

Institutional Profiles

**towards a typology of
higher education institutions in Europe**

29th August 2005

Contents

1. Introduction.....	3
2. Rationale for a typology of higher education institutions.....	4
2.1 Diversity and transparency.....	4
2.2 A stakeholders perspective.....	5
2.3 The relationship with quality assurance.....	7
3. Classifying higher education institutions: practice and methodology	9
3.1 Classifications and typologies.....	9
3.2 The Carnegie Classification in the United States.....	9
3.3 Classifications in the United Kingdom	12
3.4 Methodological considerations	13
4. The components of a typology.....	14
4.1 Schemes on education.....	14
4.2 Schemes on research and innovation	15
4.3 Schemes on student and staff profile	16
4.4 Institutional schemes.....	16
5. Implementing the typology	18
5.1 The next step: a pilot phase.....	18
5.2 Organisation	19
5.3 Financial perspective	19
6. References.....	20
Annex A List of experts from stakeholders.....	22
Annex B Case studies.....	23
B.1 Germany.....	23
B.2 Hungary.....	24
B.3 United Kingdom.....	25
B.4 Portugal	26
B.5 Flanders.....	27
B.6 Russian Federation.....	28
Annex C List of abbreviations	31

1. Introduction

In November 2004, a team of researchers conceived a research project that aimed to explore the value of designing a typology of higher education institutions in Europe. The starting point of this research project was the assumption that the strength of the European higher education system lies in the diversity of its institutions. These institutions contribute in many ways to the different needs of emerging knowledge societies. We argue that a better understanding of the various types of institutions, their different missions, characteristics and provisions, will support mobility, inter-institutional cooperation and the recognitions of degrees in Europe - hence the international competitiveness and attractiveness of European higher education. The creation of a typology of higher education institutions is a promising instrument towards enhancing this understanding. It should reveal the institutional profiles of Europe's rich higher education landscape while respecting the diversities and characteristics of its institutions.

The overall aim of this research project is *to develop a proposal for a typology of higher education institutions in Europe*. This aim includes the following objectives:

- To assess the need for a typology of higher education institutions.
- To carry out a study on theory and practice of classifying institutions.
- To develop a conceptual model upon which a typology of higher education institutions can be developed.
- To propose an appropriate set of criteria for a typology of higher education institutions.
- To propose recommendations for the implementation of a typology of higher education institutions in Europe.

The research proposal was granted funding in the framework of the Socrates programme, though we wish to point out that the research work has been carried out independently. The analysis and recommendations of this report do not necessarily reflect the views of the organisations to which the researchers are affiliated with.

The project team was made up of the following members:

- Mr. Prof.dr. Frans van Vught (project leader)
- Mr. Dr. Jeroen Bartelse
- Mr. David Bohmert
- Mrs. Nadine Burquel
- Mr. Jindra Divis
- Mr. Dr. Jeroen Huisman
- Mrs. Prof.dr. Marijk van der Wende

2. Rationale for a typology of higher education institutions

2.1 *Diversity and transparency*

The European Higher Education Area ¹ is characterised by a high degree of heterogeneity and complexity. In terms of its size, the European higher education landscape is comparable to that of the United States' (US) higher education system: there are 3,300 higher education establishments in the European Union (EU) and approximately 4,000 in Europe as a whole (EC, 2003). At the same time it is also far more complex as it is primarily organised at national and regional levels, each with their own legislative conditions, cultural and historical frames, and a vast array of different languages in which the various forms, types and missions of higher education institutions may be expressed.

The structural reforms of the Bologna process constitute an effort to organise this complex diversity within a more coherent and compatible European framework, which is seen as the condition for the comparability of degrees and hence the competitiveness of European higher education institutions both within Europe and across the world. With the aim to further stimulate cooperation and mobility in Europe, the Bologna process has so far emphasized in particular the transparency at the level of qualifications, thus facilitating credit transfer, degree recognition and quality assurance across the various countries' systems.

In many ways, the Bologna process has shed even more light on the diversity between and within the national systems, expressed not only in the many debates, but also in the different ways in which the bachelor-master system has been implemented in the different countries (Eurydice, 2004, Reichert & Tauch, 2003; Reichert & Tauch, 2005). Interestingly, in many countries the new 'harmonised' degree system facilitates or encourages program diversity. The dynamics of the process itself have also affected the diversity in the European Higher Education Area. While in certain countries the distinction between types of institutions and programmes sharpened, in other, boundaries between them became more blurred by associations, mergers and other types of cooperation between different types of institutions or by shifts from institutional to programme diversity (as, for instance, can be observed in Flanders, the Netherlands, Sweden and Germany). In roughly the same period, institutional diversity has been further enhanced by the emergence of many new types of higher education providers, such as private, transnational, and virtual institutions, (e.g. in Portugal, Spain, Greece, and various countries in Central and Eastern Europe).

It is generally agreed that such diversity should be conserved and even expanded. The EC paper on the Role of Universities in the Europe of Knowledge (2003) states that: "European universities have for long modelled themselves along the lines of some major models, particularly the ideal model of the university envisaged nearly two centuries ago by Alexander von Humboldt, in his reform of the German university, which sets research at the heart of the university and indeed makes it the basis of teaching. Today the trend is away from these models and towards greater differentiation" (p. 5-6). In the most recent EC Communication on Higher Education (EC, 2005) the need for greater differentiation is stressed even more strongly as insufficient differentiation may be a bottleneck both for including a wider range of learners and for achieving world class excellence (p. 3-4).

¹ Here defined as including all the Bologna signatory countries (45) as of the Minister's meeting in Bergen in May 2005. See: http://www.bologna-bergen2005.no/Docs/00-Main_doc/050520_Bergen_Communique.pdf and <http://www.bologna-bergen2005.no/EN/BASIC/Map.htm>

In terms of governance arrangements and regulatory frameworks, diversity is as important as autonomy in order to achieve wider access and higher quality (p. 7).

From various countries that are known to have a ‘unified’ system (e.g. the United Kingdom and Australia) it is indeed reported that a lack of differentiation between institutions leads to negative effects such as mission convergence and institutional isomorphism (Van Vught, 1996). These effects are often quoted as a justification for new reforms (Scott, 2004; Douglas, 2004; Moses, 2004). The result is a new search for effective forms of diversity, including a renewed focus on the teaching mission of higher education institutions; good examples include that which is expressed in the UK White Paper on Higher Education (DfES, 2004) and the Higher Education Review Process in Australia (DEST, 2004). And from the US, known for its strongly diversified system, a strong plea is heard for diversity with respect to the various dimensions and missions of higher education institutions (Douglas, 2004). This diversity should consequently be systematically accounted for in any comparison or typology of institutions (Lombardi, 2000; Shedd & Wellman, 2001).

The growing international consensus regarding the relevance of diversity forms a solid basis for further policy development in the European Higher Education and Research Areas. But in order to make diversity useful it needs to be understood. In other words, European higher education is and needs to remain diverse in the face of sufficient compatibility and a certain level of coherence (EC, 2005)². The logical next step for Europe with respect to transparency measures is the development of a typology of higher education institutions. Such a typology will allow individual higher education institutions to more effectively design their own missions and profiles, while at the same time offering the various stakeholders greater transparency about the characterising dimensions of these institutions.

2.2 *A stakeholders perspective*

A better understanding of the various types of higher education institutions, their mission and provisions will support the European aim of increasing student mobility, inter-institutional and university-industry cooperation, the recognition of degrees and hence the international competitiveness of European higher education. Consequently, the exploration and development of a typology of higher education institutions in Europe is directly linked to the aims of the Bologna process and the Lisbon strategy.

Such a typology is thus strongly linked to current European policy aims and can directly feed into various stakeholders’ needs:

- *Transparency for students*
Basic information about the type of programmes offered by an institution can be derived from its position in the typology. Students can identify categories of institutions and relate this information to their preferences and abilities.
- *Transparency for business & industry and other organisations*
For business and industry, as well as for other organisations, a typology will reveal which types of institutions are of particular interest for them. Mutual partnerships and stronger relationships are created more easily.

² Which was of course the basic rationale for the Bologna Process, including the development of the European Qualifications Framework.

