Tuning

Tuning Educational Structures in Europe

Reference Points for the Design and Delivery of Degree Programmes in **Business**

Education and Culture DG

Life Long Learning

Reference Points for the Design and Delivery of Degree Programmes in Business

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The name *Tuning* was chosen for the project to reflect the idea that universities do not look for uniformity in their degree programmes or any sort of unified, prescriptive or definitive European curricula but simply for points of reference, convergence and common understanding. The protection of the rich diversity of European education has been paramount in the Tuning Project from the very start and the project in no way seeks to restrict the independence of academic and subject specialists, or undermine local and national academic authority.

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Content

Foreword

The Tuning Subject Area Group (SAG) for business and management education met on some twelve occasions. The first meeting coincided with the launch of the EU–sponsored Tuning project in Brussels in May 2001; the last took place in June 2008 in conjunction with the closing session of the fourth phase of Tuning (Tuning IV). Over the eight years, we shared our experiences of business programmes in our own institutions, our own countries and – in many instances – elsewhere within and beyond Europe. We pooled our ideas concerning the implementation of the various 'action lines' of the Bologna Declaration, the aim of which is the creation of a more coherent European Higher Education Area (EHEA) by 2010.

Competence–based learner–centred education is at the heart of the Tuning approach. Degree profiles and learning outcomes for the bachelor, master and doctoral cycles are identified as a starting point for debate at a more local level. Likewise, teaching, learning and assessment are addressed, as well as the crucial issue of quality enhancement. The booklet concludes with a look at the third cycle.

The work of Tuning, involving contributions by individuals from a wide range of disciplines in 135 institutions across 27 countries, is seen as fully compatible with and complementary to the aims of the Bologna process, as expressed in 1999 and at subsequent follow–up meetings. Indeed it might be claimed that its work and outputs represent a valuable pan–European movement that greatly facilitates and accelerates the achievement of the Bologna objectives. As noted on the opening page of this brochure, there is no intention to standardize or prescribe; on the contrary, respect for and the preservation of Europe's rich tapestry of educational activities remain as the fundamental principles of the Tuning project.

It is hoped that this booklet, when read in conjunction with the impressive array of publications produced by Tuning over the past several years, will stimulate discussion that will lead to the (re–)design and delivery of business programmes that simultaneously provide greater rewards for learners, teachers, institutions, employers and society.

The Tuning Subject Area Group for Business and Management Education.

Introduction to the Tuning Project

Tuning Educational Structures in Europe is a university driven project which aims to offer a universal approach to implement the **Bologna Process** at the level of higher education institutions and subject areas. The Tuning approach consists of a methodology to (re–) design, develop, implement and evaluate study programmes for each of the Bologna cycles.

Furthermore, Tuning serves as a platform for developing reference points at subject area level. These are relevant for making programmes of studies comparable, compatible and transparent. Reference points are expressed in terms of learning outcomes and competences. Learning outcomes are statements of what a learner is expected to know, understand and be able to demonstrate after completion of a learning experience According to Tuning, learning outcomes are expressed in terms of the *level of competence* to be obtained by the learner. Competences represent a dynamic combination of cognitive and meta–cognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills, and ethical values. Fostering these competences is the object of all educational programmes. Competences are developed in all course units and assessed at different stages of a programme. Some competences are subject–area related (specific to a field of study), others are generic (common to any degree course). It is normally the case that competence development proceeds in an integrated and cyclical manner throughout a programme. To make levels of learning comparable the subject area groups/Thematic Networks have developed cycle (level) descriptors which are also expressed in terms of competences.

According to Tuning, the introduction of a three–cycle system implies a change from a staff–centred to a student–oriented approach. It is the student that has to be prepared as well as possible for his or her future role in society. Therefore, Tuning has organized a Europe–wide consultation process including employers, graduates and academic staff / faculty to identify the most important competences that should be formed or developed in a degree programme. The outcome of this consultation process is reflected in the set of reference points – generic and subject–specific competences – identified by each subject area.

Besides addressing the implementation of a three–cycle system, Tuning has given attention to the Europe–wide use of the student workload

based European Credit Transfer and Accumulation System (ECTS). According to Tuning ECTS is not only a system for facilitating the mobility of students across Europe through credit accumulation and transfer; ECTS can also facilitate programme design and development, particularly with respect to coordinating and rationalising the demands made on students by concurrent course units. In other words, ECTS permits us to plan how best to use students' time to achieve the aims of the educational process, rather than considering teachers' time as a constraint and students' time as basically limitless. According to the Tuning approach credits can only be awarded when the learning outcomes have been met.

The use of the learning outcomes and competences approach might also imply changes regarding the teaching, learning and assessment methods which are used in a programme. Tuning has identified approaches and best practices to form specific generic and subject specific competences.

The Tuning project has also drawn attention to the role of quality in the process of (re)designing, developing and implementing study programmes. It has developed an approach for quality enhancement which involves all elements of the learning chain. It has also developed a number of tools and has identified examples of good practice which can help institutions to boost the quality of their study programmes.

Launched in 2000 and strongly supported, financially and morally, by the European Commission, the Tuning Project includes the vast majority of the Bologna signatory countries. The work of Tuning is fully recognized by all the countries and major players involved in the Bologna Process. At the Berlin Bologna follow–up conference which took place in September 2003, degree programmes were identified as having a central role in the process. The conceptual framework on which the Berlin Communiqué is based is completely coherent with the Tuning approach. This is made evident by the language used, where the Ministers indicate that degrees should be described in terms of workload, level, learning outcomes, competences and profile.

As a sequel to the Berlin conference, the Bologna follow–up group has taken the initiative of developing an overarching *Framework for Qualifications of the European Higher Education Area* (EQF for HE) which, in concept and language, is in full agreement with the Tuning approach. This framework has been adopted at the Bergen Bologna follow–up

conference of May 2005. The EQF for Higher Education has made use of the outcomes both of the Joint Quality Initiative (JQI) and of Tuning. The JQI, an informal group of higher education experts, produced a set of criteria to distinguish between the different cycles in a broad and general manner. These criteria are commonly known as the "*Dublin descriptors*". From the beginning, the JQI and the Tuning Project have been considered complementary. The JQI focuses on the comparability of cycles in general terms, whereas Tuning seeks to describe cycle degree programmes at the level of subject areas. An important aim of all three initiatives (EQF, JQI and Tuning) is to make European higher education more transparent. In this respect, the EQF is a major step forward because it gives guidance for the construction of national qualification frameworks based on learning outcomes and competences as well as on credits. We may also observe that there is a parallel between the EQF and Tuning with regard to the importance of initiating and maintaining a dialogue between higher education and society and the value of consultation – in the case of the EQF with respect to higher education in general; in that of Tuning with respect to degree profiles.

In the summer of 2006 the European Commission launched a European Qualification Framework for Life Long Learning (LLL). Its objective is to encompass all types of learning in one overall framework. Although the concepts on which the EQF for Higher Education and the EQF for LLL are based differ, both are fully coherent with the Tuning approach. Like the other two, the LLL variant is based on the development of level of competences. From the Tuning perspective both initiatives have their value and their roles to play in the further development of a consistent European Education Area.

With the close of Tuning Phase IV, specific brochures have been produced for each of the subject areas covered by the Tuning Project. These brochures concentrate on the first two cycles of the Bologna three–cycle system. More detailed information on the third cycle can be found in the main the Tuning volumes. This brochure reflects the outcomes of the work done by the Subject Area Group (SAG) for Business and Management. The outcomes are presented in accordance with a template that was developed to facilitate readability and rapid comparison across the full range of subject areas. The summary aims to provide, in a succinct manner, the basic elements for a quick introduction to the subject area. It shows in synthesis the main consensus points reached by the group after intense and lively discussions. Some of the more ample documents on which the template is based are also

included in the brochure and in other Tuning publications. They give a more detailed overview of the elaborations of the subject area groups / Thematic Networks.

We believe that the material contained in this brochure will be useful for all higher education institutions intending to implement the Bologna Process, and that it will help them to find and use the most suitable tools for adapting or creating higher education programmes that respond to the current and future needs of society.

The Tuning Management Committee

Validation Conference – Business & Management Education

In November 2007, the Validation Panel for Business and Management education met with members of the Tuning Business SAG. The remit of the Panel was to evaluate the work of the Business SAG in the context of the Tuning project in general.

In order to do this, the Panel was asked to address the following eight aspects of the work of Tuning & the Business SAG (including a draft brochure on designing business degrees):

1. *The description of the subject area:* Is it complete, clear, relevant?
2. *Degree profiles and occupations:* Are they clear? Is anything missing?
3. *Relevance of subject–specific competences:* Are competences relevant? Should certain competences be emphasized more? or less?
4. *Use of competences in professional recognition:* Can [or should] competences be used in the process of professional recognition?
5. *Generic competences:* Are competences relevant? Should certain competences be emphasized more? or less?
6. *ECTS workload:* the appropriateness of the Tuning approach?
7. *Teaching, learning and Assessment:* the appropriateness of the Tuning approach?
8. *Quality enhancement:* the appropriateness of the Tuning approach?

The Panel's report states that: "The Panel believes that the overall aims of the Tuning project are sound and capable of being achieved. The Panel is impressed by the work undertaken by the Subject Area Group (SAG) thus far. The Business SAG is an effective working group: its members share a vision for: (i) transforming business education from its current producer–orientation to a student–orientation; (ii) designing more effective competence–based business courses that will enhance mobility in the European educational and labour markets; and, (iii) achieving much higher levels of harmonisation across Europe in terms of the workload demands placed on students taking business courses with the same credit weightings".

The Panel made several valuable recommendations, concerning (inter alia):

— the need to take account of the different business contexts across Europe in designing business programmes and deciding on content;

— clarification of which subjects should be core and which non–core (allowing for variations arising from the preceding point);

— the desirability of giving greater prominence to business ethics in the first and second cycles;

— the definition and classification of competences (generic & subject–specific);

— the need, when designing curricula, to resist inappropriate pressure from professional bodies aiming to persuade higher education institutions to offer modules specifically designed to gain professional recognition;

— the dangers of making normative statements based on exploratory empirical evidence.

The Panel welcomed Tuning's emphasis on Quality Enhancement (QE), noting that – while external assessment cannot be ignored – QE implied a cooperative approach between all stakeholders, including students.

This brochure addresses the points noted above, as well as several other observations made by the Validation Panel.

The Validation Panel consisted of the following members:

Albrecht Becker
Innsbruck University School of Management
Chair: Curriculum Development Unit – Austria.

Marco Guidi
Department of Economic Sciences, University of Pisa, Italy.

Gerd Köhler
Former member of the Executive Board of the Gewerkschaft Erziehung und Wissenschaft (GEW), Germany.

Kent Löfgren
Umeå University, Department of Educational Measurement, Sweden.

Gerard McHugh
Head of the School of Business, Trinity College, Dublin, Ireland.

Marta Ovriska
Head of Department of Finance & Accounting, Matej Bel University, Slovakia.

Nancy Papalexandris
Athens University of Business and Economics (AUEB), Greece.
The Panel nominated Nancy Papalexandris as Chair and Gerard McHugh as rapporteur.

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— For Ecole Superieure de Commerce de Lille

- **Martine FROISSART** was the representative in Tuning I.
- **Eric CARLIER** was the representative in Tuning II and III.

— For Zwickau University of Applied Sciences

- **Günter HÖHN** was the representative in Tuning I, II and III.

— For Università degli Studi di Pavia

- **Lorenza VIOLINI** was the representative in Tuning I and II.

— For the Norwegian School of Economics and Business Administration

- **Siren HØGTUN** was the representative in Tuning I.

— For Odessa state Economics University (since Tuning III)

- **Ganna SOCHALOVA** was the representative in Tuning III.

— For Loughborough University

- **David WOLFE** was the representative in Tuning I and II.
- **Maxine CLARKE** as the representative in Tuning III.

1. Introduction to Business and Management Education

1.1. Business Education and Society

At the outset, before addressing issues and ideas relating to the structure and content of business degree programmes, it is important to say something about the role and value of such degrees in society at large. At its heart, business and management education is concerned with the effective and efficient mobilisation and deployment of society's limited resources – natural, physical, human and financial. The effectiveness criterion relates to the provision of those goods and services that are most highly valued by society – either by consumer preferences exercised by purchases made through market mechanisms, or by publicly–funded choices made by governments and their agencies, or by philanthropic donations and voluntary contributions by citizens. The efficiency criterion focuses on the provision of these goods and services in a timely fashion, with high quality and with minimum waste.

