

The competences issue in the entrepreneurial university

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The higher education issue at the beginning of the twenty-first century

Nowadays, education represents one of the most active areas within the social framework characterized by reflection, analysis, confrontation and attitude taking. The notions of ‘crisis’ and ‘quality’ are two of the attributes that obsessively appear in the discourses of the experts in sciences of education. Although at first glance the two terms seem contradictory, in fact they are interdependent, raising a very interesting dialectic: without break-ups and controversies, there cannot be changes or improvements. Extensive reforms of the educational systems both at pre-university and university levels reflect profound changes occurring in contemporary society. As far as higher education is concerned, the last decade faced ample reform, which became synonymous with the initiative of developing the European Higher Education Area.

Without claiming to systematically or exhaustively cover the most controversial themes in the higher education sector, we mention, as context, some of the main issues that focus experts’ attentions: the relationship between university, progress and the labour market; the university’s role in training students and teachers for the twenty-first century; the training crisis; the actual needs of the new generations of students; the place occupied by professional practice within training programmes; and the growing complexity of the instruction process.

The university – and the term is used here to refer to all higher education institutions – has experienced extensive restructuring, especially in the twentieth century. Without abdicating its centuries old ‘mission’, its goals have been constantly changing within a process parallel to political, social and economic reforms. Among the newly embraced missions adding themselves to the old ones, we note the following: the implementation of research developed by the universities, mobility of the labour force represented by graduates, the tendency towards globalisation, and openness towards intercultural and internationalism. However, the university continues to be the temple of culture, science, intellectual reflection, criticism, and human development in all its plenitude, whilst at the same time aiming for professionalisation and for the development of specialists ready to seize top-level occupations and jobs.

Existent analysis

In March 2000 at Lisbon, the EU Heads of States and Governments agreed on an ambitious goal: making the EU 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 by the year 2010. The first benchmark derived from this goal focuses on preparing the transition to a knowledge-based economy and society by better policies for an information society and for research and development, as well as by stepping up the process of structural reform for competitiveness and innovation and by completing the internal market. The second benchmark concentrates on modernising the European social model, investing in people and combating social exclusion, while the third one focuses on sustaining a healthy economic

outlook and favourable growth prospects by applying an appropriate macro-economic policy mix. Actually, a knowledge-based economy cannot exist unless the production of knowledge and its exploitation into economic processes are interconnected. Thus, it is not the stock of knowledge that will trigger the knowledge-based economy, but its availability and its efficient use for economic processes. Therefore, the economic system will not become more competitive unless the knowledge producer, the academic system, is able to convert the new knowledge into inputs for economic processes. Peter Drucker argues that knowledge is not only a new resource added to the traditional factors of production – labour, land, capital – but the only resource which bears real significance today. Knowledge has become the resource triggering progress and competitiveness, while the capacity to innovate has become dependent on the available intellectual stock. The intellectual capital able to produce new knowledge and innovation drives competitiveness. In this context, the duty of all stakeholders is to accompany the entry of enterprises and universities into this knowledge society, a society where the creation of value implies innovation, creativity, participation and competitiveness on a worldwide scale. Furthermore, competitiveness in terms of innovation involves research that ensures quality knowledge, education and training, which may result in the development of competences and the high quality of the intellectual stock requested by employers. Thus, the university becomes the key institutional resource of the European knowledge-based economy.

In Europe, the universities remain the main producer of knowledge and competences. As dynamic actors of social and economic systems at the beginning of the twenty-first century, the private and state universities find themselves in a moment of disequilibrium, the end of which is difficult to predict. The primary cause of this situation is due to one very simple fact: the multiple requests imposed on the universities exceed their capacity to respond adequately. In this situation, current decisions regarding educational policy will definitely mark the future evolution of higher education.

According to UNESCO, the central aspects of higher education's evolution in the last 35 years are its quantitative expansion accompanied by progressive underlying of access inequality, the differentiation of institutional, curricular and instructional structures, as well as financial restrictions. One should take into account this last aspect, the diminishing of university financing, because it has affected the general functioning of the higher education institution, induced a decay in academic quality and reduced research activity. In many countries, the increase in student numbers does not necessarily imply a real enhancement of resources coming from public funds, and on the contrary, this aspect has brought into play different tertiary finance sources such as contracts for research activity, agreements with companies and foundations, private financing, increase of school taxes and so on.

The entrepreneurial university – conceptual background and added values

Universities need to identify an adapted approach for the new challenges they are facing today. While preserving their fundamental missions, they should start operating, to some extent, as any other service provider. The peculiarity of their status derives from the specific features of the products they are offering: competences and knowledge. If these competences and knowledge are not relevant for market needs, they cannot be exploited fully and cannot gear competitiveness. Universities should interact with the economic and social sectors, an interaction which would become the key pillar in developing the proper market for the university outputs. Furthermore, this interaction becomes crucial for universities by providing the necessary information about market needs (valuable inputs for planning research and

education activities and for making the outcomes relevant and tradable on the market), while facilitating the transmission of new knowledge and the common definition of various joint activities.