- *Facilitate consortia formation between institutions*
A typology facilitates the identification of potential partner institutions. Within a typology segment, institutions can more easily associate and create consortia in which mobility, benchmarking and the development of joint degrees may thrive.
- *Enhance system transparency*
Through a typology, institutions of higher education will be stimulated to clarify their missions and choose appropriate profiles. As a result the overall higher education system will become more transparent and policy instruments can be better targeted. For example, mobility and granting programmes could be targeted to specific groups of institutions in the light of their comparative disadvantage or contribution to Europe's social or economic needs.
- *A basis for diversified policy approaches*
Policy makers at governmental and other levels will benefit from a deeper insight into institutional diversity. National, but even more so, European policies for higher education cannot be based on 'a one type fits all' approach. Instead, policies need to be attuned to the existing diversity in such a way that they can be made to work most effectively.
- *A methodological and analytical tool for research*
Researchers, analysts and other experts will be facilitated in their policy analysis, international comparative studies, and also institutional benchmarking by more insight into institutional diversity in both a methodological and analytical way.

Several rounds of consultation with stakeholders were integrated into the early stage of this project. The wide range of stakeholders that showed interest (see annex A) contributed to a constructive and fruitful exchange of ideas and views.

The most important conclusion from these exchanges was that the need for the proposed typology is shared and confirmed by the majority of stakeholders, although a few expressed (and sustained) their doubts about the actual need for it. Most did indeed endorse the idea that the diversity of Europe's higher education landscape is a richness that requires more transparency at the same time. Some, however, were concerned that the diversity is actually too great to allow for a consistent typology. Several parties expressed the idea that the typology would also enhance the competitiveness of European higher education institutions in the wider international context. It was therefore encouraged that the typology should be linked to that employed in other systems, like the US and elsewhere.

Much discussion was also devoted to the fact that a typology may serve too many purposes in order to allow for sufficient focus, or that it may actually reduce flexibility and/or create new boundaries. A generally agreed upon concern relates to the risk that, although the typology itself would clearly avoid hierarchical classifications, such interpretations by external parties could not be excluded, which might lead to undesired consequences: stratification or ranking of institutions and possibly also to use of it as a basis for political and funding decisions. It was therefore emphasised and agreed on that the ownership of the typology should rest with the institutions, enabling them to express and develop their strategic goals and mission(s).

Another widely shared point was that institutions are themselves often too diverse to classify them as a whole and that a typology might lead to rigidity or exclusion. Consequently, it was agreed that the typology should be multi-dimensional and be seen as an analytical tool enabling the development of institutional profiles.

Summarizing the main outcomes of the discussions, the typology:

- Should be inclusive for all European institutions providing higher education.
- Should be a tool enabling the development of institutional profiles. Therefore it is considered valuable that the typology is a multidimensional, flexible, and descriptive tool, allowing institutions to direct themselves and their strategies.
- Is not prescriptive, exclusive or rigid. Providing information is a crucial but secondary function.
- Ownership should primarily rest with the institutions, including the responsibility of guaranteeing stakeholder involvement.

2.3 *The relationship with quality assurance*

A key dimension in the search for transparency is the link to quality assurance/accreditation and the international recognition of qualifications. Cooperation between national quality assurance and accreditation agencies is not only one of the priorities of the Bologna process but also the basic mechanism of the proposal for a new Recommendation on further quality assurance cooperation proposed by the European Commission (EC, 2004). Both Ministers' Bergen Communiqué and the EU's draft Recommendation call for a European Register of trustworthy quality assurance/accreditation agencies operating in Europe. Transparency about the institutions providing teaching programmes is an important asset. Transparency about quality assurance agencies is even more crucial from the perspective of internationally recognising degrees and qualifications, for the purposes of credential evaluators in both the public and private sectors, and for higher education institutions' admissions officers.

Yet, it should be emphasized right away that the European higher education typology is not an instrument for ranking higher education institutions. The multi-dimensional typology to be developed is in no way a hierarchy of categories or types of institutions. As has been stated before, the typology's objective is to allow higher education institutions to develop their profiles and to increase the transparency of European higher education. Its diversity will become more clearly visible and understandable by doing so.

Nor is the proposed typology an instrument for quality assurance or quality measurement as it does not generate quality-judgements of higher education institutions or their programmes. The information implied in the typology regards the self-generated 'scores' by institutions on the dimensions of their own choice. By offering 'objective' data related to self-selected dimensions, the higher education institutions position themselves in the typology according to their own objectives and ambitions. By doing so, they articulate their specific institutional profiles.

There is one element related to quality assurance that is of crucial importance for the typology. This is the condition that only higher education institutions that are successfully reviewed by a registered quality assurance or accreditation agency, or that are otherwise officially recognised, can be included in the typology. This condition (which is crucial for any typology of higher education institutions) allows us to relate the European higher education typology to the approach to quality assurance that is being developed in the context of the Bologna process.

In the Berlin Communiqué of September 2003, Europe's ministers of education asked ENQA (European Network for Quality Assurance in Higher Education) to explore, in cooperation with EUA (European University Association), EURASHE (European Association of Institutions in Higher Education) and ESIB (National Unions of Students in Europe) 'ways of ensuring an adequate peer review system for quality assurance and/or accreditation agencies or bodies'. As a result of this exercise ENQA and its partners produced the following set of recommendations (ENQA, 2005):

- There will be European standards for institutional and external quality assurance and for external quality assurance agencies.
- European quality assurance agencies will be subject to a cyclical review within five years.
- There will be an emphasis on subsidiarity, with reviews being undertaken nationally where possible.
- A European register of quality assurance agencies will be produced.
- A European Register Committee will act as a gatekeeper for the inclusion of agencies in the register.
- A European Consultative Forum for Quality Assurance in Higher Education will be established.

During their recent Conference in Bergen, Norway in May 2005, European ministers welcomed and adopted these recommendations. In their *communiqué* they asked ENQA and its partners to further develop the practicalities of the implementation of a European register of quality assurance agencies.

For the European higher education typology this register is of special importance. It will allow the identification of professional and credible accreditation/quality assurance agencies on a European scale. Such identification is relevant in the context of the recognition of non-national degrees as well as of quality assurance of agencies operating across national borders. The register would offer higher education institutions in Europe information on credible quality assurance/accreditation agencies and allow them to select the agencies that fit their roles and ambitions and to seek their judgements.

The European higher education typology will be based on the principle that all European higher education institutions be included that are able to prove that they have subjected themselves successfully to an external review by one or more of the agencies in the register of quality assurance agencies. Whether these agencies are national or international or whether they are formally accrediting organisations or not, is not relevant for this principle. By relating the European higher education typology to the register of quality assurance agencies a European transparency-instrument can be developed. This will allow the various stakeholders to acquire a better understanding of the rich diversity of European higher education and to base their decisions and actions on such an understanding. Moreover, it will create the trustworthy base upon which the European higher education institutions can develop their own profiles and strategies.

3. Classifying higher education institutions: practice and methodology

3.1 *Classifications and typologies*

Classifying is an activity inextricably related to the human desire for creating order out of chaos. The general objective of this pursuit is to increase transparency in complex systems, to grasp the diversity within such systems and – consequently – to improve our understanding of phenomena and systems and to support effective communication. Classifications have proven their usefulness in all areas of human life, even in those where the uniqueness of each individual or element of the system is recognised. Perhaps the classification of animals and plants is most appealing to our imagination. The path-breaking work of Linnaeus formed the basis for a better understanding of the differences and similarities between species of animals and plants. Whereas Linnaeus' work lacked a precise theoretical understanding of the evolutionary mechanisms underpinning the differences and communalities, Mendel's work on heredity added much to a better insight in evolutionary processes. Present-day technologies (focusing on the precise analysis of genetic materials) allow us to fully understand the mapping of animal (including human) and plant kingdoms.