Business courses aim to provide theoretical and practical knowledge and skills that lead to improved planning, organisation, implementation and control of business and economic activities – not just in the private sector, but also in the public and not–for–profit / voluntary / third sectors. As human activities – from the production of staple foods to entertainment and leisure choices – become increasingly globalised and interdependent, and consequently more complex, the need for organisational and management skills becomes ever more important. Business and management graduates therefore have an important role to play at the centre of virtually all economic and social activity, in both the market and non–market sectors, regardless of a nation's state of development.

It is hardly surprising therefore that demand for business and management education has risen steadily in the post World War II era. Business programmes are now among the most prominent in higher education, attracting applicants with high levels of intellectual capacity. It is estimated that in Europe there are about 750 HEIs now providing business education at bachelor level or higher. The US, China, India and Mexico

each has 1,000 institutions or more, and the US alone accounts annually for up to 500,000 graduates in business. The increasing pervasiveness of business programmes in universities and other institutions of higher education, in response to freely–exercised demand by students and higher allocations of public funding, bears witness to society's growing appreciation of the relevance of this type of intellectual formation in an increasingly complex and rapidly–changing commercial environment.

As this brochure goes to press (at the end of 2008), managing scarce resources and managing change have rarely been more relevant. The global economy is in a state of turmoil. Many observers claim that we are entering the worst depression since that of the 1930s (which was sparked by the 1929 Wall Street crash). Stock markets are falling, their volatility a symptom of the uncertainty that pervades the developed world. The financial system is in crisis. The global 'credit crunch' limits even further the already–scarce capital that is available for businesses, governments, consumers, citizens and for life–saving charitable projects. Most economies are reporting rising unemployment, and many of those still employed wish to improve their work–life balance.

Our increasingly interdependent world is therefore experiencing crisis on several fronts, including rising inequalities in income and wealth distribution and global warming. Up to one billion people – nearly one sixth of the world's population – live in less than acceptable conditions, without adequate food, water, health or sanitation provision. More effective and efficient use of all society's resources is badly needed in order to improve human welfare throughout the world. In essence, the capitalist system that has evolved over the past several decades is experiencing severe 'growing pains' while governments and regulators wrestle with the problem of transforming it into a more inclusive, socially responsible model. Accordingly, there can scarcely ever have been a time in history when the services of ethical, highly–skilled business graduates, capable of exemplary and effective leadership and management of complex structures and processes, in diverse settings, have been more relevant and important to society than they are at present – and will continue to be for the foreseeable future.

1.2. Degree profiles

As there is great diversity in the ways in which business programmes are designed throughout Europe, it is impossible to propose one single standard for the aims, structure, contents and subject–specific and generic learning outcomes that should be achieved at the first, second and third cycles. While a number of similarities exist in European institutions regarding first cycle programmes, offerings differ more at the second cycle and even more so at the third cycle. Not only is this the case across the European Higher Education Area (EHEA), it is also true within individual countries, and it is not uncommon to find that several variants of the same degree are offered by the same institution.

At a fundamental level, diversity may be characterized along three dimensions – structure, orientation and content. In the first cycle, programmes of study containing either 180 ECTS or 240 ECTS are commonly found, and some have 210. Degree profiles range from those that are general in their orientation to those that focus on a particular economic sector or business function. At the content level, even where a high level of uniformity might be expected (for example in programmes focusing on a specific business function), high degrees of diversity are also commonly found. Such diversity may normally be attributed to the needs of the local economy, or to an institution's desire to differentiate itself from other providers (often by exploiting an existing reputation), or to the availability (or unavailability) of specific teaching and other resources.

This brochure aims to highlight some of the principal issues to be addressed in designing and delivering degree programmes in business and management and to provide ideas and suggestions for their resolution.

The basic structure is as follows:

Cycle	ECTS Credits (25–30 student working hours per ECTS credit)
First	Mostly 180 and in a few instances 240
Second	60, 90 or 120 (mostly 120 in most EHEA countries)
Third	Mostly a PhD programme with a duration of 3–4 years

Most European countries award a First Cycle Bachelor Degree after 180 ECTS. Different models exist for Second Cycle Master Degrees awarded after 60, 90 or 120 ECTS.

1.2.1. First Cycle degrees in business and management

Cycle	Typical degrees offered
First Cycle	Bachelor degrees in business administration tend to give a general overview of the main aspects of organisational missions, structures and processes Learners develop knowledge and skills through a mix of core (subject–specific) and generic–skills (subject independent) courses. Core knowledge topics include operations management, logistics; sales and marketing; logistics and distribution. Support functions such as organisation, human resource management, finance and accounting, and general management are covered. Added to these business–specific courses, modules in complementary subjects such as economics (micro and macro) and law are widely found. instrumental skills courses, including quantitative methods (mathematics, statistics, market research) and Information Technology (IT) also feature prominently, though these are increasingly integrated into other courses. Additional courses in developing competences in personal organisation and communication skills – such as courses in language (separate or integrated into other courses) and courses in presentation / communication / teamwork (separate or integrated into other courses) – are also offered. At the end of first cycle; systemic (transferable) skills are documented by a bachelor thesis, internship or other activities demonstrating and documenting ability to integrate theory and practice and solve problems across different business subject areas. There is a wide variety of bachelor degree programmes with some degree of specialisation in one or other of the business–specific areas noted above.

Classifying first–cycle business degrees: the notion of a spectrum

In the first cycle a spectrum of approaches ranging from ***'general'*** to **'specific'** was identified. This classification is based on the experiences of the SAG members in their home institutions and their knowledge of programmes in other institutions both nationally and internationally. At the general end of the spectrum programmes concentrating on the study of the business environment may be found. At the other end of the scale, there is an extensive range of programmes designed to prepare graduates for functionally–based careers – for example in marketing. *In between these two 'extremes',* degree programmes focusing on the overall management of a business enterprise may be found (see chart below).

Degree profiles with a ***sectoral emphasis*** are also common, even at the first cycle. Agribusiness and hospitality / tourism are two such examples. In addition to tailoring mainstream business subjects such as marketing to the specific circumstances of the target sector, these programmes will have a number of modules concentrating on specific aspects of the sector in question. Such programmes tend to straddle the environmental and total enterprise orientations though some, even at the bachelor level, may include a minor specialisation (e.g. in banqueting management, within a hospitality / tourism degree).

A universal characteristic of business degrees is that they are multidisciplinary in nature**.** The diversity of industries, sectors, organisations and specific occupations open to graduates presents programme designers with special challenges concerning the nature, quantity and level of the different subject areas that ought to be included. Which should be deemed to be core? What electives (options) should be offered? How should they fit together? Should a second language, a dissertation or a work placement be included? How many ECTS credits should be assigned to modules that are finally selected? How do all of these elements contribute, individually and collectively, to the development of knowledge, competences and values that will benefit prospective employers and society at large?

Towards a classification of business degrees along a continuum		
General <<<<<<<< >>>>>>>> Specific		
Environment Orientation	Enterprise Orientation	Function–specific Orientation
Some business programmes focus on the context in which organisations have to survive and succeed. Emphasis is placed on understanding and analysing the broad environment in which businesses operate, especially concerning the political, market	Degree programmes that pay particular attention to the overall management of an individual enterprise exist throughout Europe. Courses in strategic management, organisation design / behaviour, operations management, human resource	These may devote about half of the available time to addressing a condensed menu of the general subjects that fall within the *environment* and *total enterprise* categories, leaving the remainder – taking marketing as a specific example – to

Towards a classification of business degrees along a continuum		
General <<<<<<<< >>>>>>>> Specific		
Environment Orientation	Enterprise Orientation	Function–specific Orientation
and industry structures within which commerce is conducted. Such programmes dedicate a high proportion of their studies to economics (macro and micro) and international business as well as to complementary disciplines such as law and sociology. Business history, industry evolution, entrepreneurship and new business formation are usually covered. Themes such as competition, concentration, supply chains, international trade and investment patterns, technology, regulatory regimes and general economic and social change receive strong attention. Such programmes may be categorized as having an ***environmental orientation.***	management and financial management feature prominently in such degrees. It is suggested that such programmes may be categorized as having a ***total enterprise orientation.***	be devoted to specialised subjects such as psychology, consumer behaviour, advertising & promotion, marketing research, marketing management, sales management and distribution. Such programmes may be categorized as having a ***function–specific orientation***.

In reality, the vast majority of 1st cycle business degrees contain elements of all three orientations identified above – the environmental, the enterprise and the functional. The challenge for each institution is

to construct a programme that represents the most appropriate mix of the three typologies to suit its own particular circumstances, with whatever regional and sectoral bias may be warranted. This design challenge can be solved satisfactorily only by extensive consultation with stakeholders within and beyond the institution – in order to take account of relevant local, regional, national and international issues and trends, as well as to make optimal use of the available resources that are usually less than adequate for delivering a high–quality programme.

1.2.2. Second cycle degrees

In the post–Bologna era, second cycle programmes in business and management in most countries generally pursue a **knowledge deepening approach**, involving the study of more advanced aspects of one of the areas introduced in the first cycle. Many of these tend to be function–specific in nature. Examples include marketing, logistics, accounting, finance & treasury, organisational change (design & behaviour) and strategic management. At this stage, **complementary knowledge–widening modules** are often added if they have not been taken at the first cycle.

Additionally, sector–specific programmes are commonly found at the second cycle – usually building on first–cycle degrees that are more general in content. In addition to those identified earlier, areas of activity such as financial services and public sector management may be cited as relevant examples.

A course in research methodology is normally seen as central to second cycle programmes in business – as a foundation for a substantive dissertation – which may carry up to 50% of the overall ECTS credits attributable to the programme. These programmes may be offered as terminal qualifications in their own right – offering prospects of more specialised / senior employment and / or accelerated promotional opportunities. Alternatively, they may be specially designed as stepping stones to the doctoral cycle.

An increasing number of second–cycle programmes are offered jointly by institutions from different countries.

Cycle	Typical degrees offered
Second Cycle	Master degrees normally tend to focus on knowledge–deepening courses, with the possible orientations either in a vertical direction where students go in–depth in a subject area from the first cycle, or horizontally/intra–disciplinary meaning that students add new subject areas of business, or finally going diverse, which means including courses and topics not directly linked to business, for instance psychology or engineering. Master programmes normally contain a substantial thesis component, usually involving empirical research. Second cycle programmes are highly varied, with different types of specialisation or focusing on a particular sector (e.g. agri–business, financial services, healthcare management or voluntary organisations). In addition to second cycle programmes which build on business and management content at the first level, and which are followed straight after bachelor studies, two other forms of second–cycle business programmes exist: (1) MBA: This has two versions (a) executive (post–experience) MBAs*, aimed at candidates from any disciplinary background with several years experience in a business organisation, and (b) pre–experience MBAs, which are mostly aimed at first–cycle business graduates aiming for accelerated promotion in a business career. ** These are sometimes awarded with the title MSc (Management).* (2) MA/MSc*: These are designed as a type of 'conversion course' for graduates from non–business disciplines – such as the humanities, engineering and science. They are sometimes referred to as graduate courses – in the sense that those admitted need to be graduates. Students may join such programmes immediately after graduating from the bachelor cycle or some years later. They offer an condensed but intense curriculum consisting of core subjects commonly found in bachelor programmes, possibly in combination with a master–level specialisation in a particular field. ** These are occasionally awarded under the MBA nomenclature.*

A 2006 AACSB survey[1] of over 500 member institutions in the US, Canada and outside of North America indicates that most of them offered both bachelor and master level programmes (the latter

1 See pages 9–10 of the 2007 AACSB *Guide to Business Education.*

including general master degrees such as the MBA, as well as specialised master programmes), and that nearly 200 of these offered doctoral degrees in business. The same survey reported that the disciplines most commonly found at bachelor level were accounting, finance, marketing and [general] management, which were offered by 75% or more of the institutions included in the survey. At the master's level, programmes in general business / management were offered by some 70% of surveyed institutions, while specialised master degrees in finance (including banking), marketing, international business, management/computer information systems (MIS/CIS) were offered by between 20% and 35% of surveyed institutions. Further proof of the range of business and management degree programmes is indicated by the fact that between 15% and 20% of surveyed institutions offered master level studies in health services / hospital administration or in entrepreneurship / small business administration.

The prominence and diversity of second–cycle programmes in business are attributable to several factors, including differences in institutional and national traditions. These two important macro issues apart, the overall structure and content of second–cycle programmes, including the balance between breadth and depth, are largely determined by:

(a) the prior qualifications and experience of targeted candidates;

(b) the total ECTS load (in the 60–120 range);

(c) the intended employment or further education aims of graduates.