The universities' offensive manifest in their coming-out 'on the market' was met with different attitudes. Most stakeholders welcomed this initiative, considering it as a natural process, a long expected imperative, which will augment awareness of a professional category, the university category that seems to have hidden from the public eye for quite a long time. The entrepreneurial university represents a perspective which, as the supporters of the recent evolutions claim, will stimulate higher education institutions and will make them truly useful for the present society. On the other side, the opponents of academic entrepreneurialism consider this direction of reform to signify the end of university autonomy and of the academics' independence, announcing the continuous diminution of standards, perverting of research by financial interests, as well as an irremediable end of academic culture.

And yet, pertinent answers to these perceived threats can easily be found: openness towards the market represents a natural movement for the universities which will thus be able to face effectively the steep increase in education demands determined by new economic development.

Of course, all the positive aspects mentioned above do not negate the fact that valid criticism of entrepreneurialism can be addressed and taken into account. Still, present circumstances definitely modify the status and the functions of the contemporary university, forcing the need of looking for adequate approaches. The entrepreneurial university can be accepted as an appropriate solution for the dilemmas mentioned above, while the possible difficulties and risks of the new approach should be treated as such.

The main feature of the new university might be defined as the search for a balance between the demands it faces and the resources it possesses. The entrepreneurial university represents the proactive university which demonstrates an interactive attitude towards the economic environment and which successfully balances scientific and managerial competences. By accurately assessing its role, such a university becomes an open system interacting with the external environment where it performs its actions and acts accordingly. However, it has to add to its classical missions related to research and education that of systematic and institutionalized transfer of knowledge through specific channels: technology transfer, continuing education, and so on. With this aim, the university has to adopt an entrepreneurial attitude to managing people, knowledge, and expertise. At the same time, it has to build institutionalized structures for interacting with the economic environment. Through its activities, the entrepreneurial university is able to generate resources to self-fund its own development.

The concept of 'entrepreneurial' is used mainly in relation to social systems. Transferred to the higher education area it can be applied to the universities as wholes, or to their departments and faculties, to centres of research, while also including the meaning of 'enterprise' – seen as a deliberate effort of institutional building which necessitates special activities and considerable energy consumption. An essential aspect of this approach consists in assuming risks as far as the introduction of new practices is concerned. Zaharia (2005) argues that the entrepreneurial university represents 'an open university managed to some extent by means of the management tools characteristic to an enterprise, but preserving its

fundamental missions of education and research. Funding is considered an investment producing financial revenues and other type of returns', while Clark (2000) asserts that 'an entrepreneurial university, on its own, tries to innovate its manner of action, to operate an extensive change concerning its organizational character, opening more promising perspectives for the future. [...] The institutional entrepreneurialism can be understood both as process and result.'

Responsiveness to progress and to change, innovation, an active approach to changes in the economy and society, as well as openness, should become the driving elements for the activities of the European university. 'The entrepreneurial university, similarly to technology-intensive companies, should encourage the development of a work culture which is extremely favourable to changes (Burton 2000) being capable of orienting both training and research towards market needs.. The European organisational culture of the university needs to go thorough transformation in the sense that it 'should permanently change the competition balance in its favour; for accomplishing this aim, the European university should adopt quality standards and quality assurance and evaluation procedures for its educational and research activities' (Mureşan 2002).

University transformation is neither accidental nor incidental. It is certainly not the output of some innovative projects implemented in only a few specific sectors of the university. On the other hand, it does not occur only when a top-down approach is imposed. Such cases represent only an exception. For an authentic change to occur, it needs to involve a great number of individuals, representing different departments of the university, who have been collaborating for some years aiming at a structural or orientation transformation of the institution. The entrepreneurial collective action represents the engine of the transformation process. Thus, a series of central academic or administrative groups can create new structures, processes and directions, opening up the university to ideas of change and adaptation, albeit that academic values will govern the whole approach.

Beyond the concrete institutional level, and some isolated experiences which illustrate the first endeavours of developing the entrepreneurial university, at present we note at both the political and the pragmatic level, a common, unitary approach to generalising this model all over Europe.

Clark identifies five dimensions of the comprehensive model of an entrepreneurial university. First, *a well-consolidated decisional centre*, a feature that aims at a specific structure of the institution focused on efficacy assurance, an innovative character and promptness of reactions to environmental changes. As such, the development of a decisional centre well consolidated becomes an absolute priority. It should include both central academic staff and staff representing academic departments and faculties, merging a compromise between the new managerial values and the traditional academics. Second, he identifies *the university entrepreneurial structures* aiming at the elaboration of a set of measures concerning the opening and integration of university into the socio-economic environment, and the orientation of research towards the needs of the market. On one hand, these units are specialized contact offices that are active in the field of knowledge transfer, in industrial and economic collaboration, in processes of intellectual property development, in lifelong learning, in obtaining financial resources, and even in relation to graduates. On the other hand, they represent research centres, mostly interdisciplinary, founded on specific projects, functioning as secondary spaces of academic collaboration close to different departments. Third, *a diverse financing* means abandoning the model of exclusive state financial support

