Council of Europe to support the sharing of experience in the elaboration of national qualifications frameworks. The Council of Europe, working with the BFUG Coordination Group on Qualifications Frameworks and the Bologna Secretariat, has established a [website with information regarding qualifications frameworks](#) within the EUA.

- **The European Credit Transfer and Accumulation System (ECTS):** An important tool used for credit transfer and accumulation, ECTS plays now an important part in curriculum design and in validating a range of learning achievements (academic or not). In this system, credits reflect the total workload required to achieve the objectives of a programme - objectives which are specified in terms of the learning outcomes and competences to be acquired - and not just through lecture hours. It
makes study programmes easy to read and compare for all students, local and foreign, and therefore facilitates mobility and academic recognition.

• The Diploma Supplement: Compulsory for every graduate (since 2005), the Diploma Supplement is a tool which is attached to a higher education diploma and describes the degree’s qualification in an easily understandable way. It is designed to provide a standardised description of the nature, level, context, content and status of the studies that were successfully completed by the graduate. It is not a resume or a substitute for the original credential but rather a way of providing detailed information about any academic or professional qualification.

• Quality Assurance in the Bologna Process: The Bologna Process includes the promotion of European co-operation in quality assurance as one of its ten objectives. The current structural and curriculum reform provide an opportunity for universities to reflect upon management practices and to review programmes and teaching and assessment methods with the aim of ensuring their quality. In parallel, common requirements for national systems have been defined at European level to improve the consistency of quality assurance schemes across Europe. European standards and guidelines (ESG) have also been developed for internal and external quality assurance in order to provide universities and quality assurance agencies with common reference points. The European Quality Assurance Register for Higher Education (EQAR) has been established aiming at increasing transparency of quality assurance, and thus enhancing trust and confidence in European higher education.

• Recognition: The recognition of qualifications is essential to allow students to study at different institutions in different countries. Work on agreeing the common recognition of qualifications predates the start of the Bologna Process, but overcoming legal recognition and administrative obstacles is one of the ten objectives of the reform process and a vital element in promoting mobility.

• The Council of Europe's 'Convention on the Recognition of Qualifications concerning Higher Education in the European Region' (usually referred to as the Lisbon Convention) entered into force on 1 February 1999. It seeks to ensure that holders of a qualification from one European country have that qualification recognised in another and refers to the Diploma Supplement. The majority of
countries participating in the Bologna Process have signed the Lisbon Recognition Convention and all 45 are encouraged to sign by 2007.

- **Joint Degrees**: Joint degrees (degree programmes involving and periods of study at multiple institutions) provide innovative examples of inter-university cooperation and can be seen as pillars of future European higher education development. Interest in joint programmes is increasing in Europe and project work (undertaken by EUA and other stakeholders) has sought to provide information, build upon successful practice, and to focus attention on the main challenges faced by joint programmes, such as regarding quality assurance. In recent years, many countries have adapted legislation to enable joint degrees to be awarded, and at European level an amendment to the Lisbon Recognition Convention (see above section on Recognition) was adopted in 2005 to facilitate the recognition of joint degree qualifications.

In many respects, the Bologna Process has been revolutionary for cooperation in European higher education. Four education ministers participating in the celebration of the 800th anniversary of the University of Paris (Sorbonne Joint Declaration, 1998) shared the view that the segmentation of the European higher education sector in Europe was outdated and harmful. The decision to engage in a voluntary process to create the European Higher Education Area (EHEA) was formalized one year later in Bologna, by 30 countries (The Bologna Declaration, 1999). It is now apparent that this was a unique undertaking as the process today includes no fewer than 47 participating countries, out of the 49 countries that have ratified the European Cultural Convention of the Council of Europe (1954).

At its inception, the Bologna Process was meant to strengthen the competitiveness and attractiveness of the European higher education and to foster student mobility and employability through the introduction of a system based on undergraduate and postgraduate studies with easily readable programmes and degrees. Quality assurance has played an important role from the outset, too.

However, the various ministerial meetings since 1999 have broadened this agenda and have given greater precision to the tools that have been developed. The undergraduate/postgraduate degree structure has been modified into a three-cycle system, which now includes the concept of qualifications frameworks, with an emphasis on learning outcomes. The concept of social dimension of higher education has been introduced and recognition of qualifications is now clearly
perceived as central to the European higher education policies. In brief, the evolution of the main objectives of the Bologna Process can be seen hereby.

The Sorbonne Declaration was signed in 1998, by the ministers of four countries, namely France, Germany, UK and Italy. The aim of the Declaration was to create a common frame of reference within the intended European Higher Education Area, where mobility should be promoted both for students and graduates, as well as for the teaching staff. Also, it was meant to ensure the promotion of qualifications, with regard to the job market.

The aims of the Sorbonne Declaration were confirmed in 1999, through the Bologna Declaration, where 29-30 countries expressed their willingness to commit to enhance the competitiveness of the European Higher Education Area, emphasising the need to further the independence and autonomy of all Higher Education Institutions. All the provisions of the Bologna Declaration were set as measures of a voluntary harmonisation process, not as clauses of a binding contract.

As follow-up to the Bologna Declaration, there have taken place Ministerial Conferences every two years, the ministers expressing their will through the respective Communiqués.

With the Prague Communiqué, in 2001, the number of member countries was enlarged to 33, and there has also taken place an expansion of the objectives, in terms of lifelong learning, involving students as active partners and enhancing the attractiveness and competitiveness of the European Higher Education Area. Also, the participating ministers committed themselves to ensure the further development of quality assurance and development of national qualification frameworks. This objective was correlated with the lifelong learning one, as it is considered an important element of higher education that must be taken into consideration when building up new systems. Also, it is important to mention that the topic of social dimension was first introduced in the Prague Communiqué.

The following Ministerial Conference took place in Berlin, in 2003, thus the Berlin Communiqué enlarging the number of countries to 40 members. The main provisions of this Communiqué dealt with an expansion of the objectives, in terms of promotion of linking European Higher Education Area to European Research Area, as well as the promotion of quality assurance. Another important aspect that the Berlin Communiqué stated referred to establishing the follow-up structures
supporting the process in-between two Ministerial meetings. This arrangement established the Bologna Follow-up Group, the Board and the Bologna Secretariat.

With this Communiqué the Ministers also agreed that there should be created a national follow-up structure in each of the participating countries.

The Bergen Communiqué, of 2005, underlined the importance of partnerships, including stakeholders – students, HEIs, academic staff and employers, together with the further enhancing of research, especially with regard to the third cycle – doctoral programmes. Also, this Communiqué stressed the ministers’ will to provide a more accessible higher education, together with an increased attractiveness of the EHEA to other parts of the world.

With the London Communiqué, of 2007, the number of participating countries was enlarged to 46. This Communiqué focused on evaluating the progress achieved by that time, concerning mobility, degree structure, recognition, qualifications frameworks (both overarching and national), lifelong learning, quality assurance, social dimension, and also set the priorities for 2009, these being, mainly, mobility, social dimension, which was defined here for the first time, data collection, employability, EHEA in a global context and stock taking. For 2010 and beyond, it was stressed that there is the need for further collaboration, seeing it as an opportunity to reformulate the visions and values.

In the Leuven/Louvain-la-Neuve Communiqué, of 2009, the main working areas for the next decade were set, with emphasis on: social dimension, lifelong learning, employability, student centred learning and the teaching mission of education, international openness, mobility, education, research & innovation, as well as data collection, funding of the HE and multidimensional transparency tools. These main working areas show a new orientation of the Bologna Process, towards a more in-depth approach of the reforms, thus ensuring the completion of the Bologna Process implementation. Another change, in terms of internal arrangements, referred to the Bologna Process Chairing procedure: from a previous situation where the Bologna Process had been chaired by the country holding the EU Presidency, to a situation according to which the Process is being chaired by two countries: both the country holding the EU Presidency and a non-EU country, named in alphabetical order, starting from July 1st, 2010.
The following Ministerial Conference took place only one year after the aforementioned, more precisely in March 2010. It took place in Budapest-Vienna and it was an Anniversary Conference, celebrating a decade of the Bologna Process. With this occasion, there took place the official launching of the European Higher Education Area, which meant that, in terms of a common European framework for HE, the objective set in the Bologna Declaration was accomplished.

However, the existence of the European Higher Education Area in itself did not mean an achievement of all the objectives agreed upon by the ministers involved in the Bologna Process. Therefore, we can now say that the Bologna Process and the European Higher Education Area have entered a new phase, namely the consolidation and operationalisation one, especially in light of the very different reactions to the Bologna Process implementation across Europe.

Also, starting with the Budapest-Vienna Ministerial Conference, the EHEA has been expanded to 47 countries, the most recently admitted being Kazakhstan.

The main message of the Bucharest Ministerial Conference, which took place on 26 - 27 April 2012 and was attended by 47 European ministers responsible for higher education, states that Higher education reform can help to get Europe back on track and generate sustainable growth and jobs.

The Ministers agreed to focus on three main goals in the face of the economic crisis: to provide quality higher education to more students, to better equip students with employable skills, and to increase student mobility.

The 47 countries adopted a new European strategy to increase mobility with a specific target that at least 20 percent of those graduating in Europe in 2020 should have been on a study or training period abroad.

Besides the Ministerial Conferences, there are also Bologna Policy Fora organized, which were so far coupled with the EHEA Ministerial Conferences.

The first Bologna Policy Forum was organized in Leuven/Louvain-la-Neuve in 2009 and it was attended by the 46 members of the Bologna Process, at the time, as well as a wide range of third countries and NGOs. The main issues agreed upon by the participants were the following: the key role that HE plays in the development of the society, based on lifelong learning and equitable access at all levels of society to
learning opportunities, the importance of public investment in higher education, in spite of the economic crisis, transnational exchanges in higher education should be governed on the basis of academic values, advocating a balanced exchange of teachers, researchers and students between countries, in order to promote fair and fruitful “brain circulation”, as an alternative to brain drain.

The Second Bologna Policy Forum took place in Vienna, in March 2010, and it was attended by the 47 members and the eight consultative members, as well as third countries and other relevant NGOs. The main topics of discussion included in the Second Bologna Policy Forum Statement refer to the manner in which higher education systems and institutions respond to the growing demands and multiple expectations and the balance between cooperation and competition in international higher education. This Forum’s Statement also included some possible concrete feedback to be taken up by the participants, such as nominating contact persons for each participating country which will also function as liaison points for a better flow of information and joint activities, including the preparation of the next Bologna Policy Forum at ministerial level. Also the need for supporting global student dialogue was acknowledged.

As far as implementation is concerned, progress over the years has been uneven, as can be seen from the various stocktaking exercises. This shows that the reforms of the Bologna Process must still be furthered, in order to ensure more comparable, compatible and coherent systems of higher education in Europe.

If by 2010, the main aim of the Bologna Process was to put in place a European Higher Education Area, as stated in the Leuven/Louvain-la-Neuve Communiqué, the main priorities for the next decade are:

- Social dimension
- Lifelong learning
- Employability
- Student-centred learning
- Education, research and innovation
- Mobility
- Data collection
- Multidimensional transparency tools
- Funding.
Therefore, the Bologna Follow-up Group set up the following working groups for the 2009-2012 period:

- Social dimension
- Qualifications frameworks
- International openness
- Mobility
- Recognition
- Reporting on the implementation of the Bologna Process
- Transparency mechanisms,

And the following networks:

- EHEA Information and Promotion Network;
- Network for Experts in Student Support in Europe – NESSIE;
- Network for National Qualifications Frameworks Correspondents.

Now, after the launching of the European Higher Education Area, the Bologna Process moves towards a new phase, a more in-depth one, focusing on a reduction of the implementation discrepancies in the countries forming the EHEA.

The next milestone of the European Higher Education Area has been marked at the EHEA Ministerial Conference, which took place in Bucharest, Romania, on 26-27 April 2012.

The Third Bologna Policy Forum, which was organised in conjunction to this Ministerial meeting contributed to further the debate on the progress of the European Higher Education Area on the global scale. It was attended by members and heads of delegations from 47 EHEA countries and 19 non-EHEA countries along with representatives of international organisations from the field of higher education.

The overarching theme of the third Bologna Policy Forum was "Beyond the Bologna Process: Creating and connecting national, regional and global higher education spaces". The third edition of the Bologna Policy Forum focused on creating and connecting national, regional and global higher education spaces, while deepening the discussions on the following four topics reflecting on future approaches for dialogue in this context:
• Public responsibility for and of higher education within national and regional context;
• Global academic mobility: Incentives and barriers, balances and imbalances;
• Global and regional approaches to quality enhancement of higher education;
• The contribution of HE reforms to enhancing graduate employability;

The participants stated that the BPF concept should be further enriched and taken forward in order to maximise its potential for policy dialogue. In this sense, an evaluation of the Bologna Policy Forum was organised immediately after the event with all participant delegations.

From QA to Strategy Development

Entrepreneurial University and new challenges

Universities have to be able to shape their strategy, choose their priorities in teaching and research, allocate their resources, profile their curricula and set their criteria for the acceptance of professors and students. European higher education institutions accept the challenges of operating in a competitive environment at home, in Europe and in the world, but to do so they need the necessary managerial freedom, less rigid regulatory frameworks and fair financing or they will be placed at a disadvantage in co-operation and competition.

Salamanca, 2001

The process of unifying EU university structures does not necessarily mean to make everything the same. To equalize higher education in Europe would mean to equalize the process itself. This opportunity will be used by smaller and newer universities with the aim of taking up a better market position. Universities of Applied Sciences are an example of quick, flexible and variable activities.

