

Employer and higher education perspectives on graduates in the knowledge society

A report from the European Commission Framework VI project: 'The Flexible Professional in the Knowledge Society'

Lore Arthur, John Brennan, & Egbert de Weert

July 2007

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CONTENTS

- 1. Aims and background**
- 2. Conceptual framework**
- 3. Fieldwork**
- 4. Higher education contexts following the Bologna Declaration**
- 5. The Findings**
 - 5.1 : Match between supply and demand for graduates**
 - 5.2 : Competences graduates need in the place of work**
 - 5.3 : Diversity in terms of qualifications**
 - 5.4 : Higher education responses**
- 6. Conclusions**

References

Appendix 1: The Questionnaire

Appendix 2: List of Participants

1. Aims and background

The research on which this report is based was part of a larger international project on ‘The Flexible Professional in the Knowledge Society’ (the ‘REFLEX’ project) funded by the European Commission Framework VI Programme. There were three elements to this project: a survey of higher education graduates five years after they had completed their first degree courses; a series of country reports providing contextual information on national higher education systems and labour markets; a qualitative study of the perspectives of employers of graduates and university leaders. This report sets out the findings of this third element of the REFLEX project.

The aim of the qualitative element of the project was to investigate the expectations and experiences of employers and university leaders regarding the kinds of knowledge, skills and competences that are required of graduates in the ‘knowledge society’, the extent to which these requirements are being met and the kinds of changes that are needed in order to achieve a better match between the requirements of employment and the outputs of higher education. The focus was on the kind of changes that are felt necessary in higher education institutions and in employment organisations in order to achieve a better match between higher education’s output and the demands of working life.

Key questions were:

- What competences do employers expect of their graduate workers?
- What role is ascribed to higher education providers in producing them?
- How do higher education institutions see their responsibility for the employability of their graduates?
- What initiatives do they take to discharge these responsibilities?

The study involved five countries: Norway, the UK, Germany, The Netherlands and France. Most field work was undertaken in the period April –July, 2005.

2. Conceptual framework

The study consisted of two elements: (i) interviews with experts who had a broad overview of higher education and the expectations and needs of employers, (ii) interviews or focus groups with representatives of employers and higher education with expertise on graduate employment in particular European countries. These interviews focused on four main sets of issues:

The first set of issues concerned *the match between supply and demand for new graduates*, (Brennan, 2004; Teichler, 2004). For example, we asked whether graduates occupied a distinctive set of ‘graduate jobs’; about the importance attached to subject studied and institution attended; about any anticipated changes in the demand for graduates. A second set of issues concerned *the competences graduates needed to possess in the workplace*. We also asked whether there was a need for more graduates who are subject specialists or for more who possess broader cross-disciplinary knowledge and skills; about the balance required in different types of job between subject expertise, functional flexibility, knowledge management and mobilisation of human resources. A third set of issues concerned *the diversity of graduates and of employment*. For example, we asked whether there was a need for greater standardisation and international comparability of qualifications or for a greater variety to reflect the needs of different employment sectors and different levels of job; about the balance of demand for different levels of qualification, i.e. Masters or Bachelor degrees. A final set of issues concerned *the extent of higher education’s responsibility for the employability of its graduates*. Here we asked about the division of labour between higher education and employment in a) initial preparation for work, b) early career, c) lifelong learning; whether curricula should be related more directly to employment needs; whether the academic profession should be more responsive to issues of graduate employment.

2.1 Employability

The term employability with its various interpretations and relevance to higher education has been widely used in numerous contexts (Brown and Hesketh, 2004, Teichler, 2004 among others). In general, it emphasises the relevance of study programmes to the labour market together and more recently with sentiments expressed in the Bologna Declaration that degrees awarded after the end of the first cycle should be relevant to the European labour market as an appropriate level of qualification. In the UK there has been a longstanding concern about the connection between higher education and the economy, in part because of a perceived skills deficit (Yorke, 2004) and also because of ingrained elitist assumptions about what constitutes an ‘appropriate job’ for a graduate. In continental Europe, there tends to be a tighter link between credentials and jobs and more highly developed vocational institutions and traditions. Where concerns are expressed, they are more likely to be about the need to introduce greater flexibility, both in the use of credentials and in the qualities of the graduates themselves.

More recently, the term employability has been used to imply that graduates should be flexible workers who can operate in a variety of different settings with ease. They are expected to be generalists rather than subject specialists, or generalist with some subject specialism (Brennan, 2004). In the Anglo-Saxon world with some exceptions initial higher education does not prepare for entry to a specific profession. The concept of employability sometimes confuses the processes of ‘getting a job’ and ‘doing a job’. On the former, the high rates of employment among graduates suggest the existence of high levels of employability. But complaints and concerns expressed by employers about deficiencies in the knowledge and skills which their new graduate recruits bring

into their enterprises suggests that, in its second sense, there may be a considerable problem of graduate ‘employability’.

In the German language the term ‘employability’ also causes confusion because the German word *Beruf* refers to specific areas of core professions or similar high level work roles with a defined set of competences and related social status. Here the term ‘employability’ can be understood as a closed rather than an open concept (Kohler, 2004, Teichler, 2004) and almost in opposition to the German occupation-led vocational education and training system widely admired in many countries across the globe (Dehmel, 2005).

More pragmatically, higher education in all European countries uses the term employability with regard to helping students to gain employment and career guidance, and in general preparation for work.

From the REFLEX and other studies it is clear that employers in different countries use higher education and the credentials it supplies in somewhat different ways. As we have already noted, in many countries within continental Europe, quite a high proportion of jobs require possession of specific educational credentials. These are legal requirements. This inevitably reduces the discretion of employers about whom to recruit and reduces the range of jobs for which workers can apply. And higher education courses are more frequently undertaken with clear professional outcomes in mind by all those involved; that is the teachers and the taught. In the UK, with a more open and flexible labour market, possession of the right credential is less crucial, leaving more space for the operation of a whole set of social and cultural factors in the job recruitment process.

The above differences relate to the extent to which employers are using higher education as a ‘selection tool’ (“we only recruit the ‘best’ graduates”) or as a ‘training’ tool (“we must have people with a good knowledge and understanding of xxxxxx”). While these are not either/or options, we can see differences between countries from the survey data in the extent to which jobs require and utilise specialist knowledge acquired in higher education or emphasise more general intellectual and personal qualities. In the elite graduate employment sectors in the UK, the tradition has been to recruit ‘generalists’ from ‘top’ universities and to train them within the company. The longer and more professionally-focused degree programmes in other countries incorporate within the first degree education and training which is left to the employer within the UK.

2.2 Higher education for the masses or the elite

A further set of concepts underpinning the research relates to *mass/elite* and *generalist/specialist* distinctions which require that attention be given to areas of the labour market which have not traditionally recruited graduates in significant numbers (Allen and Van der Velden, 2005). In the UK we have to acknowledge that much of the available literature on employers of graduates is heavily biased towards the traditional elite end of the graduate labour market despite attempts to ‘vocationalise’ higher education for mass participation. But the success of this in a labour market shaped by an ‘elite generalist’ tradition must be open to doubt. In countries where more emphasis has been placed on specialist courses at both elite and mass levels, there is both greater consistency in expectations but potentially also greater rigidity in the labour market.

What all of this does in the ‘knowledge society’ is to raise questions about how initial professional preparation within the education system links to subsequent education and training, whether carried out within education or employment. We also need to recognise that several countries have distinctive higher education sectors and/or specialised higher education institutions which relate to

the labour market in quite different ways. And the size and degree of heterogeneity in both higher education and the labour market have implications for the relationships between the two. In the UK, with a large number of separate higher education institutions and an increasingly steep reputational hierarchy separating them, 'where' one studies is likely to be a crucial determinant of employment prospects. In other large systems, more 'horizontal' differentiation may point in the direction of sector specific links between higher education and employment. In smaller countries, employers have fewer options and can more easily develop an intimate knowledge of most of the higher education provision available to them.

All jobs require some knowledge and skills but jobs differ in terms of where these knowledge and skills are acquired. Where graduates lack necessary knowledge and skills on entry to employment, it becomes the employer's responsibility to equip them. There are considerable differences in national traditions in how this division of labour is worked out. For example, the French emphasis on professional education gives its higher education institutions – especially the *Grandes Écoles* – a key role in professional 'formation' whereas this role has tended to be assumed by employers in the UK. In general, the longer first degree courses in continental European higher education systems allow the inclusion of a greater volume of occupationally-relevant preparation. And the greater specificity of employment outcomes means that both students and their teachers have a much clearer picture of the kinds of employments they are destined for. Hence, greater preparation for them can be attempted. The Anglo-Saxon tradition has been more about providing an educational base of some breadth as a foundation for subsequent professional education and training often provided by employers. One hears the phrase 'oven ready graduates' used in the UK as a term of criticism for attempts to load too much of the responsibility for employment preparation onto higher education.

2.3 Differentiation and higher education responses

A third set of issues concerns notions of differentiation. One of the limitations of much of the research on graduate employment has been that it has dealt with aggregations, i.e. has told us about a mythical 'average' graduate without distinguishing the effects of factors such as field of study, type of institution, age at time of study, gender, social and ethnic background and, indeed, of many more factors. As higher education expands, so it becomes increasingly differentiated, both in terms of its institutional forms and in the kinds of students it recruits. The social and educational factors interact to help determine the employment outcomes for the individual. As far as the graduate labour market itself is concerned, it is possible to distinguish between public and private enterprises, between small, medium and large employers, between different employment sectors and types of work, and to identify regional differences, all of which produce demand-side variations that we need to understand.

There have also been attempts to differentiate graduate jobs themselves. Kate Purcell and Peter Elias have elaborated a five-fold categorisation of graduate jobs as follows:

- 'Traditional' graduate occupations
- 'Modern' graduate occupations
- 'New' graduate occupations
- 'Niche' graduate occupations
- 'Non'-graduate occupations.

(Purcell and Elias, 2004)

Distinctions of this sort are entirely valid but extremely time and context bound. After all, there was a time when 'graduate jobs' were largely restricted to the clergy and running empires.

The implications of the above discussion are that we can expect to find differences between countries and between types of employers in respect of their attitudes to and experiences of the employment of graduates. We can expect to find differences in their recruitment approaches – for example, in the relative importance attached to factors such as the institution attended, the subject studied, and the personal qualities and background of the individual – and in how they use and train their new recruits – for example, in the level of autonomy accorded the new graduate employees, in the relationship between 'first' and 'subsequent' employments, in the degree of specialisation in the work role and in the amount of flexibility expected.

Thus, questions of the match between what higher education produces and what employers require will find different answers between and within countries. In reporting some of those answers, we must also recognise that employers tend to focus on the elite end of graduate recruitment and may be unaware of graduate employment experiences at what we have termed the 'mass generalist' end of the graduate labour market.

3. Fieldwork

This qualitative part of the project consisted of the following elements:

- (i) interviews with experts who had a broad overview of higher education and the expectations and needs of employers, that is from umbrella organisations involved in higher education and/or the labour markets;
- (ii) interviews or focus groups with representatives of employers and higher education with expertise on graduate employment in particular European countries.

The interviews were conducted in the five countries during the period April – July, 2005. All interviews were based on a briefing paper and a semi-structured interview schedule (Appendix 1). Discussions were often wide-ranging with different levels of depth according to the knowledge and interest of those present. Interviews were conducted in English in Norway and the UK, and in German, Dutch and French as appropriate. Most were recorded and subsequently transcribed.

In the UK there were two in-depth interviews with experts from higher education and one focus group with representatives from employer organisations.

In Germany there were four in-depth interviews, involving two or three experts each time, one with the Humboldt University in Berlin, one with *Deutsche Bahn* (German Railway), one with an employer umbrella organisation in Cologne, and another with the German trade union for education. There was also a focus group discussion with 14 participants, all at senior level, from industry/commerce, higher education, and umbrella organisations organised by the career service of the University of Cologne.

In Norway there were five interviews, one with the rector of the University of Oslo, two with senior executives from employer-related umbrella organisations, and two from higher education umbrella organisations. It was not possible to set up a focus group discussion for practical reasons.

In France interviews were held with the national employer's association (MEDEF) and the employers' union from the metal industry. Furthermore with the university sector through the *Conférence des Présidents d'Université* (CPU), interviews were held at a university, two *Grandes Ecoles*, the Ministry, and EIRMA (an important international organisation in the field of Research & Development).

In the Netherlands there was a focus group meeting with the employer's association VNO-NCW in which 12 delegates from larger Dutch firms participated. Furthermore, there were interviews with a university representative, the accreditation body, the engineering association, and Hay consultants. Also interviews were held in three sectoral bodies of the *Hoger Beroepsonderwijs* (HBOs) The latter are collective bodies in charge of educational policies in their respective sectors (economics, engineering, social work).

3.1 Methodological considerations

Any study involving several countries invites numerous comparative thoughts and questions, some of which this paper seeks to address. It is important to note that, in common with qualitative research in general, answers provided by those interviewed reflect personal opinions, feelings, knowledge and experience. However, it can be argued that expert views expressed by relevant

stakeholders – even where the evidential base is weak - influence government strategies and educational policies; they therefore merit consideration.

There are difficulties when comparing small countries to larger ones since many comparative studies involve juxtapositioning of systems and structures. Here, however, we focus on higher education policy which involves tracing of particular concepts, ideas or explanations across frontiers and into different regions. The comparison may be ‘implicit’ or ‘explicit’ (Husén and Postelthwaite (1994). Within the implicit paradigm the researcher does not give equal attention to both phenomena but seeks to exercise his or her own judgment on the basis of knowledge and experience, thus stressing the need for contextualization. With reference to the present study, care has therefore been taken to place findings into their specific cultural and educational contexts and to highlight convergences and divergences where they seem meaningful in relation to questions discussed.