1.2.3. Business content in a range of first and second cycle degree programmes

Inputs from different scientific areas such as philosophy, psychology, mathematics, statistics, IT, engineering and science are commonly found on business programmes. Reciprocally, business courses / modules can make a valuable contribution to a wide range of tertiary education programmes.

Adopting a structured approach to the question of multi– and inter–disciplinarity, it is possible to think about classifying business degrees into a five–layer hierarchy of programmes:

1. 'Single' – where business modules comprise the vast majority of the programme. These are more likely to be found at the second cycle than at the bachelor level.
2. 'Major' – where business modules comprise a major (e.g. 75%) proportion of the programme. Many first–cycle business programmes fit into this category.
3. 'Joint' – where business is studied in parallel with another discipline. Here, business modules comprise about half of the programme, and both subjects are studied in roughly equal amounts throughout the full duration of the programme. Examples include business with economics, sociology, psychology, law, political science, information systems / IT / computer science or engineering.
4. 'Minor' – where business modules comprise a low proportion (e.g. 25%) of studies. Examples could include a first–cycle programme combining a major in engineering with a minor in business administration. Several combinations founded on this structure may be found throughout European universities.
5. 'Module(s) only' – where business modules comprise a very low proportion (e.g. 10%) of the overall studies. For example, a programme in pharmaceutical science could include a module dealing with the management of a retail pharmacy (e.g. consisting of 'units' in merchandising, stock control and accounting). Such modules would normally be offered as electives – e.g. in the case of pharmacy, those planning to progress to careers in research or in industry would normally not take such modules.

1.2.4. Intra–, multi– and inter–disciplinarity

The Business Group agreed that programmes in business and management involve high levels of intra–, multi– and inter–disciplinarity – probably more so than most other subject areas included in the Tuning project, with the possible exception of programmes in such areas as European Studies and Occupational Therapy. This was found to be particularly true at the bachelor level.

Intra–disciplinarity refers to linkages between subject areas from the same field. Within the broad academic domain 'business', the sub–disciplines 'marketing', 'operations', 'human resources' and 'finance' are included. These are conventionally described as the main functional areas of a busi-

ness organization. Accordingly, the idea of intra–disciplinarity may be regarded as more or less synonymous with that of cross–functionality.[2]

Multi–disciplinary programmes contain a range of different disciplines that are mostly studied in parallel. The vast majority of first–cycle business programmes include modules in economics, and many contain modules in sociology, psychology, law and other relevant disciplines.

Inter–disciplinary education involves the integration and synthesis of material from different disciplines in a manner that aims to achieve the richer insights that may be derived from a broader theoretical perspectives that may be derived from exposure to a number of disciplines.

Members of the Business Group agreed that most business progammes score highly on all three dimensions – intra–, multi– and inter–disciplinarity – thus presenting major challenges for designers, teachers, learners and assessors. Illustrating the scale of the challenge, there was evidence that even at the intra–disciplinary level, where problems of identifying and developing integrating mechanisms might be expected to be relatively low, it was concluded that this was often not the case. For example, accounting and finance – which are 'very close cousins' – are often taught by different academic units / departments that converse with each other much less frequently than would be necessary to achieve genuine integration and synthesis among learners. What hope, then, is there of achieving synthesis across subjects as disparate as consumer behaviour and operations management? Can both fit logically into a course of study that makes sense to the learner? Might linkages be made through a third module – e.g. through a sequence such as: consumer behaviour > marketing management > operations management (following the general logic of the 'supply chain' concept)?

Achieving high levels of inter–disciplinarity is widely regarded as one of the greatest challenges in business programmes. Such modules as international business and strategic management are usually relied upon to achieve integration and synthesis across conventional intra–business modules as well as modules from disciplines outside of the business field. The preparation of 'real–world' case studies and dissertations

2 For example, see *"Cross–Functional Business Programs: Critical Design and Development Considerations";* Aurand, Timothy W.; DeMoranville, Carol; and Gordon, Geoffrey L., published in the American Business Journal Volume 16 (2001).
Web Address: http://ideas.repec.org/a/maj.anoec.v16y2001

normally provides opportunities to achieve similar goals, probably to a greater extent (as both of these usually require application of several models and frameworks drawn from a variety of modules).

Solving the intra–, multi– and inter–disciplinary challenges presents major theoretical and practical problems, of which the following are just a few:

— Which disciplines ought to be included and how much of each?

— What lateral and sequential structuring of selected modules represents an optimal arrangement?

— How best can progress be made from intra– and multi–disciplinary modules to the substantive inter–disciplinary learning that develops the competences most valued by employers and society?

— How can the learning outcomes and competences developed within interdisciplinary learning be assessed effectively?

It is hoped that the ideas in this and other Tuning publications, together with discussion among stakeholders and continuing research into inherent theoretical and practical issues will lead to business programmes that better match the needs of society.

1.2.5. Typical occupations of the graduates in Business (map of professions)

Cycle	Occupations
First	Mostly, a first cycle degree enables the graduates to hold junior positions in operations management / logistics; sales and marketing, organisation; human resource management; finance and accounting; in IT; different types of specialised analysis functions, normally at a trainee level (sometimes in smaller, local organisations).
Second	Graduates of second cycle degrees are usually able to obtain specialist positions in operations management / logistics; sales and marketing, organisation; human resource management; finance and accounting; in IT; in strategic thinking and planning; initially in trainee positions or on structured graduate training programmes, normally in larger organisations (both national and international) – offering good prospects of quick promotion to supervisory and management positions.

Cycle	Occupations
Third	Graduates with PhDs in business also have diverse employment opportunities: academic careers (mostly with institutions of higher education, sometimes with professional bodies); consultancy; industry / business / market research for government agencies, other public bodies and trade associations & for large international organisations that require a continuous research function; and specialist occupations in a variety of economic sectors – particularly in 'knowledge–intensive' roles requiring advanced levels of intellectual capacity.

2. Learning Outcomes and Competences

2.1. Learning outcome descriptors

The Business Group developed a taxonomy for structuring course programmes according to learning outcomes. The bases on which a learner can perform in the labour market ("Can do statements") are subject–specific and subject–independent (generic) competences:

Group I: Knowledge, understanding and application of subject–specific material
The expectation is that the learner has acquired subject–related core knowledge, has understood it and, within the programme, the learner has been able to broaden and deepen it with possible vertical, horizontal and diverse orientations according to the needs of the labour market. S/he has given evidence that s/he can perform on the basis of the subject–related knowledge and understanding through adequate forms of assessment.

Group II: Subject independent knowledge accessing and developing
The generic skills are divided into instrumental (individual and methodological), interpersonal (organisational and communication) and systemic (transferable) skills and competences. Again, the learner has had to prove that s/he has acquired the competences through adequate forms of assessment.

Learners acquire subject–related and non–subject related skills and competences. The Business Group concurs fully with the Tuning concept that the overall competences gained are more than the sum of the individual learning outcomes. These higher–level competences may partly be tested in forms like final dissertations but will mainly be revealed outside the learning programme, later on in life, either in structured or unstructured situations. It may also be that in such situations the learner gives evidences of skills and competences acquired through non–formal and informal learning.

Comparison with other approaches

This two–tier structure was designed while another group of experts from ministries and universities formed the "Joint Action Initiative" and came up with criteria that later on became known as 'the Dublin Descriptors'. The Business Group analysed this development but thought that the descriptors above which they had designed reflected the particular needs of business graduates in the labour market on the grounds that employers appear to be interested in answers to the following two questions: What does the graduate know and understand? And: what is s/he able to do?

The approach was confirmed by a number of similar exercises being conducted throughout Europe in recent years – to comply with the requirements of the Bologna Declaration and develop National Qualifications Frameworks. For example, in a UK QAA exercise, a close compatibility may be found between the benchmark statements that British experts had outlined at the beginning of this decade concerning bachelor and master programmes in business and management and the ideas of the Tuning Business Group. One difference, however, was noted. Whereas the British statements explicitly refer to skills and not to competences the approach within the Business Group and the Tuning project as such is that the term 'competence' is used additionally (cumulatively) as the learner is expected to acquire more than the sum of individual learning outcomes.

The Business Group's approach was also found to be compatible with the Dublin descriptors. This was underlined during the development of the German Qualifications Framework for Higher Education. The German approach has been declared as being compatible with the Dublin descriptors at the Bologna conference in Bergen in 2005. The Tuning approach, including the criteria used by the Business Group, is very similar to that used in the German NQF.

Before delving further into the question of competences and learning outcomes, readers should note the special relevance to this topic of the Østergaard–Gehmlich paper which is contained in Appendix 2 of this booklet. This article is a seminal analytical work whose methodology was copied by other Tuning subject groups in their early work on competence analysis. Competences are classified into seven clusters (conceptual areas) as follows:

1 Basic knowledge

2 Knowledge widening — vertical
— horizontal
— diverse

5 Supportive – instrumental

6 Organisation and communication

7 Transferable – systemic

with comparisons across the bachelor and master cycles.

The second part of the article provides indicative answers to a arrange of questions concerning the meaning of these competences to learners, as well as how they might be developed, taught and assessed.

2.2. The Tuning 1 Survey (2001/02)[3] & the ranking of learning outcomes

In Tuning I – like in all the other groups – questionnaires were sent out to three groups: employers, graduates and academics. They were asked to rank the importance of an identified list of almost 20 skills and competences, in accordance with a 1–4 scale (1 = none; 2 = weak; 3 = considerable; 4 = strong).

In order to place its discussions on learning outcomes and competences on the broadest possible foundation, the Business Group initially focused on the responses provided across all of the seven subject areas participating in the survey. More than 5000 responses were received from graduates, almost 1000 from academics and almost 950 from employers. The five "top priority" generic competences were as follows:

Ranking of the most important generic competences		
Employers	Graduates	Academics
1 Capacity to learn	1 Capacity for analysis and synthesis	1 Basic knowledge of the field of study
2 Capacity to apply knowledge in practice	2 Capacity to learn	2 Capacity for analysis and synthesis
3 Capacity for analysis and synthesis	3 Capacity to apply knowledge in practice	3 Capacity to learn
4 Capacity to adapt to new situations	4 Elementary computing skills	4 Capacity for generating new ideas (creativity)
5 Interpersonal skills	5 Capacity to adapt to new situations	5 Capacity to apply knowledge in practice

3 See Final Report of Phase 1 of Tuning Educational Structures in Europe (2003, pages 59 – 211) for a full explanation and analysis of the survey for the seven disciplines that were included.

Common features

Reassuringly, employers, graduates and academics expressed very similar preferences concerning the majority of their top five competences. All three groups selected ***capacity to learn*** and ***capacity for analysis and synthesis*** among their top three choices, though in a slightly different order. Also, ***capacity to apply knowledge in practice*** features in the top five for all three groups, and it is hardly surprising that employers ranked this more highly than academics, the latter group tending to favour theory over practice. However, the results do suggest that both employers and graduates are hinting that higher education institutions might give more attention to the practical applications of the knowledge they develop among learners.

Some differences

With regard to differences in viewpoints between the three groups about generic competences, again it might be expected that employers would rank ***interpersonal skills*** among their top five. It was ranked in sixth place by graduates, but academics placed it at number 14 (within the bottom five). Again, employers and graduates appear to be sending a message that more attention should be given to developing this competence in educational programmes.

Graduates placed ***computing skills*** in fourth place, while academics placed it second last (16), and employers placed it near the middle (10). This finding suggests the need for discussion among relevant stakeholders concerning universities' role in developing this competence.

Academics were a bit surprised that neither of the other two groups featured their top–ranked competence ***basic knowledge of the field of study*** among their top five choices (both ranked it in twelfth place). Two comments on this finding seem appropriate. First, in retrospect, a question concerning this competence might have been better placed in the subject–specific questionnaire (thus its appearance as a generic competence may have caused confusion among respondents). Secondly, it seems reasonable to infer that a good basic knowledge of the field of study would be a pre–requisite to demonstrating a ***capacity to apply knowledge in practice****;* this latter competence was ranked among the top three by both employers and graduates.

Finally, in an era when there is much talk about the 'knowledge economy' it is probably not much of a surprise that academics ranked ***capacity for generating new ideas (creativity)*** among their top five (in 4th place). Employers ranked it as number 6, while graduates placed it near the middle (in 9th position).