and moving towards finding the necessary means for increasing and diversifying the so-called 'own funds'; in other words, the assurance of university financial autonomy. For instance, these institutions are trying to identify a growing number of tertiary finance sources, such as industrial or economic companies, local authorities and philanthropic foundations, in order to obtain incomes following the use of intellectual property, administrating campuses areas, school taxes, donations, and so on. Fourth, *a well-stimulated academic core*, meaning faculties and departments transformed into entrepreneurial units, open towards the external environment through programmes and new relations, capable of autonomously identifying tertiary sources of financing. These basic units should ensure the attraction and maintenance of academic staff within a structure managed in an entrepreneurial manner, by applying differentiated stimulating methods, while trying to make traditional academic cultures compatible with the new exigencies of professional management. Finally, in the fifth place, *an integrated entrepreneurial culture*, meaning a culture of labour, of the spirit of enterprise and innovation, of dedication to the institution – in the absence of which any change would prove itself difficult or unstable. A powerful culture relies on consistent practices, where ideas interact with practice, and the cultural or symbolic dimension of university culture becomes of major importance for the development of the institutional identity and its distinct reputation.

A conceptual framework for the analysis of competences within the entrepreneurial university

Competency – concept, problems, added values

The European Commission (2002) emphasizes the fact that education has now more than ever a crucial part to play in building independent and responsible individuals. In the 1990s, under the pressure of business and employers organisations, education started to develop an increased interest in competences. Consequently, the movement supporting reform of the academic curriculum renounced the seemingly useless practice of devoting itself to knowledge and focused more on developing sustainable competences that would be valid for a longer period of time.

Competence belongs to a family of concepts that rapidly enforces itself within a field necessitating a profound analysis. In the field of sciences of education, the notion causes lexical uncertainties and controversies. In the following section the focus will be on three work-definitions which will substantiate the intended framework of analysis.

In Potolea's^[1] view 'competence implies the selection, combination and adequate use of information and skills in order to answer successfully and efficiently to a given task'. In Toma's^[2] view 'competence represents an individual's possibility to mobilize, whenever necessary, an integrated set of knowledge, capacities (cognitive, actional, relational, and ethical), and other resources in order to solve a specific type of problematic-situations'. This definition can be expressed by the following formula:

$$\text{Competence} = (\text{capacities} + \text{knowledge} + \text{other resources}) + \text{situations}$$

In the authors' views, competence represents an integrated and dynamic set of knowledge, skills, values and attitudes, all combining in a strategy for solving problems, anticipating, estimating the probabilities of some events happening, for diagnosing a situation starting from a set of prior clues. Competence grants efficiency, precision, confidence – and allows solving difficult situation in the practice they were developed.

By analysing the literature dedicated to the competence issue, the following key aspects can be noted.

- The concept should be used exclusively in respect to a person.
- Competences are not knowledge, skills or attitudes themselves, but they mobilize and integrate such resources.
- This mobilization is pertinent only for a certain *situation*, each situation being specific, and distinct.
- The practice of competence is done through complex mental operations, underlined by schemes of thinking, (see Altet 1996) which allow the achievement of an action partly adapted to a certain situation.
- Professional competences are developed through professional training, within the daily practice in specific work-situations by a specialist.

Competence is a mental construct, a comprehensive and perfectible model, a complex aggregate that integrates more *dimensions*, namely:

- *The affective dimension* – which stimulates the individual to solve a task
- *The cognitive dimension* – which refers to knowledge and processes the individual has to mobilize or develop
- *The transfer dimension* – which appeals to the capacity both to recognize knowledge and processes that can be used in a specific situation, and to implement them.

The Organisation for Economic Co-operation and Development (OECD) in its DeSeCo Project's conceptual framework for key competences classifies such competences into three broad categories. First, individuals need to be able to use a wide range of tools for interacting effectively with the environment: both physical ones such as information technology and socio-cultural ones such as the use of language. They need to understand such tools well enough to adapt them for their own purposes – to use tools interactively. Second, in an increasingly interdependent world, individuals need to be able to engage with others, and since they will encounter people from a range of backgrounds, it is important that they are able to interact in heterogeneous groups. Third, individuals need to be able to take responsibility for managing their own lives, situate their lives in the broader social context and act autonomously. These categories, each with a specific focus, are interrelated, and collectively form a basis for identifying and mapping key competences. The need for individuals to think and act reflectively is central to this framework of competences. Reflectiveness involves not just the ability to apply routinely a formula or method for confronting a situation, but also the ability to deal with change, learn from experience, and think and act with a critical stance.