4. Higher Education Contexts Following the Bologna Declaration

The data referred to here were collected at a time when issues around the Bologna Declaration loomed large with many higher education providers and the business world. Indeed, at times these were at the forefront of interview discussion and hence merit some explanation. In Norway as in Germany and The Netherlands, indeed, in all countries whose tertiary education was based on the German model of higher education, the tension between *Bildung* (personal development) and *Ausbildung* (training) was, and still is, a cause of concern. Until recently German approaches to education and academia in the *Humboldt* tradition have influenced numerous universities across the globe (Altbach, 1998). These values embrace academic freedom to teach together with the freedom to learn. For example, students should be free to learn without being spoon-fed or constantly tested. They should be able to take their examinations when they feel ready to do so rather than at a fixed point in time at the institution's request. It is a set of values which was suitable for an 'elite' but may no longer be suitable for a mass higher education system (Pritchard, 2004). In Norway and in Germany, as elsewhere, the 1999 Bologna Declaration together with the huge increase in student numbers and high drop-out rates have led to far-reaching structural reforms aimed at delivering a better qualified workforce. The Bologna Declaration, signed by 45 European countries at the time of the research, has as its principle aim to establish a common structure of higher education systems across Europe, and for this common structure to be based on two main cycles, undergraduate and graduate (Bachelor and Masters degrees) in order to create a European Higher Education Area (EHEA) by 2010 and to promote the European system of higher education worldwide. Individual mobility, transparency and flexibility are its catchwords. While to UK audiences these changes are not regarded as significant, to countries not familiar with the new structures the reforms are, indeed, fundamental.

4.1 Norway

Norway's economy, for example, is based on welfare capitalism with a blend of free market activities and government intervention (Esping-Anderson, 1990). There is a strong tradition for all governments, irrespective of party politics, to involve the social partners in policy formulation and in social, educational and legislative reforms. Yet the Norwegian mass higher education system, as in so many Western countries, has been caught up in the shift towards individualisation, differentiation, and privatisation in order to be seen as relevant for producing competitiveness in the global economy. This shift has impacted on most areas of education. Norwegian higher education institutions underwent a stringent and comprehensive Higher Education Quality Reform introduced in 2001 and completed in 2003. This was an outcome of various policy-related enquiries and a major White Paper in 2001 which aimed at changing a higher education system built on the Germanic *Humboldt* system to one akin to the Anglo-Saxon model. The reform can be seen as an attempt to achieve efficiency through the devolution of some powers from central government to the institutions with a stronger emphasis on leadership and management, increased internationalization, the setting up of an independent accreditation and subject-related evaluation body, new curricula and a new funding model which for the first time also attaches some funding to higher education pass rates.

Norway was one of the first European countries to implement the two-cycle degree structure. All undergraduates now study for a Bachelor degree with the majority expected to complete the Masters. The Norwegian binary system of higher education is gradually being eroded since colleges increasingly have the right to develop research degrees, to appoint professors and to engage in pure as well as applied research, placing colleges alongside universities (Nyborg, 2005). Worth noting too is that, unlike in Germany, in Norway there are no policies aimed specifically at enhancing

employability of university graduates. This may be due to relatively low unemployment in the country overall (Vabø, 2005). Nevertheless, the expectation concerning employability is very high. It legitimises the reforms undertaken.

4.2 Germany

Germany's higher education policies are marked by political and structural tensions between the 16 states (*Länder*) and central government (*der Bund*). The 1976 Higher Education Law sought to strengthen the relationship between education and employment by stipulating preparation for employment in a variety of professional contexts (*Berufsfähigkeit*.) A further point to note is that traditionally Germany's higher education curricula, in comparison with many other countries, emphasise relatively narrow subject expertise as preparation for specific employment areas rather than broad, general studies which may be of relevance to many areas of work (Schomburg and Teichler, 2003). A binary system operates with the more vocational Fachhochschulen well-established alongside the Universities.

While in Norway higher education reforms are completed, most German higher education institutions are still in the process of significant structural and institutional changes as part of the Bologna Agreement (Arthur, 2006). Here the development began with varying levels of intensity and commitment in 2003 and is destined to be completed in all *Länder* by 2010. In essence this means converting the German *Diplom* programme to the two-cycle Bachelor/Masters model of undergraduate and postgraduate study together with, for example, the ECTS credit system, the Diploma Supplement, institutional quality assurance schemes and accreditation akin to the Anglo-Saxon model of higher education. It should not surprise anyone that in Germany as well as in Norway such reforms, which have called into question almost all aspects of higher education, were not and are not undertaken without opposition, scepticism and anxiety by at least some members of teaching staff. The move towards modularization of courses and learning outcomes together with accreditation and quality assurance systems was seen as very labour intensive at the expense of time for research and related academic activities. In Germany, progress remains slow. The acceptance of the Bachelor degree among the country's wider population including employers has not yet been proven although student numbers of those opting for the new structure are increasing.

In Germany, however, structural reforms in the light of Bologna have had to take place at no additional costs to the taxpayer with the inevitable consequences of cuts and redundancies. In Norway, on the other hand, it is important to note that central government funds were made available for the transition which made the whole process much easier to complete.

4.3 The UK

Initial higher education in the United Kingdom, i.e. to the first degree which is at Bachelor's level, is short by comparison to other European countries. Not only is it commonly three years but it is generally completed within this time period. A consequence is that UK graduates enter the labour market at a generally younger age than their continental European counterparts. However, higher education in the UK is also characterized by the existence of quite large numbers of older students, who have entered higher education after a period within the labour market. Thus, paradoxically, UK graduates are both 'younger and older' than graduates in other countries.

Another relevant feature of higher education in the UK is the steep reputational hierarchy among universities. This means that 'top employers' seek the 'best graduates' from among only a very few of the 100+ universities which exist in the UK. It also means that the possession of the requisite

amounts of social and cultural capital may be rather more important than the possession of specialist technical knowledge and skills in the UK. At the more 'mass' ends of the labour market (and institutional hierarchies), graduate recruitment is both more complex and less clearly understood. However, the 'generalist' emphasis of higher education in the UK has meant that at all employment levels there is more room for 'softer' and culturally-relative skills and knowledge to be taken into account than in other countries.

The Bologna Agreement has not so far been a major issue in UK higher education. The Bachelor/Masters split reflects existing practice and the Bachelor's degree has traditionally been the qualification with which most graduates enter the labour market. In fact, policy initiatives and debate have tended to be concerned with the introduction of short-cycle two year 'Foundation' degrees, closely linked to the labour market. It is not clear how these new qualifications fit within the Bologna framework. In some respects, they reflect an attempt to establish a closer relationship between higher education and work than has traditionally been the UK practice. But somewhat ironically, it focuses on a two year cycle rather than the continental Europe 5+ cycle.

4.4 France

Within France, we find another difference in that the elite institutions sit outside the universities. The supremacy of the *Grandes Écoles* grants a superiority to professional education in France that is not to be found elsewhere. Although this sector has its own internal ranking in terms of prestige and quality, these institutions are the elite since some of them can only be entered after passing highly selective exams through the two years in the preparatory classes. Graduates from the *Grandes Écoles* are prepared for the highest positions in industry and the public administrative sector and generally the close connection with their respective employment sectors guarantees a close match between the programmes and employment demands.

Access to universities on the other hand is non-selective and open to all *baccalauréat* holders, so universities have to absorb the largest group of students. Apart from general university education, France has a tradition in creating more selective vocational courses within the university sector which are specialised and which have been certified in close connection with the employment sectors. The *Instituts Universitaire de Technologie* (IUT), which are selective on entrance, prepare technicians in two years to a vocational degree. In the last few decades, selective job-oriented degrees (MIAGE or *maitrise* in computer science applied to the management of firms, DESS (*diplôme d'études supérieures spécialisées*) were developed in universities (mostly at Masters level) alongside the traditional degree.

The Bologna process has resulted in a rise of the overall educational level. Whereas before the two-year diplomas provided a labour market outlet, the three years Bachelor degree is now regarded as the minimal requirement for a higher education qualification. A clear distinction is maintained between the vocational and the general Bachelor: *License Professionnel* and *License Général*. Similarly Masters are distinguished between professional and scientific Masters. Although the Bologna process implied a structuring of the curricula into a three-year degree structure, the French tertiary system is still very complex and structured in different non-homogenous sectors. For the *Grandes Écoles*, for example, the 3 + 2 model does not fit since it is an undivided three years course (following the two-years preparatory classes). In the last few years, the competition between universities and *Grandes Écoles* has increased with regard to academic quality and the employability value of graduates for top positions. At the same time, some institutions across the sectors seek rapprochement with each other.

4.5 The Netherlands

The Netherlands with its binary higher education system was, like Norway, relatively early in implementing the two-cycle structure. For universities, there is a general agreement that the Bachelor should be broad and based on general, academic competences. The Masters can be more specialised with a more scientific or a more professional focus. The university sector is rather egalitarian and a hierarchy is virtually non-existing. Inspired by European developments, however, there is a political climate to create greater differences between universities in terms of institutional missions and quality. The ability of universities to select their students on entrance, to differentiate tuition fees, to establish selective honours programmes for excellent students, and to create ‘top Masters’ are seen as means to bringing about a more stratified system.

For the HBOs¹, the Bologna process was also smoothly implemented, since the standard four year programmes have been converted into the Bachelor degree. The Bologna process, however, has aroused much concern about the degree structure, which is internationally less adequate, transparent and robust compared to that of universities. The HBOs, which have adopted the name ‘universities for professional higher education’, are claiming their role in the knowledge society. Traditionally they have a close connection with the respective employment sector, and their mission is to educate people for higher professional jobs. This is not to be equated with a narrow vocational specialisation, but a broader learning concept based on professional concepts which are now being developed. These competences include some research orientation as well.

There is currently a strong movement initiated by business and political communities to strengthen the innovative role of higher education in the knowledge-based economy. A stronger involvement of industry in university research, more knowledge valorisation and the role of graduates from both universities and HBOs to contribute to innovation activities are high on the agenda.

¹ HBO: Hoger Beroepsonderwijs (vocational college or polytechnic)

5. The Findings

The presentation of findings follows the four broad themes covered in the interview schedule. These are:

- the match between supply and demand for new graduates
- the competences graduates need to possess in the workplace
- diversity of graduates in terms of qualification levels, and
- higher education's responsibility for the employability of its graduates.

In each section, we present the views of higher education leaders and employer representatives from all five countries that participated in the project.

5.1 Match between supply and demand for new graduates

The expansion of student numbers is generally justified on the grounds that technological and economic changes in the global economy require higher skill levels in the workforce. In response higher education, particularly in the developed countries, has undergone significant change, even transformation in recent years albeit with different pace and levels of intensity. Increasingly, the needs of the employers in a changing labour market are a key consideration for curriculum development and institutional support. This raises questions about the match between the educational levels and the demand for highly educated workers. The interviews covered the following issues: graduates in society, that is, the match between supply and demand for new graduates; employers' expectations in terms of competences graduates should have and the importance attached to institutions attended; the diversity of higher education provision and the balance of demand for different qualifications; the extent of higher education's responsibility for the employability of its graduates and the relationship with employers.

5.1.1 The demand for graduates in society

In the UK, questions around the future demand for graduates addressed to a policy advisor of the Higher Education Funding Council for England provoked answers such as “*definitely more graduates*”. The political context of such a question had to be recognised. It was important for higher education to demonstrate ‘employability’ in order to justify the costs of higher education. It was also the economic need which was driving the widening participation agenda, although the evidence remained ambiguous.

In Norway questions around future demand for graduates and why the society needed more graduates within the context of a knowledge society provoked responses about the pressing need for more scientists and mathematicians. More people with foreign languages were needed, particularly with good English. Companies could only survive with more sophisticated technology.

“We see society more and more dependent on technology on the one hand, and on the other, increasingly fewer pupils who want to study sciences and mathematics.”

Similar sentiments were expressed also in Germany and are relevant to education in most European countries.

There was concern that Norway, like Germany, had not achieved high PISA ratings, just below the half-way mark in the league tables of countries (OECD, 2004) and that generally Norway performed less well in international statistics than other Nordic countries – much to the surprise of Norwegians themselves. It was stressed over and over again that Norway needed to be more research intensive in terms of international business. Nevertheless, in the words of a business expert,

“There is a sense of complacency...the truth of the matter is that we are not in such a privileged position... It is a real challenge, but we should not be complacent”.

In Germany, there had been wide concern in policy-making circles and in the media that relative few school leavers entered university in any one year, considerably lower than in many other industrial countries, 32% in 2001 (OECD 2003).

In Norway and in Germany, it was argued that work had become increasingly complex mainly because of advances in technology and internationalization. Many companies were now more customer-oriented, which meant that work had to be organized in a way which would allow more spontaneity and flexibility. In the words of a German business director,

“We have to think much harder about international contexts if we want to remain competitive. This requires intercultural sensitivity, knowledge and understanding, quite apart from foreign language skills.”

Some German interviewees expressed concern, while stressing that more rather than fewer graduates were needed in future, that the push towards the higher end of the educational ladder would leave too many behind at the lower end.

“We should not end up with a situation where a window cleaner needs a Bachelor in order to do his job... Banks, for example, no longer employ people without Abitur²... We have too many people who are underachievers... this might present a danger for society as a whole.”

Similar concerns were expressed in France although the most widely held view was that the expansion of higher education to 50% of a generation according to the Lisbon Agreement (2000) was welcomed. De-qualification may occur in some employment sectors. Nevertheless there was the assumption that growth was beneficial and that it was better to have people contained in the educational system rather than being unemployed. The view from the employers' organisation was:

“We can see a rise in the level of qualification, but we wonder if the qualification is fundamentally different or whether students reflect a higher level of knowledge and capacity.”

With regard to the Lisbon agreement most of those interviewed in the Netherlands considered 50% participation somewhat exaggerated. Not only was the question raised of how to achieve this goal, it was also believed that the current supply was reasonably in tune with demand. Shortages were to be expected in the coming years in specific sectors (health, education, technical sectors). Others stressed the broader societal context beyond the *homo economicus* which required that more citizens attain a higher level of education in order to cope with the complexities of contemporary society.