The five lowest–ranking competences emerged as follows:

Ranking of the least important generic competences*		
Employers	Graduates	Academics
Ethical commitment	Ability to work in an interdisciplinary team	Ethical commitment
Grounding in basic knowledge of the profession	Knowledge of a second language	Interpersonal skills
Knowledge of a second language	Research skills	Knowledge of a second language
Appreciation of diversity and multiculturism	Ethical commitment	Elementary computing skills
Research skills	Appreciation of diversity and multiculturalism	Appreciation of diversity and multiculturalism

** Lowest ranking at bottom of table.*

Concerning the lower ranked competences, there are likewise many similarities and some differences.

Similarities

The inter–related competences – ***knowledge of a second language*** and ***appreciation of diversity and multiculturalism*** – are all ranked in the last five by employers and graduates. These findings are disappointing to those attempting to achieve greater labour mobility, foster an identity that is especially European in character and build a European Higher Education Area European. They are also disheartening for

those closely involved in Erasmus exchanges (as are the majority of the Business SAG members). However, the findings need to be interpreted with caution; significant country differences were noted on the question relating to the importance of a second language (the issue of interpretation care is further developed below).

Ethical commitment is also ranked among the lowest five by all three groups. ***Research skills*** are valued more highly by academics (in 11th place) than by employers and graduates – who put it among the last three (though there also were medium to strong country effects regarding this competence as well).

Employers ranked ***grounding in basic knowledge of the profession*** in the last five, presumably believing that graduates would be able to pick this up during the early years of employment. ***Ability to work in an interdisciplinary team*** was edged into the last five by graduates (in 13th place), just slightly below the other two groups who ranked it in 10th and 11th places – not a significant difference (though strong country differences also surfaced on this competence). ***Interpersonal skills*** were ranked in the last five by academics, well below the importance attributed by employers and graduates.(who placed it at 5th and 6th respectively). Observations on these divergent rankings, as well as on academics' low ranking of elementary computer skills, have already been noted in conjunction with the Top Five results (above).

Overall

Overall, the correlation of rankings between employers and graduates was stronger (Spearman correlation = 0.899) than the correlations between both of these groups and academics. In interpreting these survey findings, it is important to acknowledge that respondents usually experience some difficulty in differentiating between a long list of options, some of which they might see as equally important. Accordingly, the paper in Appendix 1 (by Peder Østergaard and Volker Ghemlich, respectively the Coordinator and the Higher Education Expert of the Business SAG) provides more detailed statistical analyses of the rankings. Its methodology involves using the results based on academics' perceptions of both generic and subject–specific competences found in the Tuning 1 surveys among academics together with the results from the exercises on competences carried out by the

members of the Business Group in Tuning 2 related to specific competences at first and second cycle programs. A triangulation of quantitative and qualitative methodologies aiming at cross–checking findings is undertaken. The paper therefore introduces additional results from the survey among academics made in Tuning 1 and gives a brief description of the general findings from the exercises on competences, aiming at reaching a conclusion on best practice in teaching, learning and assessment and on how to achieve different subject–specific competences.

2.3. The 2008 Tuning Survey

A second survey was conducted in 2008. Students were included on this occasion and the 2002 questionnaire was modified slightly. The table below shows the responses received

Group	2002 Survey	2008 Survey
Academics	998	2041
Employers	944	879
Graduates	5183	1948
Students	—	2219
Total	7125	7087

2.3.1. Generic Competences – Importance

All groups were asked to rank the IMPORTANCE of 31 generic competences and the extent to which they thought these competences were achieved in higher education (ACHIEVEMENT). Respondents were asked to indicate a ranking for each of these two dimensions for each of the 31 competences listed in the questionnaire. A four–point scale was used: 1 for *none*; 2 for *weak*; 3 for *considerable* and 4 for *strong*. The table below shows the rankings accorded by each group relating to IMPORTANCE.

Top Generic Competences (all subject areas)
Comparison of Academics', Graduates', Students' & Employers' rankings
(ordered by means of academics' Top Five rankings)

Competence Reference No	Generic Competence	Academics	Graduates	Students	Employers
1	Ability for abstract thinking, analysis and reasoning	1	2	2	2
2	Ability to apply knowledge in practical situations	2	1	1	1

Competence Reference No	Generic Competence	Academics	Graduates	Students	Employers
4	Knowledge & understanding of the subject area & understanding of the profession	3	4	4	4
14	Ability to identify, pose and solve problems	4	3	3	3
9	Capacity to learn and to stay up–to–date with learning	5	5	7	9

Note: The complete table, showing the rankings of all 31 competences by the four groups, is shown in Appendix 3.

Observations on the results

1. Despite having an additional group of respondents, there is even greater agreement concerning the ranking of the top five generic competences than there was in the 2002 survey. All four groups agreed on the top four. Even more surprisingly, the rankings by employers, graduates and students were exactly in the same order – just slightly different from academics' rankings.
2. Students and employers placed ***capacity to learn and stay up to date with learning*** in 7th and 9th place respectively.
3. The only major difference in the top five rankings is that employers and students put ***ability to work in a team*** in 5th place compared with 11th by academics. The priority accorded by employers to this competence did not surprise the Business Group.

Lowest ranked competences

There was somewhat less agreement about the ranking of the last five competences. However, with one exception, all four groups placed their last five choices in the bottom eight (ordered below by academics' rankings) – therefore showing a fairly strong degree of correlation (allowing for the fact that the questionnaire contained 31 items to be ranked). The exception was that employers placed ***ability to work in an international context*** in 28th place, well below the rankings of academics, graduates and students (all three of whom ranked it either as 21 or 23).

24 Ability to act with social responsibility and civic awareness
25 Ability to design and manage projects
26 Appreciation of and respect for diversity and multiculturality
27 Ability to communicate with non–experts in one's field
28 Commitment to the conservation of the environment
29 Spirit of enterprise, ability to take initiative
30 Commitment to safety
31 Ability to show awareness of equal opportunities & gender issues

Significant ranking differences

Differences of more than 10 places arose in the rankings of the following three competences:

— ***ability to be critical and self–critical*** – ranked at 19 by employers, but in or very near the top 10 by the other three groups;

— ***ability to undertake research*** – ranked 22 by employers, compared with a highest ranking of 10 (awarded by academics);

— ***spirit of enterprise*** – ranked at 17 by employers, compared with a low of 29 (by academics).

Overall correlations and comments

Overall the Spearman correlations concerning the ranking of generic competences were consistently stronger than in the first survey. The strongest correlation was 0,974 (graduates–students) while the weakest correlation was 0,790 (employers–academics). Given that the Tuning project focuses on competences and employability, this latter result suggests that these two groups might usefully engage in greater levels of dialogue concerning those competences for which significant ranking differences arose.

The Business Group considered the overall results to be in line with expectations, but thought that institutions and programme leaders should reflect carefully on whether, n relation to specific degree programmes within their control, the findings had any significance for re–ordering their priorities in course content, teaching methods, competence development and modes of assessment.

2.3.2. Generic Competences – 'Importance' v 'Achievement'

With a view to getting a better understanding of a number of stakeholders' perceptions of the extent to which institutions of higher education were succeeding in developing the generic competences included in the survey, the four groups were asked to provide a ranking for ACHIEVEMENT (according to the same scale as IMPORTANCE).

As might be expected, all **four groups ranked *achievement* below *importance***. This was found on all 31 generic competences. The largest differences arose, in descending order of magnitude, on

— ability to apply knowledge in practical situations;
— capacity to generate new ideas (creativity);
— ability to communicate in a second language;
— ability to identify, pose and solve problems;
— ability to be critical and self–critical.

Significant differences were also found on several other competences that have a very direct impact on performance in employment situations, primarily in what are often known as **'soft skills'**, including

— ability to motivate people and move toward common goals;
— ability to plan and manage time;
— ability to work in an international context;
— ability to communicate with non–experts in one's field;
— ability to adapt to and act in new situations.

Narrower gaps occurred on competences such as ability to show ***awareness of equal opportunities and gender issues***, ***appreciation of and respect for multiculturality*** and ***commitment to safety***, but these competences generally fell near the end of the importance rankings of all four groups. On the whole, the widest gaps occurred on those competences judged by the four groups to be the most important.

Observations on the overall results

The most striking feature of the overall results comparing achievement with importance was not that gaps were widely perceived to exist; it was the extent of agreement between the four groups. The averages of the

four groups' mean ranking of achievement across the 31 competences were almost identical. Differences of less than 0,10 (on a scale with a maximum value of 4,00) were found in all cases, indicating that all four groups had a very similar perception of **overall performance**. Furthermore they agreed 'almost 100%' with each other in their rankings of performance in respect of individual competences. All of the Spearman correlations for 'achievement' are exceptionally high: the highest is 0,984 for graduates–students; the lowest is 0,912 for students–academics.

That 'gaps' between importance and achievement were found in respect of all competences and that the gaps were mostly seen to be wide should be interpreted with caution, for several reasons:

(a) It is natural that employers would wish their recruits from university to be better prepared for employment – in order to minimize their own training costs, and to start 'gaining value' from them sooner than might otherwise be the case. In these circumstances, it is inevitable that employers will show a gap between importance and achievement (possibly to the extent of subconsciously exaggerating the ranking attributed to importance and downgrading their view of achievement).

(b) Graduates, especially if they have left the university just a few years earlier (as most of the respondents did), may not have got over the 'shocks' associated with moving from university life to more stressful employment roles. It would be natural that some of them might in retrospect downgrade their assessment of their 'employment–readiness' on graduating from university.

(c) Additionally, in a rapidly–changing world, competences that may have been appropriate for graduates some five years earlier may, when a survey is being completed, seem somewhat out of date – leading to a downgrading of achievement rankings.

(d) The third category of respondents – current students – were still in education when the survey was conducted, and therefore would not have a fully–rounded evaluation of their eventual portfolio of competences by their graduation date. Hence they might be inclined to underestimate the extent of what they would know and be able to do when they graduate.

(e) Academics (the fourth group of respondents), in their tradition of being critical, may also show a tendency to wish that they could have done more for their graduates, and therefore throw up gaps between their rankings of importance and achievement.

(f) Most institutions of higher education tend to place more emphasis on building intellectual capital and competences that meet long–term employment and societal needs; this critical factor may be overlooked by respondents to surveys that might seem to focus on competences that could be viewed as having more immediate relevance in the marketplace.

(g) Finally, there is a critical statistical explanation for the extent of the gaps that were found. Those wishing to signal that there was a gap had to do so with a survey instrument that wasn't as finely tuned as it might have been for this purpose by, for example, in respect of a particular competence, giving a ranking of 3 for IMPORTANCE followed by a ranking of 2 for ACHIEVEMENT (the only response options for each variable were 1, 2, 3 and 4). That average gaps of less than 1 were widely found indicates that many of the respondents ranked achievement as equal to importance – indicating a measure of satisfaction with what is being offered by the institutions.

In conclusion, it is hardly necessary to point out, in this context, that rarely – if ever – will sufficient resources be available to higher education institutions to build a full suite of competences to the high level that employers and society would wish for. Invariably, priorities need to be agreed upon and tradeoffs made. Notwithstanding this recognition that gaps between importance and achievement are inevitable, the systematic gaps identified in the survey and the exceptional agreement between the four groups merit serious discussion with all relevant stakeholders – including resource providers – over a prolonged period.

2.3.3. Subject–Specific Competences – Importance

In the 2008 Tuning survey, employers of business graduates, business graduates, business students and business academics were surveyed by the home institutions of Business Group members. Each group was asked to rank 25 subject–related competences in order of importance. The following points summarise the full set of rankings shown in Appendix 4:

1. There is considerable agreement about the top rankings: the list below shows employers' top five; graduates and students selected at least four of their top five from the same group (though academics ranked only the last two among their top five, in 3rd and 1st place respectively).

1 Ability to analyse & structure an enterprise problem + design solution

2 Identify & use adequate tools

3 Understand existent & new technology & its impact for new / future markets

4 Learning to learn

5 Identify the functional areas of an organisation and their relations

2. There was also a considerable level of agreement concerning those competences perceived to be least important. Of the seven competences ranked most lowly by employers (below, in descending order), the remaining three groups ranked at least four of their seven lowest–ranked competences from the same list:

19 Use university knowledge to identify impact of culture on business

20 Change management

21 Identify related issues such as culture and ethics & impact on business

22 Understand principles of engineering & link them with business

23 Understand the principles of ethics & implications for business organisations

24 Understand structure of a foreign language (+ adequate vocabulary to work)

25 Work assignments abroad (e.g. work experience for 20 weeks)

3. However, there is also considerable variation between the groups over the ranking of several competences:

— the most extreme difference relates to students' ranking of ***understanding the structure of a foreign language*** in 3rd place compared with 24th by employers (and 6th / 8th by academics and graduates respectively). Allied to this are the rankings of ***understanding, reading, speaking and writing in a foreign language***: graduates, students and academics all put this in second place, well above employers' ranking (11th place).