The European education policy documents referred to above operate within different definitions and typologies of competences which unfortunately are evasive, open to interpretation and to some extent contradictory. Thus, the Project *Tuning Educational Structures in Europe* identified two main categories of competences: *generic* (which include instrumental, interpersonal and systemic competences) and *specific*. The same classification was taken up by *A Framework for Qualifications of the European Higher Education Area* (2005) by the Bologna Working Group on Qualifications Frameworks. In the Working document of the European Commission *Towards a European Qualification Framework for Lifelong Learning* (2005), there are two types of learning outcomes expressed in the form of competences: personal and professional

competences, which in turn include the four categories of autonomy and responsibility, learning competences, communication and social competences and, finally, professional and vocational competence. The new design of higher education outputs, as they were formulated in the documents mentioned above, compel the identification of competences for each of the three cycles of studies: bachelor, master and doctorate, focused on advanced studies/top-level research. Any professional training programme should try to identify the specific levels of development for both key competence and specific competences development, levels that could be used as structural and functional landmarks in designing the curriculum. The specialized literature offers a certain hierarchy of the levels of competence in a specific field: novice (notions and their application), competent (mastery, '*maîtrise*' in French) and expert (expertise, '*expertise*' – Fr.).

Just as with any other theoretical model, the recent imposed approach can be analysed from an *advantages* and *disadvantages* point of view. Among the *strong points* of this theoretical model are:

- the perspective of lifelong learning (key competences are common to all educational environments)
- clear and systematic views on learning outcomes
- a greater emphasis on the quality of education
- measurable educational outcomes, as well as their transparency (focus on benchmarks and performance indicators)
- possibility of comparison at European level

On the other hand, there are some *drawbacks* of this approach:

- confusion between competences, on the one hand, and outcomes and processes, on the other
- competences inventories stand only for a rough guide (they are always open and relative)
- differentiation between behaviour and competences (A specific behaviour can be inferred from more competences, while a competence can induce different performances.)
- even though performances could be derived from competences, it is difficult to define benchmarks on the basis of prior situations
- key-competences cannot be evaluated as such, but only considered in terms of the behaviours they induce

Competences on the labour market

In Europe, the initiation of higher education reform, mainly known as the Bologna Process, marked some extensive changes and launched a set of challenges for designing and implementing educational policies in this area. The document by the European Commission on the European Framework of Qualifications (EFQ), as well as the debates on national frameworks of qualifications, are welcomed by universities because they occur within the context of the Bologna system, a system considered by most stakeholders as the structural landmark for higher education studies (bachelor, master, doctorate). Thus, one cannot ignore the fact that the main goal of the Bologna Process is not the restructuring of studies, but the differentiation between the levels of qualifications related to the exigencies and levels of complexity of the developed competences. Also, it should be emphasized that the redefining of university specialisations must rely on the identification of qualification levels, providing a

direct link between the level of studies and the labour market. Universities are often criticized for not respecting the compatibility ratio between educational provision and the demands expressed directly or indirectly of the labour force. The explanations should not be looked for only in the lack of correlation between the two types of provision, the universities' provision and the capacity of absorption of the labour force. In-depth analysis demonstrates that curricular design is not well enough adapted to professional benchmarks and the dynamics of the professional life, expressed in qualifications and evaluated in terms of competences and learning outcomes.

Relying on the key ideas expressed in the EFQ, each field of study needs to explicitly define its qualifications. The defining of qualifications in terms of competences should lead to a significant restructuring of university curricula, which should be able to answer all these challenges, thus granting an increased relevance to, and emphasising, final learning outcomes (outcomes that should express both information, concepts, theories, models, taxonomies, and practices, procedures, operations, strategies of intent and solving). At a theoretical level, curricula should be adapted to the student's programme of development, entrepreneurial competences and beliefs. The intrinsic link between the educational area and the labour market is expressed, first and foremost, at the level of learning outcomes which recommend a graduate for a specific occupation.

Changes occurring within the labour market due to new technologies, innovative management and increased competitiveness on the international market, lead to many concerns regarding the graduate's competence profile. This profile needs to be in accordance with the issued qualification. The debates on this subject have often underlined the necessity of developing certain competences and, at the same time, have blamed the higher education system for its incapacity to do so. It is essential to define two aspects of maximum relevance for the competence issue at the higher education level – the distinction between academic and professional competences, as well as the distinction between general and specific features.

At the end of the twentieth century and the beginning of the twenty-first century, one of the problematic aspects faced by universities concerns the fervent debates on the subject of the virtues of, and requests addressed to, the traditional academic education when compared to a professional one. Many of the professions, that in the past did not necessitate a university education, nowadays, in the light of the challenges facing the knowledge-based society, are calling for a higher level of training. Consequently, the last years have witnessed the widescale introduction of professional courses of study in higher education systems. From this point of view one can start discussing the issue of academic competences versus professional ones. If professional competences cover the area of means necessary to accomplish a professional task required by a specific job, academic competences should include, next to the professional competences, the set of requirements addressed by the academic community concerning certain professions up to the highest level – the development of new knowledge.