These trends mean that university institutions can no longer simply express their commitments to excellence; they must actively monitor their activities, improve their offerings and demonstrate their quality to a variety of stakeholders.

With greater traditional universities in Europe, new standards for university development and university management are well accepted within the newly developed standards for quality assurance as a tool for university development. This was a shortcut used in order to introduce a new modern management based system.
The main principles used at universities are:

- Strategic orientation
- Input vs. output orientation
- Controlling and reporting
- External relations: service to society
- Competition for students, human resources, state and third-party funds
- New responsibilities, e.g. strategic alliances, financial management, marketing
- Relationship management – partner for life

In the last 10 years most of the university institutions in Europe started with very intensive promotion since the university market has been changed and accordingly a huge competition triggered among universities. Internal university organisation has changed and one of the examples was given by Henry Mintzberg, contemporary organisational theorist, McGill University (Mintzberg, H. 1979. The Structuring of Organizations, Englewood Cliffs, NJ: Prentice-Hall).

Organisations consist of 5 different groups of individuals covering 5 levels of university management.

<table>
<thead>
<tr>
<th>Element</th>
<th>Groups of individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic apex</td>
<td>Rector’s council, senate chair</td>
</tr>
<tr>
<td>Operating core</td>
<td>Faculty members</td>
</tr>
<tr>
<td>Middle line</td>
<td>Deans, department chairs, heads of institutes</td>
</tr>
<tr>
<td>Support staff</td>
<td>Most of administrative staff</td>
</tr>
<tr>
<td>Techno structure</td>
<td>Budgeting, personnel planning, quality control</td>
</tr>
</tbody>
</table>

Illustration given by Henry Mintzberg is presenting the right picture but again raising the questions:

Who belongs to what category at universities?
Which category is predominant?

One of the best tools for introducing a new management system and providing an appropriate solution for day-to-day management is the establishment of a system for QA, as support to university management and development. The system developed is the same as the system for developing of the university and can be introduced with European Standards and Guidelines issued by ENQA. Level of quality assurance of teaching, i.e. of the teaching curricula and study programmes which often correspond to market requirements was very well received. In this area, there is a tendency of convergence between traditional and applied universities. In some cases, university institutions’ foreground task is to promote their teaching curricula, and such promotion is performed through assured licenses. This is usually the case with developed universities. With less developed universities, the significance of institutional and programme accreditation are at the same level and it is often that institutional quality assurance is emphasized as being the most important factor.

The role of students in university management and their involvement within the QA system

Are students users or products? What is specific about a university is that, at the same time, the product is also the user. In such a complicated system, students
assume their role in university management and development, because, as primary users, with their participation they contribute to change. The way in which students participate has in the last 10 years been defined by the QA system in which students are represented in all quality assurance segments on institutional level, as well as in quality assurance of teaching and curricula.

*Students should be seen as partners in the academic community, because they often have a balanced view of the aim of the academic institution; on the cultural, political and historical aspects of the academic community; on the institutions’ role in society and on the future of the academic tradition*.3

In recent years, students have increasingly become involved in the improvement and enhancement of their own learning experiences, by providing feedback on courses, contributing to the development of learning and teaching, participating in university decision making processes, representing student views through a student union or other representative body. Students participate and can contribute by using the following instruments:

- Evaluation of quality of teaching staff at institutional level
- Evaluation of teaching curricula
- Participation in internal evaluation
- Participation in commissions for external evaluation of teaching curricula.

This is the basic minimum of ways in which students can contribute and be a part of the processes for improvement of quality of university institution and teaching curricula.

Through talks with students from Armenian it is evident that there is no clear systematic management of the policy for engaging students in university management processes. Stronger promotion, organization of student unions, and promotion of student participation in university management processes through existing QA system are highly recommended.

*Dino Mujkic
WUS, Austria*

3 Lene Karin Wiberg, Student involvement in the processes of quality assurance agencies, Helsinki, Finland, 2006 // [www.enqa.eu/pubs.lasso](http://www.enqa.eu/pubs.lasso)
University-market cooperation

University in Center
Integration of university institutions is one of the key factors for higher education reform. While non-integrated universities consist of faculties which are separate legal entities, integrated universities are centralized and the university is a legal entity. University integration would allow changes related to processes of common functions of the university, such as: legal status, application of standards, compatibility of the financial system, the compatibility of the IT infrastructure, system of student services and human resources system, quality assurance system policies, etc. With integration, the following is achieved: improvement of organization and the quality of teaching and scientific research, optimization of development of study programs, the use of joint research resources, and more efficient use of staff, space, laboratory and other basic university resources. Integration also means that the university is placed in the center and as such is, with all its service centers, positioned towards the outside, constantly listening to the needs of the labor market.

The objectives of the Tempus project ARARAT are:

- To build on capacity of universities to effectively manage the units promoting university-market cooperation.
- To establish a National University-Labor Market Network (NULMN) to promote cooperation between the partner universities and regional employers;
- To facilitate an active dialogue between universities and labor market around qualifications offered through establishment of a database and relevant tools;
- To operationalize ANQF and keep the program level generic learning outcomes up-to-date thus enriching academic learning with the recent developments in the labor market environment.

The objectives are in compliance with the constant need of universities to be socially responsible. In line with the project objectives and possible activities of the university-market cooperation units, the units must develop their own profile and activities, as well as apply institutional development instruments.

What follows is an overview of possible development instruments:
• **Competence Center**
Competence Center and the need for its establishment addresses the link between higher education and economy as one of the most crucial issues in the EU countries. Competence centers are research and transfer facilities within a certain economic area, in which businesses and scientific bodies work together. They include basic research just as much as industrial research and experimental developments.

The main objective of the Center is the development and advancement of procedures and tools for assessing and improving the match between competences developed by institutions of higher education and those required by the labor market.

• **Research and Development Center**
Research and Development are the key to innovation and the basis for growth and progress in every country. Excellence in research performance requires rapid adaptation to technological and environmental changes leading to a stronger demand for cross-border and inter-institutional research cooperation. In view of this the European Union aims to create a European Research Area (ERA) and an Innovation Union in order to contribute to a concerted and more efficient approach to Research, Development and Innovation in Europe.

A successful example of Research and Development Service Centers are the ones established within the Tempus project “Creating R&D Capacities and Instruments for boosting Higher Education - Economy Cooperation (2009 – 2012)”. The main goal of the project was to establish R&D Services Centers and to develop R&D strategies, services and instruments at four SEE universities. The first activity comprised an analytical assessment of the current situation and the development state of R&D strategies at the universities. Building on the assessment results, a clear strategy that addressed the particular needs of each university was formulated. These project steps were followed by the setting up of a R&D Service Centre and identification of its services and instruments. The elaborated measures aimed at addressing all university relevant needs and problems in regard to R&D by commencing a change process on one side and creating further R&D capacities on the other side, in order to enable the universities to fulfill their central role in the national R&D systems and thus in the local, regional and national development of their countries.
Business Start-up Center
The general objective of the Business Start-up Centre is to prepare students and university graduates for entrepreneurship and to promote entrepreneurial issues at the university. The Business Start-up Centre is designed to develop and transfer knowledge about the enterprise process and to encourage students and university graduates to examine entrepreneurship as a viable career option.

The focus of the new enterprises should be innovation and sustainability.

The Center aims at promoting and developing the idea of entrepreneurship among students. The Center provides services with the aim of supporting students and university graduates in designing and developing knowledge-based ideas and starting-up their own businesses.

The Business Start-up Center provides practical information about the world of business and encourages potential and helps launch small and medium enterprises based on knowledge.

Lifelong Learning (LLL) Center
In the last couple of years Lifelong Learning (LLL) has occupied a more central place in the field of education and training. Since the knowledge, skills and competences which are needed in the labor market and in society at large are changing rapidly, it is getting more and more important that everyone has the opportunity to continue education in order to ensure employability throughout one’s working life.

Lifelong Learning should enable individuals at all stages of their lives to pursue stimulating learning opportunities. The scale of current economic and social change, the rapid transition to a knowledge-based society and demographic pressures resulting from an ageing population in Europe are challenges which demand a new approach to education and training, within the framework of Lifelong Learning.
Higher education institutions should focus on providing Lifelong Learning opportunities, services and research for the personal and professional development and also foster the cooperation with external stakeholders and companies. In this context we also promote the establishment of new learning and teaching techniques such as e-learning and distance learning in order to reach an even wider audience with the Lifelong Learning programs.

**Development of applied curricula – LLL center**

- **Career Center**
  The objective of the Career Center is to provide support to students in developing their competencies, knowledge and skills which are necessary in the modern business world, but also for continuing one’s education. The center serves as a strong link between the academic and business communities, providing students the opportunity to gain work experience during their studies and employers the opportunity to find high-quality employees.
  A successful example of a Career Center is American UCLA Career Center ([http://career.ucla.edu/](http://career.ucla.edu/)). The UCLA Career Center offers services and resources to help UCLA students and graduates:
  - Gain a better understanding of their skills, interests, and personality and learn how they relate to their career possibilities
  - Increase their knowledge of the job search process
• Learn how to get an internship
• Write an effective resume
• Gain greater confidence in interviewing skills
• Learn about the process of applying to graduate and/or professional school
• Learn how to write an effective personal statement.

Possible approach
Practice-oriented education combines academic theory and practical experience, and incorporates inputs from the business world in order to react in a flexible way to the rapidly changing needs of the labor market. Students benefit from the strong practical focus of their study programs as they acquire up-to-date, professional, real-world knowledge and skills. Internships, projects and partnerships with companies, non-profit organizations and the public sector are an integrative part of a practice-oriented curriculum. In this area, the focus is on the development of applied curricula, the introduction of competence-based teaching and learning, the establishment of cooperation between universities and economy/society with measures such as case study competitions and internships, and through the introduction of career centers and alumni networks.

An example of a possible way in which students could organize is the Balkan Case Challenge (BCC). BCC was an annual international case study competition and recruitment event with a focus on South-Eastern Europe (SEE). It aimed at opening up opportunities and new perspectives for excellent students from SEE through strengthening links between higher education and employment and by the provision of concrete job opportunities. In addition, the Balkan Case Challenge contributes to an increased awareness about the potentials of South-Eastern Europe/ the Balkans - being an integrative part of a joint Europe.

Excellent students from SEE and Austria had the opportunity to compete in the following four academic disciplines: Law Moot Court, Business Case Competition, Model European Council, and ICT (Information and Communication Technology) Case Competition.

Dino Mujkic
WUS, Austria
REFERENCES

[MANNAGEMENT PRINCIPLES & University-market cooperation]
[Dino Mujkic – WUS Austria]

14. Website of the European University Association: [www.eua.be](http://www.eua.be)
15. Website of the European Higher Education Area: [www.ehea.info](http://www.ehea.info)
16. Website of the UCLA Career Center: [http://career.ucla.edu/](http://career.ucla.edu/)
17. Website of the World University Service (WUS) Austria: [www.wus-austria.org](http://www.wus-austria.org)
Strategic considerations for sustainable University-Enterprise Cooperation

Considerable effort has been devoted to the preparation of regional innovation strategies in which universities (as distinct from R&D organisations) are seldom mentioned – the focus has been on just one side of the triangle. While universities undertake research and can contribute to its development the guide situates this activity in the context of the other functions of the university, particularly teaching. Furthermore the dominant paradigm has been one of a technology push, which has largely ignored the potential contribution of the Arts, Humanities and Social Sciences to regional development and innovation. Even the terminology and infrastructure of innovation has had a strong bias towards an assumption of a scientific or technological basis (e.g. many universities have “technology transfer offices”). Many of the examples used to illustrate points in this guide will reflect this dominant approach. However policy makers should consider how this might be challenged going forwards, and seek to embed the non traditional players in the innovation process in future programmes.

Universities in the round have potentially a pivotal role to play in the social and economic development of their regions. They are a critical ‘asset’ of the region; even more so in less favoured regions where the private sector may be weak or relatively small, with low levels of research and development activity. Successful mobilisation of the resources of the university can have a disproportionately positive effect on their regional economies and achievement of comprehensive regional strategies.

In order to effectively engage universities, public authorities need to understand the principles underlying why universities can be important agents in regional development. There is also a range of mechanisms available to support engagement, many of which are already being deployed. However it is the strategic coordination of these within a wider policy context that will produce the maximum impact.

It is important to recognise that there may well be a series of complex barriers and challenges to be overcome, both internal to the universities and in the wider enabling environment. If public authorities and the key regional partners understand the principles, practices and barriers and how to overcome them, the potential for maximising the contribution of universities is almost boundless. Achieving this is a long term objective and will require a staged approach moving
from simple projects to more integrated collaborative programmes.

Key findings and recommendations

Mobilising universities needs to be addressed in a ‘holistic’ way and not just by focussing on transactional interventions such as consultancy services for local companies. It is tempting to focus on transactional mechanisms as they have clear outputs such as the number of firms assisted. However they are less likely to have the longer term outcomes and impacts that can be achieved with ‘transformational’ and more developmental programmes such as contributing through teaching to a regional human capital development programme linked to research based support to firms in a key regional business cluster.

There should be an active attempt to a shift from ‘transactional’ to ‘transformational’ interventions with a greater emphasis on programmes rather than one-off discrete projects.

Transformational and holistic programmes are far more difficult to develop as the outcomes are often unclear from the start, so it requires a very strong partnership with vision and courage to undertake their development. This can only be addressed by an inclusive, empowered partnership of key people with the appropriate leadership skills.

A partnership is established in the region to specifically address the issues of engagement between universities and regions and particular attention is given to ensuring the sustainability of partnerships in the longer term, independently of funding cycles.