Note: Two comments appear apt here: (a) as noted earlier in this document, there were significant country differences concerning the ranking of this competence, and (b) it might be concluded that many employers do not envisage that graduates will, in the first instance at least, be employed in international roles.

— graduates, students and academics placed ***design and implementation of information systems*** in the last four (22, 25 and 24 respectively), while employers ranked it in 7th place. However, employers and academics showed close agreement about the ranking of ***identification and operation of adequate software,*** placing it in 8th and 7th position respectively (compared with 16th and 22nd place by graduates and students);

— ***planning and controlling at the company level*** was ranked in 6th place by employers, but in the last five by the other three groups;

— ***understand and use book–keeping and financial systems*** was placed in the top five by academics, but in 14th place by employers.

Overall comments

Overall, compared with the rankings given for generic competences, the preferences indicated for subject–specific competences are more divergent. Spearman correlations generally fall within the 0,50 and 0,65 range, with the exception of 0,86 for graduates–students. These findings suggest that more comprehensive dialogue between relevant stakeholders might, in particular, lead to better understandings within higher education institutions of

(a) the range of such competences that are desired in employment and society, and

(b) the level to which they should be developed at each cycle within specific programmes.

Such dialogue – when undertaken within a competence–based, learner–centred model and with a willingness to embrace change – should lead, in many institutions, to some reform of programme profiles, rebalancing of content and changes in teaching and assessment methods.

2.3.4. Subject–Specific Competences: Importance by cycle

In the 2008 survey, the means of academics' rankings of 25 designated subject–specific competences across the three cycles are shown in the table below.

Subject–specific competences: importance by cycle
(ranked by business academics, ordered by first cycle means)

Reference No	Subject–Specific Competence [Slightly abbreviated from the version used in the questionnaire]	First Cycle	Difference GAP	Second Cycle	Difference	Third Cycle
9	Functional areas of an organisation & their relations	3,22	0,01	3,23	(0,09)	3,14
23	Reading, speaking & writing in a foreign language	3,09	0,28	3,37	0,09	3,46
11	Learning to learn	3,07	0,28	3,35	(0,01)	3,34
22	Understand & use bookkeeping & financial systems	3,05	0,04	3,09	(0.13)	2,96
8	Constitutional characteristics of an organisation	3,00	0,15	3,15	(0,01)	3,14
21	Understand structure & basic vocab of 2nd language	2,92	0,22	3,14	0,16	3,30
4	Identify and operate adequate software	2,90	0,15	3,05	0,08	3,13
6	Identify & use adequate tools	2,86	0,46	3,32	0,20	3,52
1	Analyse an enterprise problem + design solution	2,85	0,72	3,57	(0,16)	3,41
15	Understand details of business functions etc	2,80	0,43	3,23	0,12	3,35
24	Instruments for business environment analysis	2,80	0,40	3,20	(0,02)	3,18
3	Define enterprise & link with environmental analysis	2,78	0,62	3,40	(0,23)	3,17
18	Principles of ethics & implications for business org's	2,74	0,43	3,17	0,22	3,39
7	Impact of culture & ethics on business	2,73	0,38	3,11	0,26	3,38
10	Identify impact of macro & microeconomic elements	2,69	0,49	3,18	0,21	3,39
20	Principles of psychology / implications for org's	2,63	0,54	3,17	0,10	3,27

Reference No	Subject–Specific Competence [Slightly abbreviated from the version used in the questionnaire]	First Cycle	Difference GAP	Second Cycle	Difference	Third Cycle
19	Principles of law & links to business / management	2,61	0,44	3,05	(0,01)	3,04
16	Existing & new technology & impact on markets	2,53	0,61	3,14	0,07	3,21
13	Managing a company – planning & controlling	2,52	0,82	3,34	(0,09)	3,25
2	Audit an organisation & design consultancy plans	2,49	0,81	3,30	(0,24)	3,06
14	Impact of culture on business	2,47	0,57	3,04	0,01	3,05
17	Principles of engineering & links with business	2,39	0,46	2,85	0,16	3,01
12	Change management	2,26	0,97	3,23	(0,02)	3,21
5	Design and implement information systems	2,22	0,36	2,58	(0,11)	2,47
25	Work assignments abroad (e.g. work experience)	2,12	0,73	2,85	(0,22)	2,63

Observations on main differences between cycles

1. The mean rankings returned for all second–cycle competences were higher than the equivalent first–cycle means.
2. The biggest increase was for 'change management' (an increase of almost a full point). The smallest increase was for 'functional areas of organisations and their relations'; presumably academics thought that learners get enough of that in the first cycle.
3. Nine competences showed increases of greater than 0,50 (highlighted in yellow); eleven of between 0,25 and 0,50; and five of less than 0,25.
4. The five largest increases in mean rankings were for competence 12 (change management; with an increase of 0,97), followed in descending order by 13 (planning and controlling), 2 (audit an organisation and design consultancy plans), 4 (work experience abroad),

and 1 (analyse an enterprise problem and design a solution) – all of which had increases of more than 0,70. However, a quick glance at the table shows that the largest ranking increases tended to occur on competences that were awarded low rankings at the first cycle (towards the bottom of the table).

5. By comparison, the changes in rankings – whether upwards or downwards – between the second and third cycles were significantly lower. Only one, ***impact of culture and ethics on business***, reported a change of greater than 0,25 (an increase of 0,26 to 3,38). Of the remaining 24 competences, the means of thirteen fell and those of eleven rose (ten of the 24 changed by less than 0,10).

The five top–ranked competences for each cycle were

	First Cycle	Second Cycle	Third Cycle
1	Functional areas of an organisation & their relations	Analyse enterprise problem + design solution	Identify & use adequate tools
2	Speak / write 2nd language	Define enterprise & link with environment	Speak / write 2nd language
3	Learning to learn	Speak / write 2nd language	Analyse enterprise problem+ design solution
4	Use financial systems	Learning to learn	Impact of macro– / micro– economic elements
5	Constitutional characteristics of organisations	Planning & controlling	Learning to learn

A high level of competence in using a second language is seen as important at all three cycles (though this finding is subject to the earlier remarks concerning country differences). 'Learning to learn' also features prominently at the top of the table, though in descending order on progression through the cycles. It is hardly surprising that academics ranked this particular competence among the top five competences in all three cycles; in many ways it may be regarded as the essence of

what academics are trying to do – especially if a life–long–learning (LLL) perspective is taken.[4]

In its earlier Tuning work, the Business Group had identified that business functions and constitutional characteristics of organisations featured prominently on all first cycle business programmes. That the former emerged as the top–ranked competence at the bachelor level fits well with the preliminary (exploratory) findings among the group members.

Interpreting the above table 'in the round':

Linking the table above to the 'Dublin descriptors' and other more detailed reference points for cycle descriptors, the Business Group looked at the table 'in the round' by comparing Cycle 2 with Cycle 1. There was clear agreement that, after eliminating the two common competences (re second language and learning to learn), the remaining three in the second cycle – individually and in combination – represent a significantly higher order of competence and general ability than graduates having the three remaining 1st cycle competences (as these are obviously at a more basic level).

Likewise the appearance of ***identify and use adequate tools*** at the top of the 3rd Cycle competences implies knowledge and skills that enable graduates of that cycle to demonstrate advanced levels of discrimination by selecting and using appropriate frameworks, models and tools for the task in hand. Drawing associated generic competences into the interpretation, it also implies that informed judgements will be exercised and wise decisions made. In a similar vein of thought, the high ranking attributed to ***macro– and micro–economic dimensions*** suggests, not just that high–level interdisciplinary perspectives should be taken, but also that issues are examined in a holistic manner – taking account of the impact of societal, environmental, sectoral and other factors in analysing and managing business entities.

Finally, as with the interpretation of other Tuning survey results, earlier remarks concerning the difficulty of ranking a long list of options are even more relevant here. Academics were asked to rank 25 subject–specific competences, and to differentiate them across the three cycles – a to-

4 A very similar competence was listed on the generic competences section of the survey (as competence 9); with a mean of 3,60 it was ranked 5th by academics (all disciplines), somewhat higher than the highest mean derived from business academics' responses above (3,36, for the second cycle).

tal of 75 'selections' to be entered on the questionnaire (after ranking generic competences in the first section). Accordingly, the results of the survey – and of this section in particular – should be used primarily as a starting point for discussion at local level, and not as 'scientific evidence' that could be used to draw firm conclusions or make prescriptions.

2.3.5. Cycle Level Descriptors: Summary of Learning Outcomes & Competences

By distilling the results of the two Tuning surveys and combining them with further discussions, the Business Group constructed the table below as a general summary of both subject–related and generic competences across the three cycles. It is far from exhaustive, and is presented only by way of stimulating discussions aimed at differentiating the levels of competence that might be expected at the three levels. Many important points/competences identified throughout this booklet are not listed. In one sense it is being left deliberately incomplete and, in some instances, not entirely consistent with all of the survey findings. The idea of the group is that each programme designer should be presented with the challenge of constructing a table that is targeted precisely towards a specific degree profile, in a particular institution / location / region / nation. The first cycle section is pitched more at a three–year than a four–year bachelor programme.

First Cycle	
Key Subject–Specific Competences	Key Generic Competences
Students should be able to: • Demonstrate basic knowledge of the study field and of the profession • Use and evaluate tools for analysing a company in its environment • Work in a subject specific field / function of a company, and be a specialist to some extent • Interface with other functions • Be able to identify criteria and argue for the principles to be used in finding solutions to problems, mainly of a structured nature and mainly at an operational or tactical level.	• Apply knowledge within defined boundaries • Have self–awareness • Plan and manage time • Demonstrate interpersonal skills • Adapt to new situations • Use basic business software • Search for and analyse information from commonly–used economic and business sources • Make oral & written presentations in native language

First Cycle	
Key Subject–Specific Competences	Key Generic Competences
• Evaluate proposed solutions and contribute to decision making at mainly operational and tactical levels	• Continue learning in primary and related fields • Act ethically within a defined role
Second Cycle	
Key Subject Specific Competences	Key Generic Competences
Students should able to / have: • First cycle competences • Ability to structure and analyse complex business problems • Skills enabling participation in strategic decision making • Skills to perform holistic judgement and abilities to make critical assessments on strategic solution • Skills to manage change • International mobility and inter–cultural understanding	• Work in interdisciplinary teams • Capacity for analysis & synthesis • Critical and self–critical abilities • Work independently • Develop leadership and motivational skills • Design and conduct research, including sourcing of information from more diverse, obscure sources • Expertise in specialised business software • Knowledge of a second language
Third Cycle	
Key Subject Specific Competences	Key Generic Competences
Students should be able to / have: • Demonstrate the ability to perform independent, original and ultimately publishable research in one or more business or subject areas relating to business analysis, choice and implementation	• Advanced research skills • Entrepreneurial (creativity) skills • Be able to anticipate the impact of diversity and multi–cultururality on business activities • Communicate new knowledge to experts and non–experts across international boundaries

3. Structure, Content & ECTS Allocations in Programme Design

Independent of titles of individual degrees and modules, subject areas with similar content can be identified throughout all types of higher Education Institutions in Europe. However, they may be represented in a given study programme to a greater or lesser extent. In some first– or second–cycle programmes some of these areas may not be included at all or may not be defined as separate subjects (e.g. rhetorics). One of the reasons may be that some – in particular those referring to transferable skills – have been in the discussion of late due to the needs of industry (see e.g. *Skill Needs Project* of the EU); however, not all universities felt the necessity to add such areas to their curricula. Also, some universities are of the opinion that such matters are inherent parts of the various syllabi anyway and do not have to be taught / learned in specific classes. Or they may believe that it is the responsibility of employers and 'the market' to develop many of these skills.

Adopting an inductive approach, the experiences of members of the Business SAG, in their home institutions and elsewhere, have been pooled to first suggest an overall structure of subject areas (top–down) before determining an appropriate ECTS workload per module in the subsequent (bottom–up) step.