Different attitudes have been noticed, which endorse either a specific training favourable to practising a certain profession by focusing on developing specific competences, or, more recently, a general training in a larger field of study (at licence level in Bologna system) and, implicitly, an increased attention to developing general competences. General competences are those which apply to a variety of occupations and contexts. They are also known as key competences, core competences, essential competences, transferable competences or employability skills. So far, the theoretical arguments support the idea that 'general academic competences' acquired along the university route represent a solid foundation which facilitates the development of subsequent

specific competences, including management ones. In conclusion, the general competences are, indirectly, of crucial importance because they multiply the efficiency of the future professional development and the maintenance at a proper standard of applicability of the specific professional competences, reducing the costs involved in their development.

Recent European Union projects, such as *Tuning Educational Structures in Europe*, have tried to identify generic competences for each field of study, relying on consultations of stakeholders belonging both to the universities and to the social and economic environment. Although the set of generic competences present small differences among them, for most of them, the resemblance was striking. Thus, for higher education 'general competences' refer to a series of essential qualities and skills which include: abilities of thinking such as logical and analytical thinking, problem solving and intellectual curiosity, efficient communication skills, teamwork skills, abilities for identifying and handling information, personal qualities such as imagination, creativity and intellectual rigor, as well as values such as ethical practice, perseverance, integrity and tolerance. This combination of qualities and skills is different from the technical knowledge traditionally associated with higher education. The specific competences are identified for each field of specialization taking into account two possible deriving sources: the professional roles a graduate should be able to perform and content analysis of the profession.

Embracing the competence approach may lead to many changes in educational processes within formal institutions. First, we note an increased awareness in society towards their development; second, higher education institutions are permanently connected to social practices, to 'real life'. The competence approach can become a viable way of fighting school failure, more precisely, failure that is generated by a lack of motivation, because it offers a goal by opening the university field towards the external environment, towards action and life.

The competence approach represents a possible opportunity for an integrated approach to professional training programmes. The integrated development of training sequences aims at combining competences, after choosing the themes.

'You need to know to choose, to inform yourself, to apply, to concretize, and then to report, to present the outcomes.'

The competences approach of training in an entrepreneurial university

Current social challenges are concentrated around the formative and professional needs experienced in different ways by future candidates seeking a university career. The personalization of university training, as well as the development of differentiated academic provision will constitute the central elements of a coherent and dynamic policy for higher education institutions. If cognitive competences related to critical thinking, reflective thinking, creativity, social competences including cooperation, implication and participation can also be incorporated, an adequate synthesis of the standards for socio-professional development of future graduates entering the labour market can be achieved.

The entrepreneurial university represents a system that fully understands the central role played by competences at all levels – strategic, organizational, programmatic – regarding them as premises of quality assurance procedures for both instructional and research processes. An enduring mission of the university has been that of developing competences. This mission was transferred to the entrepreneurial university, but the manner in which it

approaches the issue of competences, as well as the type of competences required by the knowledge-based society, have undergone extensive transformation due to social and economic changes. In the present situation, characterized by an explicit shift of attention towards training and use of competences, this process represents the key activity of the entrepreneurial university. Developing competences implies two lines of action. First, it gives due regard to the human resources at the institutional level – the university teaching staff – in order to build their capacity to adequately face both generic academic functions and specific professional roles. Second, it gives due regard to the beneficiaries of the higher education system –the students – by developing their necessary competence profile in order to ensure a successful integration into the labour market. From this perspective, the competence approach becomes itself the main axis which determines, or influences, the functions and the activities of the entrepreneurial university.

Figure 1 presents a model which illustrates different phases of a competence approach that can be used within the entrepreneurial university.