Investment in people development within the university and its regional partners will be critical, as the kinds of skills needed to undertake these transformational programmes are often in short supply, especially in less favoured regions. Leadership and boundary spanning skills are essential, as well as capacity to critically assess progress (both internally through self evaluation and externally through expert peer review processes).
Managing Authorities should assign funds from their technical assistance budgets to support this and universities, business communities and other public sector authorities should match this to demonstrate their commitment to the process by investing in their own development.

The work of the OECD in its Reviews of Higher Education in City and Regional Development, the EU-Drivers for a Regional Innovation Platform (European Centre the Strategic Management of Universities (ESMU) for DG Education and Culture) and the EUIMA Programme (European Universities Association (EUA) for DG Research) on Sharing Innovative Practices in University Management - Collaborative Research provide important guidance to this process, and it is interesting that many of the regions highlighted in this Guide have actively participated in one or both of these programmes.

Regional Partnerships consider participating in the OECD programme of regional reviews in order to help identify their current strengths and areas that may require capacity building and consider carefully the findings of EUA and ESMU programmes.

European funding programmes are often not seen as attractive to universities, who may have access to other sources of funding for their research activities which have higher intervention rates and/or seek outputs that are in tune with standard academic principles and practices. Furthermore the processes for costing overheads and academic time can be perceived as overly bureaucratic and complex, requiring the university to have specialist staff to manage applications and projects to ensure compliance with regulations.

Some simplification and flexibility in implementing Cohesion Policy Regulations is considered and that Managing Authorities are actively encouraged to adopt a more flexible approach.

The approaches focused on in this guide to illustrate the principles within it are primarily drawn from existing mechanisms currently being deployed, and therefore
there is a bias towards a linear, science driven and technology ‘push’ approach to innovation. However, there is a need for social and service as well as technological innovation, especially in addressing the Grand Challenges such as climate and demographic change which have regional as well as global dimensions and attempting to respond to the Lund Declaration.

Managing Authorities and Universities adopt a broader definition of innovation to acknowledge the role that arts, humanities and social sciences can play, especially in responding to the ‘Grand Challenges’ and develop mechanisms that draw on the expertise and contribution from these disciplines to issues like regional entrepreneurship, creativity and social inclusion which form key dimensions to territorial development in the round.

Alexandra Mayr  
University of Alicante, Spain

REFERENCES

[Strategic considerations for sustainable University-Enterprise Cooperation]  
[Alexandra Mayr, University of Alicante]

   *http://www.riteh.uniri.hr/bolonja/programi/WBC_Regional_Model_UNIcoop_draft.pdf
   *www.eue-net.org
Aligning study programmes with labour market needs. Case Study

Strategy for competence based learning on a university and faculty basis. Case Study: University of Alicante

DEFINING THE COMPETENCES

Macrol level framework
The Bologna Process and the creation of the European Higher Education Area (EHEA) present important challenges for universities in Europe, particularly regarding the adaption of the study programmes to the needs of the labour market and integration of competence based learning in each and every course offered.

In pursuit of the requirements of the Bologna Process and EHEA, the Spanish government introduced a number of important reforms of the university system (e.g. Ley organic 4/2007, 1393/2007), requiring universities to overhaul their study programmes and establishing the official quality and accreditation requirements for the new study programmes.

With the aim to provide practical guidance to universities in this process, the Spanish National Agency for Quality Assessment and Accreditation (ANECA – Agencia Nacional de la Evaluación de la Calidad y la Accreditación) elaborated a series of guidebooks with practical recommendations on the redesign of the study programmes in pursuit of the Bologna requirements, the so called ‘white books’ (Libros Blancos). The white books are the result of the collaborative work undertaken by networks of Spanish universities and other stakeholders, supported by ANECA, with the specific objective to conduct research and propose practical guidelines for the standard graduate study programmes, such as competences, objectives, methodologies, evaluation criteria etc. The white books were elaborated and firmly based on the following aspects: comparative analysis of the respective study programmes offered by universities in other EU countries, main characteristics and requirements of the specific European degrees, results of the surveys on labour market incorporation of university graduates, analysis of professional competences and profiles, and other relevant aspects. The model degree programs set out in the white books were developed in a cooperative effort among various stakeholders (academy, business, students).
The white books have proven to be a very important tool for Spanish universities, who use the information contained therein as reference models for the development of the new study programmes.

Institution level framework and actors involved

In order to define and validate the competences to be acquired within each degree program, the faculty committees in charge for this activity at the University of Alicante were encouraged to actively involve the following stakeholders and entities:

The case of the Bachelor degree in Social Work

The University of Alicante’s active participation in the development of the White Book in 2003-2004

National call for projects: Grant funding provided by ANECA for the design of the Social Work Bachelor’s Degree and Curriculum.

- Establishment of a mixed committee: 7 representatives from the National Board of Directors of Schools of Social Work, 4 members of the National Board of Associations of Professional Social Workers, 3 representatives of the Students.
- Design and coordination for the Committee/Work in universities
- Consensus in General Assembly (Research Network with 32 Universities)

Main conclusions of the project:

- in Spain, the political process for the EHEA convergence is very slow (finishing 2010-2011)
- In the case of degrees in social work: the design process for the Bachelor in Social Work is a good practice model by consensus and has been developed by representatives of academy and the professional sector.
- As a result, the Libro Blanco proposes a new educational profile based on the detailed professional profile (competences).

In order to achieve the new learning objectives and competences established it has become clear that there is a need for:

- including more practical training through projects and internships;
- promoting applied research in social work;
- better linking theory and practice.

Implications: relations among academy and professional social workers need to be strengthened, there is a need for new teaching methods and didactic tools; tutors in the practical field of social work are needed.
University external entities collaborating with UA:
- Local chambers of commerce
- Human Resources departments of regional enterprises
- Public administrations

University internal departments and entities:
- Professors, researchers and heads of departments (coordinators, networks and working groups)
- The University Technical Unit for Quality Assessment
- The General Foundation of the University of Alicante (UAFG)
- The UA career centre and employment counselling service for students (GIPE)
- The University Observatory for Job Placement
- The University-Enterprise Foundation (FUNDEUN)
- Transfer Office (OTRI)
- Students (alumni), UA

Table 1: Characteristics of the university entities that play a role in defining competences based on the labour market needs

| General Foundation of the UA | • Interface between the UA and many firms.  
| • Training tailored to private sector needs (based on market demands) and targeted to professionals.  
| • Employment service and labour market studies.  
| [www.uafg.ua.es](http://www.uafg.ua.es) |
| Technical Unit for Quality Assessment | • Management of the teaching activity assessment process  
| • Planning and execution of surveys on labour integration, satisfaction of students, graduates and employers, etc  
| [http://utc.ua.es](http://utc.ua.es) |
| The UA career centre and employment counselling service for students (GIPE) | • Facilitation placement of students and graduates from the UA.  
| • Vocational Counselling for students.  
| • Studies on supply and demand match of university degrees.  
| [www.gipe.ua.es](http://www.gipe.ua.es) |
Competence catalogue of the UA

At an institutional level it was established that each degree offered at UA shall equip students with a set of competences, according to the following classification:

- General Competences related to the degree
- General Transversal Competences (common competences to be acquired within all degrees offered at UA):
  - CGUA1: Foreign language skills
  - CGUA2: Computer and information skills
  - CGUA3: Strong oral and written communication skills
- Specific Competences

Example: Competences related to the degree of economics offered at UA in the academic year 2010/2011

General Competences (CG)

- CG1: Capacity to find and analyse information.
- CG2: Capacity for team work.
- CG4: Apply professional criteria based on the use of technical instruments to analyse problems.
- CG5: Capacity to take decisions by applying acquired knowledge to practical situations.
- CG6: Obtain important information from the data that is impossible for non-professionals to recognise.
- CG7: Ethical commitment and social responsibility at work, respecting the environment, being aware of and understanding the importance of a respect for human rights, equal opportunities for men and women, universal accessibility for the disabled and respect for the values of a peaceful culture with democratic values.
- CG8: Analyse problems using critical reasoning, without prejudices,
precisely and rigorously.

- CG9: Capacity for synthesis.

### General Competences acquired at University of Alicante (CGUA)

- CGUA1: Read and communicate in a foreign language in a professional environment, especially in English.
- CGUA2: Use computer, I.T. and communications technology tools as a matter of course in all of one's professional activities.
- CGUA3: Capacity for oral and written communication.

### Specific Competences (CE)

- CE1: Contribute towards the correct management of resource allocation in both the private and public context.
- CE2: Identify and anticipate relevant economic problems relating to resource allocation in general, in both the private and public context.
- CE3: Bring a rational approach to the analysis and description of any aspect of economic reality.
- CE4: Evaluate the consequences of different options for action and select the best one according to the objectives set.
- CE5: Issue expert reports on specific economic situations (international, national or regional) or on sectors of the same.
- CE6: Draft economic management projects at international, national or regional level.
- CE7: Become involved in business management.
- CE8: Identify the sources of relevant economic information and their content.
- CE9: Understand economic institutions as the result and application of theoretical or formal representations of how the economy works.
- CE10: Capacity to apply the knowledge and skills acquired to solve theoretical and applied economic problems.
- CE11: Analytical skills for developing theoretical frameworks that simplify study of the real economy and the capacity to set appropriate levels of abstraction when studying different economic questions.
- CE12: Be able to use the appropriate tools for the analysis, diagnosis and solution of economic questions and problems.
IMPLEMENTING CBL AT THE UNIVERSITY OF ALICANTE

The process at a glance
The following shall provide an overview on the strategy applied by the university of Alicante to integrate competence based learning concepts into the study programmes:

☑ For each degree offered at the university, faculties are required to develop a comprehensive study programme and teaching guide – including CBL objectives and methodologies, following the structure set out in the university regulation for the implementation of graduate studies provided by the responsible vice-rectory.

☑ Competences: The competences related to each degree programme are set out in the Libros Blancos provided by ANECA as an orientation for Spanish universities. Studies, surveys and feedback from a number of diverse actors from the university and other stakeholders provide additional relevant input to define the competences.

☑ Each faculty at the UA has to develop and publish the new degree programmes, as well as teaching guidelines for each course offered (‘Teaching Guide’). The development of these documents is supervised by the Technical Unit for Quality Assessment and has to follow the university’s internal process of quality control and approval before they are presented for final accreditation to the Spanish Ministry of Education.

Practical tools available to faculty members for the integration of CBL in the new study programs
With a view to effective integration of competence based learning methods in all study programmes across faculties, the University of Alicante has been promoting a set initiatives and tools. The most important tools are illustrated as follows:

White Books / Libros blancos
The framework proposed by the Libros Blancos serves as a starting point for determining the competences for each degree at the University of Alicante.

University Regulation
To comply with the requirements of the EHEA and the reforms of the Spanish national and regional laws, the responsible Vice-rectory of the University of
Alicante published a regulation which established the procedures to be followed in the process of defining the new degree programs, focusing on CBL.

The regulation establishes the global structure of the degrees at UA, the various required elements to be included in the proposals for the new degree programs (description, justification, objectives, access and admission of students, academic staff, materials services and resources, expected results, quality control system, work plan), procedures for the elaboration and approval of the new study programs, methods of evaluating the competences acquired by students, etc.

**Teaching Guide for all courses offered**

In order to provide further practical assistance to faculty members in developing the new study programmes, the research centre ‘Institute of Education Sciences’ (Instituto de Ciencias de la Educación) was asked to develop and publish a model ‘Teaching Guide’ to be used for all courses offered at the university.

Based on this model, faculty members are required to develop and publish a ‘Teaching Guide’, detailing the course programme contents, and specifically the interrelationship of competences and learning objectives, the detailed work planning of activities, and methods proposed to evaluate the learning outcomes and competences, among others.

The teaching guide for each course, shall illustrate the following information:

- The contribution of the course to the professional profile to be developed within a certain degree program, and to the development of the related competences; the role of the course within the study program and interrelationship with other courses.
- Competences
  - **Generic competences which need to be developed within each and every study program and are defined as follows:**
    - Instrumental competences: enable the student to use the knowledge acquired as an instrument to reach other objectives
    - Interpersonal: capacity to work in teams, social interaction and cooperation.

---

4http://www.ua.es/es/estudios/estudios-grado.html
- Systematic: the capacity of vision, integration and relation of the different parts of any system; organisation and entrepreneurship
- Specific competences according to the officially accredited study programs
- Objectives and learning outcomes in relation to the specific competences:
  - Cognitive objectives
  - Instrumental objectives
  - Attitudes
- Learning contents
- Teaching methodologies
- Evaluation methods

Project 'University Teaching Research Networks ('Redes de Investigación en docencia universitaria')5
This project is an initiative of the Vice-rectory for Strategic Planning and Quality Assessment, created networks consisting of different actors which shall work together on how to improve the teaching and learning processes at the University of Alicante regarding CBL and the requirements of EHEA. Specifically, the networks are aimed at promoting research and reflections regarding teaching and learning processes, while encouraging the participation of students and other stakeholders, with a view to widen the perspectives and come up with new, improved teaching methodologies for the development of the required competences. The networks consist of eight to ten members and may include academics, students and management/administrative staff.

The networks aim to provide a platform for university teachers to share experiences, provide a platform for professional development, promote research about teaching and learning methodologies. The network activities and results are periodically reported to the vice-rectory for Strategic Planning and Quality Assessment.

Once a year, a conference is organized in the framework of the teaching networks project, in order to promote the cooperation and exchange of experiences among the different networks. To further promote the interaction and exchange of

experiences and knowledge among teachers, a blog was created within the teaching research networks project (http://blogs.ua.es/redesice/informacion/).