3.1. Stage 1 – Creating an over–arching framework

The Business Group found that the following "widest" approach to classifying groups of subjects allowed most participants to fit most of their programmes and modules into a common framework:

— ***core modules:*** i.e. groups of subjects which make up the backbone of the respective science (e.g. in Business & Management (BM): Business in Context, Business Environment, Business Functions);

— ***specialisation modules (major / minor; options / electives)*** – mostly a list of areas out of which students must or can choose one or several which they want to understand to a larger extent … in 8M for example these may be grouped according to business functions [logistics, marketing, finance ...], or types of enterprise [SME, MNC,], or geographical areas [Pacific Rim, Eastern Europe …], or business sectors [service, pharmaceutical, automotive industry …];

— ***support modules****:* which complement the core modules to the extent that they help to structure, analyse and clarify the implications of ongoing business activities, special projects and non–routine problems (e. g. in BM: Mathematics, Statistics, Information Technology);

— ***organization & communication skills modules*** (e.g. Learning skills, Working in Groups, Time Management, Rhetorics, Foreign Language(s);

— ***transferable skills modules*** (e.g. work experience / placement, projects, dissertation, business games ... , areas which should develop those competences which are needed to close the gap between theory and reality and which have always been in demand but still provide a problem for many graduates when entering the labour market).

These subject areas could also be grouped in the following way:

Knowledge Acquisition and Widening	Knowledge Acquisition and Deepening	Support & Methodology: Skills / Competences for further learning & transfer
Core modules Which syllabi represent the essential characteristics of this degree programme? Without which course would no one consider this as the identified degree programme?	**Specialisation modules (major / minor / electives /options)** Which areas could be identified – vertically, horizontally or laterally – for further useful studies? *(vertical:* specialisation in a narrow sense = deepening; *horizontal:* interdisciplinary = enlargement; *lateral:* unrelated subject areas, supplying additional areas, diversification).	**Support modules** What else is needed to understand issues, to identify, structure and analyse them, and to express them in different ways? To what extent can quantitative or qualitative approaches help to better explain things?
		Organisation & communication modules How can I learn and organise myself? How can I present / express best what I want to say?
		Transfer modules How does theory relate to practice? How can I relate theory to practice? What are the methods?

The differences with regard to these subject areas in cycle one or two are not based on the area as such but rather on the basis of the overall philosophy and profile of the degree which the institution wishes to

present. As a general guideline one can say that the higher the level (e.g cycle 2 v cycle 1), modules which deepen knowledge are represented most. Also the basic study skills, i.e. organisation and communication modules, will tend not to be listed at higher levels. On the other hand, transfer modules are most likely to appear to a larger extent at a higher level only.

3.2. Stage 2 – Sizing the 'pillars' of the framework

At an early stage, the approach outlined in the chart above has to be given more concrete form by assigning provisional weights to each of the main elements for each cycle. This could be demonstrated by the following model that serves merely as an example to stimulate debate:

Modules	First Cycle 3 yrs	First Cycle 4 yrs	Second Cycle 1 yr	Second Cycle 2 yrs
Core	30%	25%	20%	??
Support	25%	15%	10%	??
Organisation and Communication	10%	10%	—	??
Specialisation	10%	25%	40%	??
Transfer	25%	25%	30%	??
	100%	100%	100%	100%

In response to the needs of society, the local economy or specific stakeholders, institutions build their programmes in different ways: In the table above, more weight is given to specialization modules in a four–year first cycle than in the shorter three–year version, and this is likely to be the case in many such degrees – even to a greater extent than illustrated. In some cases, narrow specialization is encouraged (in the sense that there is more emphasis on – for example – accounting or marketing or logistics). However, some evidence was found of an opposing kind of fourth year model in the longer version of the first cycle: some institutions adopt a 'boutique' philosophy', offering students a variety of horizontal and lateral modules, leaving the possibility of narrower specialization to a shorter second cycle (often of 12–15 months duration).

The eventual distribution has to be decided by the institutions and experts who design study programmes, in conjunction with relevant stakeholders. They will perhaps put the emphasis on some of these modules to express a certain institutional profile (e.g. at universities

of applied sciences the percentage of transfer modules is presumably higher than at traditional universities). Also, if some institutions do not want to offer any modules from a particular category at any level, it is obvious that the percentage share of the others will need to be adjusted accordingly (as shown above in the second cycle).

The Tuning Business Group was able to use the general framework above for the various types of modules, not to the extent of showing a fixed percentage for each one, but rather a percentage range [e.g. «core modules» between 25–35% at first cycle level, or 20–30% at second cycle level]. The final distribution of modules should reflect a combination of professors' proposals from the departmental level (bottom–up approach) and top–down approaches (which recognize government policy, institutional priorities, funding and other resource availability / constraints etc).

3.3. Stage 3 – From structure to content

A top–down approach is just a starting point in that it sets up an over–arching framework for the various subject areas on the basis of broad agreement between subject groups. Then the institutions and schools themselves, and their specific staff – including consultation with students – of the respective areas, have to propose, negotiate and agree the distribution of content within a subject area (bottom–up). This process encourages all participants to feel involved, to "own the course" – leading to higher levels of satisfaction from having more relevant modules as well as more effective teaching, learning and competence development. In this stage, demands by one subject area cannot go beyond the agreed 'ceilings' unless other subject areas need less workload, though such mutual adjustments often occur in the early stages of designing new programmes and in regular curriculum reviews (within a Quality Enhancement process).

The framework might begin to look as follows after including specific subjects:

Modules	First Cycle 3 yrs	First Cycle 4 yrs	Second Cycle 1 yr	Second Cycle 2 yrs
Core — Business in context e.g. • business / economic history • economic sectors (primary, secondary, tertiary, voluntary) • public finance and taxation • international trade and investment • ??? — Business environment • political, economic, social, technological, environmental, legal (PESTEL) • markets, industries • ??? — Business management • procurement, production, marketing • human resources, accounting & finance • law, organizational theory & behaviour • strategic management, business ethics • ???	By semester, linked horizontally & vertically, with ECTS per module	By semester, linked horizontally & vertically, with ECTS per module	By semester, linked horizontally & vertically, with ECTS per module	By semester, linked horizontally & vertically, with ECTS per module

Modules	First Cycle 3 yrs	First Cycle 4 yrs	Second Cycle 1 yr	Second Cycle 2 yrs
Specialisation • Logisitcs • Marketing • ??? ***Support*** • Mathematics • Statistics • IT • ??? ***Organisation & Communication*** • Learning to learn • Presentation skills • ??? ***Transfer*** • Projects • Business Games • ??? • Bachelor / Master thesis • Work placement	By semester, linked horizontally & vertically, with ECTS per module	By semester, linked horizontally & vertically, with ECTS per module	By semester, linked horizontally & vertically, with ECTS per module	By semester, linked horizontally & vertically, with ECTS per module
	100%	100%	100%	100%

3.4. Implications for ECTS

If the above approach is adopted (including a proposed specification of individual subjects / modules that might be included within each category for each semester), programme designers will have identified – after a number of iterations – the percentages of a study programme that will be devoted to each area over a full cycle. This automatically leads to limits on the number of credits that are available for the various modules. If, for example, in the above–mentioned example, 30% of a first cycle three year BA–programme is reserved for core modules, a maximum of 54 ECTS credits can be achieved in all courses that fall within this category. This is demonstrated in the following table[5]:

Module	First Cycle 3 yrs[6]	First Cycle 4 yrs	Second Cycle 1 yr[7]	Second Cycle 2 yrs[8]
Core	30% = 54	25% = 60	20% = 12	??
Support	25% = 45	20% = 48	10% = 6	??

5 The table refers to a full–time programme (approx 40 weeks, including examinations – 1400–1800 hrs workload).

6 In this 3–year first cycle example, the ECTS equivalents resulting from the assumed percentages (18. 45 and 54) seem to imply a mix of 5 ECTS and 6 ECTS modules. This somewhat inelegant outcome is merely a consequence of using round percentages as a rough starting point for building the five "programme pillars".

7 It is most unlikely that there will be a Master programme of 40–45 weeks (= 1400–1800 working hours, carrying just 60 ECTS). In the vast majority of situations, the reality will be more than 45 weeks and more than 1.800 hours, leading to more than 60 credits. The present – mainly British – Master–level programmes of one year – mostly last for up to 60 weeks (including examinations) and thus would lead to 90 credits. On the other hand one has to realise that these programmes were designed before the Bologna agreement and are not related to the present 3+2 or 4+1 discussion. One–year Masters are more feasible when they build on a Bachelor–level programme in the same field. Even then, taking into account that normally a thesis / dissertation has to be written, the overall length of the programme will exceed the standard one year (40–45 week) academic cycle. If the Master level of a given course can be entered with any background, the duration is most likely to be two years.

8 The weights available for each area will depend on decisions relating to the other areas. For example, if 50% of the ECTS credits are needed for specialisation modules, and a substantial thesis is also required, very few ECTS remain for covering modules in the first three categories.

Module	First Cycle 3 yrs	First Cycle 4 yrs	Second Cycle 1 yr	Second Cycle 2 yrs
Organisation & Communication	10% = 18	10% = 24	—	??
Specialisation	10% = 18	20% = 48	40% = 24	50%?? / 60??
Transfer	25% = 45	25% = 60	30% = 18	??
Total ECTS	180	240	60	120
Range for B– / M–Level	180 – 240		60 – 120	
Max for Master's level	300			

Note: The table above is merely for illustrative purposes. It is not in any way meant to indicate the various percentages and ECTS units which should be used in designing business programmes. Its purpose is to illustrate

(a) the principle of assigning weights to different areas of study;
(b) that programmes of different duration will normally have different weights allocated to the various subject areas (e.g. it shows that a 4–year bachelor programme might have a higher proportion of specialization modules, with a corresponding lower percentage for other modules).

In constructing such a table, the various experts at "local" level have to discuss their course preferences with regard to the distribution across the curriculum. As this process has to be encouraged for the other module categories as well, it becomes evident – knowing the wishes and wants of individual professors – that a kind of clearing has to be made to find a final distribution. However, the overarching framework should remain as the integrating device, even if the module weightings are adjusted with each iteration of the clearing process.

In other words, in a top–down approach, "Tuning" determines the framework for the various subject areas on the basis of agreement between the subject groups (core, specialisation etc). In this way the workload and thus the credits for each area are identified as a guideline. Then the various staff of the respective area, in consultation with students (especially concerning workload), have to negotiate about the distribution within a subject area (bottom–up). If this is not done teaching staff and students are unlikely to feel involved. Thus they would not "own the credits", with adverse consequences for motiva-

tion, teaching quality and assessment practices. However, at this level, the demands by one subject area cannot go beyond the credit ceilings unless other subject areas need less workload.

In the wide–ranging discussions that are necessary to reach some kind of agreement regarding a degree profile (including structure and content), it is advisable that each professor should not have any fixed idea of the 'ECTS value' of their particular subject (module). Generally, a "top down" agreement should be made beforehand that, for example, a module should carry 5 or 6 credits or multiples of these (10, 12, 15 etc). There might be an understanding in the various subject areas to have this figure (or any other as a minimum). The collective Tuning experience shows that the credits awarded to a module should be about 5 or 6 as this in turn determines the number of modules per semester (either 6 or 5), aggregating to a total of 30 ECTS credits per semester. In some countries some institutions limit the number of modules that a student can take per semester to three – which means that each module carries 10 credits (or 2 @ 5 plus 1 @ 20, or 3 @ 5 plus 1 @ 15). Many institutions throughout Europe now require six modules per semester, which in turn means that all modules carry 5 credits.

Experience with ECTS gives evidence that a lower number of credits (e.g. 3) does not lead to greater flexibility. On the contrary, the opposite is likely to be the outcome, as more and more professors tend to look for an exact translation of the contents of their subject as being equivalent to that of the other institutions that may offer 5 or more credits for a workload with (approximately) the same breadth, depth and complexity. This usually results in unacceptable workload pressure on students, and consequent failure in examinations. Also, modules with 2 or 3 credits mean that a workload of just 50–75 hours over the semester is involved (or – for a 2 ECTS course – about three hours per week, including class contact time, leaving only about an hour for private study). Low ECTS weightings tend to tempt students to pay less attention to these modules – when confronted with a decision as to whether to keep up–to–date with 'heavier' modules. In the case of modules with low ECTS ratings, the general Tuning recommendation is that it is worthwhile to consider whether such subjects should be amalgamated with others, in an academically coherent way, to produce an integrated 5 or 6 ECTS module. It is recognized, however, that certain modules, if offered on an intensive ("block") basis (e.g. presentational skills), could reasonably be allocated less than 5 ECTS credits.