² University entrance qualification

No fear was expressed on over-qualification or downward substitution. It was thought to be more the other way around in the sense that more people with only secondary school leaving certificates were placed in graduate jobs because of the general shortage of suitable graduates. In some employment sectors such as health and education this was increasingly the case.

5.1.2 Graduate and non-graduate jobs

In France, examples were cited where the trend towards a longer learning path corresponded with employment needs, such as the shift of the demand for engineers compared to technicians. Many companies nowadays look for Engineers at Masters Level for positions previously occupied by technicians with lower grade qualifications. The reasons for this upgrading relate to: increased demand for knowledge about technology; the importance of functioning in teams; new organisation of production processes; application of ICT in production. Work processes nowadays are more complex with the consequence that companies generally prefer to recruit graduates with high levels of education. These jobs as such have not changed. Also the process of internationalisation was mentioned as a factor in the demand for higher levels of qualifications.

Similarly in the UK, where according to higher education experts, graduates have a ‘transformation capacity’ in terms of the jobs in which they find themselves. Graduates often turn the non-graduate jobs they have into ‘graduate jobs’ by upgrading their functions. Furthermore, there is the upskilling of existing jobs to be considered. For example, laboratory technicians nowadays need greater analytical skills and research capabilities than in the past. There are many other occupations which have, in recent years, turned into those with graduate status. As one business expert stated:

“The world has changed hugely. For example, a secretary would probably always be a graduate now. However, originally a graduate would probably never have been a secretary...there is no debate that jobs are changing. In fact it would be pretty weird if in an era of technological change, jobs did not change as well.”

A huge difference, however, was also noted between graduates and the jobs they were able to obtain at initial entry to the labour market. *“There are so many graduates now, we need a new typology. It is mass education now”*. A linear career model was no longer appropriate mainly because of the number of students taking a year out of education and because there are now so many more older graduates with work experience prior study; what was needed was *“...something that tries to capture the more dynamic aspects would be more interesting rather than just more or fewer graduates in society”*.

The question was asked: What is a graduate job? In the Netherlands one company attempted to have university graduates to perform only ‘university-level tasks’, in order to minimise the shortages of higher education graduates. However, it appeared practically impossible to have graduates working 100% of their working time on that level. But most companies in the employer group meeting argued that there are specific jobs for university, for HBO and for lower qualified graduates. Employers tended to recruit higher education graduates due to:

- the upgrading of job functions: most functions in context and content are changing and evolving so that higher education graduates are required for jobs which previously were occupied by graduates from secondary (vocational) education;
- the creation of new functions.

It was argued that job functions are becoming more complex, not least because of new technologies and the fact that organisations need to constantly adapt to new situations and demands.

In some sectors, mainly in public welfare, many graduates are working in lower, less well-paid positions. It was argued that possessing a degree would not automatically lead to higher level, better paid jobs. However, lower earnings are not, by definition, an indicator of over-qualification.

Apart from the binary division there is not much stratification in the Dutch system and there are no 'elite' institutions. None of the interviewees saw a reason to change this.

5.1.3 The importance of subject studied and grades achieved

The French labour market is highly differentiated and different qualifications correspond to particular jobs and positions. If there is no direct link with the employment needs of a company, the level of qualification is an indication of the individual's potential and the level of subject knowledge *"but less seen as an indication for the competences needed for a job in the organisation"*.

Asked if the final degree classification of graduates was an indicator of a potentially successful career, both German and Norwegian business experts, unlike those in the UK, considered that this was not the case. In the UK, there are some companies who recruit graduates for job purposes on the one hand and for reputation on the other, especially if those graduates come from the 'elite' universities such as Oxford or Cambridge. Some UK employers seem to place most emphasis on recruiting the perceived 'best' from a hierarchical higher education system without having a clear conception on what qualities characterise the 'best'.

In Germany and in Norway, the terms 'elite' and 'mass' higher education were less significant than in the UK. There was a sense that all universities should aim to excel. Recent government policies in Germany, however, aim to foster elitism in terms of excellence in teaching and research within selected universities. In this sense the term 'elite' is regarded as important across many disciplines, not just in technology, the sciences and engineering.

In Germany as elsewhere, most large national or international companies have highly structured recruitment procedures whereby those with a Masters degree are selected to enter fast track training programmes. Smaller and medium-sized companies (SMEs) are much more flexible in their employment policies. They tend to hire staff according to job requirements. It was noted that companies did not only need the very best graduates, the highest achievers, but they also needed able graduates with good average grades for a range of different jobs. Many employers have a high regard for the achievements of the *Fachhochschulen* with their vocational orientation and knowledge of the labour market.

In Norway between 50% and 60% of graduates enter the public service. Nordic universities have traditionally followed the Prussian model of higher education, by which universities were expected to serve as producers of the social elite and only those with a Masters could enter the higher levels of civil service. As one trade unionist commented:

"In the public sector there is much more focus on formal qualifications than in the private sector... where you ask a person what it is you know rather than which school certificate you have. The best graduates enter the public service sector ... the traditional industries such as

... fishing, shipping, the oil industry have not needed universities in the past but this is changing rapidly”.

In Germany it is difficult to know to what extent the Bachelor/Masters model will challenge traditions, although most companies welcomed the move towards the two-cycle system (Bergs, Konegen-Grenier, 2004).

“Employers expect that the shorter Bachelor degrees will be more relevant for the labour market, more practice-oriented.”

Germany’s higher education is still in the process of implementing the Bologna Declaration. While large companies have long been familiar with Bachelor degrees in terms of graduate recruitment, SMEs are less able to cope. They do not know what levels of expertise they can expect from Bachelor graduates and how much further training they will have to provide. Furthermore, they are less sure about what salaries to pay Bachelor graduates compared to those with a Masters or a *Diplom*. With reference to the length of time students took to complete their studies in the old system, it was widely accepted that employers preferred graduates who did not prolong studies unnecessarily. Such graduates seemed to be more focused, achieve higher grades and generally fared better thereafter.

At the time of the interviews the country, however, suffered from high unemployment and many graduates failed to obtain jobs within six months of leaving university. The economic situation also influences the recruitment strategies of graduates, as one personnel director commented:

“The problem for very large and well-known companies is that they receive far too many applications, often 10,000 or even 100,000, it is quite difficult to differentiate between graduates.”

Similar points, however, were noted in the UK although here unemployment was not a major factor in the labour market. Many companies in the UK are more interested in the future employment and career potential that graduates offer than in the marks achieved at graduation. A large accountancy firm, for example, receives over 12 000 applicants a year – which means that stringent testing of graduate applicants is essential.

5.1.4 Higher education for the masses and the elite

It is an inevitable by-product of a massively expanded higher education system that there is a substantial number of graduates who do not find the kind of work they expect. There are also graduates who do not respond well to the kind of work expected of graduates. It was not just a question of employability but also one of student motivation and expectation. For the time being, according to some German business experts, Bachelor graduates are likely to earn less than those with a Masters degree, particularly in large companies, although increasingly it is the job that matters and graduates are matched to positions available, particularly in smaller and medium-sized companies.

In France, it was generally felt that the classical hierarchical lines are becoming less pronounced: some *Grandes Écoles* are still very selective, but others have difficulties in attracting students, mainly in the scientific and technical fields. The policy of employer organisations

(MEDEF/UIMM)³ is to encourage more competition between universities and *Grandes Écoles* regarding quality, professional focus, research activities, but also to achieve more co-operation and exchange between them.

In Norway, too, it is difficult to know to what extent the Bachelor/Masters model will challenge traditions. Smaller and medium-sized companies are much more flexible in their employment policies by hiring staff according to job requirements. The assumption is, if graduates experience problems with getting a job, it is because they have a degree that is less relevant to business. While there is no unemployment among teachers, there is a great shortage in nursing. Indeed, nurses have to be hired from other countries.

Business experts stressed the need for high levels of education which will be needed in order to remain competitive in a global economy. In Germany and Norway, many companies are now more customer-oriented, which means that work has to be organized differently to allow more flexibility and spontaneity. Many employees have to be able to communicate in English. Many others, too, have to work in and understand different cultural contexts. They need networking and communication skills, skills which are increasingly expected of graduates, irrespective of their subject specialism.

Interviewees were asked about the need for an ‘elite’ or ‘mass higher’ higher education system akin to the American or British model with ‘elite’ universities on the one hand and lower status mass higher education provision on the other (Trow, 2005; Brennan, 2004). The UK higher education policy advisor commented that the old ‘elite model’ was only for a minority these days although it still has a disproportionate influence in society. This can produce confusion for both employers and students. Employers, who are often the product of the old elite system, need to rethink their recruitment strategies.

Such distinctions carried different meanings in Norway and in Germany where higher education was at one time geared towards the elite. Norway’s success story, however, has been in mass education, and though there is a marked push towards excellence in research, particularly in the sciences and technology, there is still a desire to hold onto its values, as the university rector reminded:

“We do not become so pre-occupied with elite, that we forget our successes. We have been better than many other countries when it comes to giving higher education. We have been more interested in lifting the masses than producing Nobel Prize winners.”

5.2 Competences graduates need to possess in the workplace

This section discusses what employers expect of graduates in terms of the competences and subject knowledge they should develop while studying. It also asks if employers are looking for subject specialists or for generalists with a subject specialism, and to what extent they see a tension between academic and professional competences. We then turn to the notion of the flexible professional in the context of changing organisations.

5.2.1 Values placed on subject studied and competences obtained.

³ MEDEF: Movements des Entreprises de France; UIMM: Union des Industries et Métiers de la Métallurgie.

When recruiting graduates employers have different policies and practices concerning the value they place on a higher education degree. After all, a degree can provide information about what a candidate has learned, or it can act as a validation of subject knowledge and/or skills. A degree can also point to a graduate's potential and to further training needs.

These values are not mutually exclusive and they do play a role in the recruitment process of most countries. There are, however, cultural differences. For example, German graduates are more likely than British ones to have needed a degree for their jobs. In Germany, educational qualifications achieved matter more than in the UK (Brennan, Kogan and Teichler, 1996). In France, too, there is strong value attached to the highly differentiated higher education degree which functions as a validation of knowledge and skills.

In the UK, on the other hand, attitudes differ according to research carried out by the Employment Studies Research Unit (University of West of England) in partnership with the *Council for Industry and Higher Education* (CIHE) (Purcell and Elias, 2004). The report confirms that one of the characteristics of the UK graduate labour market has been the extent to which the possession of a degree has been used by employers as an indicator of the individual's potential, particularly for entry to managerial, administrative and creative positions. Many employers across the sectors were questioning whether possession of a degree was an appropriate or necessary pre-requisite for the jobs they wanted to fill; many had moved, or were moving, away from qualification requirements towards evidence of competences, including generic skills (such as communication skills and team-working) and personal attributes (such as resilience and commitment). Many large employers offer training schemes for employees with or without a degree. Where a degree was required, this was associated with specialist expertise and knowledge, such as economics and engineering. Graduates recruited to non-graduate posts also had the opportunity to demonstrate that they had the ability to move to 'graduate' occupations.

In the interviews we aimed to find out to what extent the subject field is important in the recruitment process and what competences are expected of graduates. Accordingly, German employers are looking for analytical skills, social skills, management skills, communication and networking skills, the ability to learn, foreign language skills (mainly English), presentation skills, strategies for lifelong learning and intercultural communication skills. German graduates entering the labour market should have a broad range of skills and subject-specific areas of knowledge. However, personality, motivation, aptitude and application were considered to be equally important. It matters more to employers what the applicant has done before, during and after studies, such as taking on added responsibilities in and outside studies. In the main, it is difficult for many employers to assess the competences graduates have when they apply for their first job. Employers, therefore, need to rely on what the candidate has to offer that makes him/her stand out.

One competency rarely mentioned but worthy of more consideration, according to one respondent, is conflict resolution (*Konfliktfähigkeit*). Conflict is one of the things many young graduates experience when they first join work, and they need to learn how to handle it best.

In contrast, those interviewed in France questioned whether competences play an important role in the recruitment process. Employers are more likely to look at the type of qualifications required for a job and this is mainly determined by the level of the degree qualification. However, there are changes to be noted now that higher education institutions define courses of study in terms of learning outcomes and key competences. Employers favour these developments because higher education institutions are required to formulate what encompasses particular competences, to

compare them with the labour market needs and to consider the implications for content and organisation of the curriculum.

Higher education institutions in France, as in Germany, have launched the Personal Diploma Supplement which, in addition to the degree certificate, provides evidence of competences mastered during study such as project management experience and/or foreign language proficiency. Employers have applauded this initiative because such a supplement is an official paper validated by the university.

In the Netherlands, on the other hand, the subject studied is an important but not the main factor in the recruitment process, with some exceptions. Personal and social skills have become increasingly important in the selection process. The ability to learn was often mentioned in the course of interviews, as well as the ability to plan, to accept feedback and to focus. It was argued that while graduates may have subject knowledge, it was more important how they would use this knowledge in various professional contexts. The development of practical skills in relation to professional practice during undergraduate study was seen as increasingly desirable. Two types of competences were particularly stressed:

- an international orientation: in a small country this orientation is important; larger companies across a wide range of sectors, in particular, value international experience of graduates through work placements or research projects abroad;
- entrepreneurial skills: this goes beyond being self-employed. In larger companies these skills are viewed as ‘taking initiative’, ‘taking risks’ and the like.

Graduates when entering employment in Norway are also expected to have analytical skills and the ability to learn as well as a strong international orientation. With regard to IT, higher education, it was argued, is expected to provide an understanding of basic principles rather than expertise in the application of the latest software. The University of Oslo, as part of the country wide Quality Reform 2001, converted all study programmes into a modular degree structure. Since then more emphasis is given to the development of key skills such as team working, working to specific deadlines and communication skills among many others. It is the employer, however, who is expected to develop specific job-related skills and continuing professional development after graduation. In Norway, where many are concerned that one day the “oil will run out”, it was stressed during several interviews that some parts of business will need narrow expertise, bio-technology for example, nano-technology, or marine or ocean biology. In other areas of business, a combination of general business expertise combined with some expert knowledge is expected.