In the field of higher education, researchers as well as other stakeholders are attempting to understand higher education systems by developing typologies of institutions. In Annex B, we include reviews of a number of (European) countries to analyse and illustrate the institutional landscape and dynamics. We conclude from these case studies that it is important to clearly distinguish between typologies that are defined at system level and those defined on the basis of institutions' behaviour'. The first category of typologies is usually government driven and hence often consists of distinctions defined by law. The best known example is the binary system that exists in many European countries. The second category of typologies includes approaches that analytically categorise institutions on the basis of similarities and differences. The most well known example is that of the Carnegie Classification in the US. It is this kind of typology that we are exploring in this study.

Below we present the case of the Carnegie Classification and briefly discuss the developments in the UK. On the basis of these reviews, we derive a number of methodological rules which we will apply to the typology that we develop in the framework of this project.

3.2 *The Carnegie Classification in the United States*

The initial objective

The Carnegie Classification has set the stage in the US for a continuing debate on the pros and cons of higher education typologies. The initial objective of the Carnegie Commission, in the beginning of the 1970s, was to develop a tool to help (educational) researchers to improve the precision of research on higher education. Given the large differences between US higher education institutions, it often proved useful to analyse phenomena in fairly homogeneous populations of organisations. That is, analysing employee satisfaction in a sample of US higher education institutions may not yield meaningful results, but analysing employee satisfaction for research universities and for two-year colleges separately (and possibly comparing similarities and differences) may be very fruitful. In other words, the classification was developed as a sampling device.

The 1976 edition (Carnegie Commission, 1976) – the second – distinguished five main categories of institutions: doctoral-granting institutions (subdivided in: research universities I, research universities II, doctoral-granting universities I, and doctoral-granting universities II), comprehensive universities and colleges (subdivided in: comprehensive universities and colleges I and comprehensive universities and colleges II), liberal arts colleges (subdivided in: liberal arts colleges I and liberal arts colleges II), two-year colleges and institutes, and professional schools and other specialized institutions. The qualifications ‘I’ and ‘II’ were merely indicators of size: size of federal financial support, number of PhDs granted and student enrolment.

Dynamics and drift

Over time the Classification underwent several changes, partly technical, partly conceptual. The 1994 Classification – the fourth edition - for instance, distinguishes: research universities I, research universities II, doctoral universities I, doctoral universities II, master’s (comprehensive) colleges and universities I, master’s (comprehensive) colleges and universities II, baccalaureate (liberal arts) colleges I, baccalaureate colleges II, associate of arts colleges, and specialized institutions. There are differences in the classifications through time, but the backbone is similar: institutions are classified on the basis of their research and teaching objectives, the degrees offered, their size and their comprehensiveness. This backbone clearly refers to the institutions’ missions.

Not only the changes in the labels of the typology are noteworthy, but so are the internal dynamics in the US higher education system. Boyer (1994) mentions that in the 1994 classification the total number of institutions grew by about 200. About 400 new institutions – compared to the situation in 1987 – are listed and 200 institutions either merged, closed or were no longer eligible for inclusion.

Next to births and deaths, it is interesting to look at institutions changing positions in the classification. In 1994, some 500 institutions were reclassified (Evangelauf, 1994). Noteworthy is the large percent increase (+25%) in the research University I category, which raises the issue whether the typology provokes academic drift. Aldersley (1995) analysed the positions of higher education institutions in the Classification of 1976, 1987 and 1994 and concluded that traditional indicators of prestige are still important drivers of institutional direction and decision-making. Although he did not actually look at institutional strategies as such, it is clear from the comparison over time that institutions look “upward” in the typology and actually climb the (perceived) hierarchical ladder.

With this analysis we enter the debate as to whether typologies (hierarchical or not) evoke drift between the categories. In this respect it is fair to say that the *use* of the Carnegie Classification (e.g. by *US News* to develop rankings) may have a more profound impact on institutional behaviour than the Carnegie Classification itself (Lombardi, 2000, see also Shedd and Wellman, 2001). Additionally, this analysis also evokes the general theoretical debate of whether higher education systems exhibit – more or less by nature – isomorphic tendencies. Some analysts have argued that higher education is a field particularly vulnerable to homogenisation, whereas others maintain that – even if this were the case – particular governmental policies and specific instruments may certainly counterbalance homogenisation trends (Van Vught, 1996; Huisman, 1998 for an overview of perspectives). What is clear from the research literature is that the phenomenon of academic drift is not only visible in ‘classified’ higher education systems, but present in other systems as well. Developing and

applying typologies as such does not provoke academic drift. The challenge is to find and approach to classification that might reduce this kind of institutional behaviour.

Validity and variety

A number of researchers have raised the question whether the Carnegie typology does justice to the variety in US higher education. Baldrige et al. (1977), focusing on the dimensions of environmental relations, institutional size and complexity and professional tasks, argue that the 1973 Classification could be simplified or collapsed into eight new categories. Smart (1978), being interested in faculty incentive systems at US higher education institutions, maintains that the Carnegie Classification – until that moment – had never been validated. He concluded that the number of categories could be reduced to five clusters without losing explanatory power.

A more recent attempt at a classification is based on student market segments (Zemsky et al., 1997). Although it is not an implicit evaluation of the Carnegie Classification, this contribution nicely illustrates that a different perspective (i.e. the perspective of college attendance, relevant to prospective students and their parents) may lead to rather different typologies. Important measures to identify relative market positions include: student admissions and yield rates, percentage of freshmen who graduate with a BA or BS in five years, percentage of part-time undergraduate enrolment and ratio of number of BA/BS degrees awarded to total undergraduate enrolment. An analysis of around 1,200 institutions' data on these measures yields a continuum of (seven) market segments ranging from "name brand" institutions to 'user-friendly' institutions. Zemsky (2004) questions whether a classification – such as Carnegie – still works in a system that is more and more driven by market forces. Market forces will challenge individual higher education institutions to present themselves in the way they would like to, without having the 'restrictions' of an overarching classification scheme putting them – from the market perspective – in a kind of straitjacket. At the same time the author is aware of the homogenizing influences of the market, leading to the generic use of the term 'university', less concern with consistency and less willingness to turn to governmental authority (Zemsky, 2004, p. 117).

Towards the new (2005) Carnegie classification

The Carnegie classification was once again altered in 2000. Again, quite a number of institutions (about 640) changed position, 500 institutions were new to the classification and almost 200 disappeared (Basinger, 2000). A main difference with the 1994 edition was that the four doctoral institutions categories were collapsed into two categories.

At present a renewed Classification is being discussed (the 2000 edition is considered transitional), leading to a new typology in 2005. A major challenge is to reap the benefits of the previous classifications and to reduce some of the downsides. Particularly the new classification will attempt to forestall its use as a ranking mechanism. The 2000 version already did so by putting less stress on research and more weight on education and service. It also eliminated the roman numerals to avoid connotations with rankings.

Another challenge is to have a flexible system of categorisation. One of the new features of the 2005 edition will be that institutions can/will appear in several categories (Carnegie Foundation for the Advancement of Teaching CFAT, 2005). In terms of flexibility it is noteworthy that the Carnegie Foundation is willing to consider reclassification in 'border' cases. It intends to ask for the institution's assistance if the institution just misses a certain benchmark (49% of graduates in the liberal arts field formally does not make an institution a baccalaureate college – liberal arts; the criterion is 50%). If the institution can convince the Foundation that it 'belongs' to that category, it will be reclassified.

3.3 *Classifications in the United Kingdom*

The UK system of higher education may serve as another case of a system with strong dynamics in terms of institutional diversity (see e.g. Warner & Palfreyman, 2001). Hallmarks in the development of this system are the emergence of the polytechnics and – about 25 years later – the abolishment of the binary system. Whereas one may be inclined to say that the UK system consists/consisted of two types of higher education institutions, there is such a variety within the two sectors that it warrants further qualification. Scott (2001) argues that there are in fact seven types of higher education institutions in England (excluding Scotland and Wales): 1) Oxford and Cambridge, 2) University of London, 3) the old civics established in the Victorian period, 4) the 'redbricks' founded in the late 19th and early 20th century, 5) the new universities built on greenfield sites during the 1960s, 6) the technological universities and former colleges of advanced technology and 7) the new universities (former polytechnics).