3.5. Classification of subjects

The Business Group compared and contrasted the subjects offered in their own institutions. The following table may be helpful as a starting point for discussions concerning particular programmes within specific institutions:

Classification of subjects on business degrees		
Core	Specialisation	Support, organisation & transfer
Business / economic history	*More advanced & international aspects of core topics*	
Micro + macro economics	International economics	Communication
Public finance & taxation	Banking	Negotiation
Principles of management	Human resource management	Statistics
Organisation theory/ behaviour	Cross–cultural management	Data analysis
Operations management	Logistics	Informatics
Marketing	Consumer behaviour	Mathematics
Financial accounting	Auditing	Game theory
General business taxation	Corporation tax	Business games
Management / cost accounting	Controlling	e–Learning
Corporate finance	Investment analysis & securities mkts	Research methods
Law – general / company / EU	Specialised law module	Case writing
Business ethics	Resource & Environmental Ec's	Thesis
Management info systems	e–Business	???

Classification of subjects on business degrees		
Core	Specialisation	Support, organisation & transfer
Strategic management	Entrepreneurship	
???	Leadership	
	Sectoral modules: *Retailing / tourism / services etc*	
	Sociology, Psychology etc	
	???	

In the specialisation column above, most of the listed modules are *vertical* in nature (as opposed to *horizontal* or *lateral)*. Each institution has to decide for itself what is the most appropriate direction and mix that ought to be included in a specific programme.

4. ECTS values and student workload

Introduction

ECTS allocations should broadly reflect student workload – according to the principle that 1 ECTS unit should require 25–30 hours of lecture / class attendance and other academic work. Full–time students following courses with an ECTS total of 60 are therefore expected to have an annual workload of 1500–1800 hours (this translates to a weekly workload of 37.5 to 45 hours per week over a 40–week academic year). A prime objective of the Bologna process is that students in the different institutions in all countries should have to invest a comparable amount of time in learning activities in order to gain a specified number of ECTS credits. In this sense the ECTS system is the standardized European education currency for measuring student workload. The system may be used both for transfer purposes (e.g. in an exchange programme) and as an accumulation system (e.g t for the award of a bachelor's or master's degree). The ECTS system is a fundamental arm of the European and national qualifications frameworks – with the aim of gaining greater transparency, comparability, workload equity and mobility in both the education and labour markets. Student workload is increasingly used as a criterion for evaluating the feasibility of study programmes, the appropriateness of ECTS allocations and programme accreditation.

Measurement of workload is an important plank in the development of an effective learner–centred, competence–based system of higher education. In its widest sense, workload represents the amount of time required by an average student to achieve the learning outcomes that are specified for a particular module. It includes the lectures, seminars, group meetings, private study, researching for and writing of essays and other assignments, preparation for examinations and all other components related to a module or a course (such as fieldwork, internships and theses). Account must be taken of the cycle level, prior learning and experience, the breadth, depth and complexity of literature, the teaching and learning methods and the forms of examination and assessment. The findings from student workload studies are important for the assurance of quality, quality enhancement, (re–)alignment of ECTS with learning outcomes, comparability of study programmes and, last but not least, the accomplishment of a switch in paradigm – orientated on students rather than teachers.

The Aachen experiments

Testing of workload may be done in a number of ways. Survey instruments have been used in some institutions. In Germany the process of consultation with students was supported via two experimental studies: *Modularisation and the Development of a Credit System in Higher Education Institututions (BLK)*. In a first run FH Aachen, being a member of both BLK groups and of the TUNING Business SAG (represented by Margret Schermutzki), was the leading institute in the development and implementation of an empirical evaluation system of student workload, called IWIS. The basic concept was a questionnaire, covering supported study time (lectures, tutorials, work experiences), not–supported studying (preparation / post processing, private study groups), non–study–related time such as employment (subject related, not subject related), or dedication to social work at the HE institute.[9]

The survey was done only for a short period. Due to the low number of participants the results of the first survey were rather poor. The questionnaire was too detailed and therefore too time consuming for the students. FH Aachen then got down to work with the RWTH Aachen University and developed a new system to capture the workload.[10] The project, called *"Student Online Workload Evaluation of Aachen's Institutions of Higher Education"* (StOEHn), involves online–questionnaires in which the students are asked to fill in their workload for every module and their preparations at home. Furthermore, some questions concerning their educational qualifications are included. The system is supported by *Campus Office*, a system that enables students to enter their own time schedules relating to their specific modules.

The StOEHn questionnaire is much shorter than the first one. Only questions about attendance time (so called contact hours), about private study time, pre–knowledge and time spent on part time–jobs are asked. In addition students can give a proposal for improvement of workload. To make it less time consuming, each student's schedule for the semester is shown on the system, with timetabled contact hours included. The students are only asked if the contact hours are correct and, if not, what the time spent in class actually was. Details relating

9 The Questionnaire was available to all members of the TUNING Business group.

10 Partly funded by the German Rectors Conference.

to private studies (the time needed for preparation and wrap–up time, essay–writing etc.) have to be filled in by the students themselves. The question about work that is not related to studying is asked only once per semester. After checking all individual workload data, the student is asked to give a confirmation that it is accurate. The information is transferred in anonymous form.

The tool for measuring workload gives the opportunity to analyse the actual workload per module and study course, the workload–distribution during the term, the effects of side activities and pre–knowledge. The data are provided in Excel spreadsheets, therefore facilitating further analyses (e.g. gender analysis) and the results are universally accessible.

The two institutions started with different student groups. FH Aachen started with all BA programmes. Even though the numbers of participating students is not yet high enough to have conclusive results for the business department of FH Aachen, there are some trends and the first cognitions of the StOEHn–survey for the first three semesters: The first result is that overall working hours are about 750 hours per semester,1.500 hrs per year, 25 hrs per credit. The business programme of FH Aachen is fully modularized. Each module consists of 5 ECTS (125 hrs per module). For the business faculty FH Aachen has found that students spend much more time in modules like business mathematics and statistics I, business mathematics II, statistics II, taxation and microeconomics. Most of the modules are in line with the approximate workload estimates made by the teachers; these include basic knowledge of business studies, introduction to economics, business and private law 1 and 2, cost accounting, finance and marketing. The workloads for these modules therefore appear to be well aligned with their ECTS values. It looks like students were under–worked in modules like accounting 1 and 2 and basics of informatics. Even though there is over–load in some modules and under–load in others, the findings regarding overall workload provide an initial and reassuring indication of the feasibility of FH Aachen's business programmes.

While the number of answers is not yet sufficient to start making programme adjustments, by collecting more data in the next semesters and over the complete study FH Aachen expects to be able to do so in due course. StOEHn therefore seems to be a useful tool for adjusting curricula and / or ECTS allocations for FH Aachen and RWTH Aachen.

Further observations, conclusions and recommendations of the Business SAG

The Aachen experiments and the experiences of some Business SAG members (for example in conducting focus group research on student workload or as programme directors) prompted the group to engage in a wide–ranging debate on this topic. This was also done out of recognition that the issue of workload had been the subject of debate at the highest levels – as part of the Bologna process – and that Tuning had conducted some exploratory fact–finding on the topic in its early days. In the first instance, the group debated whether the 1500–1800 hour workload range was the normal expectation in their home institutions. In acknowledging that there were some country differences, primarily due to different semester / academic year lengths, it was also suggested that there were likely to be significant differences across institutions within each country and also between different disciplines within individual institutions. There was also a feeling that not enough was known about student workload – largely due to the prevalence at the time of a teacher–centred (input) model of education. All members agreed that they were not well informed about the study habits of their students. Also, it was thought that many students probably worked more than at least some of their professors believed. Questions were raised about how workload is measured. The impression was that many institutions and professors concentrate mainly on time actually spent in the classroom, studying and doing examinations. This narrow approach doesn't make adequate allowance for several activities that are a vital part of every student's workload, for example:

— searching for books in a library and browsing through interesting books that might coincidentally be found while doing that;

— waiting outside of professors' rooms and administrative offices;

— organising group meetings (e.g to design, discuss and prepare group projects);

— helping other students;

— participating in the activities of student societies (e.g. debates), and – in some cases – being a member of an organising committee for one or more academic years (e.g with societies such as AIESEC, or business–relevant societies dealing with topics such as entrepreneurship);

— moving from one building to another on a campus (If, for example, it takes an average of ten minutes to get to and from the place that is a student's 'central building' and that this must be done twelve times per week, a total of two hours is used.).

These and other related activities are an essential part of a student's daily / weekly workload and should be counted, just in the same way as comparable activities constitute part of a normal working week in the vast majority of employment roles. Taking an even wider perspective, time spent discussing issues and ideas that are important in society (e.g. historical events, current affairs or individual / cultural differences) with one's own classmates and with students of other disciplines and other countries can be regarded as informal learning that contributes to the development of a range of generic competences and to the formation of values that will underpin many aspects of later life. Such activities tend to occur spontaneously and irregularly, and are just as much a core part of student life as time spent by employees in all kinds of organizations, regardless of the level of seniority, doing such things as chatting before and after formal meetings and at the water–cooler – all of which are inherent components of a standard forty–hour working week 'in the real world'.

On top of these day–to–day activities, there are also the less frequent and once–off activities that are uniquely a feature of student life – such as registering, paying fees and buying books, attending guest lectures of general interest (that are not directly related to one's field of study), perhaps given by distinguished visiting professors or public figures.

Beyond university life, students with a highly developed sense of civic awareness and social responsibility often engage in voluntary / charitable activities within local communities – e.g. in providing tuition for children with a learning disability or some other disadvantage; visiting elderly people (occasionally to the extent of helping with shopping or painting a room); or fund–raising for a variety of worthy causes (such as famine–, earthquake– and conflict–relief programmes). Few could argue that these activities do not contribute to a rounded view of society's complex structures and build values and skills that are highly relevant to almost any role in the private sector, in public office or as a citizen.

Overall, it is common knowledge that student work habits are far from uniform. Most of them have weeks in which they might not work many hours (maybe twenty or less). On the other hand, there are likely

to be several occasions during a semester when they need to work a few 12–15 hour days in succession in order to complete a major essay or project (especially if the work carries a significant proportion of the overall marks for the module). Students frequently work through the night in order to finish off such assignments by the submission deadline. Additionally, there are many weeks in almost all students' lives when they work very intensively for long hours (at least 60 and in some cases more than 80), especially before and during examinations.

Overall, the Business group concluded that:

— there is very poor 'scientific' evidence concerning student workload throughout Europe;

— teachers and administrators are likely to underestimate the aggregate amount of time necessary to function effectively as a student;

— many necessary and important activities that contribute to competence development are not normally considered;

— study patterns and workload management are significantly influenced by extra–curricular and extraneous factors such as the level of tuition fees, part–time jobs, hobbies and personal responsibilities;

— **in particular, the challenges of developing a good command of the bodies of knowledge and of building an adequate portfolio of competences across the disparate subject areas covered in business programmes,**[11] **requiring different cognitive skills and learning styles, may not be adequately recognized.**

There was general agreement that

— if 'non–core activities'[12] were properly counted, aggregate student workload would probably be close to the lower 1500–hour threshold even in countries with relatively short academic years;

— most students' workload would need to be in the 1500–1800 hour range in order to perform at a high level on the various assessments and examinations associated with a 60 ECTS course load in business;

11 See earlier section on intra–, multi– and inter–disciplinarity.

12 Activities other than the 'mainstream' academic tasks of attending lectures and seminars, doing research or studying in the library or at home, and preparing for classes, assessments and examinations.

— in the interests of achieving greater equity in ECTS allocations for individual modules and gaining a better understanding of student workloads in a learner–centred model, HE institutions should make greater efforts to conduct and share research on this topic.[13]

13 Some members of the Business SAG who had done small studies of workload through a focus group approach reported that students may be inclined to engage in a certain amount of 'game playing', particularly with surveys and particularly if they suspect the institution has a preconceived idea that they are not working hard enough (they could pick this up from random comments made by some professors about a low work ethic in specific modules). In such instances, it would be rational for them to exaggerate the amount of their workload – so as to minimize the risk of additional workload impositions. On the other hand, some students perceive that a kind of 'bell curve' approach may be used in grading, and thus see the education system as competitive. In public, especially among their own classmates (their 'competitors'), such students are likely to under–report the amount of private study they are doing – thinking that this might lead to lower study efforts by colleagues and therefore a higher ranking in their own position on the bell curve. Also some students may underestimate their workloads – simply by not counting activities that educators see as legitimate (especially relating to the development of generic competences). Consequently, the purpose of such workload exercises and the activities that may be counted need to be clearly explained, and a representative sample of students should be consulted (not just the mythical 'average student').