“We need both specialists and generalists. All need key skills such as problem solving skills; the ability to work in teams is also very important.”

Large employers in the UK target their recruitment at particular higher education institutions and monitor the performance of the graduates they intend to recruit. For ‘specialist jobs’, the subject is the ‘first sift’ in recruitment, then the institution. For generalist jobs, the institution is likely to be the most important factor. Here too, graduates should cultivate social and communicative skills, should be prepared for entrepreneurship and, last but not least, should be flexible. The vice chancellor saw the need for both sorts of ‘flexible professionals’ (i.e. generalists and specialists with generalist skills). She saw a need for more of everything: increasing subject knowledge, IT, research, presentational and teamwork skills. Specialists would be at risk without the generalist skills and lifelong learning was important to allow all graduates to re-skill. She emphasised six ‘core skills’ –

literacy, numeracy, computing, self-management, teamwork, being ‘professional’. One employer saw higher education as a ‘*very solitary*’ undertaking, unlike the team-working ethos prevalent in the place of work. ‘*We know that education supplies analytic and dynamic skills, but does it supply the more ‘doing’ skills?*’ Another interviewee spoke of the ‘*practice of doing*’ and of ‘*knowing how to get from A to B*’. None of the UK interviewees placed much emphasis on subject knowledge, except for a minority of ‘licence to practice’ occupations.

The views expressed above show convergent tendencies about the expectations on graduates. Generic competences and key skills are increasingly important. These should be transferable across a range of contexts and be more or less independent of a particular subject field. The most outspoken voices among the interviewees claim that all graduates should acquire general competences and that the subject-specific degree was less important.

The countries involved in this research differ in the way employers view the relationship between subject specialism and key competences gained during study. In the UK, the funding council officer saw ‘*huge differentiation*’ between graduates but emphasised the reputation of institutions and the degree classification rather than subject studied as the differentiating factors. A good degree was a “*proxy for I am able to think*”. In France similar voices were heard regarding the difference between the *Grandes Écoles* and the universities. In the other countries, such institutional effects matter less, leaving aside the binary divide between universities and other higher education institutions.

On the European level, most policy documents stress that study programmes need to be planned with reference to ‘employability in international labour markets’. They advocate an intensification of the dialogue between higher education and business about the relevant employment-related competences and qualifications.

The European employers’ organisation UNICE (Union of Industrial and Employers’ Confederations) makes a distinction between subject-specific knowledge and cross-disciplinary competences. These cross-disciplinary competences are considered to be independent of the specific programme of study. The following competences are considered to be indispensable:

- an appropriate level of verbal and written competency in the national language;
- an appropriate level of verbal and written competency in at least one foreign language, preferably English for non-native speakers;
- an ability to work a team;
- research and work techniques;
- moderation and feedback techniques;
- analytical skills;
- coherent thinking;
- general level of competence;
- creativity and flexibility in the application of knowledge and experience;
- realisation competence;
- entrepreneurial thinking and acting;
- intercultural understanding and competence;
- lifelong learning skills.

Such a list of competences is meant to give a direction to higher education, although there is no indication about how this is to be realised.

It is not clear whether this would suggest that specific subject-related competences are less important or that there is a tendency to undervalue them. Perhaps generic competences are easier to assess than subject specific competences which are less easy to compare (Vd Velden, 2006).

There is a tendency to confuse personal and transferable skills with related (personal) attributes. Would this not strengthen the notion of employability as a 'positional good'? It is not 'whether one is able to fulfil the requirements of a specific job, but how one stands relative to others within a hierarchy of job seekers' (Brown & Hesketh, 2004, Brennan, 2004).

In order to understand these questions we turn to the views expressed by respondents on the specialist and generalist distinction and the academic and professional dimension.

5.2.2 Specialist versus generalist studies

Most respondents did not see a contradiction between specialist and generalist education. On the contrary, specialists should have a broad range of skills and areas of knowledge, according to all of the business experts interviewed.

A widely held view was that a specialist can also have generic skills. However, it was more important that an individual was flexible, something which could not simply be conveyed through a particular programme of study. From the university perspective it is argued that '*students should go deep into the subject at some stage*' and that a broadening of the knowledge base would develop in time. Or as one employer put it: "*You must have climbed a mountain once, to have the capacity to do it again*". Specialist study would have a signalling function of what a person knows and can master. Personal attributes are important in any case.

Nevertheless, many interviewees stressed the importance of broad cross-disciplinary knowledge. The German Railway (*Deutsche Bahn*), for example, is now mainly looking for engineers who have also studied economy in addition to engineering and hence have a broader knowledge base than was previously the case.

"Let's put it this way: In the Railways, the focus is no longer just on one wheel, or even one type of engine; we are now looking for people who understand a train and all vehicles connected with the railway industry. Graduates should have a basic understanding of technology but also of the economy as a whole. So they need to be less narrowly specialized and have a broader view on a range of technology related matters. In that sense we need specialists who are also generalists."

Similar voices were heard in other countries. The ability to understand the whole 'chain' of the production process or the whole context in which a particular job is performed is becoming increasingly important. In the ICT sector, for example, project managers should have good communicative skills since they must be able to handle various groups of people. They must not merely be technically competent, but they should be able to explain decisions to managers and other employees, and to understand the culture of the organisation.

The emphasis on cross-disciplinary knowledge raised questions about the basis on which employers made such claims. To what extent would general education be at the cost of more in-depth studies and a sound understanding of subject matter?

In the UK, support was found for the generalist tradition. One employer commented that large employers believed that their own training would overcome any lack of subject knowledge and skills in their graduates. Less specialisation in school⁴ was called for by one employer rather than more specialisation in higher education. One employer spoke of the growing importance of the Masters qualifications in technical subjects – to compensate for declining standards in schools and first degrees.

In continental Europe and Norway, both employers and higher education representatives support the thesis that the tension between breadth and depth in study programmes has been solved in the Bachelor-Masters structure, i.e. a broad-based Bachelor degree will be followed by specialisation in the Masters degree. This is the general picture, although it is acknowledged that there can be very subject-specific Bachelor degrees and relatively broadly-based Masters. It would not, however, be desirable to have broad-based Bachelor degrees with lots of optional modules for students to choose. Breadth would mean that the curriculum should be multi/interdisciplinary but also well-structured and mandatory for students.

Other ways of solving the specialist-generalist dilemma in which employers' organisations were involved were found in France and the Netherlands. In France, there is a trend towards a broadening of curricula, particularly in the vocational streams. This is especially so in the *Grandes Écoles*, where during the first years students obtain the basic foundation. Thereafter they specialise, which means that they are free to take modules from other fields or disciplines to broaden their knowledge base (for example, 70% technical and 30% non-technical, which is common). However, in many universities there is still too much emphasis on subject discipline although students have some freedom to choose modules from other fields (especially in the Bachelor-Masters-Doctoral structure). The university representative, however, stressed that increasingly curricular reform moved away from classical academic fields towards new domains or interdisciplinary programmes (e.g. bioinformatics). These new domains are seen as providing opportunities for the creation of new jobs.

Regarding the IUTs⁵, the UIMM⁶ have contributed to a curricular reform whereby 80% is developed at the national level and 20% locally. According to the IUMM spokesman, the 80% is still quite narrow, “*actually too narrow*”. Thus, although in France there seems to be some broadening of vocational streams in higher education, there still remains relatively close connection between higher education and demand for subject-specific jobs.

For the Dutch HBOs, the tension between general and specialist education is solved by the development of so-called ‘domain competences’ as a key for transparency and flexibility. Competences are part of a coherent whole in which learning practices, knowledge, practical and problem-solving skill, and personal skills are interconnected and focused on a particular domain mastered by all graduates in that domain. For each Bachelor degree the domain competences make up 70% of the curriculum and the other 30% can be developed in collaboration with the companies in the region, skills sectors and/or professional bodies.

⁴ Preparation for undergraduate study in schools involves a high degree of specialization in few rather than many subjects.

⁵ IUT: Institut Universitaires de Technologie

⁶ Union des Industries et Métiers de la Métallurgie.

It is worth noting that the employers association VNO-NCW⁷, which represents the larger companies, favours this development whereas the representative of SMEs was very critical, arguing that this was too broad and centrally organised, and would not sufficiently recognise the variety of particular employment needs. She argued that HBOs are too much concerned with their academic ambitions and not enough with their primary task which is to meet the needs of employers. In her view, competences should be developed with the help of the employment sector rather than decided at national level. In this context reference was made to the skills councils in the UK as an example of good practice and to the German concept of key qualifications (*'Schlüsselqualifikationen'*). The Dutch example points to 'modern' graduate occupations (broader domain type, with less specific jobs) and 'niche' graduate occupations focused on specific economic branches (Purcell and Elias, 2004).

Many interviewees thought that competences can be acquired through work placements, work experience, and various forms of apprenticeships (dual education, *'apprentissage'*). In such a setting, students learn how to relate theory to practice while getting used to the place of work and its requirement. According to the employers, students will gain better understanding if they use their skills and competences in a particular work context. The everyday reality will help shape their theoretical reflections. Employers indicate that it cannot be expected that graduates master all these competences before they enter the labour market. They are not *'finished articles'*. Several competences are in 'development' where the boundaries between what should be learned in the educational process and what can (best) be learned at the workplace are blurred. This raises further questions about the role of the different actors and the role of education in the life-cycle of individuals and how this is perceived in various national contexts.

A similar argument applies to the notion of flexibility and the acquisition of transferable skills. Is professional flexibility more advanced through broad general rather than through specialist study? This view was generally rejected, most notably by the UK funding council officer who challenged the association between 'flexibility' and 'generalisability', doubting whether the latter necessarily produced the former. In other words, a generalist study does not necessarily imply that graduates are more 'flexible' than their counterparts from more specialist studies. This raises the question whether modularised curricula do, indeed, enable students to become more flexible since what is needed above all is professional subject-related expertise. Thus, the 'flexible professional' is more a specialist with some generic skills rather than a generalist mastering a broad area of knowledge and skills

5.2.3 Academic and professional competences

Many scholars consider competence in the workplace as a social system, and not just as a feature of individuals or jobs. Thus the term competency refers to the abilities of people to attain goals in concrete task in everyday situations and contexts. These abilities encompass cognitive aspects as well as attitudes and skills. Would such a view on competences dismiss what is valuable or unique of traditional university education? In other words, will the emphasis on competences be at the expense of personal development and the acquisition and transmission of cultural and social values? Barnett (1994,1997) distinguishes between two 'rival versions of competence', namely academic and vocational (or operational) competences. Academic competence, in his view, is characterised by competences such as personal, intellectual, pure, intrinsic, knowledge as process. Vocational or operational competence deals with the everyday world of commerce and other life-wide activities.

⁷ The Confederation of Netherlands Industry and Employers, known as VNO-NCW, though the full-name is no longer in use.

Examples of such competences are: physical, action, problem-solving, knowledge as product, instrumental orientation. We wondered if these two types of competences are in opposition as Barnett wants us to believe, or whether higher education can and does deliver both.

Our interviewees did not see a clear distinction between academic and vocational competences, although they considered this mainly a matter of terminology. General intellectual and subject-specific competences are equally important; however, it was essential to make these applicable to a wide range of work contexts.

In the UK, the vice chancellor felt that vocational higher education was a misunderstood mess. The vocational/academic distinction was a false one. Here perceptions of esteem mattered as much as anything. There was, therefore, a need for better coordination between employers, qualification bodies and educational providers.

Other interviewees pointed out that vocational competences had hitherto been undervalued in university education, though increasingly these developed through student project work and/or training in report writing and giving presentations. In law programmes, for example, moot court and trial advocacy modules train students in the art of advocacy. These aim to develop in students professional skills while at the same time enhancing their argumentation and communication skills.

Similarly in Norway, the business world favours the current practice by which university teachers work interactively with small student groups or in project teams with imposed deadlines. This was considered to be a good preparation for work.

In France, the distinction between the professional and scientific/academic Masters does not seem to be as stringent as is usually assumed. The University representative raised some doubts about whether this distinction will persist. In his words:

“I am not sure whether over five years we have the same strong distinction and there is a trend to mix the two. It is a question of accent and not two completely distinct curricula. The first year in the Masters is the same and in the second year some differentiation, but even then students have some common courses”.

The discourse on academic competences and its significance for educational purposes has led to much debate in the Netherlands. One of the outcomes of this debate concerns an initiative by the technical universities to arrive at a number of areas of competence that characterise a university graduate. It is worth touching upon these areas, since the interviewee from the accreditation agency (NVAO) was very much in favour of this and indicated its place in the accreditation process⁸. On the basis of in-depth interviews with the lecturers of the universities involved, seven areas of competence have been set out which would characterise a university graduate (TU Delft et al 2005). In short, a graduate:

- 1 is competent in one or more scientific disciplines (and has the competence to develop this through study);
- 2 is competent in doing research (and has the competence to acquire new scientific knowledge through research);

⁸ The spokesmen of the Dutch accreditation body (NVAO) considered this initiative as a welcome elaboration of the much broader Dublin descriptors.

- 3 is competent in designing (more applicable to engineering where designing is a synthetic activity aimed at the realisation of new or modified artefacts or systems);
- 4 has a scientific approach (critical attitude, insight into the nature of science and technology);
- 5 possesses basic intellectual skills (reasoning, reflecting, and forming a judgement);
- 6 is competent in co-operating and communicating (competence to work with and for others, a sense of responsibility, and leadership, communication with colleagues and non-colleagues);
- 7 takes account of the temporal and the social context (awareness of the social consequences and the competence to integrate these insights into his/her scientific work).

Such a list of competences questions the value of presumed rival versions of competences as mentioned before. Several respondents from universities strongly disagreed with the notion that a strengthening of academic competences would imply a move away from professional competences. They do not equate academic competences with just theoretical knowledge.