As Scott admits himself, the typology is rather heuristic and particularly based on history, the typology – and other conventional classifications of UK higher education – resembles to some extent quantitative classification approaches like those done by Dolton and Makepeace (1982) or King (1970). Tight (1988), however, observes that the civic and modern institutions are not recognisable in the quantitative analyses. He supplements the existing analyses, using more recent data – particularly student numbers and to some extent research grant data – on the higher education institutions. On the basis of this analysis, six categories of universities emerge: 1) London, 2) Oxford and Cambridge, 3) civic institutions, 4) technological institutions, 5) campus universities and 6) unclassified institutions. For the (then) polytechnic sector five subcategories emerge and for the college sector also five subcategories can be distinguished. Putting all institutions together, Tight concludes that the distinction between the "three basic institutional types may be by no means as distinct as is often assumed ... there are [institutions] which lie close to the borderlines between these three types, and which might well, at a different time or under an alternative system, be categorised in a different way" (1988, p. 51).

The post-binary dynamics (see e.g. Shattock, 2003) confirm on the one hand the stability of certain higher education institutions in terms of their position in typologies and rankings (the classical research-oriented university versus the small teaching-oriented regional former polytechnic) and on the other hand the possibility to change positions for some of the higher education institutions, Warwick being a prime example of an 'upward' move.

3.4 Methodological considerations

The examples of typologies in the US and the UK coupled with the case studies of several national systems included in Annex B bring to the fore the importance of defining a set of methodological principles when designing a typology of higher education institutions. We identify five issues that need to be clearly defined before a typology can be designed. These are:

- *What kind of typology?*
It is important to make a distinction between *a priori* typologies and *a posteriori* typologies. There is a conceptual difference between the arrangements of governments to demarcate types of higher education institutions (e.g. polytechnics, *hogescholen*, *Fachhochschulen*, *Ammattikorkeakoulo*) and efforts of analysts to categorise different types of institutions on the basis of similarities and differences. In the framework of this project, higher education institutions will be classified on the basis of objective data about the actual ‘behaviour’ of institutions. This implies that our classification is of *a posteriori* type.
- *What type of characteristics are used to categorise?*
It must be clear which characteristics are taken into account to categorise institutions. As we employ a multi-actor perspective, different characteristics will be relevant to different categories of users. Hence, we pursue a ‘multiple’ classification approach, which allows institutions to be categorised on various dimensions.
- *Hierarchical or not?*
Typologies can be constructed hierarchically or not. The concept ‘hierarchy’ has two meanings here. It either can be interpreted in terms of the structure of the classification (tree-like, with general types at the top and branches indicating subtypes; cf. the five kingdoms in nature) or in terms of the outcomes (whether the emergent classification imply a rank order of institutions). In the typology we are developing there is no hierarchy between dimensions nor between the categories within a dimension. It must be noted however that any attempt to classify elements cannot prevent hierarchy-related interpretations.
- *How to ensure the reliability of the data?*
It is important to decide which types of data are relevant for a classification. Classifications can be based on subjective judgements (of peers, students, etc.) or on more objective information. It is important to clearly define the criteria upon which institutions are classified clearly and be keen on the data’s reliability.³
- *Which institutions are eligible to be incorporated?*
Only higher education institutions that are successfully reviewed by a registered quality assurance or accreditation agency or that are otherwise officially recognised can be included in the typology (see also chapter 2, paragraph 3). Every eligible institution may be assigned to a category within a dimension and each institution can only occupy a single category within each dimension.

³ See the technical notes of the Carnegie classification

4. The components of a typology

The heart of the higher education institution typology will be the various characteristics upon which differences and similarities of institutions are mapped. Each characteristic highlights a different aspect of the profile of the institutions included. In this way, the typology will in fact be composed of a number of parallel 'schemes', each based on a different characteristic. This multi-scheme typology acknowledges that institutions can be grouped and compared in a variety of ways.

The typology of higher education institutions must be based on the principle that the diversity of higher education institutions be reflected in relevant characteristics, while at the same time respecting parsimony. The relevance of characteristics is in the eye of the beholder, it depends on the subjective interests of higher education institutions and stakeholders. Hence, our approach to selecting the schemes is heuristic. Through an iterative process long-lists of dimensions were discussed with experts, stakeholders and higher education researchers. At this stage, we have generated a number of schemes that provide, on the one hand, ample opportunities for institutions to profile themselves in very diverse ways and, on the other hand, provide different stakeholders relevant information on higher education institutions in Europe.

Below we present four groups of schemes: 1) on education, 2) on research and innovation, 3) on student and staff profiles and 4) on institutions. Each scheme is presented by:

- a description of the characteristics of higher education institutions that stand central in the scheme,
- a description of the indicator(s) that can be used to differentiate between institutions within the scheme,
- a description of the different categories used within a scheme based on the indicators suggested.

4.1 Schemes on education

Types of degrees offered.

This scheme provides information on the degrees offered at institutions.

- Indicators: a) highest level of degree offered and b) number of qualifications granted in each type of degree.
- Categories: In Europe, following the agreements reached in the framework of the Bologna process, the main categories will be higher education certificate granting institutions, bachelor granting institutions, master granting institutions and doctorate granting institutions.

Range of subjects offered.

In this scheme institutions are listed on the basis of the range of subjects offered.

- Indicator: number of subject areas covered by an institution using the UNESCO ISCED subject areas overview.
- Categories: comprehensive, medium comprehensive and specialised institutions.

Orientation of degrees.

This scheme reflects the academic or professional orientation of institutions.

- Indicator: although this scheme is perceived relevant by many higher education institutions and stakeholders the definitions are subject to fierce debate. At this point, we suggest that institutions themselves indicate to what extent their institutional profile corresponds to the categories presented below.
- Categories: academic orientation, professional orientation, mixed orientation, not relevant.

European educational profile.

This scheme reflects an institution's engagement in European higher education programmes.

- Indicator: the most objective indicator of participation in European higher education programmes (e.g. Socrates, Erasmus, Tempus, Leonardo and Erasmus Mundus) seems to be an institution's financial turn-over in these programmes related to the total turn-over.
- Categories: the categories will be defined by proportional ranges of the turn-over rates indicated above.

4.2 *Schemes on research and innovation*

Research intensiveness.

This scheme reveals an institution's commitment to scientific research.

- Indicator: number of peer reviewed publications relative to the total staff number.
- Categories: the categories will be defined by proportional ranges of peer reviewed publications related to staff numbers.

Innovation intensiveness research.

The extent to which an institution is engaged in the socio-economic exploitation of its research.

- Indicators: several possible criteria are relevant in this scheme, among which are a) the number of start-up firms, b) the number of patents, c) the volume of research contracts with business and industry.
- Categories: the categories will be defined by relating one of the indicators in this scheme to total staff volume.

European research profile.

This scheme reflects an institution's engagement in European research programmes.

- Indicator: an institution's financial turn-over in European research programmes (Framework Programmes and European Research Council) related to the total turn-over.
- Categories: the categories will be defined by proportional ranges of the turn-over rates indicated above.

4.3 *Schemes on student and staff profile*

International orientation.

This scheme provides information on an institution's commitment attracting international students and employing international staff.

- Indicators: a) proportion of international students related to the total number of students in each type of degree, b) proportion of European students related to the total number of students in each type of degree, c) proportion of international staff members related to total number of staff members.
- Categories: the categories will be demarcated by percentage ranges (e.g. < 1%, 1–5%, 5-10%, 10-50%, 50-100%).

Involvement in life long learning.

This scheme reflects institutions' commitments to the learning of all age groups.

- Indicator: the proportion of adult learners (e.g. older than thirty years) per type of degree related to total student body.
- Categories: the categories will be demarcated by proportional ranges of the indicator mentioned above.

4.4 *Institutional schemes*

Size.

This scheme categorises institutions according to their overall size in terms of student enrolment and staff numbers.

- Indicators: a) number of students enrolled at the institution, b) number of staff members employed by the institution.
- Categories will be defined by size-ranges (e.g. <1.000, 1.000 – 5.000, 5.000 – 10.000, 10.000 – 20.000, >20.000).

Mode of delivery.

This scheme lists institutions on the basis of the mode of delivery of educational programmes.