The teaching networks project has been operating for more than eight years and has proven to be an important tool for constant improvement of teaching methodologies. In 2010 there were 76 active networks at the University of Alicante, with more than 774 members (university staff and students).

**Teacher training project**

Continuous training and skills development of university teachers is considered a core requirement for providing high quality training programs and integrate CBL at the University of Alicante. Therefore the university, through the ‘Institute of Education Sciences’, offers a training program that responds to the re-training needs of university teachers, particularly regarding issues related to innovation, new technologies and new teaching methodologies. The program is implemented in coordination with the training actions offered by the regional government for university teachers. Professionals from academia and business are delivering the training courses around the following areas:

- Evaluation, teaching methodologies, planning (in general and specific areas)
- Integration of information and communication technologies in teaching
- Job search tools and up-to-date information on labour market needs
- Scientific research, communication and networking
- Basic competences for professional development
- Courses on specific topics on demand

**CONCLUSIONS**

At the University of Alicante, like in most other universities in Europe, the integration of competence based learning into the university study programs was driven by the Bologna process and the creation of the EHEA. As Spanish policy actions were taken rather late, the actual implementation of the new degrees including focus on CBL were only fully effective in the academic year 2010/2011. In the process of preparing for the implementation of the new degree system in accordance with the EHEA requirements, several initiatives were taken on national and institutional level which led to remarkable results resulting in an efficient and effective transition process. This may not least be attributed to the fact that UA maintains a long standing relationship with the private sector and since many years is studying the labour market with the aim to adapt the study programs as closely
as possible to the actual needs of graduates to be successful in the labour market. At the moment, however, not much can be concluded on the experiences of teaching and evaluating competences as per EHEA requirements at UA. Nevertheless, the tools created for the definition and integration of competences in the degree programs at UA, as discussed above, may well be useful to other universities who seek to integrate CBL.

In summary, the UA experience suggests that the following factors are of particular relevance for integrating CBL in universities:

- Define and communicate clearly the process, responsibilities and timeframes for the integration of CBL;
- Facilitate the active involvement of stakeholders in the definition and evaluation of competences, and particularly professional organisations and private sector representatives;
- Promote cooperation, and providing platforms for exchange of experiences, learning and networking for faculty members (networking projects, blogs, meetings, conferences);
- Offer targeted training for teaching staff to prepare them to adapt their teaching methodologies to the new requirements;
- Propose concrete hands-on guidance, while at the same time leaving room for flexibility and innovative ideas.

Alejandra May
University of Alicante, Spain

Information and guidance on how to better tailor the study programmes to industry needs, and valuable pilot projects in this area can be found on the following websites:

http://www.link-competences.org/kosovo/
http://www.link-competences.org/kosovo/#links
http://www.aneca.es/Documentos-y-publicaciones
http://rua.ua.es/dspace/bitstream/10045/13199/32/PROPUESTAS%20CAP.%2032.pdf
http://rua.ua.es/dspace/bitstream/10045/13540/1/ALT_16_01.pdf
http://library.iated.org/view/CANTEROVICENTE2011ANE
http://www.eassw.org/conferences/Dubrovnik/Presentations/6DubravaSection_II/Session4W7/A_NeW_SW_%20Education_in_Spain.pdf
Please find questionnaires used to evaluate study programmes, teachers and employability of graduates at the University of Alicante.

**Questionnaire of work placement 2012**

Male .................................................................1  
Female ...............................................................2  

Date of birth: __________

Your qualification is ...... (confirmation of the date appearing in the database). Is it correct?  
Yes .................................................................1  
No .................................................................2  

**CAREER**

4. What is your current working status?  
   Freelancer and employer of more than two employees .....................1  
   Freelancer and employer of 2 employees or less .............................2  
   Public sector employee .................................................3  
   Private sector employee ...............................................4  
   Trainee or internship ..................................................5  
   Unemployed ..........................................................6  
   Student .............................................................7  
   Pensioner, housewife, other ...........................................8  
   Don’t know or NA ....................................................9

4b. (Only Masters): What were you doing when you decided to study a Masters degree?  
   Freelancer and employer of more than two employees .....................1  
   Freelancer and employer of 2 employees or less .............................2  
   Public sector employee .................................................3  
   Private sector employee ...............................................4  
   Trainee or internship ..................................................5  
   Unemployed ..........................................................6  
   Student .............................................................7  
   Pensioner, housewife, other ...........................................8  
   Don’t know or NA ....................................................9

5. (Only if unemployed). How long are you unemployed?  
   Years:  
   Months:
Now, a series of questions regarding your studies are proposed.

6. Since you finished your studies, how many different jobs did you have? __________

7. Referring these jobs, how many of them were related to your studies? __________

8. How long did it take you to find the first job connected to your studies since you finished them?
   
   Less than 6 months.........................1
   Between 6 and 12 months......................2
   More than 1 year and less than 2...............3
   2 years or more.........................4
   I was already working when I finished my studies ..................5
   I have not found the right position for my studies level...................6
   Don’t know or NA.........................9

*ONLY IF EMPLOYED

9. How long have you been in your current position?
   Years:
   Months:

10. What kind of contract do you have at the moment?
    
    Permanent contract / career civil servant.........................1
    Temporary contract / designated civil servant (work and services or temporary) .................. 2
    Trainee contract or internship.........................3
    Other types of contracts (commercial agreement or management contract) ...............4
    No contract.........................5
    Freelancer.........................6
    Don’t know or NA (DO NOT READ).........................9

11. What does the company or organization you are working in do? (Financial activity)
    (Only private sector)
    
    Education and training.........................1
    Industry.........................2
    Construction.........................3
    Informatics and telecommunications.........................4
    Publicity, communication, marketing and entrepreneurial management.........................5
    Commerce.........................6
    Tourism and hotel trade.........................7
    Health, assistance and social services.........................8
    Financial (insurances, banking, consultancy) and legal services .........................9
Other……………………10
Don’t know or NA……………….…..11

12. What kind of functions do/did you mainly do?

Full management of the company………………………………1
Human Resources Management………………………………….2
Administrative management…………………………………3
Financial Management………………………………………4
Marketing Management………………………………………5
Production Management………………………………………6
Commercial or logistics………………………………………7
Consultancy…………………………………………………..8
Teaching………………………………………………………9
R+D (Research and Development)……………………………….10
Health and social assistance…………………………………11
Design and creativity…………………………………………12
Technical functions…………………………………………13

Non-qualified functions (assistants, shop assistants, customer services, etc) ……………….…..14
Other: ____________________________________________

13. How many employees there are in your company or organization?
(only for those working in the private sector):

Less than 10 ……………….…..1
From 10 to 50……………….…..2
From 51 to 250……………….…..3
More than 250……………….…..4
I am a freelancer with no employees…………………….…..5
Don’t know or NA……………….…..9

14. Which were the requirements of your current job?

Specific degree……………………………..1
Specific Masters………………………….2
Only a university degree………………………….3
No degree was required………………………….4

15. Does the type/category of your contract correspond to the work you do?

Yes……………………………..1
No……………………………..2
Don’t know or NA……………………………..3

16. How satisfied I am with my current job? (From 1=very unsatisfied to 5=very satisfied):

1……………………………..1
2……………………………..2
3……………………………..3
How suitable is your job to:

17.1 **Your level of studies** (1 very unsuitable - 5 very suitable) (Degrees and Masters)

1.1
2.2
3.3
4.4
5.5

Don’t know or NA .......................... 6

17.2 **Your specific degree** (1 very unsuitable - 5 very suitable) (Only degrees, no Masters).

11.1
2.2
3.3
4.4
5.5

Don’t know or NA .......................... 6

18. **Only masters:**

**How has the masters helped you to improve professionally?**

A lot................................. 1
Enough................................. 2
A bit................................. 3
At all................................. 4

Don’t know or NA........................ 5

19. **How did you find your current job?**

Competition.......................... 1
Through trainee during your studies (or masters) ...................... 2
In the company or institution where I worked while studying.......... 3
Through personal contact (family, friends) .......................... 4
Through a job listing of a professional association .................... 5
Through GIPE in the UA .................................. 6
Through public job centers (INEM, SERVEF) .......................... 7
Through a temporary employment agency .......................... 8
I created my own company / freelancer / entrepreneur .................. 9
Through an human resources consultant’s .......................... 10
I delivered my printed resume to the company .......................... 11
Through online job search portals .................................. 12
Through the company’s website .................................. 13
20. In which province do you work at this moment? (pull down menu)

21. We are not interested in your wage, but according to the following options, could you please place your monthly net wage?

- Less than 500€ .................1
- Between 501 and 900€ ...............2
- Between 901-1200€ .................3
- Between 1201-1600€ ...............4
- Between 1601-2000€ ...............5
- More than 2000€ ...............6
- Don’t know or NA ...............7

22. Would you change your location if a better professional opportunity arose?

- Only if I do not leave my province/region ...............1
- Only in my Autonomous Community ...............2
- To any town/city in Spain ...............3
- Also overseas ...............4
- I would not change my location for a job ...............5
- I have never considered it ...............6

23. Give value from 1 (nothing) to 5 (a lot) the importance you attribute to the following difficulties for finding a job:

- Current condition of labour market ...............1
- Some faults during your studies ...............2
- Jobs offered and inadequate wages ...............3
- Lack of postgraduate studies ...............4
- Lack of previous professional experience ...............5
- Not enough training in companies ...............6
- Lack of languages knowledge ...............7
- Lack of informatics knowledge ...............8
- Lack of job opportunities in my working field ...............9
- Lack of job opportunities in my region ...............10

24. What means do you use mainly for job search?

- Through Servef / INEM ...............1
- Through temporary employment agencies ...............2
- Through personal contact ...............3
- Through job search portals ...............4
- Through advertisements in the newspapers ...............5
- Through straight contact with companies (sending resume via internet, post mail or in person) ...............6
- Public examination ...............7
25a. Would you accept a job if the wage was below what you consider appropriate for your studies level? Yes/No
25b. Would you accept it if it meant a lower category? Yes/No
26. Would you work in a place different to your current location?
   Only if I do not leave my province/region.....................1
   Only in my Autonomous Community.........................2
   To any town/city in Spain....................................3
   Not only in any Spanish region but also overseas..................4
   I would not change my location for a job....................5
   I have never considered it.................................9

EDUCATION [EVERYBODY]

27. Have you ever received any of this kind of education?
   Masters................................Yes/No
   Doctorate course............................Yes/No
   University Specialist or Expert course.........Yes/No
   Language course..............................Yes/No
   Informatics course...........................Yes/No
   Workforce courses...........................Yes/No

Continuing with _________________ studies (data base)

28. How would you assess from 0 to 10 the quality of the following educational aspects of your studies?
   28.1 Subjects and contents.........................1/10
   28.2 Materials and equipments.....................1/10
   28.3 Teaching...................................1/10
   28.4 Training in companies.......................1/10

29. From the following skills, evaluate, firstly, the importance of each one regarding the execution of a work and, secondly, to what extent you could develop them in university:
   *Importance from 1 (minimum) to 5 (maximum)
   *Development in university 1 (minimum) to 5 (maximum)

   Analysis and synthesis skills......................1/5
   Adaptation to new situations skills...............1/5
   Teamwork......................................1/5
   To present in public products, ideas and reports...1/5
   To write and speak different languages...........1/5
   To use informatics tools........................1/5
Initiative and entrepreneurship..................1/5
Social skills..............................1/5
Leadership and team coordination..............1/5
Decision making and problem solving...........1/5

30. From the following type of courses, which ones interest you?

Masters..............................1
Doctorate courses......................2
University specialist and expert courses........3
Short thematic courses..................4

31. Finally, from the following activities, which ones you have carried out?

Erasmus-Socrates stay......................1
Language course overseas..................2
Works overseas..........................3
Professional training in another country (eg. Professional European Training Program).........4
Training in companies or institutions in Spain after university studies/masters....................5
Training during companies or institutions during university studies/masters.......................6

We would like to carry out some other studies in the future, so could you tell us the name of the company you are working in or the last company you worked in? Obviously, this information is confidential and anonymous and it is used for studies making purposes.

THE QUESTIONNAIRE IS OVER, THANK YOU FOR YOUR COOPERATION
University units promoting student employment & business development

The following text is based on: Torres, R. (2012), Mise en place de services universitaires pour l’emploi (SUE) dans l’optique de la Communication, Proposition de méthodologiedestinée aux pays en développement et aux economies émergentes pour le développement local.

**INTRODUCTION**
Emerging economies are those, which are proving their growth through social changes, the launch of their own productions and services using endogenous resources even though a full development has not been achieved yet. Development and social quality will be stopped if knowledge won’t flow through their university students and their collocation. The encouragement for the investment and job opportunity creation throughout relations University-Enterprise requires communication strategies for the creation of trust and understanding of the University role in territories development.

This document presents a general guide, including some concepts and actions, which must be taken into account for the creation of university job services according to the context of emerging economies. This is the reason for the use of key words like Strategic Communication; public relations; Employment; Socioeconomic development; Social responsibility; Relation University- Company.

**STARTING POINT**
- In the frame of employability of university graduates, find out:
  - What are the most and less demanded degrees? Why?
  - What is the business sector opinion about university? Why?
  - Which resources are/ are not available in my university?
  - What additional financing sources may I access?

**Binomial University-society**
Create a strategic plan for graduate employment, in the context of emerging economies, this means a reflection about three dimensions of the university role in the socioeconomic development:

---

6 Available at: [http://www.projet-unilink.org/publications.html](http://www.projet-unilink.org/publications.html).
Translation to English by Sama Helali
**Working-economic dimension**
This dimension represents the set in motion of activities of economic promotion which encourages employment and the creation of companies.