It may well be that several competences, which are respectively attributed to academic and operational competences, can be combined. For example, it might be ‘knowledge as a process’ or the other way round ‘knowledge as product’. As several interviewees confirmed, contemporary workplaces are variable and changeable, and the knowledge needed to function in them is evolving. Being knowledgeable at work means being active in a process rather than acquiring a ‘product’. Contrary to a narrow instrumentalist approach, the capability to action requires the capability to be knowledge productive. As a representative of a large multinational company put it:

“This involves the capability to search relevant information, to process this and generate new knowledge, and to apply to the improvement and innovation of work processes, products and services”.

Such a view reflects the changing working conditions and the professional contexts in which graduates are increasingly employed.

5.2.4 The flexible professional

The term knowledge society suggests not only the expansion of the knowledge-intensive or high tech sectors but also that the characteristics of the vast majority of work organisations are changing because of the increasing importance of knowledge in the learning organisation. These changes create a working environment in which graduate competences show up well in terms of:

- the level of autonomy accorded to the new graduates,
- the degree of specialisation in the work role and
- in the amount of flexibility expected.

There is much support for the argument that changes in the workplace promote the effective application of graduates' skills and develop them further. As a representative of a large company put it:

“People get more autonomy. They work in smaller teams with people with different disciplinary backgrounds and work increasingly on an international basis. There is a tendency in larger firms to delegate tasks and within the set targets people have their freedom how to attain them. Those graduates with an entrepreneurial attitude get their chances to develop themselves. This tendency, which has gone on for some time, however, it is becoming stronger”.

Less hierarchy and more team work would provide opportunities for further personal (professional) development. However, it is also argued that personal development can never be a goal in itself, but that it should be embedded in the context of goals and strategies of the company concerned. Companies are looking for graduates with personal attributes who are able to work in a challenging working environment in which employees have responsibilities and are actively involved in the strategy of the company: *“everyone can be involved, and actually this is what we are asking”*. It was added that larger companies can provide a continuous challenging work environment while this can be difficult for smaller companies.

In most countries the balance required in different types of job between subject knowledge, functional flexibility, knowledge management and mobilisation of human resources is considered to be important. Many companies are now more customer-oriented, which means that work has to be organised in a way which would allow more spontaneity and flexibility.

For most interviewees, professional preparation of students no longer just means matching educational qualification to a specific job, but also to include the ability to work in a professional context into which he/she can bring in their own expertise. For example, the Norwegian employers stressed the impact of interdisciplinary teams which included people with different backgrounds. The ‘professional’ component consists of bringing in one’s own expertise and confronting it with other perspectives. Such an approach would definitely contribute to the innovative capacity of the workplace.

According to views expressed by several interviewees, innovation is not merely associated with technological innovation. It was pointed out that the requirement for increased innovation leads to demands on graduates to adapt themselves to an innovative environment. For example, reference was made to the professional in the education sector who is very innovative when adapting to new knowledge or new methods (Haygroup, 2003). A ‘professional’ teacher is someone who is able to organise his/her activities according to his/her own insights and professional autonomy, but at the same time is accountable for work undertaken. As a team player, she/he recognises that in the work environment diverse roles have to be fulfilled which can only be attained in collaboration with colleagues as well as with the management.

In some interviews reference was made to a notable shift towards a new type of professional. Whereas the established professionals approached problems in a rather instrumental way, the new professional was typified as an ‘interactive problem solver’. The established professional functions well in organisations which are specialised and fragmented. The new professional operates in functionally integrated organisations. Thus, a member of a French *Grandes Écoles* spoke about a new generation of engineers who operate in projects in which not merely technological knowledge

is important. Engineers have to function effectively in teams and be able to operate in different design environments to which they can bring in their creative skills. This includes the ability to reflect on learning at different levels and in different domains.⁹

5.3 Diversity of graduates in terms of qualifications

This section discusses the changes in European higher education systems towards a greater standardisation and international comparability of qualifications and the balance of demand for different levels of qualifications. We ask whether the Bachelor degree is a sufficient qualification for the labour market or just a step towards the Masters. We then discuss the position of Bachelor degree in binary and unified system of higher education. The section concludes with some views on whether the Bologna process may shed some light on the elite and mass dimensions of modern higher education systems.

5.3.1 International standardisation and comparability of qualifications

The declared aim of the Bologna Declaration is the achievement of a ‘European Higher Education Area’ which advances international co-operation, the integration of the European labour market, international mobility, and mutual recognition of degrees. Several commentators have pointed out that the Bologna process should also be seen as part of general globalisation and a European response to the international competitiveness of European higher education and its contribution to economic prosperity.

Many national employers’ policy documents, however, stress the creation of a common European higher education structure as the most important aspect of Bologna Declaration. This is fully supported by UNICE (2004):

“In light of the growing internationalisation of labour markets and the evolving demands on the competences and qualifications of graduates, UNICE considers the goals of the Bologna Process – when implemented – to be a reliable framework for preparing students for professional activities.”

UNICE supports a homogenisation of systems of higher education in Europe as well as the adoption of a system of easily readable and comparable degrees through a Europe-wide compatible credit point system. This will increase the transparency of the study content and comparability of learning outcomes.

There is wide agreement on the implementation of the Bachelor and Master degree programmes throughout higher education. Some national associations urge the responsible actors to speed up the process so that all and not just some graduates will benefit from the new structure. The Bologna process can also be seen as an instrument of removal of some more ‘negative’ aspects of higher education such as too many students studying for too long in Germany. The new degree structure is

⁹ Such a perspective on a professional comes close to what Abbott calls professional work. Abbott (1988) uses the word ‘profession’ very loosely – professions are somewhat exclusive groups of individuals applying somewhat abstract knowledge to particular cases. Such a broad definition goes beyond the traditional professions like medicine and law and is spread throughout the occupational world. In this world of work different professional groups compete about the control over practical problems. This involves the ability to translate new problems in professional practice in terms of knowledge and skills of the professional group. For Abbott there is a claim on professional competences if these can be grounded with scientific knowledge and methods.

intended to enable students to attain a first degree and enter a professional career at a much younger age. Employers, however, would like to see the high standard of the German *Diplom* (Masters equivalent) maintained. This can be achieved through the accreditation of Bachelor and Master programmes. In France, the Bologna Process should lead to some kind of order in the qualification jungle and to improved visibility and transparency of the degree system.

Employers thus applaud the Bologna Process because of the intended achievement of greater comparability and transparency across national and international systems of higher education. This will enhance the professional recognition of ‘foreign’ qualifications and the employability of graduates in international labour markets.

When we focus on the relationship between higher education and the labour market we note that the Bologna Process considers the study duration to be the single most important factor in the restructuring of higher education curricula. The study duration is also the determinant for international compatibility and comparability.

However, it has been argued that the present ‘jungle of degrees’ across Europe will not become more transparent by simply re-labelling existing programmes and degrees (Tauch 2004). In a similar vein, Teichler (2004) states that the Bologna Process only makes sense of levels of study and degrees, if the years of study and time spent for study indicate a more or less similar level of competence and of preparation for work. Teichler adds that in the case where credits or years of study at one institution of higher education had a completely different value than the identical number of credits or years of study at another institution, *‘it would not make sense at all to transform the structures of higher education so substantially in a convergent way in order to increase mobility and compatibility’*.

In order to grasp this better we have to ask what the relevance of the Bachelor degree is for the labour market in terms of required competences. Is this degree a sufficient qualification for the labour market or just an intermediate phase that necessarily has to be followed by a Masters?

5.3.2 The value of the Bachelor degree for employment

Regarding the position of the Bachelor degree, the Bologna Declaration states that ‘the degree awarded after the first cycle shall also be relevant to the European labour market as an appropriate level of qualification’. Similarly, UNICE (2004) takes the position that a minimum of three years of training for a Bachelor degree will have to qualify the graduate sufficiently for a professional or self-employed occupation. Thus,

“A Bachelor will only succeed on the labour market if subject-specific and cross-disciplinary education goals are equally followed and reached. Cross-disciplinary competences need to be developed simultaneously and need to be practised in tangible situations.”

It is stressed that in order to increase the employability of first degree graduates, the professional/business world needs to be working with higher education ‘to the largest possible extent’. This does not only mean the setting up of internships or work-placements but also the inclusion of teachers or lecturers with a relevant professional background. Case work studies are also seen as a good method of combining theory with practice. The joint planning of curricula is considered to be very important, particularly for practice-oriented programmes.

We wanted to find out how the Bachelor degree together with the notion of employability is conceived in the countries under review. All countries showed tendencies to converge to the Anglo-Saxon model but differences were noted between what is formal rhetoric and what employers perceive to be the case. In the UK the majority of graduates find employment with a Bachelor degree. This has been traditionally the case. Employers are not bound by formal employment regulations. Among the five countries we investigated, only in Germany is the Bachelor - and not the Masters- designated as a *'berufsqualifizierender Abschluss* (qualification preparing for work) (KMK 2003).

In France only the *license professionnelle* (LP) is intended to be a qualification for the labour market, whereas the general license does not have this explicit focus. The Bachelor is normally assumed to be followed by a Masters. In the Netherlands and Norway the employability aspect of the Bachelor degree (in universities) is not enforced by law.

Many, but by no means all, of our interviewees expressed reservations about the value of a Bachelor degree as an entry qualification to the labour market. Some national employers' associations, and particularly professional associations in continental Europe, consider the Bachelor degree of only limited value when applying for the first job. Professional organisations, such as the German engineering association, attribute to the Bachelor degree the central function of a turning point (*'Drehscheibe'*) for both further education and the possibility to open up new professional careers. The German Chemical Society makes out a case for an undergraduate (Bachelor) course structure degree in chemistry which is broad and flexible with a focus on the key disciplines. Their position is that the Bachelor degree is normally followed by a Masters course:

“The former is essential to convey the necessary technical qualifications that are the basis for versatility and specialisation in the subsequent, demanding Masters course”.

Similar views are held by European professional associations across the disciplines. Without going into too much detail here, the engineering associations, for example, believe that the specifics required of an engineering degree mean that the Masters should be integrated with the Bachelor and that the Bachelor in engineering should be *“regarded as a pivot-point rather than a normal finishing point”* (CESAER/SEFI, 2003; FEANI, 2003). Similar views are voiced by other professional associations, such as the European Medical Association (EMA).

We asked if the Bologna Process is likely to lead to a cut in the duration of study time (from five years to three for the first degree), or will it maintain a five year study programmes leading to the Masters. What has changed? The answer will lie in the decisions that future generations of students make about their qualification needs and study duration.

How do employers assess the value of a Bachelor degree? According to research undertaken on behalf of business (Bergs, Konegen-Grenier, 2004), most companies in Germany welcome the move towards the Bachelor/Master structure, in principle at least. They anticipate that the shorter Bachelor degree will benefit society as a whole though they seem more critical when related to their own company needs. There remains a concern that those graduates with 'only a Bachelor degree' will need more in-house training than those with a *Diplom* (Masters), thus placing the burden of work-related training on to industry and commerce rather than traditionally on to higher education. Equally, many employers, particularly the smaller ones, do not understand how to locate Bachelor graduates in terms of pay, job specification and training needs within their own organisation.

Dutch employers – at least in the interviews – showed much resistance to the Bachelor degree as an appropriate level of qualification. In the VNO-NCW meeting the view was put forward that a Bachelor is actually an *‘unfinished degree’* and needs to be followed by a Masters. In the words of one of the participants: *“Those with a Bachelor degree are failed students and usually I tell them first to gain their Diploma (Masters)”*. It was added that such a view internationally may not be that strong, and in the long run cannot be maintained. It also does not apply to the HBO institutions where the bachelor degree is considered the normal exit point.

Similar voices were heard in Norway when people were asked about the final degree classification in relation to graduate entrants to employment. In the main, engineers, scientists, and advanced technologists were expected to have a Masters degree; indeed, most Bachelor graduates will be able to proceed to the Masters without further selection.

University leaders in Germany, the Netherlands and Norway do not differ in their view a great deal. Although they generally favour the Bachelor/ Master structure for various reasons, university representatives conceive the Bachelor degree to be *‘deficient’*. *“And this will be perpetuated longer than we expected some time ago”*. Although a small group of students may quit after the Bachelor, most universities consider the Master as the final qualification for a university degree and through routes of progression from one to the other have yet to be determined.

These points of view express the difference between the British and the continental European traditions in higher education. France takes a middle position since it attaches legally a dual function to the Bachelor degree: both as a labour market qualification (professional license) and as a step towards the Masters (general license).

It has yet to be seen whether European employers can maintain their views on the Bachelor degree. It is possible that the Bachelor will be accepted as a labour market entry qualification under the pressure of international developments, as a Dutch employer suggested. Or could there not be a movement the other way around? The funding council officer saw the undergraduate degree as an *‘intermediate phase’*. Its content was increasingly unimportant since further employment-related education and training would follow the first degree study. Undergraduate courses could too easily be overcrowded with *‘educational development, personal development, employment development etc’* leaving no room for *‘creativity’*. She could see a growth in numbers wanting Masters, thereby partly reflecting the above and partly the pressure to achieve comparability. This issue was ignored by policy-makers in the UK.

The vice chancellor expected an increasing demand for a Masters degree, especially if the undergraduate degree was rather too generalist. The example she gave was a Masters degree in Human Resource Management for someone with a first degree in Humanities. She stressed differentiated qualifications and mentioned the importance of work-based learning. However, in the UK, final degree classification at undergraduate level remains more important than achieving Masters level. (There is an interesting question of whether a Masters in the UK context can compensate for a low class bachelor’s degree from a low status university. The answer is *‘probably not’*.)

British employers, on the other hand, had little to say about differentiated levels. There was certainly no enthusiasm for Masters degrees in general. Some comments were made about the falling status and value of MBAs in particular. (This may reflect the UK tradition of emphasising the role of higher education as a *‘sorting device’* rather than a source of learning!) For this group, three years of higher education was enough!

It can be concluded that there are divergent views on the value of the Bachelor degree and it is not yet clear in what directions national traditions will move. The international pressures do not move in one and the same direction and much may depend on opportunities of international labour mobility among graduates.