- Indicators: a) campus-based versus distance learning, b) domestic versus abroad mode of delivering educational programmes.
- Categories: the categories in this scheme will follow the binary character of the indicators, while adding a 'mixed' category to allow for institutions that offer combinations of the modes of delivery mentioned.

Community services.

This scheme reflects an institution's commitment to not-for-profit activities in the community or society.

- Indicator: The most viable criterion to categorise institutions in this scheme seems to be the percentage of staff time attributed to community services.
- Categories will be defined by percentage ranges of the indicator mentioned above.

Public/private character.

This scheme groups institutions on the basis of their public/private funding base.

- Indicator: the proportion an institution's of private funding related to its total funding base.
- Categories will be demarcated by percentage ranges of the indicator described above.

Legal status.

This scheme reflects the legal status of a higher education institution.

- Indicator: the legal status of a higher education institution can either be public or private.
- Categories: the two categories within this scheme are public or private institutions.

5. Implementing the typology

In this study, we have explored the reasons for and possibilities of designing a typology of higher education institutions in Europe. We believe that the viability of this typology will strongly depend on the involvement of higher education institutions and stakeholders in its further development. Higher education institutions should see the advantages of the typology for the design and development of their strategic profiles. Stakeholders should value the increased transparency provided by the typology. Next steps in the development of the typology therefore include testing and further operationalisation, as well as a careful planning of the implementation of the typology, all in close collaboration with higher education institutions and stakeholders.

Below we explore several issues that are of crucial importance for the further development of the typology.

5.1 *The next step: a pilot phase*

In designing the typology, the crucial role of higher education institutions and stakeholders has been repeatedly stressed in this report. It is the perspective of these actors that is the driving force behind the initiative to develop a typology. In discussing methodological principles, this ‘multi-actor perspective’ has led us to a *multiple classification approach*, which includes the introduction of various dimensions upon which higher education institutions can be classified.

For the further development of the typology the European higher education institutions are the most important carriers. It should be the representative bodies of these institutions that accept the responsibility for the next step in this process. This step must include a piloting phase to test and further operationalise the typology.

We suggest that a representative organisation such as the EUA be asked to coordinate such a pilot project. This organisation could set up a project steering group in which the representative organisations of other stakeholders are involved, including students, industry, professional and academic recognition bodies as well as quality assurance and accreditation agencies. The pilot project itself should be undertaken by a project team of experts with a solid background in European higher education and in data-analysis.

The project team should explore the applicability of the schemes suggested (both conceptually and technically) at both the European and institutional level. Studying the availability and relevance of reliable data sets will be an important activity in the pilot project. In order to carry out this pilot project, close cooperation with a number of individual higher education institutions will be necessary. Also, the cooperation with statistical agencies and information providers such as EURYDICE will be crucial.

5.2 *Organisation*

If the design of a higher education institution typology proves viable, it will be important to carefully organise the ownership and coordination of the typology. At this stage, we suggest that an organisation be founded or designated that is responsible for its implementation in Europe. This organisation must have the confidence of its ‘founding fathers’ (i.e. the representative bodies of European higher education institutions).

This organisation will be responsible for:

- data collection, data validation and data processing,
- assigning institutions into the categories of the typology schemes,
- publication of the typology,
- periodic evaluations of the typology, possibly leading to revisions of the methodologies and procedures.

The organisation must operate in a trustworthy manner by being transparent in its structure and procedures.

In the pilot project the implementation and organisation of the typology could be further explored. More specifically, the potential interest of (existing or new) European foundations (comparable to the US Carnegie Foundation) in taking responsibility for the implementation of the typology could be assessed.

5.3 *Financial perspective*

It is imperative that the implementation mechanism, including the implementing organisation, be financially independent. Possible financial sources will have to be identified, but may include both the public and private sectors. At any time, independence and integrity of the organisation will have to stand the test.

The proposed pilot project would need external funding. Given the various issues to be addressed in the pilot phase, it has to be expected that the pilot will at least take two years and will involve a substantial research effort.

6. References

- Aldersley, S.F. (1995), "Upward drift" is alive and well. Research/doctoral model still attractive to institutions, *Change*, September/October, p. 51-56.
- Basinger, J. (2000), A new way of classifying colleges elates some and perturbs others, *The Chronicle of Higher Education*, 11 August (website archive visited October 2004).
- Boyer, E.L. (1994), Foreword. In: Carnegie Foundation for the Advancement of Teaching (ed.), *A classification of institutions of higher education*. Princeton: CFAT, p. vii-xvii.
- Carnegie Commission on Higher Education (1973), *A classification of institutions of higher education*. Berkeley: Carnegie Commission on Higher Education.
- Carnegie Foundation for the Advancement of Teaching (1994), *A classification of institutions of higher education*. Princeton: CFAT.
- Carnegie Foundation for the Advancement of Teaching (2005), <http://www.carnegiefoundation.org/classification/future.htm> (visited January 2005).
- Csepes, O., F. Kaiser & Z. Varga (2003), Hungary, in: J. File and L. Goedegebuure (eds.), *Real-time systems. Reflections on higher education in the Czech Republic, Hungary, Poland and Slovenia*. Brno/Enschede: Vutium/CHEPS, pp. 59-76.
- Department for Education and Skills (UK) (2004), *The Future of Higher Education*. <http://www.dfes.gov.uk/hegateway/uploads/White%20Pape.pdf>
- Department of Education, Science and Training (Australia) (2004), *Higher Education Review Process. Varieties of Excellence: Diversity, Specialisation and Regional Engagement*. http://www.backingaustraliasfuture.gov.au/publications/varieties_of_excellence/default
- Dima, A.M. (2004), *Portugal. Higher Education Monitor County Report*. Enschede: CHEPS.
- Dolton, P. & G. Makepeace (1982), University typology: a contemporary analysis, *Higher Education Review* 14(3), 33-47.
- Douglas, J.A. (2004), The Dynamics of Massification and Differentiation: A Comparative Look at Higher Education Systems in the United Kingdom and California. In: *Higher Education Management and Policy*. Vol 16, No 3, pp. 9-35.
- European Association for Quality Assurance in Higher Education (ENQA) (2005), *Standards and Guidelines for Quality Assurance in the European Higher Education Area*, Helsinki.
- European Commission (2002), *Education and training in Europe: diverse systems, shared goals for 2010*. http://europa.eu.int/comm/dgs/education_culture/publ/pdf/educ_training/en.pdf
- European Commission (2003), *The role of universities in the Europe of knowledge*. COM(2003) 58 final. Brussels. http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003_0058en01.pdf
- European Commission (2004), *Draft Recommendation on Quality Assurance in Higher Education*, COM 642, Brussels
- European Commission (2005), Communication from the Commission. *Mobilising the brainpower of Europe: Enabling universities to make their full contribution to the Lisbon Strategy*, Brussels
- European Commission (2005b), *Council conclusions on Education and Training in the Framework of the Mid Term Review of the Lisbon Strategy*. http://www.europa.eu.int/comm/education/policies/2010/doc/lisbon05_en.pdf
- European Commission (2005c), Communication to the Spring European Council. *Working Together for growth and jobs. A new start for the Lisbon Strategy*. http://europa.eu.int/growthandjobs/pdf/COM2005_024_en.pdf
- Eurydice (2004), *Focus on the Structure of Higher Education in Europe 2003/4. National Trends in the Bologna Process*. Brussels: European Commission.