For the creation of the SUE some questions must be wondered:
*What can I do as a university?*
*Do I have any opportunity of boosting self employment and company creation?*

**Socio-cultural dimension**
This dimension represents the need to answer to fragmentation processes and social exclusion, either ethnic, gender or age, available in global reality, which demand a very professional task and even specialized, which is now undoubtedly a source for the people that we educate in our university.

In this case, for the creation of the SUE some questions must be wondered: Am I creating that professional profile in my University?

**Urban territory dimension**
Recovering deteriorate historic legacies, worrying about environment and the territory organization constitute a pillar for sustainable development which cannot be carried out without prepared and sensitive people, who are mainly represented by university students.

The creators of SUE will answer questions like: What can I do as a university? Do I have any opportunity of boosting self employment and company creation? Am I creating professional and entrepreneurial profiles in my university?

Answering these questions implies the development of research work in order to achieve useful information for the final design of a SUE, as well as a continuing assessment. This is why research action is recommended.

**AFTER THE REFLECTION: WHAT IS THE PLAN?**
This section aims to propose a methodological guide for the design of a strategic plan:
The SUE to run should set no more than three main strategic goals in order to avoid dispersal or even a crash among employment university and non-university services. The main goal will obviously be the collocation of university students, together with some internal and external strategic communication goals which will
provide trust and involvement direct or indirect of all the actors who may have something to do with employment or university self employment.

Basic steps for the strategic plan for the creation and implementation of an Employment University Service:

1. To define strategic core: double guaranteed\(^1\) collocation
2. To define the strategic goals and the corresponding services and operational area:
   - Strategic goal 1: higher number of collocation rate
   - Strategic goal 2: increase the knowledge degree
   - Strategic goal 3: increase employer’s trust

**STRATEGIC OBJECTIVE 1**

*To achieve a higher number of collocation rate and especially for those university qualifications less demanded according to the following Strategies and Techniques.*

**Strategies**

1. To identify new applications for university degrees taught. (What new ideas may be carried out in the organizations).
2. To identify possible sources of employment and self employment for those studies. (How can be new things carried out and in what kind of organizations).

3. To design and implement SUE with functional and operational areas:
   a. Job bank for graduates including proactive actions such as entrepreneurial presentations, fairs and events related to employment and creation of new companies and cooperation with regional administrations and regional development agents networks.
   b. Pre professional practices connecting compulsory academic practices with a more professional stay, in order to extend the relation period student-employer. To guarantee some financial support during the extension period to cover studies.

4. To work with students and graduates during the development of skills orientated to collocation and the development of careers.
   a. It may be an orientation to a specific area or those in charge of the bank orientate their own students.

5. To stimulate and orientate self employment and creation of companies.

6. To boost a longitudinal follow up of the professional career of those students who have worked as interns and graduates (To know the process, the simplicity and difficulties and the specific development of the job bank and practices of the university service users). Basically, thinking of the creation of an employment observatory with the cooperation of official observatories and employment and regional development agencies.

7. To generate situation which make these degrees visible and which show their utility in entrepreneurial companies (External Public Relations from the university training).

8. To boost relations and teamwork with development regional agencies.

9. To incorporate University Social Responsibility in the management model.

10. To involve those responsible of the Centres and faculties in the previous items, throughout specific program meetings about double guarantee employment (Intern Public Relations among employers and trainers considering their politic level (Students Vice presidency, technical level (Employment university service) and academic level (professors)).
Techniques

- **Creativity workshops**: in order to stimulate new visions for the development of a professional career and new application scenarios in the field of university degree’s knowledge, especially the most harmed in the labour market. Creativity for self employment and business creation. There are three target groups:
  - Almost graduated students (Reactive or corrective actions).
  - Students participating (Proactive or preventive action).
  - Discussion groups: these groups are made up of trainers in the field of knowledge of each qualification, business representatives, new graduates and students in their last year, in order to involve all the actors involved in a communication process in which necessities felt are faced, everyone shows his interests and joint proposals which must be implemented by those participating in first place and use it as good practices and execution of social and public responsibility.7

- Organization of informative and motivating meetings for an active employment and self-employment search.

- Proposing agreements with regional development agents to facilitate the students’ support and new graduates attendance to socioeconomic promotion events held in their regions in order, on the one hand, to collocate students and graduates in different professional networks and on the second hand, to approximate them to their socioeconomic reality. Participation must be done in different levels, as attendants, as speaker in round table, as “practitioner in his field”, as entrepreneur, etc.

- **Systematizing information.** To do an executive report, draft conclusions, to act according to the plan

- **Elaborating professional development guides.** Working for third parties or professional offices5.

---

7 Guarantee for both the job seeker and the employer.
2 Observatories can be financed by government programs and sponsorship consulting firms in the field human resources and territorial development.
3 We speak of design non-routine projects, multi-and trans-disciplinary research to promote, develop social skills, encourage social responsibility between the educational system and the business system to detect and occupy, if possible, new sources of employment.
4 Some proposals may be eligible for assistance through a program of development cooperation, or corporate sponsorships.
5 You can be eligible with public funds, and private entities that may be interested in this sponsorship.
STRATEGIC OBJECTIVE 2
To increase the university community knowledge regarding the SUE, and all the actions developed in favour of university employment with competent Vice rectories support.

Strategies

To develop specific information events and sessions for each qualification. In these events, the person responsible of the centre delegates on the person that will appear as academic director and on the groups of professors making up a scientific committee. The events could consist of:

- Experts’ tables: current topic in this field. Participants will be, at least: 1 professor, 1 well known expert, 1 new graduate, 1 head hunter.
- Business showrooms and stands and organizations related to the field.
- Showrooms with stands gathering students’ or new graduates’ works that have been through a scientific committee. Including clear information about the provision of the new training achieved in the qualification exposed to the companies.

Disseminate the information:

- Depending on the available funds, it can be used: a small USB serigraph with the university’s logo on one side and the SUE’s logo on the other side. Autoexe: when installed, two items must appear: the actions and achievements of the last exercise and another one with information about employment policies, specific questions about the centre, qualifications, opinions, etc including e-mail where the answer can be sent.
- To participate in publications of professional association of the qualifications taught in the university giving the same opportunity to everyone.
- Key target groups: Directors and/or secretaries of the centres, new graduates.
- To run an updated Web/blog with news about development, employment and testimonies or special contribution of companies which hire students doing practices or hire students. Also must contain the contribution of professors and coordinators of practices programs and international mobility in order to disseminate the training quality of university students.
STRATEGIC GOAL 3
To increase the employer’s trust and to consolidate the different training programs, which take to the creation of employments for university students.

Techniques

- Pilot project “qualified with guarantee” in cooperation with companies participating in training, research and development programs, and in general with those cooperating with the university and the SUE.
- The graduate guarantee programs must provide with joint professors mentioned above. Assessment sheets must be designed.
- Basically, the aim is to provide with company for university graduates during the first six months of their incorporation to the company. This will be used for the retraining professors and approach everyday life in business organizations.

In order to carry out a program like this and according to intern communication we recommend:

- Group meetings with professors and with last year students.
- Connecting these results with the results of the discussion groups described in the techniques to achieve strategic goal 1.
- Design of work and assessment sheets.
- Assessment meetings
- Create some compensation for participating companies and professors.
- If possible, it is recommended to publish experience results and uploading them in interesting forums for both the university and for businesses.

---

6 We include in the term community college teaching and research staff, administrative staff and services, students.
7 Use Degree from a proactive standpoint so that is also included in this objective actions as pre-professional facilitators, guidance, observation of structural changes and their influence on the employability of the university, and quality assessment delivery service to both businesses and students and graduates.
8 Always generate news.
9 The head hunter companies themselves or the company of the expert may be co-financiers of the activity.
10 The Stand can charge for a reasonable price.
11 stands must be visited by the head hunters or headhunters.
12 This is consistent with the management model for University Social Responsibility and the increase of technology and saving paper. (Local Agenda 21)
GLOSSARY

Local development: This is a process addressed at different problems (social, economic, environmental) of a local point of a territory, keeping in mind the opportunities that a global system may offer. This process includes dynamization, participation and coordination strategies of the social actors and resources, both at local and external level.

Local development agencies: These agencies are defined as intermediary agencies between the public local Administrations, the market and the society in order to achieve a local open development strategy. Among their functions, local development agent works as a mediator between socioeconomic agents, social and economic dynamization and provides with information and technical support¹.

Collocation: “Processes addressed at the introduction of a person in working life [...] Collocation does not consist of a gift given willingly nor charity nor something that would get rid of someone who would have too, but of the essential activity of a united society [...]. It is defined as an active process, participative, united in which participants become actors, and not only as a spectator, who activate those mechanisms that will allow us to open doors and break down useless walls and in which any measurement stop exits but implementing new cultural values with the certainty of being the legitimate inheritors of a society to which we belong and will belong, it is the guarantee of feeling directly responsible, full citizens².

Social capital: According to Barreiro³,"Social capital can refer to horizontal associations between people social and civic engagement and social norms that have an impact on the productivity of the community networks. The fundamental aspect of social capital is that it facilitates coordination and cooperation for the mutual benefit of members. The share capital is based on the structure relationships. On the other hand, Herreros Vásquez⁴ did the following definition: "Social capital refers to resources, obligations of reciprocity and information related to membership in social networks.”

Social Responsibility: The Green Paper of the European Commission defines CSR as "the voluntary integration of businesses, social and environmental concerns in their business operations and in their interaction with their stakeholders.”
Public Relations: Information management and communication between organizations and their audience.

Entrepreneurial university: It is a university capable of merging scientific culture and humanistic enterprise, able to take advantage of opportunities and having the tools to continually adapt to changes in its environment, and therefore meet changing needs of society.

Alexandra May
University of Alicante, Spain

REFERENCES

[University units promoting student employment and business development]
[Alexandra Mayr, University of Alicante]

• Employment centre /career centre of the University of Alicante:
  www.gipe.ua.es
• University of Alicante Employment Observatory:
  http://www.insercionlaboral.ua.es/
Stimulating university-enterprise links through knowledge & technology transfer

Background: European Higher Education in the 21st Century

Europe’s economies are undergoing fundamental structural changes. Manufacturing base is shrinking, whilst future growth and prosperity will increasingly rely on knowledge-intensive industries and services (COM 2005). Recent studies show that Europe is lagging behind in important innovation indicators like patent stock, working population in innovative sectors and expenditures in research and development (R&D). Especially compared to the United States and Japan the backlog is obvious. Whereas Europe’s researchers are among the world’s best in many technological areas, a considerable part of the technological achievements never reach the market place, or do this very slowly. This is what experts call the ‘European Paradox’ and was illustrated for the first time in the EC Green Paper on Innovation in 1995.

In the face of these challenges, the European Lisbon Council in 2000 set out the strategic target for the European Union to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion. Strengthening the three poles of the European knowledge triangle: education, research and innovation; should lead to the achievement of the Lisbon objective. The Lisbon agenda calls for efforts form many stakeholders. These include Universities, which are supposed to play a key role in the innovation triangle, as their core functions embrace education, research (knowledge creation) and service to society. But experts stress that currently, European Universities are not in the position to act as motors of the new, knowledge-based paradigm. Several communications of the European Commission address this point, demanding Universities to adapt their functions to the changing environment and to assume new responsibilities of education and training of researchers, cooperation with industry and technology transfer, and regional and local development. The role in regional and local development is attached to Universities because of their local presence as well as

---

9 Based on: Mayr, A. 2006. The Stimulation of Regional Economic Development by Technology Transfer.
10 European Commission 2005
11 EuropeanInnovationScoreboard; [http://trendchart.cordis.lu/tc_country_list.cfm?ID=16](http://trendchart.cordis.lu/tc_country_list.cfm?ID=16)
12 EuropeanCommission 1995
13 European Commission 2005
the impulsion they can provide for the initiation of new technological activities in
the region. The Commission assumes that more systematic and better technology
transfer mechanisms from science to industry will positively affect quality and
frequency of innovation and a more active approach in the commercialization of
research results will particularly benefit small and medium sized companies (SME)
in the European Union.

Management of Technology Transfer

Legal preconditions
An essential precondition to engage in technology transfer activities is that
universities are granted the right to protect publicly funded inventions by
registering for intellectual property rights. Since the USA established in the 1980s
legislation called the Bayh-Dole-Act which granted recipients of federal R&D funds
the right to patent inventions and license them to firms, almost all OECD countries
have adapted legislations to allow for technology transfer from university to
industry. But institutional ownership of IP is not sufficient to foster technology
transfer. For researchers to become inventors, incentives are vital. In many cases,
academic inventors are given a share of royalty revenue or equity participation in
created firms.
Institutions should dispose of a clear IP policy, including incentive schemes to be
disseminated among university staff and students. Apart from royalty sharing or
joint ownership of IPR these can include the recognition of patent activity in the
evaluation and recruitment of university staff or prices for inventions that get
commercialized.