In some countries, the explanation as to why the Bachelor degree meets so much criticism as an entry qualification for employment can be found in the binary structure of the higher education system.

5.3.3 Bachelor degrees in binary and unified systems

In continental Europe there is, undoubtedly resistance to accept the Bachelor as an entrance qualification to the labour market. However, this has to be understood within the context of the prevailing binary system. Here the non-university sector offers shorter, more practical-oriented programmes and the traditional universities longer, more research-oriented ones which usually lead to the Masters level.

The emphasis on the employability of university Bachelor degrees suggests a vocational component which seems to be at odds with the current functions in binary systems of higher education where the non-university professional education is charged with practical and applied education. UNICE (2004) acknowledges this situation and suggests that Bachelor degrees can be differentiated into a more practical or more scientific/research orientation. It assumes that the university Bachelor in binary systems tends to be focused on a career in public sector or private research environments. This corresponds with the marked tendency to differentiate between the Bachelor degree at academic and research-oriented in universities and more practical-vocational training in the non-university sector (such as in the HBOs and the *Fachhochschulen*). In light of Bologna, traditional universities no longer offer internships, work-placements or work-based learning experiences within the Bachelor curriculum. Thus the binary system functions as a justification for universities not to include more practical elements in their undergraduate education.

Such a view is supported by the Dutch employers association VNO-NCW. It is argued that a more practical orientation in the university curriculum would be at odds with the principles of the binary system of higher education. In these systems academic and vocational education are differentiated by institutional types, a distinction which employers would like to see maintained. They don't see such a tension in unified systems as in the UK. Interviewees, however, conceded that there is more pressure to deal with the distinction between academic and vocationally-oriented education as far as the Bachelor degree is concerned.

In some countries, the university sector and the 'polytechnic' sector may move closer together because of the Bologna Agreement. The Norwegian binary system is gradually being eroded since colleges increasingly have the right to develop research degrees, to appoint professors and to engage in research (mainly of an applied character). Similar developments were noticed in the Netherlands and Germany. Nevertheless, our employers continued to attach much value to this institutional diversity. One interviewee, representing a large national company in Germany, stated that they found *Fachhochschulen* to be much more flexible. "*They know what employers need and want*". In her view, universities are constantly worried about their reputation; they do not cooperate well with their employers.

In this context the Dutch representative from SMEs especially warned that the HBOs should not focus too much on the university model which would lead to an undesirable process of ‘*academic drift*’, but rather they should focus on their role of listening to the needs within employment sectors. The abolishment of the binary divide would be unthinkable for employers in these countries.

France has solved the dilemma of the binary divide by distinguishing within the university sector programmes between a professional/vocational Bachelor and a general (or academic) Bachelor. Students who opt for the vocational Bachelor must first have completed at least two years university education (DEUG) or a two-year vocational degree (technical degrees BTS or DUT – *Instituts Universitaire de Technology*).

5.3.4 Elite and mass higher education after Bologna

Apart from the binary divide, there are some other issues in the Bologna process which need to be considered. These may shed light on current discussions concerning elite and mass higher education.

The extent to which Bachelor students can continue to a Masters programme is not yet completely clarified in all countries. In The Netherlands and Norway, there are in principle no formal regulations which obstruct those with a Bachelor to continue with a Masters and universities are not particularly selective at entrance to the Masters. In Germany, where restricted access to the Masters was debated at the time of the interviews, the matter was, and is, highly contentious.

This is not the case in the UK where entrance to the Masters is selective and frequently intended for those who wish to pursue an academic career. (More vocational Masters degree are typically taken after a few years in the labour market.) In France, the situation is more differentiated. The French university representative stated:

“In our view, a professional Bachelor is not supposed to continue for a Masters, although the Ministry acknowledges that everyone has the right to go for a (professional) Masters. This is difficult to manage since selection takes place not in the first year of a Masters programme but in the second year. Because of this selection students who want to enter a short professional course are warned that it will be difficult to continue in a Masters programme (professional or research)”.

Reference was made to high number of students of Psychology at undergraduate level with only limited numbers of places available at Masters level. In other words, many students will be blocked in their career with only a Bachelor degree. These students will have to find further education in another related field. This development is likely to create yet more division between the elite and mass higher education system.

Generally, the interviewees in all countries considered that there is a need for transferability and routes of progression between different types of higher education providers across the binary divide.

5.3.5 Differentiation at the place of work

By differentiation we refer to salary scales at entry to the labour market, and different functional categories according to educational levels or number of years of higher education study. However, this was not an area of concern to French interviewees. After all, the two-year DEUT is a recognised diploma and employers are ambiguous about the higher level qualifications. Although they would prefer graduates with a professional/vocational Bachelor degree, they do not seem to be

prepared to adapt the salary levels accordingly. They tend to maintain the salary levels according to the DEUT level.

Nevertheless, there are signs that graduates with the vocational Bachelor level (compared to the two-year DEUT level) will attract higher salaries; their skills will be better aligned to a particular job function. There should also be more information on job opportunities. However, unemployment levels are similar to those with general Bachelor degrees, about 8%, which indicates that an increase in the number of graduates with a vocational Bachelor is not unproblematic (Giret, 2006).

In the UK, the vice chancellor stressed the importance of differentiated qualifications and the importance of work-based learning. Government focus is on the two-year Foundation degree which is an occupation-led qualification for groups of students working in specialised areas (youth workers, for example). In the Netherlands, too, such short-cycle degrees are also being discussed. The HBO council and the sectoral advisory committees are very critical because they see this as a lowering of the HBO-status. The employer association (VNO-NCW) is not in favour of this development either, arguing that there is no need for this and job functions cannot be differentiated so specifically. The employers' association for SMEs, however, favours an intermediate level referring to experiences in France and the UK. According to the respondent from this association, there are many SMEs that expect to have job functions somewhere between an HBO Bachelor and secondary vocational education. Generally these are functions requiring:

- HBO-level regarding aspects such as the capability to anticipate, problem-solving skills, communicative skills;
- regarding theoretical knowledge, the complete HBO-diploma of four years is not required.

These developments suggest that the graduate labour market is not homogeneous in terms of diversity and the number of years in higher education. It looks as if this diversity will continue in many different forms across the European countries.

5.3.6 Roles and responsibilities of higher education and employers

We asked about the difference between Bachelor and Masters and the implications for further training. It is widely accepted by many companies, particularly the larger ones, that graduates with a Bachelor degree will need more subject-specific training than those with a Masters. Companies are therefore not sure if, in the end, they will have to carry the burden of the current restructuring in higher education. This view was quite explicitly put forward in the Netherlands and Germany. In the words of a German business representative:

“The idea is that if someone has written a thesis at Masters level, he/she will have focused narrowly on a particular subject. So we have to ‘wean’ that person and provide breadth, that person will have to learn to become more of a generalist. While someone with only a Bachelor degree will need a lot more subject-specific training. At this stage we are not sure how the changes will affect our training provision”.

Such a view reflects the German and Dutch educational systems which are highly structured and geared towards the final qualification of an academic degree. Employers see a clear distinction between what is the responsibility of the state and what is the responsibility of the employment sector, in terms of in-company training.

In the British tradition, this is quite different. In professions such as engineering and law a professional qualification is attained after a period of professional practice and certified by the respective professional bodies, whereas in most continental countries this is part of the regular training within the higher education institution. This lends support for the view that the Bachelor qualification in the UK involves some transfer of education/training function from higher education to employers.

A relatively recent development would allow graduates with a Bachelor degree to study for a Masters while at work. Within the employment contract the responsibilities of the university and the employer would have to be clearly regulated. An important feature of this kind of arrangement is that the research project required for the Masters programme could be carried out on a joint basis between university and the employer organisation.

5.4 Higher education responses

Increasingly, employers' needs in a changing labour market are a key consideration for higher education curriculum development and institutional support. In most parts of Europe, higher education institutions have been subjected to reforms in light of the 1999 Bologna Declaration, albeit with different levels of speed and intensity. Most have redesigned, or are in the process of redesigning, study programmes to fit in with the two-cycle degree structure. In everyday reality this has involved prioritizing, adjusting timetables, implementing assessment strategies based on learning outcomes, allowing for the teaching of key competencies, either within or outside a particular programme.

5.4.1 Higher Education responses in terms of curricula

The move towards modularization of courses and learning outcomes together with accreditation and quality assurance systems was seen as very labour intensive and at the expense of time for research and related academic activities. As one German university dean commented:

“There was not much resistance, but a lot of concern particularly during the years 2002/2003 when we first introduced the modular structure. Now members of the teaching staff do not have the same freedom in terms of curricula planning as they had before, and students nowadays do not have the same freedom to choose the courses they want. Then there is much more intensive pastoral care for the individual student, which again is time consuming and hence costly.”

Retention of students, too, has become a policy issue as has widening participation to accommodate minority groups and older students. Other areas of activities such as marketing of courses and collaboration with local business and other educational providers have followed.

In the words of the university rector in Norway,

“We are working, hopefully, towards having better students. We worked hard in redesigning our programmes and giving students more information...we do marketing now to recruit students which means we have been able to reverse the decline in numbers we had since 2003, when the new programme came on stream. For the past two years we have increased by 55% which means that some programmes now have entry requirements... this is a significant change, so we have a different student body.”

Another problem, according to a higher education trade unionist in Norway, was that university lecturers face many more examinations because of modularisation. Accordingly, they would have less time for research and not the same freedom to choose their areas of research as was the case before the reforms were introduced. Increasingly, too, lecturers are required to obtain a teaching qualification. In Norway, and to a lesser extent in Germany, this has become mandatory for new professors.

The concept of a part-time degree for mature students who already have work experience is relatively unknown in many countries other than the UK. Also in the UK, there has long been a strong tradition of careers guidance for students which is a relatively new area for universities in other European countries and in different stages of development. Norwegian universities and many state colleges have set up careers guidance services for their graduates and are keen to develop key skills across all disciplines. This was a new development but it is considered to be a very important one.

5.4.2 The employability agenda

The 'employability' agenda in the Netherlands, according to our interviewees, is considered important and should be addressed by all higher education institutions. In HBOs this is self-evident; it is argued that universities, too, should be more conscious of the importance of bringing the learning process closer to its application, in order to show the relationships between the discipline and professional practice. This matters not only for academic courses connected with a professional field (i.e. medicine), but also for students in the fundamental/main disciplines. Examples were given of university courses where the professional context is part of the project work that students are carrying out.

The question of employability of graduates in the Netherlands has become topical since institutions, according to the new draft of the Higher Education Act, are obliged to establish relationships with the respective employment sector in a structural and systematic way. In the accreditation framework, universities and HBOs should provide insight into what the contribution of the professional field is, for example in determining learning outcomes or defining (domain) competences. Employability becomes a quality indicator by the accreditation body. Neither from the side of universities nor from HBOs is this seen to be an undesirable intrusion on their autonomy. The employers' association stresses that such collaboration should be assessed by the accreditation body.

A further employability dimension concerns problem-based learning approaches in higher education, and the improvement of the quality of internships/ workplace learning and apprenticeships.

In all interviews the importance of lifelong learning was recognised, but with different levels of emphasis. Some of those taking part argued that institutions should be much more active in this area than has traditionally been the case. Others believed that the private sector was much better equipped to provide lifelong learning than universities. Concern was expressed by some of the interviewees about the ever longer learning paths of graduates, especially when there is a prolonged break between Bachelor and Masters. However, if Masters study can be done in the form of continued professional development then this would enhance the interface between learning and work.

The notion of graduate employability is embedded in various European frameworks and many national higher education policies. However, individual university lecturers have different responses

to such requirements. Many maintained that they were concerned about students entering the labour market and prepared students well for the area of work. Scepticism expressed in at least some interviews related more to policy rhetoric rather than specificities. In the UK the notion of employability and related tasks for higher education has been integral to government strategies and policies for many years, and not just for higher education but for all other areas of education (Yorke, 2004). However, as was apparent from our interviews, some university lecturers reject the whole employability agenda. Accordingly, this has led at times to re-branding of courses and qualifications. The label “*fashion marketing*” seemed appropriate. Another respondent stated that many members of the teaching staff do not have the necessary background or experience with regard to labour market needs and the employability of graduates. It was a difficult task to ‘teach employment’! Furthermore those in higher education and employers were too much stuck with ‘old models’. There was insufficient recognition of the shifting boundaries between higher education and the area of work. Education and training should not just be left to future employers; higher education should do more.

The funding council officer in the UK, while strongly supporting the view that higher education had a responsibility to address explicitly issues of graduate employment, distinguished between a) making a graduate more effective in the workplace, b) convincing the employer that the graduate would indeed be more effective! The latter made it essential to involve employers in higher education processes in order to improve their understanding. Sandwich courses could play an important public relations role in this respect. The funding council officer also emphasised higher education’s importance in the long-term for the graduate – enhancing confidence and raising aspirations – but commented that higher education could also sometimes do the reverse, undermining confidence, making some students feel that they would ‘*never be good enough*’. She concluded that higher education, though, should never forget that it was all about ‘*criticality*’ and ‘*reflexivity*’.

Universities put much effort in convincing managers that PhD holders are useful, not only because of their high level of knowledge, but also because of their competence in project management. In this context, reference can be made to a problem signalled in France regarding the employability of PhD holders (although this also may apply to other countries). Managers think PhD holders are too specialised and don’t know the economic world. Many managers themselves come from the *Grandes Écoles* and they have, according to the university representative, a biased view on universities. ‘*It is more cultural than rational*’.