- Evangelou, Jean (1994), A new "Carnegie Classification", *The Chronicle of Higher Education*, 6 April, pp. A17-A25.
- Heffen, O. Van (2001), Flanders, in: J. Huisman and F. Kaiser (eds.), *Fixed and fuzzy boundaries in higher education. A comparative study of (binary) systems in nine countries*. Den Haag: Adviesraad voor Wetenschaps- en Technologiebeleid, pp. 75-84.
- Huisman, J. (1998), Differentiation and diversity in higher education systems, In: J.C. Smart (ed.), *Higher education: Handbook of theory and research vol. XIII*. New York: Agathon Press, 75-110.
- Huisman, J. (2003), *Germany. Higher Education Monitor County Report*. Enschede: CHEPS.
- Kaiser, F., H. Vossensteyn, E. Beerkens, P. Boezerooij, J. Huisman, A. Lub, P. Maassen, C. Salerno, H. Theisens (2003), *Higher education policy issues and trends. An update on higher education policy issues in 11 Western countries*. CHEPS Higher Education Monitor. Enschede: CHEPS.
- King, J. (1970), The typology of universities, *Higher Education Review* 2(3), 52-61.
- Lombardi, J.V. (2000), How classifications can help colleges, *The Chronicle of Higher Education*, 8 September (website archive visited October 2004).
- Meek, V.L., L. Goedegebuure, O. Kivinen & R. Rinne (eds. 1996), *The mockers and mocked. Comparative perspectives on differentiation, convergence and diversity in higher education*. Oxford: Pergamon.
- Moses, I. (2004), *Unified National System of Uniform National System? The Australian Experience*. Key note, CHE conference 29-30 April 2004, Berlin. See: www.che.de/news.php?id=183
- Orton, Larry (2005), *Developing a classification of postsecondary and adult education institutions in Canada*. Presentation at the Annual AERA Conference, 11-15 April, Montreal, Canada.
- Reichert, S. & C. Tauch (2003). *Trends 2003: Progress towards the European Higher Education Area*. EUA. <http://www.eua.be/eua/en/publications.jsp>
- Reichert, S. & C. Tauch (2005), *Trends IV: European Universities Implementing Bologna, European University Association, Brussels*.
- Scott, P. (2001), Conclusion: triumph and retreat, In: D. Warner & D. Palfreyman (eds.), *The state of UK higher education. Managing change and diversity*. Buckingham: SRHE & Open University press, 186-204.
- Scott, P. (2004), *Hierarchy or Diversity? Dilemmas for 21st-century Higher Education*. Key note, CHE conference 29-30 April 2004, Berlin. See: www.che.de/news.php?id=183
- Shattock, M. (2003), *Managing successful universities*. Ballmoor: SRHE & OU Press.
- Shedd, J. & J. Wellman (2001), *Framing the measures. A technical background paper on institutional classification systems, data sets, and miscellaneous assessments in higher education*. Washington: IHEP.
- Theisens, H. (2003), *United Kingdom. Higher Education Monitor County Report*. Enschede: CHEPS.
- Tight (1988), Institutional typologies, *Higher Education Review* 20(1), 27-51.
- Van Vught, F. (1996), Isomorphism in Higher Education? Towards a Theory of Differentiation and Diversity in Higher Education Systems, In: V.L. Meek, a.o. (eds.), *The Mockers and Mocked: Comparative Perspectives on Differentiation Convergence and Diversity in Higher Education*. Oxford: Pergamon.
- Warner, D. & D. Palfreyman (eds. 2001), *The state of UK higher education. Managing change and diversity*. Buckingham: SRHE & Open University press.
- Zemsky (2004), On classifying universities: policy, function and market, In: L.E. Weber & J.J. Duderstadt (eds.), *Reinventing the research university*. Paris: Economica, 109-117.
- Zemsky, R., S. Shaman & M. Iannozzi (1997), In search of strategic perspective: A tool for mapping the market in postsecondary education, *Change*, November/December, pp. 23-38.

Annex A List of experts from stakeholders

The following experts participated in the Expert meetings held on the 21st March and 6th June 2005 in Brussels:

Name organisation	Name person	Email
BFUG	Marlies Leegwater Germain Dondelinger Rolf Larsen	m.e.leegwater@minocw.nl germain.dondelinger@mcesr.etat.lu rll@ufd.dep.no
CEPES	Jan Sadlak	j.sadlak@cepes.ro
CoE	Vera Stasna	stastna@msmt.cz
CRUI	Giordana Bruno	bruno@cruis.it
DG EAC	Peter Van Der Hijden	Peter.Van-Der-Hijden@cec.eu.int
DG RTD	Graham Blythe	Graham.Blythe@cec.eu.int
EIB	Stephen Wright	s.wright@eib.org
ENQA	Peter Williams	p.williams@qaa.ac.uk
ESIB	Predrag Lazetic	predrag@esib.org
EUA	Andrée Sursock	andree.sursock@eua.be
EUA	Lesley Wilson	lesley.wilson@eua.be
EURASHE	Stefan Delplace	stefan.delplace@eurashe.be
HBO-Raad	Egbert De Vries	Vries@hbo-raad.nl
HRK	Christiane Ebel-Gabriel	sekr@hrk.de
IAU	Eva Egron-Polak	iau@unesco.org
IAU	Isabelle Turmaine	turmaine.iau@unesco.org
Ministerie van de Vlaamse Gemeenschap	Dirk van Damme	dirk.vandamme@vlaanderen.be
OECD	Richard Sweet	Richard.SWEET@oecd.org
SQW	Bill Wicksteed	wwicksteed@sqw.co.uk
University of Klagenfurt	David Campbell	david.campbell@uni-klu.ac.at
University of Strathclyde	Janet Whitley	J.whitley@mis.strath.ac.uk
University of Strathclyde	Saskia Hansen	saskia.hansen@strath.ac.uk

Annex B Case studies

B.1 Germany

Introduction

The German higher education system is a binary system, consisting of universities and *Fachhochschulen* (universities of applied science). At present there are about 350 higher education institutions spread throughout the Federal Republic of Germany. There are different ways to categorise the institutions, but usually the following types are discerned:

- about 180 *Fachhochschulen* (including some 30 *Verwaltungsfachhochschulen* – specialist universities for the study of public administration)
- about 90 *Universitäten*, *Technische Universitäten*, *Universitäten-Gesamthochschulen*, six *Pädagogische Hochschulen* (for teacher training) and eighteen *Theologische Hochschulen* (for theological studies)
- 46 *Kunsthochschulen* (for the arts) and *Musikhochschulen* (for music)

In addition to the types mentioned here, there are special higher education institutions that only admit certain groups (e.g. the higher education institutions of the Federal Armed Forces). Also, *Berufsakademien* (professional academies organised in seven *Länder*) are officially part of the tertiary sector, but will not be discussed in detail here. The large majority of institutions belong to the public sector, but there are also ‘private’ institutions. Private should not be taken literally, for these institutions are subject to the same legal provisions as the state institutions. In this respect, the term ‘state recognised’ (80 institutions) is more appropriate. In addition to the approximately 350 higher education institutions mentioned above, there are ‘real’ private institutions (about 70). About 20,000 students are enrolled at these generally small and single-discipline institutions.

Fachhochschulen

Fachhochschulen were introduced for the first time in 1970 as a new type of institution in the system of higher education in the Federal Republic of Germany. Studies at *Fachhochschulen* are strongly oriented to the requirements and needs of professional occupations. The *Fachhochschulen* cover usually only a limited number of fields of study. In addition to instruction, the tasks of the *Fachhochschulen* include applied research and development. Since 1992, the ‘Applied Research and Development at *Fachhochschulen*’ programme of the Federal Ministry of Education and Research (BMBF) plays an important role. This programme is designed to improve the capability of third-party funding for applied research and development projects. A third task for *Fachhochschulen* concerns a regional role in technology and knowledge transfer.

The institutions vary considerably in terms of size (only three have more than 10,000 students) and number of courses of study, and the individual *Fachhochschulen* have a specific regional character or particular area of specialisation. There are also large differences in institutional landscape across the *Länder* (federal states). Nowadays, some 25% of higher education students are enrolled in *Fachhochschule* programmes. The share of the *Fachhochschulen* gradually increased in the 1990s.

The 31 *Fachhochschulen* for public administration (*Verwaltungsfachhochschulen*) play a special role, training civil servants for careers in the higher levels of the civil service. Various federal and state ministries maintain them. Access is only for those who are employed in the civil service.