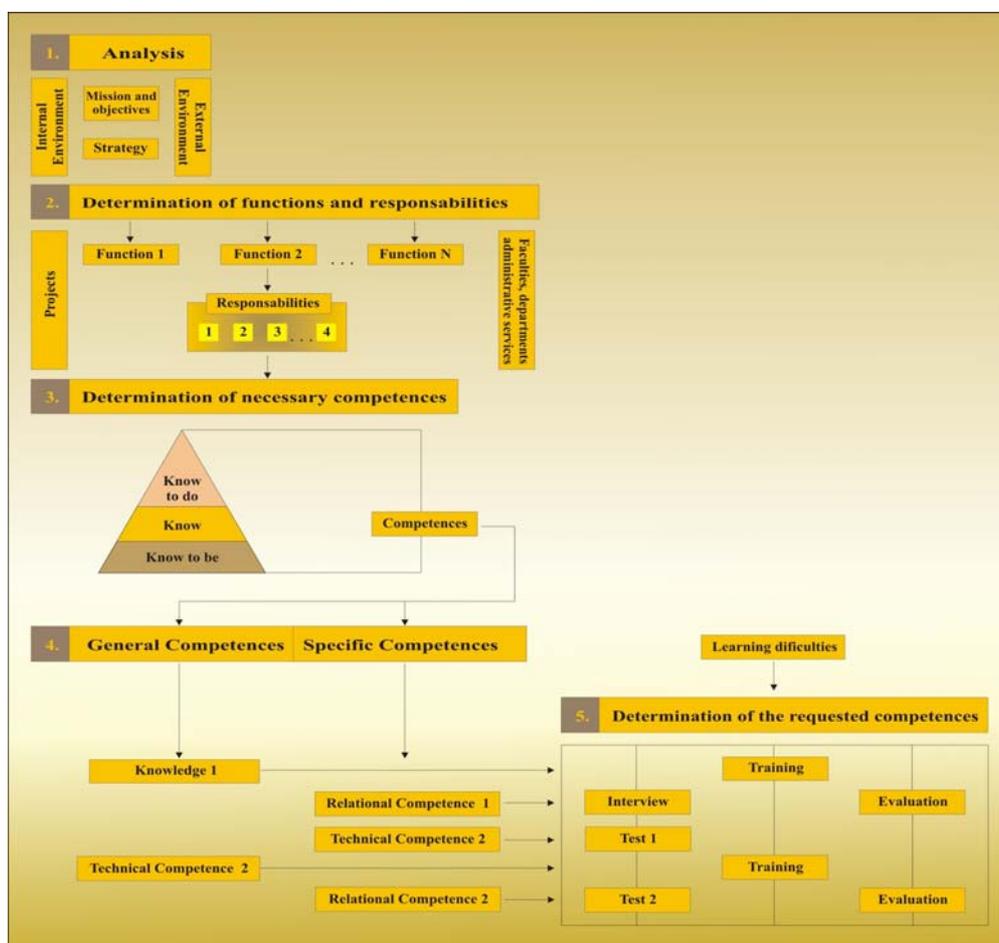


Fig. 1 The model of competences management
Adapted from André Durivage

1 The analysis phase

The first phase, characteristic of a competences approach in the university area, refers to the understanding of the general strategy of a specific institution aiming at firmly substantiating the

following phases. In this situation, the management through competences of human resources represents the main strategic initiative, which aims at achieving pre-established objectives. The analysis phase necessitates a global understanding of the university mission, of the social and economic environment, as well as of the strategic direction adopted by the organization.

An organizational structure consistent with the university's mission and strategy, supported by the identification and valorisation of human resources' competences, can ensure the flexibility and innovation necessary within the activities of training and research.

2 *The determination of functions and responsibilities – the dynamic academic core*

An entrepreneurial university is not a university managed by an entrepreneur, but a university manifesting an 'entrepreneurial' behaviour at all levels, thus being able to get involved in significant changes. This is why the successful transformation of a classic, traditional university into an entrepreneurial one depends on the acceptance of this perspective by all its fundamental units (faculties, departments). Functioning within the operational structure of the university, both as units of research and units of education, are the basic organizations that carry out most of the academic activities. For this reason their concurrence and participation are essential for the success of a real transformation.

On the other hand, a key factor sustaining this transformation is the extent to which the university is open towards the external environment by way of new programmes, as well as the establishment of relationships with partners from the economic and social environment aiming at identifying tertiary financial resources. The statement of a general strategy of action, within the first phase, leads to the identification of the real number and type of teaching jobs necessary for achieving the pre-established objectives. This action may require global reorganization of the university or, more simply, a job reorganization. *Different from the traditional approach, which focuses on a job specialization, the competence management favours a strategy which reunites jobs through functions.* Thus, we will discuss initially the function of training and education, about the function of research, and about the function of occupational mobility.

3 *Determination of acquired competences*

The competences necessary to actualize the university mission are determined based on a double guide mark: the university function and the content analysis of the academic profession.

According to Le Boterf (1998), competences involve knowledge (general, specific to the academic environment, procedural), skills (operational, bound to experience, relational, cognitive), as well as aptitudes and qualities. In order to derive the competences subsequent to a job or a function, one can use lists, dictionaries or other models available on the market (see, for instance, Lombardo and Eichinger (2002)). More recently the *European Framework of Qualifications*, which will constitute the fundamental base of developing national frameworks of qualifications, proposes a model for correlating the qualifications with the competences related to a certain level of study. University teaching staff need to be qualified at Level 8, meaning the doctoral level. Additionally, the generic and specific competences essential for accomplishing the job tasks need to be identified, ideally done in consultation with the staff involved.

4 *General competences and specific competences*

Relying on university functions, and taking into account the inner dynamics of the higher education institution due to its programs and projects, two sets of competences can be identified:

- 1 general (basic/core – representing the minimum threshold)
- 2 specific (critical, differentiating)

General competences correspond to the essential characteristics expected from all employees occupying a certain function. Specific competences refer to all the factors that differentiate the employees when achieving a specific task. Within an entrepreneurial university, groups of experts identified between four and six general competences considered as ‘essential’ to each function. The specific competences may be analysed relying on the particular circumstances in which the activity takes place.