Positioning of a University in the TT Value Chain

In function of the regional economic development strategy and the mission of each
university, the most appropriate instruments and mechanisms for technology
transfer will be considered. The table below presents the possible channels a
university can choose according to its mission statement. A university will choose
to be active in various or even all of the possible transfer channels. The first step in
each case is the establishment of a proper research and technology policy in order
to account for a supportive transfer environment. The creation of knowledge and
the urge for scientific excellence, as well as the objective of making critical know-

14 EC 2000: Getting more Innovation from Public Research
how available to the broader community through publications and seminars have been traditionally at the heart of all universities. Since universities have recognized their role in economic development, many of them included the basic concept of transfer of technology (i.e. research results in the form of patents and licenses) in their missions. In this sense, some universities have gone further, offering development services, like contract development and co-development. Ever more universities are fostering academic entrepreneurs to create new businesses out of research (spin-off companies) or non-research context (start-ups). In this area, Universities are offering a range of different services:

<table>
<thead>
<tr>
<th>Mission</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research &amp; Technology policy</td>
<td>Create the right environment for successful technology transfer</td>
</tr>
<tr>
<td></td>
<td>Standards definitions</td>
</tr>
<tr>
<td></td>
<td>Advice to governments</td>
</tr>
<tr>
<td>Creation of knowledge</td>
<td>Advance scientific knowledge</td>
</tr>
<tr>
<td></td>
<td>Research programs: scientific excellence as prerequisite for University</td>
</tr>
<tr>
<td></td>
<td>research centres</td>
</tr>
<tr>
<td>Transfer knowledge</td>
<td>Make critical know-how available early</td>
</tr>
<tr>
<td></td>
<td>Staff transfer</td>
</tr>
<tr>
<td></td>
<td>Publications</td>
</tr>
<tr>
<td></td>
<td>Seminars</td>
</tr>
<tr>
<td>Transfer technology</td>
<td>Provide building blocks for competitive advantage</td>
</tr>
<tr>
<td></td>
<td>Transfer of research results</td>
</tr>
<tr>
<td></td>
<td>Patents/Licenses</td>
</tr>
<tr>
<td>Development service</td>
<td>Contribute to new product creation of industrial partner</td>
</tr>
<tr>
<td></td>
<td>Contract development</td>
</tr>
<tr>
<td></td>
<td>Co-development</td>
</tr>
<tr>
<td>Business creation</td>
<td>Develop new business out of research context</td>
</tr>
<tr>
<td></td>
<td>Incubator function</td>
</tr>
<tr>
<td></td>
<td>Venturing/Spin-out</td>
</tr>
</tbody>
</table>

Traditionally, the transfer of technology used established channels of scientific communication such as publications and conference presentations. With the emergence of new responsibilities and missions of Universities, a variety of new instruments and channels to interact with regional and national innovation systems have been developed.
Technology Transfer from Science to Industry

Definition of Technology Transfer
Technology transfer, on a domestic geographic level, is defined as the ‘movement of know-how, technical knowledge or technology from one organizational setting to another’ within the same nation or region. (Bozeman, B. 2000).

Technology transfer is a multifaceted process, which can take on various forms: cooperative research, contract research, transfer of knowledge through education of engineers, scientists and PhDs, the creation of new enterprises (university spin-offs) etc. (EIASM 2005).

Therefore it is useful to make a further differentiation within the technology transfer concept, with reference to the channels used for technology transfer. The focus respectively lies on channels that enable University to:

- Carry out research in cooperation with, or on demand of a private company
- Market or commercialize inventions or technologies developed at University
- Contribute to enhancing the competitiveness or private firms for example through the provision of services

Not examined in this study are other important channels such as university graduates (however representing by far the most important channel), mobility and exchanges of researchers and scientists, publications, conferences, social networking, and transfer among private companies. (Bozeman, B. 2000)

Effectiveness of technology transfer
There is no consensus among researchers on how to define effective technology transfer. Existing studies are based on different measures and so present quite dissimilar outcomes. Recognizing that different parties engaged in technology transfer have different understandings in terms of effectiveness, Bozeman came up with the contingent effectiveness model. This model states that the impacts of technology transfer can be understood in terms of who is doing the transfer, how they are doing it, what is being transferred and to whom. Thus the model defines five dimensions that influence effectiveness of technology transfer.

15 Friedman, J. & Silberman, J. 2003
These dimensions are:

- Transfer agent (e.g. University, government agency and its characteristics)
- Transfer medium (e.g. License, literature, spin-off)
- Transfer object (e.g. Scientific knowledge, process, technological device)
- Transfer recipient (e.g. Firm, agency, organization and its characteristics)
- Demand environment (e.g. Price for technology, substitutability, market shelters)

**Transfer agent**

Technology transfer is influenced by the nature, history and culture of the institution and the individuals, acting as transfer agents. Many Universities are old institutions with much tradition and rigid processes and structures. These characteristics can present an obstacle for fast decision making and quick responses to the changing environment. However, recently there is evidence that organizational and professional changes are taking place in order to enable closer academic and industry collaboration. Also the norms of academic science have changed over time, resulting in an environment much more conducive to industrially relevant work (Etzkowitz, H. 1998). Apart from university, also the characteristics and behavior of faculty and individuals play an important role in the technology transfer process. University researchers are frequently not aware about the specific product markets and are supposed to have difficulties in making business decisions.

Several studies have been conducted aiming to explain the factors that stimulate universities to engage in technology transfer. Some of the main conclusions are:

- It was found that the external policy environment of cooperative technology and competitiveness is having effects on the structure of academic work. Affected are for instance salary distributions per field, faculty research choices and rewards.
- Institutions with a diversity of research missions were found to be more likely to participate in technology transfer than institutions with narrow missions.
- Research diversity and commercial orientation are most expressive characteristics of university research to be commercialized. (Bozeman, B. 2000)
Transfer medium
Technology may be transferred from university through different media or channels. Transfer media are for example cooperation in research and development, university seminars, scholarly journal publications, faculty consulting, industrial associates programs, industrial parks, new firm creation (spin-offs), technology licensing, training of experts, intellectual property policies, etc. (Varga, A. 1997). The transfer channels will be discussed in detail later on in this paper.

Transfer object
The objects of transfer can range from knowledge or technology, until a commercializable product. Knowledge transfer may be classified as scientific knowledge used by scientists to further science and technology transfer as scientific knowledge used by scientists and others in new applications. The present study is focused on technology transfer. However, in many cases new technologies have attached some tacit knowledge, what has a major impact on the effectiveness of the transfer action. (Bozeman, B. 2000)

Demand Environment
The characteristics of the demand environment are supposed to influence technology transfer. Demand for technology usually can be described by one of two stereotypes: market-push or market-pull. Thus, as well non-market forces are shaping demand. Some studies suggest that a critical mass of demand for technology and technical competencies is a major factor in determining market impact of technology transfer. (Bozeman, B. 2000)

Transfer recipient
Whereas the transfer recipient can be a government agency, non-profit organization or a business, this study will focus solely on private companies receiving from or jointly developing technology with universities.

Many studies aimed to find out what type of organization is more likely to cooperate with universities in R&D. Some evidence has been found that interest in TT increases as internal R&D support of company’s decreases (Roessner, 1993). Other characteristics that seem to stimulate cooperation are prior experience in external cooperation or activity in acquiring external technical information from diverse sources (Reamer, A. 2003).

By virtue of their size, firms are supposed to have different advantages to assimilate new technology. Large firms tend to have greater R&D resources and
specialization, more external interfaces, more resources to detect and employ externally developed technology. Small firms on the other hand, tend to have greater motivation to learn, greater openness to new ideas, and find it easier to manage change inside the firm. Due to limited resources, small firms are supposed to seek cooperation and external sources for new knowledge and technology (Reamer, A. 2003). Several researchers suggest that linkages with universities are of particular importance for small and medium sized manufacturing enterprises with low technical in-house potential, located close to major campuses. This is supported by various studies, two of them using a knowledge production function to examine empirical data of the US and Italy found that on average, small firms utilize university research results more frequently than large companies (Varga, A. 1997).

However, the argument was confuted by other empirical, interview based studies. For instance, an interview based survey of the Valencian business sector showed that bigger firms are more likely to invest in R&D and also to cooperate with universities.

The same study found that the level of education of company managers affects R&D activity and innovativeness of firms. The higher the level of education of firm managers, the more innovative they are and the more active in gathering technologies form external sources. (INGENIO, 2003).

Alexandra May
University of Alicante, Spain
REFERENCES

[Stimulating university-enterprise links through knowledge & technology transfer] [Alexandra Mayr, University of Alicante]

European Research Area Guidelines on Intellectual Property (IP) Management in International Research Collaboration Agreements between European and Non-European Partners, Produced by the Knowledge Transfer Working Group of the European Research Area Committee, June 2012


Howard G. Zaharoff, Setting Values And Royalty Rates For Medical And Life Science Businesses, 2004

Mustar P, Clarysse B, Wright:M, University spin-off firms in Europe: What have we learnt from ten years of experience, paper presented at the Prime Annual Conference 2007, Pisa Italy, january29-February 1 2007


IPR-Helpdesk, Confidentiality Agreements http://www.ipr-helpdesk.org/documents/ES_Conf_Agree_0000006295_00.xml.html

Lambert Tool Kit for Collaborative Research http://www.innovation.gov.uk/lambertagreements/


Walter G. Park and Douglas C. Lippoldt, Technology transfer and the economic implications of the strengthening of intellectual property rights in developing countries, OECD Trade Polic

World Bank, 2006; Local economic development: a primer: Developing and implementing local economic development strategies and action plans; Bertelsmann Stiftung, Gütersloh


Rubenstein, Nelly Day & Heisey, Paul W.; 2005; ‘Can technology transfer help public-sector researchers do more with less? The case of USDA’s Agricultural Research Service’. AgBioForum, vol. 8(2&3); 134-142


Research Area Guidelines on Intellectual Property (IP) Management in International Research Collaboration Agreements between European and Non-European Partners, Produced by the Knowledge Transfer Working Group of the European Research Area Committee, June 2012


Howard G. Zaharoff, Setting Values And Royalty Rates For Medical And Life Science Businesses, 2004
Mustar P, Clarysse B, Wright M, University spin-off firms in Europe: What have we learnt from ten years of experience, paper presented at the Prime Annual Conference 2007, Pisa Italy, January 29-February 1 2007

Palimeri V, How to Build a Successful Spin-Off


IPR-Helpdesk, Confidentiality Agreements
http://www.ipr-helpdesk.org//documents/ES_Conf_Agree_0000006295_00.xml.html

IPR-Helpdesk, Material Transfer Agreements

Lambert Tool Kit for Collaborative Research
http://www.innovation.gov.uk/lambertagreements/

OMPI documento Intercambiar Valor – Negociación de Acuerdos de Licencia de Tecnología : Manual de capacitación


Walter G. Park and Douglas C. Lippoldt, Technology transfer and the economic implications of the strengthening of intellectual property rights in developing countries, OECD Trade Policy


World Bank, 2006; Local economic development: a primer: Developing and implementing local economic development strategies and action plans; Bertelsmann Stiftung, Gütersloh


Rubenstein, Nelly Day & Heisey, Paul W.; 2005; ‘Can technology transfer help public-sector researchers do more with less? The case of USDA’s Agricultural Research Service’. *AgBioForum*, vol. 8(2&3); 134-142


Employers’ involvement in the development of Professional Higher Education
Latvian Experience and Challenges

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE</td>
<td>Council of Higher Education</td>
</tr>
<tr>
<td>STCLA</td>
<td>The Sub-council of the Tripartite Cooperation in Labour Affairs</td>
</tr>
<tr>
<td>EQF</td>
<td>European Qualifications Framework for Lifelong Learning</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>ESF</td>
<td>EU Social Funds</td>
</tr>
<tr>
<td>IKVD</td>
<td>State Service of Education Quality</td>
</tr>
<tr>
<td>LBAS</td>
<td>Free Trade Union Confederation of Latvia</td>
</tr>
<tr>
<td>LDDK</td>
<td>Employers’ Confederation of Latvia</td>
</tr>
<tr>
<td>NEP</td>
<td>Council of Branch Experts</td>
</tr>
<tr>
<td>NTCC</td>
<td>National Tripartite Cooperation Council</td>
</tr>
<tr>
<td>PINTSA</td>
<td>Vocational Education and Employment Tripartite Cooperation Sub-council</td>
</tr>
<tr>
<td>RAPLTSA</td>
<td>Regional Development Tripartite Cooperation Sub-council</td>
</tr>
<tr>
<td>SDA</td>
<td>Social Security Sub-council</td>
</tr>
<tr>
<td>SIA</td>
<td>Limited Liability Company</td>
</tr>
<tr>
<td>TSNTSA</td>
<td>Transport, Communications and Information Technologies Tripartite Cooperation Sub-council</td>
</tr>
<tr>
<td>VALTSA</td>
<td>Environmental Protection Affairs Sub-council</td>
</tr>
<tr>
<td>VANA</td>
<td>Health Care Sector Sub-council</td>
</tr>
<tr>
<td>VISC</td>
<td>National Centre for Education</td>
</tr>
</tbody>
</table>

Nowadays national system of higher education should be considered as an indicator of a nation's identity and sustainability, which significantly influences the development of the economy, culture and social sector. Doubtless, higher education system is the integrating forge of traditional academic knowledge and learning tradition, innovative and creative ideas and approaches, which at the same time is an enhancing factor of the development of a person and future specialist. This is why receiving higher education is often considered to be the gauge of professional career, allows a person to acquire a certain status and/or social recognition being important social and cultural capital.

Nowadays, qualitative and effective development of modern higher education is with good reason featured on the list of development priorities of almost every democratic state, including the Republic of Latvia.\(^\text{16}\)

\(^{16}\) E.g. Latvijas Stratēģiskās attīstības plāns 2010. – 2013. gadam //
In the last 20 years, since the restoration of independence, Latvian educational system has changed significantly. However, current globalisation economic processes as well as European economic crisis processes create new demands and challenges for national education systems.