Universities

In addition to the traditional universities, the technical universities (*Technische Hochschulen* or *Technische Universitäten*) that specialise in natural and engineering sciences also enjoy university status. Created from 1970 onwards, the comprehensive universities (*Gesamthochschulen*) may be considered a special type of university, although their importance has been relatively restricted. The small number of remaining *Universität-Gesamthochschulen* is nowadays only found in the states of Hessen and North Rhine-Westphalia). They provide academic courses of study, but also courses as provided by *Fachhochschulen* and so-called integrated courses that provide qualifications after three or four years. Also equivalent to universities are establishments that only offer a limited range of courses of study, such as *Theologische Hochschulen* and *Pädagogische Hochschulen*. What all these institutions have in common is the traditional right to award the degree of doctor (*Doktorgrad*). According to the relevant legislation (*Hochschulrahmengesetz*), teaching and study at the universities are to prepare students for a profession in a certain sphere of activity, imparting to them the particular knowledge, skills and methods required in a way appropriate to each course so as to enable them to perform scientific or artistic work and to act responsibly in a free, democratic and social state governed by the rule of law.

B.2 Hungary

Introduction

The undeniable turning point in the Hungarian higher education system, as in other areas of life, was brought about by the change in the political regime in the 1990s. The principles of the autonomous university and of academic freedom were once again acknowledged. New institutions were founded and new faculties extended the old ones. Of particular importance was the establishment of Péter Pázmány Catholic University and Gáspár Károli University of the Reformed Church in 1993. In the 1990s, amalgamation of the disintegrated institutions became a major policy instrument to strengthen Hungarian higher education. Act 52 of 1999, which reflects the result of integration, outlines the new structure of Hungarian higher education and propels academic training into the next millennium.

Binary divide

Hungarian higher education, a binary system, has colleges and universities. The binary divide, however, is not very clear: some colleges are associated with universities as college faculties of those universities. And universities may offer college-level courses. The length of the college-level programmes (corresponding to the Bachelor's level) is at least three years with a Maximum of four years. The university-level programmes (corresponding to master's level) last at least four years with a maximum of five years (with the exception of medical universities where the programmes last six years). Higher education institutions may also organise short-cycle (two-year) post-secondary courses called Accredited Higher Vocational Training (AHVT) courses⁴. The AHVT training has a strong practical orientation. These courses do not lead to a degree, but to a certificate. The AHVT programmes are offered

⁴ The July 1996 Amendment of the Higher Education Law integrated the post-secondary Accredited Higher Vocational Training into the system of higher education.

mainly by colleges and, in many cases, in co-operation with secondary vocational schools. In addition to the Bachelor's and Master's programmes, universities offer PhD courses (taking three years), specialised accredited post-graduate courses (with a normal duration of two years), and various continuing education courses.

According to the Higher Education Law, the definition of a university (and the conditions for an institution to be recognised as a university) is that it:

- is a higher education institution able to organise training courses in more than one field of science (that is, social sciences, natural and technical sciences, life sciences and theology), and inside a field of science in more than one branch of the sciences,
- carries out scientific research activity,
- it has accredited PhD courses,
- is empowered for habilitation process,
- it has university professors with a PhD and habilitation.

A college, according to the law:

- can operate if it is able to organise more than one training course in a branch of science,
- it carries out research and development activity
- and if its professors have a PhD.

Following a binary pattern, Hungarian universities and colleges grant university degrees and college degrees. In order to facilitate international comparison, the Higher Education Law makes it possible for graduates of Hungarian higher education institutions to use the title 'Bachelor' if they have completed a college education, and the title 'Master' if they have completed a university education. The area of study is also indicated.

Doctoral education

Disciplinary-accredited university doctoral schools provide doctoral education in Hungary for university degree (Master's) holders. Applicants must pass entrance examinations. There are three basic forms of doctoral training: as a full-time student with a state scholarship (state-financed student); as a full-time student without a state scholarship; and as a part-time student. Doctoral education may only be offered by PhD schools and DLA schools (Doctor of Liberal Arts) schools. Doctoral schools may be organised by disciplines and by multidisciplinary fields at a university.

B.3 United Kingdom

Universities and polytechnics

There are 90 universities and 27 other university institutions in the UK (the larger share, about 75%, in England). Furthermore, there are about 55 colleges of higher education. Universities in the UK were established in four 'waves'. The first universities were Cambridge and Oxford. In the late nineteenth century, the 'redbrick' universities followed, catering for a new market of students and employers that came into being as a consequence of the industrial revolution. The third wave of universities was established in the 1960s, again to cater for a growing demand in society for higher education. The final universities are the former polytechnics that were given university status in 1992. The universities that were established in the first two waves were created by Royal Charter, the universities that were established later are based on Parliamentary statute. Whatever the legal basis, each university is self-governing.

The transition of the polytechnics to universities also meant the end of the binary system and the establishment of unified system of higher education. The changes of 1992 created a single system of higher education, with a unified funding structure and separate funding councils for England, Scotland, and Wales. With only one exception, the University of Buckingham, all universities are publicly funded institutions. The Further and Higher Education Act 1992 allows higher education institutions in England and Wales which satisfy prescribed criteria to apply for permission to include the word 'university' in their titles. All polytechnics were allowed to do so and only one (Anglia Polytechnic University) has chosen to retain the word 'polytechnic' in its title. The title 'polytechnic' will not, in future, be given to new institutions in the higher education sector in future. Although the UK has this unified structure, the university sector (and literature) still refers to a distinction of 'old' and 'new' universities, in other words between traditional universities and former-polytechnics. The 'old' universities were all established as universities before 1992. In general terms, the 'old' universities do not provide professional training, although they do provide a range of professionally accredited degree courses including engineering, accountancy, teacher training, librarianship and information science and medical studies. Most of the 'new' universities were previously polytechnics. Polytechnics were originally set up by charitable endowment to enable working-class men and women to advance their general knowledge and industrial skills on a part-time or full-time basis. Their role changed with the 1966 White Paper, "A Plan for the Polytechnics and Other Colleges" (UK House of Commons, 1966), which described the polytechnics as regional centres of higher education linking industry with business. Since the Education Reform Act 1988, which removed polytechnics and colleges and higher education institutions in England from Local Education Authority control, these have also been autonomous institutions. Permission to use the word 'university' has also been granted to some other higher education institutions.

Open University

In addition to this traditional higher education system, the Open University was set up in 1969 and is now the major provider of part-time degrees in the United Kingdom. It is an autonomous institution, and is able to award degrees like other universities. Unlike other universities, however, it is financed through the Department of Education and Science rather than through the Higher Education Funding Council (HEFC).

Recent developments

Apart from the universities, about 55 colleges of education are generally considered to be part of the higher education system. They offer higher education programmes, often in cooperation with nearby universities. Some former colleges now have university status. Noteworthy are the recent devolvement developments in Wales and Scotland, which may have a considerable impact on the higher education landscape. Finally, the 2003 White Paper (The Future of Higher Education) addresses the issue of degree awarding powers, which would allow teaching-led institutions to become universities.

B.4 Portugal

Portugal has a binary system of higher education that provides both university education and polytechnic education through the infrastructure of public and private higher education institutions. The entire higher education system comprises of 164 higher education institutions.

The current system comprise 14 public universities plus the Catholic University (with a unique status), and a non-integrated public University Institute (institutions awarding university degrees, but not fulfilling the necessary conditions to be universities); 15 public polytechnic institutes and some non-integrated Polytechnic Schools (institutions awarding polytechnic degrees, but not fulfilling the necessary conditions to be polytechnic institutes); and more than three dozen public Higher Education Schools, depending both on the Ministry for Science and Higher Education and another ministry (Military Schools, the Police Academy, the Navy School, the Air Force School and Health Schools). The private sector is represented by nine universities (some of them with various campuses in different geographical areas), some university institutes and almost 100 Polytechnic Schools. Private higher education also includes other establishments, such as schools of art or music.

Looking at the Portuguese system from a public/private perspective, the public higher education sector comprises 56 higher education institutions with five institutional types. In the public higher education segment, there are universities, polytechnic institutes, other polytechnic schools, and military and police schools. The private higher education sector comprises 107 higher education institutions represented by universities, polytechnics and other establishments, such as schools of art and music.