5.4.3 Higher education and business

An overall good relationship between business and higher education was noted between the vocationally-oriented *Fachhochschulen* and local employers in Germany. This had evolved over many years and was dependent on the particular sectors presented in the local community. Many thrived on personal contacts and involvement. However, the relationship between the world of work or business, with its profit-making agenda, and that of higher education is not always a comfortable and straightforward one. Many higher education experts expressed the view that it was not just the role of universities to respond to labour market needs but to those within society as a whole. It was noted that some employers had unrealistic expectations of higher education, a point that was voiced during several interviews. As one trade unionist put it,

“*At the heart is the naïve assumption that employers always know what they want but often employers do not have a clue.*”

Comments made by German higher education experts referred to the 1990s when there was a huge demand for IT specialists, die “*wurden uns aus der Hand gerissen*” (they were grabbed away from us). At that time IT students were able to attract huge salaries, even before finishing their studies. There are many similar examples across a range of disciplines. It is argued therefore that it was difficult for those in higher education to predict employment needs of the future. Furthermore, it was a long process to develop new curricula; this could not be done overnight to suit the needs of industry and commerce. In other words, universities could not always respond to demands made by employers, and perhaps they should not do so anyway – which is why a broad, more practice-based, non-specialised Bachelor degree and the development of key competences were more important than specific work-related subject knowledge imbedded in the old *Diplom* or Masters.

In Norway there are problems related to the small size of the country. Most university lecturers at the University of Trondheim, for example, were educated there, so they did not have much work experience outside university before starting to lecture. Work experience was badly needed, according to views expressed by those in business. There was still a marked gap between higher education and the private sector of employment, although the Quality Reform has ensured that representatives of the private sector sit on the Council of Universities. Even business managers were sceptical and admitted a lack of understanding. In the main, many were content to let higher education “*do its business*”.

“The companies are not coming to Higher Education saying we must have this or that, we don’t get from our members what kind of higher education they want... they adapt to what is there”.

In France, employers argue that the third year of the *license professionnelle* would be profitable if it is linked to projects in a company. This would make sure that course content was related to the needs of the company. MEDEF seeks to develop the LP in ‘*contract de professionalisation*’, which is a contract with companies to alternate school and work (through work contracts, apprenticeships or sandwich courses). The *Grandes Écoles* in particular referred to committees consisting of representatives of important companies advising on skills needs, projects, curricula design etc.

Initiatives have been taken to establish partnerships between universities and companies with the aim of providing information about industry, job opportunities, course content and development. An important objective is that students develop projects jointly with companies in which they can discover the field and develop competences used there. Students learn how to design, undertake and present project work (so-called ‘*les travaux dirigés*’). It is a process in its early stages, but universities are more open to this kind of dialogue than before and consider projects to be good preparation for work. This also applies on the Masters and Doctoral levels (professional orientations).

The work around ECTS – mobility of students – obliges universities to have a certain amount of modularity in their courses. In addition, there is a marked trend towards ‘*la validation des acquis de l’expérience professionnelle*’: the evaluation of the knowledge of the candidates to have access to courses in higher education. There is a clear trend in French continuing education to move away from long, full-degree courses to short courses, more tailor-made and tuned to individual interests and capabilities. Current legislation gives every employee a right of continuing education, but so far the role of universities and *Grandes Écoles* in this is rather minimal. Universities say that they do not have sufficient financial means or teachers. Employers see a problem with content and organisation: courses have to be important for people who are working in professional practice. Yet both parties seem to be prepared to establish partnerships in order to improve the situation.

Many of those interviewed reminded us that in most developed countries higher education also fulfils an important social function. As agents of social mobility, universities are distributors of life chances. It would not be right to forget that educators in all five countries shared these sentiments, even though they were not at the foreground of discussions.

6. Conclusions

From a comparative perspective, a number of broadly shared issues have emerged that are worth noting, even though it is difficult to draw straightforward conclusions about higher education and its graduates. Diverse views and trends were noted which relate above all to political, structural and economic differences between the five countries investigated. But also different and often contradictory views were expressed within countries and by interviewees with the same professional background.

Nevertheless, higher education in all five countries has moved some way towards convergence. This is partly based on reforms within the European Union and partly on global economic and political forces. On the basis of the data from the interviews and focus groups, the following conclusions can be drawn.

Supply and demand

1 In all countries there is an increased demand for graduates in society

Asked if society needed more or fewer graduates, all respondents were keen that admissions should be increased. Higher education interviewees noted that those studying for a Bachelor degree could be more focused and motivated than students on drawn-out higher education programmes.

The Lisbon goal of increasing the participation rates (to 50%) in higher education was widely supported. It is expected that there will be a growing demand for graduates with various levels of higher education, including intermediate degrees such as short-cycle higher education tuned to specific jobs.

Shortages are expected in various sectors, not only in the technical sectors but notably in public domains such as education and health.

2 Over-qualification or downward substitution is not perceived to be a problem.

In all countries the increased demand for higher education is related to the rise in the level of educational requirements. Many interviewees pointed out that many jobs are in the process of being upgraded, mainly because of increasing complexity and technology. Many companies nowadays look for higher qualifications and recruit graduates for positions previously occupied by non-graduates. In addition, new job functions have emerged for graduates particularly in the administrative, design, technical, environmental and caring professions. It was pointed out that graduates have a 'transforming capacity' by turning non-graduate jobs into ones at graduate professional level.

3 There are different meanings of elite and mass higher education

The need for 'elite' and 'mass' higher education akin to the American or British models, with 'elite' universities on the one hand and lower status mass education provision on the other, is strongly nationally bound. Although in France traditionally sharp selection mechanisms are involved in the granting of exclusive degrees, the distinctions seem to be becoming less pronounced due to developments within universities and the fact that some *Grandes Écoles* and universities have been seeking rapprochement.

The elite and mass dimension carries different meanings in Norway, the Netherlands and in Germany where higher education was at one time geared towards the elite. As far as the universities are concerned universities do not substantially differ in status. Although there is a marked political push towards ‘excellence’ in research, particularly in the sciences and technology, there is still a desire to hold on to traditional values.

On competences

4 The value of a degree remains important but it is not the only thing that counts

Data obtained from the interviews points to differences between Britain and the other four countries in the way higher education qualifications are viewed. For British employers, higher education qualifications indicate potential among graduate employees with regard to management position, senior administration or the creative areas of work.

In other countries, most notably in France, employers look to traditionally required degree qualification levels. Although this is also the case in the other countries, the subject of the degree is no longer the main determinant in the recruitment of graduates. Increasingly employers also look for evidence of generic skills and key competences. Those most often referred to during the interviews were:

- communication skills
- foreign language skills (mainly English)
- project management skills
- entrepreneurial skills
- international orientation/ intercultural understanding.

This does not mean, however, that specific subject-related competences are becoming less important.

5 The specialist versus generalist dimension and academic versus vocational competences are less seen as rival categories.

The view that flexibility is developed through broad general rather than through specialist courses was generally rejected. Even in the UK the association between ‘flexibility’ and ‘generalisability’ was challenged. Doubt was expressed that the latter would necessarily produce the former. The inclusion of generic components in the curriculum should never be at the expense of more in-depth studies and a sound understanding of the subject matter. The ‘employability competences’ should not be at the expense of subject-related competences. When asked whether the flexible professional is a ‘specialist’ with some generic skills or a ‘generalist’ mastering a broad area of knowledge and skills, the former was the desired option.

In terms of undergraduate study most respondents emphasised the need for inter- or cross-disciplinary knowledge and skills. When employed, graduates are increasingly expected to deal with

matters which are outside their immediate subject specialism. This is important both in the established professions (engineering or medicine) as well as in new graduate occupations.

The academic/vocational distinction, although still institutionalised in various European systems, can be questioned and there is a trend to mix the two elements.

6 Required competences are related to a shift from the traditional to the flexible professional in work organisations

The term knowledge society suggests not only the expansion of the knowledge-intensive or high tech sectors but also that the characteristics of the vast majority of work organisations are changing under the increasing importance of knowledge management. These changes create a working environment in which graduate competences show up well in terms of the level of autonomy accorded to the new graduates, the degree of specialisation in the work role and in the amount of flexibility expected.

Employers stressed the impact of interdisciplinary teams which include people with different backgrounds. The 'professional' component consists of bringing in one's own expertise, to communicate and confront this with other perspectives. Such an approach would definitely contribute to the innovative capacity of the workplace.

In some interviews, reference was made to a notable shift towards a new type of professional. The new professional was typified as an 'interactive problem solver'. The established professional functions well in organisations which are specialised and fragmented whereas the new professional operates in functionally integrated organisations.

Interviewees generally believed that there should be a balance between subject knowledge, functional flexibility, knowledge management and mobilisation of human resources. Many companies are moving towards customer-oriented working which means that work has to be organised in a way that would allow greater spontaneity and flexibility.

On diversity

7 The employment value of the international degree structure varies across countries

In the countries under review there is much support for the Bologna process. The goals are considered to offer a reliable framework for preparing students for employment. The comparability of national higher education systems and the transparency of the international degree structure are assumed to increase the employability of all graduates at home and in international labour markets.

However, since the study duration is considered as the single most important structuring principle for higher education curricula, the employment value of the degree can vary quite considerably across countries. A simple re-labelling of existing programmes and degrees does not result in more transparency.

8 The relevance of a Bachelor degree to the European labour market as an appropriate level of qualification has a different meaning in different national contexts

The employers interviewed took different positions about whether a three year Bachelor degree would sufficiently qualify the graduate for a professional or self-employed occupation. In the UK, the Bachelor degree is the usual qualification. In the Netherlands, Germany and Norway, however, to some this remains difficult to accept. Although students may leave higher education with a Bachelor degree only, those in higher education still consider the Masters as the final qualification for a university graduate. In Germany at least there is still uncertainty about how access to the Masters will be regulated.

These points of view indicate a key difference between Britain and the other four countries. France takes a middle position since it attaches legally a dual function to the Bachelor degree: both as a labour market qualification (professional license) and as a step towards the Masters (general license).

The resistance against accepting the Bachelor degree as a labour market qualification is strongest in countries with a binary system, mainly because it is regarded as a development that could undermine the binary divide.

9 New dimensions of the distinction between elite and mass higher education

The elite/mass dimension is not only related to the existence of elite institutions, but also increasingly to the extent to which there is transferability between the various sectors and stages in the different higher education systems. This depends on formal selection mechanisms from the Bachelor to the two-year Masters (one year in the UK) within universities and across the binary divide.

On higher education's responsiveness

10 Creating better relationships between higher education institutions and the world of work

Higher education experts were keen to stress the need for better career guidance and a closer link to the area of work, although some experts remained sceptical about how easy this was going to be to achieve.

In some countries there is central regulation that obliges institutions to seek collaboration with the respective employment sector in a systematic and structural way. Generally the view was supported that higher education had a responsibility to address explicitly issues of graduate employment, not just by making a graduate more effective in the workplace. They should also work to convince employers that hiring graduates would 'make a difference'.

11 The division between higher education and the workplace differs across countries; more involvement of higher education in the area of lifelong learning is desirable.

In some countries business experts were concerned that employees with a broad-based Bachelor degree would need more subject-specific training in the workplace and thereby lead to a shift in costs away from the university to the 'already hard-pressed' employer. Smaller and medium-sized companies would be less able to cope. Such concerns were less pronounced in the UK where employers traditionally take on responsibilities for training and staff development. All those

representing the world of work welcomed the teaching of key skills and competences together with the practice-orientated Bachelor degree.

The importance of lifelong learning was stressed by those representing employers. There was concern that universities did little to respond to these needs. There was a huge market for lifelong learning but too much of this was taken up by commercial providers. Universities could do much more to develop lifelong learning and continuing professional development for their alumni.

In Conclusion

All five countries are striving towards a more neo-liberal agenda of higher education, to take account of demands made by the global economy and the knowledge society. However, it seems that higher education models in France, Germany, Norway and The Netherlands remain rather different from the Anglo-Saxon - although all are heading in the same direction. In all countries, many obstacles to change were identified.

Finally, it must also be remembered that higher education also fulfils an important social function (Scott, 1998). As agents of social mobility (and reproduction) universities are distributors of life chances. It would not be right to forget that educators in all five countries shared these sentiments, even though they were not at the foreground of discussion

REFERENCES

- Abbott, A. (1988) *The System of Professions*. Chicago: The University of Chicago Press.
- Allen, J and R. van der Velden (2005), *The Flexible Professional in the Knowledge Society: conceptual framework of the REFLEX project*, REFLEX Working paper 1, Maastricht: Research Centre for Education and the Labour Market.
- Altbach P. G. (1998) *Comparative Education: Knowledge, the University and Development*, Hong Kong: Comparative Educational Research Centre, The University of Hong Kong.
- Arthur, L. (2006) Higher Education and the Knowledge Society: issues, challenges and responses in Norway and Germany, *Research into Comparative and International Education*, 1(3)
- Barnett R. (1994) *The Limits of Competence*. Buckingham: Open University Press.
- Barnett, R. (1997) *Beyond Competence*. In: Coffield & B. Williamson (eds) *Repositioning Higher Education*. Buckingham: Open University Press.
- Bergs, C., Konegen-Grenier, 2004, *Die Akzeptanz von Bachelorabsolventen in der deutschen Wirtschaft, Eine Befragung von 50 Unternehmen*, Cologne: Institut der Deutschen Wirtschaft
- Brennan, J., Kogan, M., Teichler, U (eds) (1996), *Higher Education and Work*. Higher Education Policy Series 23. London: Jessica Kingsley Publishers.
- Brennan, J. (2004) *Things we know and don't know about graduate employment*. Paper prepared for Employability Advisory Group, HE Funding Council for England, 9 December 2004.
- Brown, P. Hesketh A. (2004) *The Mismanagement of Talent. Employability and Jobs in the Knowledge Society*, Oxford: Oxford University Press.
- CÉREQ (2004) *The Professional Licence: The narrow paths of professionalisation at university*. Marseille.
- Dehmel, A., (2005) *The role of Vocational Education and Training in Promoting Lifelong Learning in Germany and England*, Oxford: Symposium.
- Dubois, P. (2004) *Le devenir professionnel des diplômés de l'enseignement supérieur long. Le cas de France*. Université de Marne-la-Vallée.
- European Commission (2003) *The role of universities in the Europe of knowledge*. Brussels.
- Esping-Anderson, G., (1990) *The Three Worlds of Welfare Capitalism*, Cambridge: Polity Press.
- Giret, J.F. (2006), *Vocational training in higher education and labour market outcomes: evidence from the "new vocational Bachelor degree" in France*. Paper presented at the ELM conference, Maastricht 19-21 October 2006.