5 *Training and managing human resources*

Once the competence profile has been developed, human capital resources can be exploited to the maximum. The university will have to ensure that the recruited teaching staff demonstrate the competences defined within the profile. On the other hand, the programmes undertaken by the institutions’ human resources (training, salary, endowment, and so on) will facilitate the determination, development and implementation of these competences. A strategic approach of this phase (training and management of human resources) by an entrepreneurial university should take into account the harmonization of the set of practices concerning human resources, which must be focused on the determination, acquisition, promotion and development of the competences necessary to function as a university teacher.

In short, the specific condition for successfully designing, implementing and evaluating the programmes of study imposed by the Bologna Process is that of developing specialized programmes with differentiated curricular lines for pre-service and in-service training dedicated to academic teaching staff. In this sense, one can underline the need to initiate specific projects for master programmes focused on training university teaching staff. It is also advisable that the development of university research institutes be based on the identification of a set of specific functions and on elements derived from the academic long-term policy. These will thus facilitate the design and development of university curricula, of educational strategies and of techniques for evaluation, all of them destined to improve the university’s activities, as well as the pre-service training of future teaching staff in the spirit of institutional quality. Consequently, redefining curricular structures, designing competences for each study level, developing a culture of process quality and learning outcomes, employing and motivating university staff, will represent institutional priorities. The effort to harmonize the educational policies specific to higher education, the public and financial support of master and doctorate programmes, the design of the national framework of qualifications, all these represent priorities of the public/national political agenda.

6 *Competences’ evaluation*

The competence approach has a special significance for the entrepreneurial university. It assures the training of the academic core necessary to support the innovative character of its projects, programmes and activities. Under these circumstances, staff recruitment should be based on competence evaluation. Given the importance of decisions made after evaluating human resources, it is important for the university to have access to the best means of evaluation, thus granting academic quality. Also, developing students’ competences by creating complex situations of

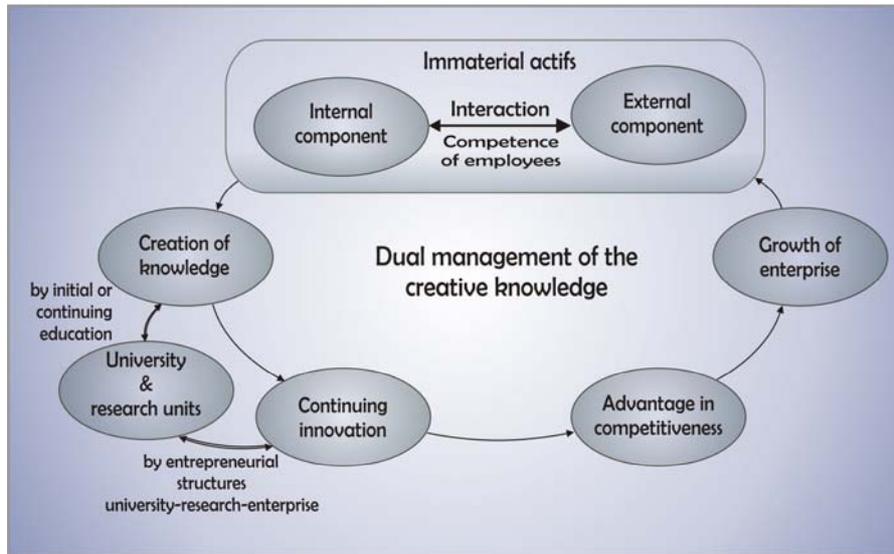
learning which induce increased motivation and coordination of knowledge, skills and attitudes, triggers the necessity for identifying some pertinent situations and strategies for evaluation.

- These can be applied to complex situations and specific forms of evaluation in order to determine the way in which the students/beneficiaries of a professional training approach the situations, plan the activities, organize and carry on their activities. In this case inquiries or tests are not necessary. Instead complex tasks can be designed to monitor how the students cope, and the manner in which they mobilize their resources for finalising these tasks.
- To evaluate competences means to observe the person while carrying out an activity and to appreciate the indicators which probe the presence of the competence, its level of development, and the progresses made. By systematically noting all the observations made, we obtain a 'competence balance' (Perrenoud 1996).
- Competence evaluation means identifying adequate indicators to allow the measurement, assessment and expression of a value judgement regarding all components of competence, models of learning, as well as cross-disciplinary concepts such as error, cognitive style, obstacles, explanation, meta-knowledge, and so on.
- Evaluation needs to identify all the individual can do, the obstacles s/he encounters, the knowledge and the schemes s/he operates with, the elements s/he lacks for solving difficult problems.

In conclusion, the competence approach can ensure an adequate selection of human resources necessary to achieve the entrepreneurial university goals within which the management competences are combined with academic ones. It should be noted that the competence evaluation must be done in the first phase, that of recruitment, but equally along the way, during professional activity (i.e. continuous evaluation). From this point of view, evaluation should not be seen in a narrow sense, but as an action with multiple positive layers for the training activities of human resources. It seems that the accent placed on the relationship between the determination, evaluation and implementation of competences on the one hand, and the strategic directions of the organization on the other, represents a common characteristic that ensures the success of those universities that wish to invest in such an approach.