B.5 Flanders

Introduction

The higher education system in Flanders, the Dutch-speaking area of Belgium, comprises six universities and 29 non-university higher education institutions (*hogescholen*). Furthermore, there is a Royal Military Academy and a Protestant Theological Faculty in Brussels. Although higher education in Flanders is divided into university education and non-university education, it is questionable whether the Flemish system is a genuine example of the binary model.

Universities

The universities offer two-cycle education with the possibility of a third, doctorate cycle:

- First cycle (bachelor): a bachelor's degree is obtained after a basic training of two to three years.
- Second cycle (master): a master's degree is awarded after an advanced training of two years, and even longer in some fields.
- Third cycle: a doctor's degree can only be obtained by publicly defending a doctoral thesis (at least two years after obtaining a master's degree).

Colleges

Colleges offer one-cycle and two-cycle education. Courses of one cycle (3 years) have a strictly vocational nature, whereas two-cycle courses are based on scientific knowledge and prepare students for executive tasks of a highly scientific and technical character.

- First cycle (bachelor): a degree is obtained after a basic training of two years.
- Second cycle (master): a degree is obtained after an advanced training of two to three years.

In 1994, legislation was passed stipulating that two-cycle non-university education is on an academic level. Furthermore, it stated that the non-university course in commercial science (*handelswetenschappen*) has the same status as the university course in applied economics (*toegepaste economie*). So, in a way, it could be argued that the structure of the Flemish system of higher education is tripartite.

Bologna and after (Kaiser et al., 2003)

In the context of the Bologna discussions, the government intends to stimulate further cooperation between institutions of higher education. Therefore, universities and *hogescholen* have drawn up agreements in order to create ‘associations’, linking the *hogescholen* to universities. The aim of this is that only *hogescholen* will offer professionally oriented programmes, while both universities and *hogescholen* can award academic degrees. However, the latter ones can only award these degrees through an association with a university.

B.6 Russian Federation

Introduction

From the middle of the 1980s, the Russian political and economic system has been undergoing a transformation process towards democracy, social freedom and market economy. These radical changes have had a great influence on the organizational forms of the higher education institutions and on the form and content of education itself.

In the times of the painful transformation processes (mainly in the first half of 1990s), Russia experienced ‘a brain drain’ which mainly related to researchers and, to a lesser degree, to university teachers. The main direction of ‘brain drain’ was to the USA, with just relatively small numbers of Russian researchers and university teachers moving to Western and Eastern European countries.

At the same time, the first half of the 1990s was a period of intensive educational reform. In 1992, the new education law was adopted, and in 1996 a special law on higher education was developed and passed by the Russian State Duma. These laws greatly increased university autonomy in Russia. The laws allowed much more freedom than before in the form and content of educational and research programmes. They allowed universities to restructure the internal university organization (to create and close departments, to run project activities and so on). These laws also allowed universities to engage in entrepreneurial activities as well. It also allowed the creation of non-state educational institutions. At the same time, Russian government still keeps control of educational uniformity in the Russian educational area (by introducing state educational standards) and provides quality assurance (state accreditation system).

The most serious problem of the Russian educational system since the 1990s has been the drastic shrinking of state funding. However, the existing level of university autonomy gave a educational institutions the opportunity to find new, additional sources of financing (attracting additional fee-paying students, competing for scientific and educational grants from Russian and foreign foundations, conducting research and educational projects for industry). Because of this, many universities not only survived, but actually increased their activities and improved their position. During recent years, state funding has been increased. At the moment, the state funding accounts for between 30 and 50 percent of most universities’ budgets.

Higher education

At the beginning of 2005, there were 972 eligible institutions of higher education (i.e. accredited by the state). Of these, 620 are state institutions and 352 are non-state institutions. There are hundreds of university branches too. The state HEIs provide a full range of educational programmes in all fields of natural sciences, medicine, mathematics, information technologies, socio-economic disciplines, and the humanities. The non-state HIEs provide education in economics, finance, law, and the humanities.

During the last 15 years, the state structures which are responsible for higher education in Russia have been reformed several times. Now there are the three levels of federal control of the higher education system. The corresponding federal state bodies are: the Ministry of Education and Science (general educational and science policy), the Federal Inspection Service for Education and Science (quality control), and the Federal Education Agency (finance and assets control of state educational institutions). The regional and local authorities do not play a role in the control of the state institutions of higher education.

The HEIs are subject to supervision by the academic council, made up of university professors. The rector of a higher education institution is directly responsible for its management. The rector is elected by the conference of the university staff. After election, the rector must be approved by the Federal Agency. At private institutions, the internal management is organized in the same way, except that the rector is appointed by the founders.

Russia's State Higher Educational Institutions can be categorized as follows: classical universities, technical and technological universities, academies and institutes. An approximate list of different types of HEIs is given below:

- Universities of Scientific, Humanitarian, Economic and Medical Profile
- Universities of Technical and Agrarian Profile
- Higher Educational Institutions of Law and International Relations
- Pedagogical Institutes
- Higher Educational Institutions of Public Health
- Higher Educational Institutions of Physical Culture
- Higher Educational Institutions of Arts and Culture
- Higher Educational Institutions of Economics
- Polytechnic Higher Educational Institutions
- Geological, Mining, Oil and Metallurgical Higher Educational Institutions
- Higher Educational Institutions of Energetics, Electrical Engineering, Radio Engineering and Communications
- Higher Educational Institutions of Machine Building and Instrument Making
- Higher Educational Institutions of Chemical Technology
- Higher Educational Institutions of Forestry Engineering
- Higher Educational Institutions of Food Technology
- Higher Educational Institutions of Textile, Light and Service Industries
- Higher Educational Institutions of Architecture and Civil Engineering
- Higher Educational Institutions of Geodesy, Cartography and Hydrometeorology
- Higher Educational Institutions of Transport
- Higher Educational Institutions of Agriculture

Admission to higher education is on a competitive basis. There are now two parallel systems of admission which can be adopted by a HEI on voluntary basis. The first one is the old system, where candidates have to pass university entrance exams. The new one is based on the unified state exam for school graduates.

The number of places funded by the state is limited (although this number has been increased in recent years). As a result, there is a fierce competition for such places. Universities are allowed to introduce additional places, in which case the student has to cover the full cost of education.

The 1992 education law introduced the two-level educational system comprising a four-year bachelor's degree and a two-year master's degree (*bakalavr-magistr*), which now is implemented in many Russian universities. At the same time, the old system still exists and many universities implement 5-year programmes of 'diploma specialist'. The final specialist diploma qualifies graduates for a profession. A *magistr* programme can also be followed after completion of a specialist programme. *Magistr* programmes are largely research-oriented.

It should be noted that all types of diplomas in Russia are accompanied by an academic record or transcript stating the subjects studied and an indication of the number hours of study and the grades awarded.

Many universities provide doctoral programmes (3-4 years). There are two types of doctorate in the Russian system: the *Kandidat Nauk*, which literally translates as 'candidate of sciences', and *Doktor Nauk*, which translates as 'doctor of sciences'. Admission to the second of these is highly limited and selection is stringent. In terms of international equivalence, the *Kandidat Nauk* is closest to the PhD degree.

Russian is the language of education in Russia.

Quality assurance and accreditation

The accreditation of state and private institutions is the responsibility of the Russian Federal Inspection Service for Education and Science.

In Russia, there is an official ranking of higher education institutions. Universities are ranked by category and the list is published by the Ministry of Education and Science annually in the official journal.

Annex C List of abbreviations

BA	Bachelor in Arts
BFUG	Bologna Follow up Group
BS	Bachelor in Science
CEPES	European Centre for Higher Education
CFAT	Carnegie Foundation for the Advancement of Teaching
CoE	Council of Europe
CRUI	Conferenza dei Rettori delle Università Italiane
DG EAC	Directorate-General for Education and Culture
DG RTD	Directorate-General for Research
EC	European Commission
EIB	European Investment Bank
ENQA	European Network for Quality Assurance in Higher Education
ESIB	National Unions of Students in Europe
EU	European Union
EUA	European University Association
EURASHE	European Association of Institutions in Higher Education
HRK	Hochschulrektorenkonferenz
IAU	International Association of Universities
ISCED	International Standard Classification of Education
OECD	Organisation for Economic Co-operation and Development
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
US	United States of America