In some European Union states, especially in the new member states, a number of social problems are observed: high level of unemployment in remote territories, insufficient employment of women and elderly people, uneven development of territories and the lack of qualified specialists. This is due to the migration of the working force to the economically developed countries of the EU, the insufficient compliance of educational system with the demands of the labour market and limited competitiveness on the global market.

One of the objectives of the EU strategy "Europe 2020" is to not only increase the significance of education but also to adapt it to the demands of the labour market. In time of economic turmoil and crisis it is significant to prepare specialists in the shortest terms and at the lowest cost at the same time ensuring sufficiently high quality of education.¹⁷

Latvia is not rich in raw materials and energy resources, therefore the transition should be made from the manufacturing of low value-added products to the science-based economy in order to ensure its further development. That is why the development of Latvian higher education policy should focus on the development of qualitative working force, which is the base of the development of Latvian economy. At the same time this policy of higher education development shall identify and satisfy the demands of employers to the maximum extent possible.

It should be noted that the development of the working force is set as one of the most important priorities in the use of present and future EU structural funds (ESF). The implementation of the Operational Programme "Human Resources and Employment" of the National Strategic Reference Framework for 2007-2013¹⁸ is possible if the state policy is based on the deep, comprehensive and scientific analysis of the interaction of the labour market and educational system.

---

In 2007, the results of the ESF National programme's "Labour Market Research" project "Research of the Ministry of Welfare" research "Compliance of Professional and Higher Education Programmes with the Requirements of the Labour Market" were published. The research was conducted by the University of Latvia in cooperation with the sub-contractors SIA „GfK Baltic” and SIA „Baltkonsults”. One of the objectives of the aforementioned research was to assess the graduates of various educational institutions from the viewpoint of employers, educational institutions and alumni. Observing the results of the research, "employers note employees' insufficient practical skills in the acquired profession". In 65% of cases practical skills of the employees with vocational education and in 53% of cases practical skills of the employees with higher education do not satisfy employers. In 11% of cases employers have objections to the theoretical preparation of the employees with higher education, in 21% of cases – employees with vocational initial education, and in 37% - employees with vocational basic education.

In turn, the research published in August 2011 – expert examination of legal acts and politics documents "Social and Labour Market Development", which was conducted by Free Trade Union Confederation of Latvia (LBAS) in cooperation with SIA EPC and financially supported by ESF, the conclusion was made that "although national priorities are taken into account in the planning of education, the educational system is not oriented on the solution of future problems and there may be the not enough of educated employees in separate domains. The system of education does not have a challenging role in the creation of future social and economic situation". The aforementioned research – expert examination marks one more interesting relation, which is: students are satisfied with the quality of the acquired education, but employers – on the contrary. As it is seen in the recommendations of the research – expert examination:

- "The need for the reform to raise the quality of professional and higher education may be tempered by the coordination of higher education, carefully

20 Ibid.
22 Turpat.
examining the establishment of each new state educational and scientific institution and the opening of new educational programmes, as well as by the improvement of the quality of education by the means of programmes' accreditation.

- It is planned to adjust the offer of education to the employment structure and to ensure the ability to adapt to the changing demands of the labour market. The measures are also desired to improve education promoting (challenging) the improvements of the economy for the fuller use of educational potential in the economy.
- To evaluate the following trend: higher education substitutes vocational education and the society's educational level does not conform permanently (is too high) to the needs of the economy from the viewpoint of the efficiency of higher education; it is essential to figure out why higher education does not provide efficient return.”

Much work has to be done in Latvia to make the offered education meet the demands of the labour market, and maintain more active cooperation of employers and educational institutions.

Further we will observe what has been done in Latvia in the field of the active involvement of employers in the development of professional higher education and the correspondence of the offered professional qualification to the demands of the labour market.

Latvian state administrates many institutions which actively develop, make and implement significant political decisions. One of these institutions is National Tripartite Cooperation Council (NTCC), which started its work on January 1, 1999, inheriting the rights, duties and liabilities of the Tripartite Advisory Council of the Employers, Government and Trade Unions. The aim of the NTCC is to coordinate and organise tripartite social dialogue of employers’ organisations, state institutions and trade unions to harmonize the interests of these organisations in social and economic issues, thus ensuring the social stability of the state. Tripartite social dialogue is significant for the development, making and implementation of

______________________________

23 Ibid.
political decisions, especially concerning the labour market, labour law and social security. NTCC structure includes eight sub-councils:

- The Sub-council of the Tripartite Cooperation in Labour Affairs (STCLA)
- Social Security Sub-council (SDA);
- Vocational Education and Employment Tripartite Cooperation Sub-council (PINTSA);
- Health Care Sector Sub-council (VANA);
- Transport, Communications and Information Technologies Tripartite Cooperation Sub-council (TSNTSA);
- Environmental Protection Affairs Sub-council (VALTSA);
- Regional development Tripartite Cooperation Sub-council (RAPLTSA);
- Social Security Sub-council (SDA);  

NTCC and its sub-councils consider various social issues to agree on the decisions appropriate to all parties. PINTSA started its work on March 24, 1999 as the Council of Professional Education Cooperation, which was "established to promote the cooperation of government, employers and employees (trade unions) organisations' cooperation in the development and implementation of the state policy in the field of human resources development, education and employment".  

PINTSA current regulations were approved by the NTCC meeting decision on July 16, 2008. PINTSA includes 15 authorised persons, who represent the interests of the same number of government, employers and employees (trade unions) organisations. PINTSA main objectives:

- to examine the projects of the National Development Plan, concepts and legal acts and to provide proposals for their improvement in the fields of education, human resources development and employment;
- to evaluate proposals and provide recommendations to state and other institutions, which are engaged in the human resources development, education and employment;

---

• to promote the efficient spending of State budget resources on education, human resources development and employment;
• to promote the conclusion of cooperation agreements and projects with the EU and other countries' institutions in the fields of human resources development and employment;
• on the number of state financed students in vocational education in the country as a whole and in each region;
• on the changes in the network structure of vocational education institutions, educational and examination centres, and other institutions involved in vocational education;
• on the development and updating of professional standards and their correspondence to educational programmes;
• on the organisation of career education and professional orientation;
• on the organisation of continuing professional education in the framework of life-long learning;
• to coordinate the work of Regional Councils of Vocational Education and Employment;
• to coordinate the development and operations of the Councils of Branch Experts;
• to fulfil other tasks determined in the regulations of NTCC and related to vocational education, human resources development and employment.  

PINTSA work is financed by the Ministry of Education and Science of the Republic of Latvia from the State budget funds provided for this purpose, as well as contracting parties have the right to participate in the financing of PINTSA activities. The ESF project „Development of a sectoral qualifications system and improvement of the efficiency and quality of vocational education and training” agreement number 2010/0274/1DP/1.2.1.1.1/10/PIA/VIAA/001 was started on December 1, 2010. Four cooperation partners are involved in the implementation of the project - Free Trade Union Confederation of Latvia (LBAS), Employers’ Confederation of Latvia (LDDK), National Centre for Education (VISC), and State Service of Education Quality (IKVD).

The project will be implemented until November 30, 2013, its total financing is 2,5 mln. LVL. During the project it is planned:

27 Ibid.
• to review the content of professional education;
• to adjust the content of professional education to the results and needs of the research of the branches of the economy;
• to develop the structure of professional qualifications of the branches;
• to revise professional standards and update the main requirements of specialisations;
• to develop the recognition system for the skills acquired through non-formal education;
• to promote the restructuring of vocational education\(^28\).

It should be noted that thanks to the aforementioned project in Latvia "significant and long-awaited changes take place in the system of vocational education. Vocational education is the field where educators themselves cannot regulate neither the content of education, nor the processes connected with the acquisition of qualification, or teach the young the newest in the profession and the advanced technology. Talented manageress with leadership qualities are needed for this purpose and the result of education – interested and cooperative organisations of employers. It is necessary to agree on the most important issue: the distribution of the roles, responsibilities and impact among the government and municipalities, educators and the labour market".\(^29\)

Analysing the work done so far, it can be concluded that the branch research in the framework of the project is a significant benefit for the planners of professional higher education development. Based on branch research, accurate branch descriptions compliant with current demands have been made, specific specialists' qualifications needed in branches have been identified, and professional qualifications' structures for professions involved in basic branch activities have been developed.

Branch research has been performed in two stages. In the first stage "Branch analysis" the following information was collected and analysed: the trends in branch development in the EU and Latvia, branch product manufacturing and/or services providing, surveying of the personnel of branch enterprises, as well as

surveying of educational institutions. In order to obtain reliable and accurate information, certain enterprises of a branch were surveyed with the aim to obtain quantitative data on the branch development forecast, employees, employees' level of education, skills and competences from the viewpoint of employers. At the same time educational institutions were surveyed to obtain detailed and in-depth information on the educational institutions which are involved in the preparation of specialists for the branch, implementation of study programmes and evaluation of graduates from the viewpoint of the educational institutions.

In the second stage the recognized branch experts were interviewed to obtain detailed and reliable information on the current processes in a branch, working force resources and the influencing factors. This was followed by the processing and analysis of the obtained data, and, as a result, 14 "Branch descriptions" were developed according to the unified structure and information content:

- boundaries of the branch research;
- branch development trends in the EU states and in Latvia;
- characteristic and forecast of branch development;
- significance of the branch for the economy of Latvia;
- comparison of the branch with the situation in other EU states;
- characteristic of the branch enterprises;
- market and its forecast;
- investments and cooperation;
- characteristic of the branch work force;
- competences and skills of the branch work force;
- availability of the branch work force on the labour market;
- offer of the work resources and influencing factors;
- branch personnel planning and selection;
- offer of professional education;
- characteristic of professional education;
- compliance of the offered educational programmes with the needs of the branch;
- cooperation between employers and educators;
- limitations for education;
- impact of external factors, as well as "Branch Qualifications Structures"

identified professions of the branch preparing the list of the branch professions;
• grouped core professions, specialisations and related professions of the branch;
• qualifications structure is developed grouping the core professions of the branch on the levels of the national professional qualifications;
• branch professions correspond to the levels of European Qualification Framework (EQF);
• the descriptions are developed for the core professions included in the qualifications structure.\(^{31}\)

The second benefit of the ESF project is the established 12 Councils of Branch Experts (NEP), which have already started work. „The significance of NEP cannot be overestimated, because human resources availability, employment, workforce productivity, specialists' qualifications and similar issues are the main conditions for economic growth. So, it is also the prerequisite of the development of Latvia“. \(^{32}\)

What is NEP, its aim, content and main objectives?
The aim of NEP is the complex solution of all the problems related to workforce and employment of a branch, from vocational initial education to higher education, from formal basic vocational education to adult continuing education, as well as to define the request to the educational system.

As it was said before, 12 Councils of Branch Experts have been established:
• Tourism, beauty care;
• Chemical industry and related branches – chemistry, pharmacy, biotechnology, environment;
• Metal working, mechanical engineering and mechanical science;
• Textile, clothing, leather and leather products manufacturing;
• Wood industry (forestry, woodworking);
• Construction;
• Energy;
• Food industry and agriculture;
• Entrepreneurship, finances, accounting, administration (wholesale, retail and marketing);

\(^{31}\) Ibid.
Electronic and optical machinery manufacturing, information and communication technologies;
Polygraphy and publishing, paper and paper products manufacturing and computer design;
Transport and logistics.\(^{33}\)

The work of NEP is coordinated by the Secretariat, represented by the branch consultants, who are delegated by the project cooperation partners - LDDK, LBAS and VISC. Organisations of branch employers or their associations, Latvian Chamber of Crafts, Ministry of Science and Education and branch Ministries, State Employment Agency and other institutions are involved in the work of NEP on a voluntary basis. This mechanism of social partners' involvement ensures their cooperation and the implementation of the order principle, when the representatives of the branches of the economy forecast the number and profile of specialists in demand, as well as facilitate the development of flexible vocational education system.

NEP functions and main objectives in compliance with its aim:

- to conduct the research and forecast the development for the needs of education and employment;
- to develop professional qualification structures of branches;
- to coordinate and perform the expertise of professional qualifications of a branch;
- to develop the standard of branch core professions and the main requirements of professional qualification;
- to expertise and align the requirements of profession standards to the professions of a branch;
- to support the development of the content of professional qualification examinations;
- to expertise the content of professional qualification examinations;
- to delegate branch experts for the evaluation of the quality of vocational education (qualification examinations and accreditation);
- to delegate branch experts for the evaluation and recognition of the knowledge, skills and competences acquired through non-formal education in the framework of branch professions;
organise cooperation with the vocational education institutions and examination institutions, which organise the award of professional qualifications;

- to coordinate the cooperation of vocational education institutions with branch enterprises and process information about the places for practical training;
- to develop and maintain expert data base;
- to develop the system of continuing vocational education and professional development;
- to make proposals for vocational education order and quality ensuring;
- etc. 

The overall analysis of the ESF project and already existing results allow the planners of the development of professional higher education – the administration of higher educational institutions, academic staff and, of course, students – to have high expectations for the further opportunities of complex solution of all the issues related to human resources availability and employment, thus assisting higher educational institutions in the formation of new study programmes which are correspondent to the demands of the labour market, while the students gain confidence that their employment opportunities will be ensured after the acquisition of the chosen profession and qualification.

Prof. Jānis Vētra, the Chairman of the Board of the Council of Higher Education (CHE) stresses that "The Councils of Branch Experts create the conditions for sustainable human resources development policy, thus providing higher educational institutions an opportunity for purposeful and meaningful planning and performance. The Councils of Branch Experts, being the institutions which represent the interests of all the employees of a branch, have the significant potential to formulate learning outcomes and participate in the subsequent evaluation of the achieved progress together with educational institutions" 

In turn, prof. Arvīds Barševskis, President of Latvian Rector's Council, Rector of Daugavpils University, stresses – "For us, the representatives of higher educational institutions, it is important to utilise the opportunity of forming new study programmes which are correspondent to the demands of the labour market and to ensure the opportunities of the students for employment after the acquisition of the chosen profession and qualification." 