HayVisionSociety (2003) *Competenties. Lessen uit de praktijk, verwoord in wensen ten aanzien van de initiële opleiding*. Zeist: HayGroup.

Haut Comité Éducation -Économie-Emploi (2003) *L'enseignement supérieur court face aux défis socio-économiques*. Rapport d'activité 2002-2003.

Husen, T., Postelthwaite, (eds.) (1994) *The International Encyclopaedia of Education. Volume 2* Oxford, New York, Tokyo: Pergamon, second edition.

KMK, (2003) *10 Thesen zur Bachelor- und Masterstruktur in Deutschland*, Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland.

Kohler, J. (2004), Schlüsselkomptenzen und 'employability' im Bologna-Prozess, in *Schlüsselkompetenzen und Beschäftigungsfähigkeit*, Essen: Stifterverband für die Deutsche Wirtschaft.

Nyborg, P. (2005) *The Quality Reform of Higher Education in Norway*, Norwegian Council for Higher Education (accessed online 21/11/2005).

OECD (2004) *Learning for Tomorrow's World, First Results from PISA 2003*, Paris: OECD,

OECD 2003, *Education at a Glance*, Paris: OECD.

Paul, J.J., J. Murdoch, J. Zanzala (1999) *University selectivity and employment: a comparison between British and French graduates*. Orléans: LEO-CRESEP.

Pritchard, R. (2004) Humboldtian values in a changing world: staff and students in German universities, *Oxford Review of Education*, 30(4).

Purcell, K., Elias, P. (2004) *Is mass higher education working? Evidence from the labour market experiences of recent graduates*. National Institute Economic Review (190). pp. 60-74

REFLEX (2005). *The Flexible Professional in the Knowledge Society*, Centre for Higher Education Research and Information. Milton Keynes: The Open University.

Renique, Ch. & G. Visser (2004) *Domeincompetenties in het HBO als sleutel voor herkenbaarheid en flexibiliteit*. TH&MA.

Renique, Ch. & A. Knottnerus (2004) *Accreditatie per Domein*. Workshop NVAO 24-3-04.

Schomburg, H., Teichler, U. (2003), Hochschulabsolventen in Japan und Europa – zukunftsfähig und erfolgreich? In Schwarz, S., Teichler U., (eds.) *Universität auf dem Prüfstand*, Frankfurt: Campus Verlag.

Scott, P. (1998) Massification, Internationalisation and Globalization, in *The Globalisation of Higher Education*, Scott, P. (ed.) SHRE, Buckingham: Open University Press:

Tauch, C., (2004) Almost half-time in the Bologna process – Where do we stand? *European Journal of Education*, Vol. 39, No.3, pp275-288.

Teichler, U. (2004) *Changes in the Relationship Between Higher Education and the World of Work on the Way Toward a European Higher Education Area*, Keynote speech at the EUA conference “University and Society: Engaging Stakeholders”, Marseille: 1-3 April 2004.

TU Delft, TU Eindhoven, Universiteit Twente (2005) *Criteria for Academic Bachelor's and Master's Curricula*. TU Eindhoven.

Trow, M. (2005) Reflections on the Transition from Elite to Mass to Universal Access: Forms and Phases of Higher Education in Modern Societies since WWII, in Phillip Altbach, *International Handbook of Higher Education*, Kluwer.

UNICE The Voice of Business in Europe (2004), *Position paper on the Bologna Process*. Brussels.

Vabó, A., (2005) *The Implementation of Bachelor and Master Programmes*, NIFU-STEP, Oslo.

Van der Velden, R.K.W. (2006), *Generiek of Specifiek Opleiden?* Rede, Universiteit Maastricht.

Yorke, M. (2004) Employability in the Undergraduate Curriculum: some student perspectives, *European Journal of Education*, 39(4).

Appendix 1

REFLEX Project – Interview schedule with employers and universities **(for interviewer use only)**

Explain that the interview will cover four broad areas: (i) supply and demand for graduates, (ii) competences needed by graduates in the workplace, (iii) diversity of graduates and employment, (iv) the extent of higher education’s responsibility for graduate employability. It will not be the intention of the interview to go through each question. Questions selected will reflect the type of interviewee and the ‘flow’ of the interview.

A. Match between supply and demand for new graduates

The expansion of student numbers is generally justified on the grounds that technological and economic changes require higher skill levels in the workforce. This raises questions about the match between the rising educational levels and the demand for highly educated workers.

A1	Is society going to need more or fewer graduates? - Do you expect changes in the demand for graduates in the coming years?	
A2	How far do graduates occupy a distinctive set of ‘graduate jobs’? Or is the difference with non-graduate jobs less clearly defined? - In future, will more graduates occupy ‘non graduate’ job, with a tendency towards over qualification? - To what extent is this due to upgrading of functions in the workplace? - What do graduates offer that non-graduates do not? (e.g. greater productivity of graduates, more adaptive or innovative capabilities)?	
A3	How important is the subject studied? The institution attended? Or the final grade achieved? What other factors are important in distinguishing between different graduates?	
A4	Do we need to distinguish between ‘elite’ and ‘mass’ higher education? (in terms of restricted entry and selectivity for employment?) - In your view, should there be greater differentiation in the provision and quality of higher education? - Or should there be more restricted entrance to higher education and tighter selection during the degree programme?	

B. Competences graduates need to possess in the workplace

Graduates entering the labour market have acquired (specialist) knowledge and skills in higher education. These are often linked to explicit professional or occupational roles. In addition, personal skills and competences that are flexibly defined across different professional roles are gaining importance. This raises questions about broad trends in employer needs and recruitment strategies, such as the demand for specialist or flexible workers and recruitment for ‘elite’ or ‘mass positions’.

B1	<p>How do employers differentiate between graduates in the recruitment process?</p> <ul style="list-style-type: none"> - To what extent is their education (subject, course, type of institution) a key factor? - What competences are expected of graduates and how are these assessed in the selection process? - In what other ways do employers differentiate? 	
B2	<p>Do we need more graduates who are subject specialists (which?) or more who possess broader cross-disciplinary knowledge and skills (which?)</p> <ul style="list-style-type: none"> - Would this apply to some employment sectors or jobs more than to others? 	
B3	<p>If flexibility coincides with broad, general education how far would this be at the cost of more in-depth studies and a sound understanding of the subject matter?</p> <ul style="list-style-type: none"> - Would this flexibility undermine the value of specialist courses? - If yes, does this imply that specialists are more vulnerable in the labour market? (i.e. their specialism may become redundant) - Where do you see changes? Or trends for the future? 	
B4	<p>How are employer organisations (re)defining areas of competences of the future knowledge worker, that is in terms of</p> <ul style="list-style-type: none"> - subject expertise, - functional flexibility, - knowledge management and - mobilisation of human resources? 	

C. Diversity of graduates in terms of qualification levels

European countries vary in their higher education systems from a unified university system to a binary system (separating academic and vocational/professional education), or more differentiated system of institutions and degree structures with various study duration tuned to specific occupational areas and levels. The Bologna process basically transforms this diversity into a system based on two main cycles. The undergraduate cycle is three years of study and finished with a Bachelor as the first degree. The graduate cycle lasts one to two years of study (Masters degree), eventually followed by the doctorate.

C1	<p>Will the Bologna process actually lead to greater standardisation and international comparability of qualifications? If yes, is this desirable or rather, is more variety needed to reflect the needs of different employment sectors, different levels of jobs and different national traditions and circumstances?</p> <ul style="list-style-type: none"> - Would this apply to some institutions or programmes more than to others? - Is the comparability of Bachelor degrees across different types of institutions desirable and possible (especially in countries with binary and differentiated systems?) 	
C2	<p>What is the balance of demand for different levels of qualification?</p> <ul style="list-style-type: none"> - Do we need more Bachelor or more masters? - Do we need more graduates with PhDs? 	
C3	<p>Is a Bachelor degree programme a sufficient qualification for the labour market or just an intermediate phase?</p> <ul style="list-style-type: none"> - Are there subject/discipline differences (e.g. science, engineering, social sciences)? To what extent is it possible to provide necessary work-related competences in the context of a 3 year Bachelor degree? 	
C4	<p>How selective should a HE system of cycles be (open admission to the Masters versus selection)?</p> <ul style="list-style-type: none"> - Should there be routes of progression from Bachelor to masters? Or should there be open admission to the Masters irrespective of the first cycle degree? 	

Where there is a binary system that distinguished vocational from academic qualification, how much transfer should there be between the two sectors and how can this be achieved?

D. Higher education's responsibility for the employability of its graduates

What is and what should be the division of responsibilities between higher education and employment in a) initial preparation for work, b) early career, c) lifelong learning.

D1	Should higher education institutions explicitly address issues of graduate employability? (initial preparation for work) - What is higher education doing, or what should they do, in order to enhance this?	
D2	Should higher education curricula reflect more directly employment needs? For example through: - more regulation in terms of educational profiles, (key) qualifications, competence-based curricula? - more practically oriented courses, internships (sandwich courses, work-placements) , new teaching and learning approaches? - recognition of learning achieved within the workplace more involvement of employers in educational policies, in curricula and assessment?	
D3	Should the academic profession be more concerned about graduate employment?	
D4	Is there a clear division of responsibility between higher education and the workplace regarding the acquisition of the competences that graduates need to possess? - Can they be taught in higher education or are they better acquired in the place of work? - Has higher education a part to play in the regular updating of graduate skills and competences, or is this best left to employers (within company-processes)? - Who is responsible for the development of lifelong learning?	
E1	Is there anything else you would like to add?	

Appendix 2 PARTICIPANTS

PARTICIPANTS IN NORWAY

1. Arild Underdahl, Rector, University of Oslo
2. Mr Baard Johannessen, Director of the Confederation of Norwegian Business and Industry (NHO)
3. Paul Chaffey, Director, Association of Norwegian ICT and Knowledge-Based Enterprises
4. Vigdis Olson, The Confederation of Higher Education Unions
5. Helene Fladmark, The Norwegian Society of Chartered Technical and Scientific Professionals

PARTICIPANTS IN GERMANY

Individual interviews

1. Monika Danner, Jorg Wackerhage, Deutsche Bahn, Berlin
2. Gerd Koehler, GEW, Frankfurt
3. Dr Goestemeyer, Faculty of Education
Frau Holldank, Studienreform und Evaluation, Humboldt University, Berlin
4. Frau Konegen- Grenier, Institut der Deutschen Wirtschaft, Cologne

Focus Group Discussion at the University of Cologne

Prof. Dr. Klaus Becker Dekan der Falkultät für Fahrzeugssysteme und Produktion Fachhochschule Köln	Prof. Dr. Heinrich Dederichs Falkultät für Informations- ,Medien-und Elektrotechnik Fachhochschule Köln	Dr. Sabine Dürholt-Reichelt Sparkasse Köln-Bonn University of Applied Sciences
Dr. Martina Ernst Geschäftsführerin Vereinigung der IHK's in NRW	Prof. Dr. Norbert Finzsch Prorektor für Studium, Lehre und Studienreform Universität zu Köln	Dr. Georg Hartmann Leiter Hochschulmarketing Bayer AG Leverkusen
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Marcellus Menke, M.A. KIQ -Career Service Ansprechpartner Medien und Kommunikation Universität zu Köln	Rainer Schulze Abteilungsleiter Personalmarketing Und Nachwuchsentwicklung Deutsche Post World Net, Bonn	Prof. Dr Twardy Direktor des Instituts für Berufs- Wirtschafts- Und Sozialpädagogik Universität zu Köln
Nele Wasmuth, Stud. Ass. Leiterin KIQ - Career Service Universität zu Köln	Universität zu Köln	

PARTICIPANTS IN FRANCE

1. Eric Espéret, Délégué General, Conférence des Présidents d'Université (CPU)
2. Claude Sauvegeot, Haut Comité Éducation-Économie-Emploi, Ministère d'Éducation
3. Bernard Falck, Directeur de l'Éducation et de la Formation, Mouvement des Entreprises de France - MEDEF.
4. Maurice Pinkus; Marie-Paule Roland, Union des Industries et Métiers de la Métallurgie (UIMM)
5. Prof. Pierre Dubois, Observatoire des Formations, des Insertions Professionnelles, Evaluations (OFIPE), Université de Marne-la-Vallée.
6. Andrew Dearing, Secretary General, EIRMA, European Industrial Research Management Association (focus on innovation through R&D).
7. Yves Serizier, Director, Corporate Relations, Institut Supérieur d'Électronique de Paris (I.S.E.P.).
8. Françoise Preyre, Director Relations Entreprises et Stages, Institut des Hautes Etudes Economiques et Commerciales (Groupe INSEEC).

PARTICIPANTS IN THE NETHERLANDS

1. Focus group meeting with the Dutch Employer Association VNO-NCW: Working Group on (Higher) Education (12 participants from various enterprises chaired by Chiel Renique).
2. Prof. M. Rem, former Rector University of Eindhoven and governing board of the engineering association KIVI-NIRIA.
3. Loek Vredevoogd, vice-chairman of the Dutch-Flemish Accreditation Council NVAO.
4. Sectoral Advisory Councils (HBO) in the sector of Technology (group meeting)
5. Sectoral Advisory Council (HBO) in the sector of Economics and Management
6. Sectoral Advisory Council (HBO) in the Social and Pedagogical sector
7. Gertrud Visser-Van Erp, Education board of the Association for Small and Medium Enterprises (MKB-Nederland)
8. José van Eijndhoven, Chairman Board of Governors, Erasmus University Rotterdam
9. Trude Maas, Board Hay Consultants and various boards in various Dutch/ international companies; Member of Parliament (Upper Chambre).

PARTICIPANTS IN THE UNITED KINGDOM

1. Dame Sandra Burslem, then Vice Chancellor, Manchester Metropolitan University
2. Sarbani Banerjee, Policy Officer, Higher Education Funding Council for England
3. Members of the Policy Forum of the Council for Industry and Higher Education.

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