Academic and/versus entrepreneurial?

University–economy interaction is driving innovation. It provides incentives for the university not only to produce new knowledge but also to develop processes, concepts and tools for implementing it. Innovation overcomes the scope of research activities. Since the university continues to remain the main producer of knowledge, and industry remains the main user of knowledge, the transmission and exploitation of knowledge is a prerequisite for increasing competitiveness. See Figure 2.



The entrepreneurial university is a university in which the academic staff and the administrative staff form a closely united team, whose common goal is institutional development by ensuring the human resources indispensable for high quality functioning. In an entrepreneurial university scientific research is mainly oriented towards the applicable feature of its outcomes as well as the technological transfer. Research is being permanently monitored and leads to the altering of study plans, and consequently to the imposed internal and external dynamics. This sensitiveness makes the university more flexible and attractive to those potential students interested in acquiring competences compatible with the structure of the labour market, which, in its turn, is subject to continuous change.

Entrepreneurship involves both inputs and outputs. In other words, it does not aim at only producing financial resources, but also promotes educational and research services of high quality, according to the maximal standards on the market. Consequently, within an entrepreneurial system the student occupies a central position and this is not only because s/he is one of the main financial providers, but also because s/he is the client that should be attracted towards the educational market. The student should be offered a set of educational and training programmes to support his or her future professional performance. These performances need to become the main indicator for certifying the quality of academic activity.

In order to embrace the entrepreneurial approach the model university must develop an entrepreneurial culture characterized by innovation and technological transfer, by an environment friendly to the entrepreneurial initiatives. The model university should support the development of spin-offs, of technological parks, of true forms of academic entrepreneurship, all of them representing structures that also aim at developing competences indispensable to future activities.

Possible conclusions

Both at European and national level, it is a unanimously acknowledged fact that education represents the key element in any nation's progress. This idea has generated and still generates essential reforms of the traditional model of the university. Beyond those changes made at content level or in university practices, it is imperative for higher education institutions to adopt a change of attitude and perhaps of identity affiliation. In this sense, without even speaking about separation from state authority or domination, in order to become a competitive enterprise in a liberal economy, inside the area of the higher education market, the university should 'strengthen' those

attributes that grant its status as a public institution. This might be possible if the university can meet all of contemporary society's needs, ensuring for itself the status of an enterprise and, implicitly, an entrepreneurial character.

The major initiatives at educational policy level must be supported and accompanied by activities developed inside strong, autonomous universities, the real area which grants consistence and actual implementation of the goals stipulated in documents. The importance of higher education institutions is perfectly clear today, not only for those within them, but also for stakeholders belonging to the social and economic sector. An importance that is echoed by European Union documents, such as *Mobilising the Brainpower of Europe: Enabling Universities to Make their Full Contribution to the Lisbon Strategy*' (2005), *From Berlin to Bergen* (2005), *The Glasgow Declaration: Strong Universities for a Strong Europe* (2005).

Nowadays, society, and by extension the universities, are facing a process of complex evolution, assuming their part as propelling forces, starting to implement an adequate strategy of developing, adapting and transforming. The entrepreneurial university already exists, and its reality demonstrates that it represents a solution to the challenges of this century. It reflects the needs of contemporary society to benefit from management and executive personnel who should be well equipped in order to offer convincing and profitable products and services for diverse communities all over the world. This means academic staff who understand the labour market, the influential trends and pressures and who can develop processes to respond promptly to rapid changes in demands.

Beyond identifying, gaining and exploiting tertiary financial resources that are vital for accomplishing the activities that the entrepreneurial university is invested in, it must focus on the development of the competence profile of students as direct beneficiaries of its services, and on academic staff by paying careful attention to the recruitment and training processes. The main role of the entrepreneurial university is that of restructuring the training processes in two distinct areas – in developing a coherent system for pre-service and in-service training of its own human resources and the effective training of its students as future actors of the labour market.

This position maintains the provision of adaptive systems, of permanent development and maintenance of knowledge and skills according to society's requests. The process can be enforced by restructuring the present higher education system, either proactively or re-actively. This implies an active participation by students embracing problem-solving principles closely related to real economic life, as well as solutions based on the competences developed. These goals call for the restructuring of systems of knowledge and skills transfer in order to implement them, to promote mechanisms that develop skills and competences, such as teamwork abilities, communication abilities and self-assessment abilities.

Assuming such a mission will certainly lead to new types of knowledge, new types of learning outcomes (competences), new types of teachers and students, new types of work relationships, new types of skills for solving problems which will, as a whole, remain at the disposal of governments and economies. In a knowledge-based society and economy a new perspective on higher education is needed: that of the open entrepreneurial society connected with the social and economic environment within which the quality benchmarks explicitly function.

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Notes

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