---

institutions, the opinion of branch experts about the conformity of our graduates to the demands of the labour market is very important. Doubtless, the Council of Branch Experts can become important advisors in the field of vocational education. The closer there is the cooperation with branch experts; the higher quality specialists enter the labour market”.

But it should be noted, that the aforementioned institutions are not the only ones through which higher educational institutions obtain information about the needs of a certain branch and the requirements of the labour market. Employers are also represented in the CHE, one representative of each of the following institutions: LDDK, Latvian Chamber of Commerce and Industry, Education and Science Workers Trade Union, and LIVA Trade Union „Latvijas Izglītības vadītāju asociācija”.

In compliance with the Law on Institutions of Higher Education, p.16, Advisory Board is established in every higher educational institution. Advisory Board consults the Senate and Rector of a higher educational institution on the development strategy issues. Usually, Advisory Board consists of the science, education, culture and economy specialists, who are recognised for their professionalism, work experience, competence and achievements and are able to promote the development of a higher educational institution.

Therefore, it can be stated, that employers are actively involved in the development of professional higher education in Latvia, thus trying to the maximum extent to solve the problems of human resources availability and employment in all the branches of the economy. In general, this creates conditions for the achievement of the aim of the EU strategy "Europe 2020" to raise the importance of education and to correspond to the demands of the labour market in Latvia.

Aivars Stankevičs
ISMA, Latvia

Learning outcomes and syllabuses in Computer Quality Assurance System

INTRODUCTION
Two years ago me and my colleagues from faculty of Computer Science were asked by representatives of our university to write a computer system supporting coming reformation in our educational system, concerned introducing learning outcomes, modular structure of studies plans, writing procedures and other.

Today, the Computer System developed by our team provides all required database models and logic needed to support digital representation of learning outcomes.

Some of key features are: ensuring integrity of entered data, checking if all learning outcomes for areas of education were used, checking if all learning outcomes for courses were used, quick preview of referenced learning outcomes, statistics of learning outcomes for courses.

In order to present our approach to learning outcomes and syllabuses we need to know the hierarchy of Polish education units. At the top there is a university. University runs courses and by course I mean Biology, Geography or Computer Science. Each Course can be divided into specializations. Every specialization is build of modules and every module contains some number of subjects.

LEARNING OUTCOMES is the particular knowledge, skill or behavior that a student is expected to exhibit after a period of study.

There is a strict connection between hierarchy of learning outcomes and hierarchy of educational units. On the level of university there are learning outcomes for areas of education defined by Polish Ministry of Education. Then we have learning outcomes on the level of courses defined by groups of teachers from each department. At the end there are learning outcomes for modules defined by modules coordinators.

The level of learning outcomes for areas of education is the most general level. All learning outcomes from lower levels have references to learning outcomes from higher levels and they make their descriptions more detailed.
Learning outcomes for areas of education are defined for four sets of properties: area, profile, category and level.

<table>
<thead>
<tr>
<th>AREA</th>
<th>• Stands for area of education and it can be e.g. area of science, area of humanistic or area of agriculture.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFILE</td>
<td>• Can be general or practical. General profile concerns theoretical learning outcomes while practical is the opposite. Practical learning outcomes focus on training profession e.g. teacher.</td>
</tr>
<tr>
<td>CATEGORY</td>
<td>• Tells us if a learning outcome is about knowledge, skills or competence. Knowledge means outcome of the assimilation of information through learning. Skills means the ability to apply knowledge to complete tasks and solve problems. Competence means ability to use skills in professional and personal development.</td>
</tr>
<tr>
<td>LEVEL</td>
<td>• Tells us if particular learning outcome is for students on a bachelor or master level.</td>
</tr>
</tbody>
</table>

Each learning outcome for area of education is defined by symbol and description. Symbol encodes all information about area, profile, category and level.

For example symbol X1A_W01 is “X” - scientific area of education, “1” - bachelor level, “a” - general profile, “W” - knowledge category and “01” is a ordinal number.

Each course is defined by the same properties as learning outcomes for areas of education so they match each other. Course can belong to one or more areas of education. When we connect course with area of education we can start extending its leaning outcomes by learning outcomes for course. Note that you can only extend learning outcomes for area of education that have the same profile and level as course has. Also you always have to define learning outcomes for course in all categories.
Learning outcome for a **course** is defined by:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Example symbol can be: K_W02, “K” means that this is a learning outcome for a course, “W” stands for knowledge category and “02” is a ordinal number.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Content description</td>
</tr>
<tr>
<td>References to modules</td>
<td>Indicate modules that realize described learning outcome.</td>
</tr>
<tr>
<td>References to learning outcomes for areas of education</td>
<td>Indicate learning outcomes that are being extended by this learning outcome for course.</td>
</tr>
</tbody>
</table>

Learning outcome for **modules** is defined for modules which in general belong to some course.

Learning outcome for module is defined by symbol, description, references to learning outcomes for course and references to learning outcomes for areas of education.

In this case symbol is just an ordinal number and references play analogous role as in case of learning outcomes for course.

**SYLLABUSES** is a document providing all essential information about subject.

Each teacher has to provide one syllabus for each subject he/she conducts.

There are three types of syllabuses:

| Syllabuses for modules, | Are defined by: public, description, language, source unit, target unit, coordinator and remarks. |
| Syllabuses for modules, | *Public tells us if syllabus is available in syllabus search engine. |
| Syllabuses for modules, | *Source unit is the one that offers the module. |
| Syllabuses for modules, | *Target unit is the one that the module is offered for. |
| Syllabuses for modules, | *Coordinator is the person responsible for taking care of module's organization. Usually the most experienced teacher from subjects' conductors. |
| Syllabuses for modules, | *Remarks can contain all other additional information. Usually coordinator's contact information or consultations hours. |
| Syllabuses for modules, | *Other fields should be self-explanatory. |
| Syllabus for subject | Are defined by fields: public, detailed name, class level, evaluation form, teaching methods, prerequisites, topics, literature, additional learning outcomes, remarks.  
*Detailed name can contain title of subject when it's defined in general form in studies plan e.g. faculty classes or monographic lecture.*  
*Class level says how difficult it is to prepare for classes and pass the final exam.*  
*Evaluation form is a list of ways that knowledge, skills and competences of a student can be tested.*  
*Teaching methods is a list of methods that teacher uses in order to pass his/her knowledge, skills and competence to students.*  
*Prerequisites describes knowledge, skills and competence student should have in order to take specified subject.*  
*Topics is a list of issues to be discussed during classes.*  
*Literature is a list of books that teacher recommends for better understanding of subject.*  
*Additional learning outcomes contains learning outcomes specified by a teacher. Teacher may add his/her own learning outcomes if he/she decides that learning outcomes defined for module don't describe his/her subject good enough.*  
*Other fields should be self-explanatory or were described syllabus for module paragraphs.* |
| Syllabus for practice | Are defined by the fields: public, type of practice, description, remarks. All of the fields were already described.  
Computer system supports teacher providing syllabuses by filling instead of him/her all the information that is available from other applications e.g. module/subject/practice details, learning outcomes.  
Also it is helpful for validation and keeping data integrated. |

Syllabuses for subjects and practices are referenced to proper syllabus for module as each subject and practice belongs to some module.

Piotr Wierzgoła  
Maria Curie-Skłodowska University in Lublin, Poland
Teaching offer and students' questionnaires in Education Quality Assurance System

Overall objective

The main objective is to create the computer system and the database for curricula and to provide an easy access to view and manage them. Viewing the curriculum should be open to public, especially for potential students and employers. The main part of management is the Curriculum Update Process, which includes two types of phases. The first one consist of three parts:

1) Studies Plan Creation
2) Degree Profile Creation
3) Questionnaires Conduction

All later phases include the following parts:

1) Archive and Copy Curriculums
2) Studies Plan Update
3) Degree Profiles Update
4) Questionnaires Conduction

The System

We have developed the system in our University, which supports the Curriculum Update Process. Besides Curriculums Application, it introduces other applications, which support the Curriculum Update Process. They are:

1) Learning Outcomes Application
2) Syllabuses Application
3) Students' Questionnaires Application
4) Teachers Workload Application

First two are covered in other module of Training Kit. Students' Questionnaires are needed for the last parts of Curriculum Update Phases, while Teachers Workload Application is needed by the previous one, but it can also be extended and used for
example to check if teachers meet the requirements concerning the hours (teaching load).
System is also multilingual and the translations are almost fully covered for: English, Polish, Ukrainian and Russian languages.
We are the authors of the system and have full rights for it, therefore we can easily extend its functionalities and prepare special version for particular unit.

Terminology

The description of the Curriculum needs to explain a few definitions that exist in our system.

**Teaching Offer Period** is a period of time representing semesters or years.

Example: Winter Semester 2012/2013 in Poland is between 15 of February and 7 of July. There can be only one active teaching offer period in the system and it is the current semester. The periods cannot overlap.

**Major** is described by typical information about the course and additionally a date when it starts, i.e. Computer Science started in 2012 and Computer Science started in 2011 are connected, but different majors.

The date of start needs to be introduced, because we cannot change the curriculum of major that is being currently conducted. Therefore, we have to create its equivalent, that will be conducted in future. Besides, by adding the date of start we achieve the historical data and can return to the curriculums from the past.

Major in our system is described by following information:

- Teaching Offer Period – It the major is conducted now, it is connected to actual teaching offer period. It will be conducted in future, it is connected to particular future period, i.e. Winter Semester 2013/2014.
- This association is created by the system.
- Name – For example Computer Science, Economics, etc.
- Date of start – For example 1st of October 2012.
- Number of semesters of number of years – If students have to pass semester by semester, the number of semesters should be provided. Otherwise, if students have to pass whole year (without winter and summer semester), the number of years should be provided.
- Level – For example Bachelor, Master, PhD.
- Type – Whether the major is full-time or part-time.
- Profile – Whether the major is practical (preparation for particular job like teacher) or general (more theory)
- Unit – The unit that conducts this major.

Major examples:
- Computer Science, BA, 6 semesters, full-time, general
- Management, PhD, 8 semesters, full-time, general

The major consists of specialties, which consist of modules, which at last consist of subjects.

Example: Major Computer Science has specialty Computer Graphics, which has module called Graphics Algorithms, where two subjects are: Graphics Algorithms Lecture and Graphics Algorithms Laboratory.

Curriculum is a complete description of the major. It consists of:

1. Studies Plan
2. Degree Profile
3. Learning Outcomes

Studies Plan presents all major's modules in one table split into semesters and shows the numbers of hours of modules' subjects, ECTS points and the syllabuses of module and its subjects.

Degree Profile describes, in terms of learning outcomes, what graduates will know, understand and be able to do by the time they have successfully completed the programme.

The degree profile consists of:

- Degree details
- Purpose
- Characteristics
- Employability & Further education
• Education style
• Programme Learning Outcomes
• Programme Competences

More information about Degree Profiles can be found in “A Tuning Guide to Formulating Degree Programme Profile”

Curriculum Update Process

The first phase is different from the next ones, because the system has to be filled. One can use existing majors that are conducted in university or create new ones – there is no difference for system, as far as all obligatory information are provided.

The next phases are all the same and there is one common part with the first phase – questionnaires conduction.

The following figures present the example order of the parts of one phase.

In the periods from 1\textsuperscript{st} of October to 1\textsuperscript{st} of February and 15\textsuperscript{th} of February to 7\textsuperscript{th} of July the classes are conducted and we cannot change the curriculums of their majors.
On the 1\textsuperscript{st} of February we start the Students Questionnaires for Winter Semester and it overlaps the Summer Semester, but it is not a problem, because the curriculums will be updated at the end of the academic year.

On the 7\textsuperscript{th} of July the questionnaire about the classes from summer semester starts.

The polls and questions are created and the results are analysed by a special group of people, which includes sociologists, economy specialists and other, both employees of the university and students. After the results are analysed, the report is created and published by the same group.

After the summer semester is finished, we archive the majors that has finished this year and create their equivalents for the next year.

For example, major Computer Science (6 semesters started in 2012) will be archived in 2015. On the other hand, after each academic year is finished, there will be created a major for each year copied from previous one. For example, after the 2015 academic year is finished we will have:

- Computer Science (started in 2012) – ARCHIVED
- Computer Science (started in 2013) – With students on 3rd year
- Computer Science (started in 2014) – With students on 2nd year
- Computer Science (started in 2015) – Newly created for students starting their studies this year (2015)
Last part is the update of newly created majors according to the decisions of university authorities responsible for curriculums. Their decisions may be based on:

- Questionnaires Conclusions (Report)
- Changes in Polish Law
- Changes in EU Law
- Many other...

The good consequence of using our system is that curriculums are copied for the next year and needs only quick update. Nobody has to create them and put into the system again.

Future Objectives
The next main objective is to design and implement the process and application that will include employers in Curriculum Update Process.

Damian Rusinek
Maria Curie-Skłodowska University in Lublin, Poland
Acknowledgements

The ARARAT Consortium, would like to thank all universities contributing to this Capacity Building paper.

The project, and this publication within it, is funded by the European Commission DG Education and Culture, TEMPUS IV Programme. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

For further information regarding this project result, please refer to:
Luisa Ardizzone, luisa.ardizzone@cesie.org
CESIE, European Centre of Studies and Initiatives – Palermo, Italy
www.cesie.org