5. Teaching, learning and assessment

Good practices in teaching, learning and assessments

The Østergaard and Gehmlich paper in Appendix 2 provides a comprehensive statistical analysis of data collected during the 2002 Tuning survey. The aim of the paper is to focus on approaches to teaching, learning and assessment in order to work out how best to build up desired competences, and the degree to which students relate to and perceive them. The methodology of the paper is to use the results based on academics' perceptions of both generic and subject–specific competences found in the Tuning 1 surveys among academics together with the results from the exercises on competences carried out by the members of the Business Group in Tuning 2 – related to specific competences at first and second cycle programs. This approach allows a triangulation of quantitative and qualitative methodologies, with the aim of cross–checking findings. The paper therefore introduces additional results from the survey among academics made in Tuning 1 and gives a brief description of the general findings from the exercises on competences, with a view to reaching a conclusion on best practices in teaching, learning and assessment and on how to achieve different subject specific and generic competences.

In order to establish whether an entire programme content is in accordance with the level descriptors, the expectations among stakeholders in terms of learning outcomes should be considered first. Earlier sections of this booklet have shown that there is a high level of agreement between employers, graduates, students and academics concerning the prioritisation of a range of generic and subject–specific competences but that there is a perceived gap in overall achievement within institutions of higher education.

It is recommended that higher educators view the abilities reached on completion of a programme by including in their reflection whether the students in their learning process, when faced with an issue or problem originating within a business context, have acquired the abilities to:

1. summarise background and context;
2. identify and describe problems / formulate research questions;

3. draw on a range of relevant literature, models and techniques;
4. select and apply targeted methodologies;
5. conduct analyses;
6. reach well–argued conclusions;
7. make supported and justifiable recommendations;
8. employ appropriate media, language(s) and forms of presentation to communicate with diverse audiences.

These criteria are those normally used by academics in the assessment of seminars, projects, examination scripts, theses and scientific papers. The level to which various competences need to be demonstrated have to be scaled according to the cycle level.

Aspiring towards best practice

The natural starting point for the construction of an effective system of teaching, learning and assessment is a shared vision of an overall programme of study, covering the following three points in particular:

— that society values the knowledge and competences of its graduates, and that all participants, particularly the teachers (as leaders of the learning process), take pride in working towards the programme goals;

— that the structure and content of a programme and each of its modules are fully coherent (and are adjusted from time to time); *and*

— that learners are made aware of and enthusiastically embrace the rationale of the programme … its aims and objectives, and the generic and subject–specific learning outcomes it seeks to develop over the full cycle.

First cycle programmes should focus on general knowledge acquisition about business organisations and the wide range of public and private organisations and institutions, both national and international, that exist to keep economies functioning. An initial emphasis on general knowledge is all the more necessary as the aptitudes and motivations of the student intake usually vary a good deal. At this stage, students should gain a clear knowledge of the environment in which business activities are carried out, how organisations are structured, the differ-

ent business functions and their inter–relationships. In order to achieve these teaching and learning goals, the student at the same time needs to develop the ability to structure problems frequently encountered in a business organisation, become familiar with a number of basic supportive instruments (e.g. statistics, relevant software), and cultivate self–organisation and communication skills.

At the end of the first cycle, students are expected to have achieved an appropriate level of employability and mobility and a capacity to engage in life long learning. To reach these learning objectives at first cycle, students should experience different types of teaching methods, such as traditional lectures, seminars, project work, exercises and relatively simple practical cross–functional problems commonly found in organisations charged with providing goods and services – in both the market and non–market sectors. Added and linked to this, students should experience a variety of assessment methods to document that learning outcomes have been achieved. This means that the learning objectives of a course should be matched with appropriate teaching and assessment methods, where students document not only their basic knowledge level, but also their abilities to use supportive instruments, to organise their own work, and to communicate and argue for the results and recommendations. This means that institutions even at the first cycle should use a variety of assessment methods, especially assessment methods that enhance the student's organisation, communication and systemic competences. It was noted that students tended to be sceptical of research–led teaching, especially at the first cycle; where there was a belief that it favours the minority of students who will go into research / academic careers, at the expense of giving the main body of students a comprehensive overview of the discipline.

Teaching at the **second cycle** should focus on knowledge widening and deepening, based on first cycle core knowledge. As to the direction, whether it should be vertical, horizontal or diverse, the group does not intend to give any recommendations, except that the direction should build on knowledge acquired during the first cycle. However, higher–level competences such as 'managing a company – planning & controlling by using concepts & methods' (ranked No 6 by employers) and 'management of change' (which academics thought should get much greater prominence in the second cycle than in the first), should be subjected to special scrutiny, to establish their relative importance in the second cycle.

At second cycle, just as at first cycle, a variety of teaching and assessment methods should be used, to stimulate not just knowledge acquisition in the subject field but also to prepare the students to find the relevant instruments and tools for problem–solving at a more advanced level, while also giving greater emphasis to context. At this level, they should also be better able to present their solutions to a problem to more diverse audiences – both within and beyond the organisation, including those who are not experts in the field.

Striving for excellence in teaching[14]

Mastery of one's own specialist subject and how it fits within the discipline, as well as within the broad body of scientific knowledge, is a necessary pre–requisite for effective teaching. Beyond that, excellence in teaching depends partly on 'art' (the personal characteristics and attributes of the teacher), and partly on knowledge of educational science. Few academics are born as educators who are naturally inspirational. Normally, the art of good teaching has to be cultivated – through training and reflecting on experience. If learners are to live in a world that is increasingly defined by competences, it is reasonable that they, in return, should receive competent instruction. Assuming there is a will to do so, every teacher has the capacity to improve along both of these dimensions.

An extensive treatment of this topic is well beyond the scope of this booklet, but the following points may stimulate thought, debate and further exploration of the topic:

— ***mastering the principles of effective curriculum (programme) and module design:*** role in programme; links with other modules – horizontally and vertically; specification of competences and how they are developed; assessment procedures etc … down to the level of a detailed lecture plan with associated readings, projects and exercises;

— ***building a solid knowledge of how students learn (the process of learning):*** primarily concerning the cognitive domain (which deals with knowledge, comprehension, application, analysis, synthesis, evaluation) and the affective domain (which is concerned with

14 See, for example *Teaching methods, knowledge, technology and assessment: an interlinked field? – A contribution to the Tuning project*; Joost Lowyck, Centre for Instructional Psychology and Technology (CIP&T), Leuven University.

attitudes, feelings, values, beliefs). Such matters as motivation of students, attention spans, how much learners remember (with consequent impact on forms and frequency of reinforcement and revision), how recall is affected by the mode of communication (e.g. through hearing or seeing), the impact of examples, how to promote independent learning skills etc. are important to effective teaching;

— ***using an appropriate style of instruction*** that is suited to

- the cycle level and the stage within it,
- the type of module and previous exposure to it,
- the size of the group and the range of ability within it,
- the technology and media being employed, and
- the personal attributes, preferences, strengths and limitations of the teacher;

— ***regular self–assessment and reflection*** on the lecturing process;[15]

— ***early identification of the range of learner abilities in the cohort*** and identifying aspects of the content that prove to be particularly challenging, especially for those students who have a lower aptitude for the module, and devising timely interventions aimed at getting them through the learning barriers (e.g. additional tutorials and / or support from fellow students);[16]

— ***regular contact with students*** in a semi–formal way outside of the classroom (in association with colleagues teaching the same cohort)

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15 One member of the Business SAG cited the example of a colleague (a senior professor – not a junior member of staff still 'learning the trade'), who spends fifteen minutes or so after each lecture evaluating how it went – making notes as to how to improve it next time round (structure, content, examples, delivery, links to previous and subsequent lectures, links to other modules and to the overall programme learning outcomes, sticking points for students etc..

16 Some members of the Business SAG found that many students could be persuaded to share their expertise – on the basis that knowledge should be regarded as something which is "co–produced" and that the best way to learn something is to explain it to others. This concept of co–production was found to be particularly effective in groups whose members had varying aptitudes for a specific module or certain aspects of it. The Group agreed that while some learners may be happy to provide such support for purely altruistic motives, it was probable that they realised they were building valuable subject–specific competences and generic competences which would improve both their examination performance and employment prospects.

– for example, by meeting a representative group mid–way through the module and also on its conclusion;

— ***providing constructive feedback*** on all assignments, essays, projects, examinations etc – strong and weak points, aspects needing further research;

— ***conducting surveys*** – covering such matters as the syllabus, the literature, the teaching, the assessment (including feedback), and the extent to which defined learning outcomes have been achieved.

Excellent teaching skills are rarely an innate talent. Normally they need to be developed through training, experience (trial and error) and reflection. Acting as an understudy to teachers recognised for their ability to motivate learners and to communicate their subject effectively, or having such a teacher as a mentor, can be a good way to start. However, direct engagement with the science of education, learning and teaching is also recommended as a 'must do' in the current environment. Its impact on teaching effectiveness can be significant. In addition to the wide range of literature that may be consulted on a personal basis, conferences aimed at improving the quality of instruction in HEIs are to be found – often at national, international and disciplinary levels.

Additionally, the learner–centred, competence–based approach has gained such momentum in the last decade that many institutions have established specialist support units, staffed by educational experts and invited guest–speakers, to build the teaching competences that are increasingly expected by learners, quality assurance agencies, governments (seeking value–for–money criteria), and society at large.

Topics such as the following are offered by such units:

— Writing a teaching philosophy statement.

— Developing student academic writing competences.

— Developing 'Learning to Learn' (L2L) competences in higher education.

— Making learning happen.

— Accelerated learning: advanced learning and adaptive problem–solving techniques – lessons from cognitive science.

— Deep learning and far transfer in higher education – what works?

— Research–led teaching.

— eLearning topics e.g.

- Effective course design for eLearning.
- Creating reusable learning resources (for on–line learning).
- Embedding innovative technology–enhanced learning.
- eLearning in large group teaching.
- Aligning learning outcomes, teaching and assessment.

Constraints on the development of excellence in teaching

The Business SAG, like most other groups, agreed that there were serious systemic barriers to the development of a strong teaching culture in many HEIs. The principal problem for most appears to be the increasing importance of the research agenda – at the institutional and disciplinary level (for rankings, and for raising badly–needed research funding), and at the individual level, where it is usually the critical criterion in promotion decisions. Members of the Group reported that excellence in teaching was not formally rewarded in most institutions. Overall, the Group concluded that, in the 'new Bologna model', there was a need for a public policy debate on the role of teaching excellence in the funding of HEIs and in promotional decisions.

Assessment

Higher education is still in a phase of transition from a teacher–centred to a learner–centred model. It is likely that the institutionalisation of a fully–fledged model based on learning outcomes and competences will take several more years. Many institutions, faculties (schools) and instructors are still defining and refining the content of individual programmes and modules in terms of intended learning outcomes. They are also experimenting with different modes of instruction and ways of developing specified competences among learners. Assessment is further down the 'academic supply chain' and appears to have not yet reached high–priority status in the implementation of the Bologna process. According to anecdotal evidence and at least one report (CEDEFOP, 2008), it seems that the leaning outcomes approach has so far had little effect on assessment methods. However, the Business Group's

collective view was that reasonable progress is being made in most business areas, such as (taking just three examples):

— accounting and finance (where there are clearly defined market / employer tasks to be carried out);

— marketing (e.g. in designing and carrying out consumer research surveys and conducting analyses using IT software such as SPSS);

— human resource management (e.g. through simulated employer–union negotiations, involving role playing by students before a panel composed of managers and union officials).

The Group agreed that the development of key generic skills (e.g. presentation, communication, working in teams, meeting deadlines etc) received widespread attention in most institutions that they were familiar with, and that the processes employed were by and large effective. However, as was concluded in relation to student workload, the Group believed that more research was needed, especially on the topic of integrated assessment, and hoped that there would be opportunities in the future to further explore this matter.

The Østergaard–Gehmlich paper in Appendix 2 is highly recommended as an important resource for gaining deeper insights to teaching, learning and assessment.

6. Quality enhancement

The Tuning project recognises the growing importance of quality in the construction of a European Higher Education Area that is globally competitive. In this context, quality assurance takes on greater importance. The number of quality units at institutional level is growing. National agencies evaluate quality from the perspective of external stakeholders. The ENQA policy paper *Standards and Guidelines for Quality Assurance in the European Higher Education Area* has been endorsed by EUA, EURASHE and ESIB and approved by the European ministers of education at the Bergen summit

The Tuning project aims to enhance the internal mechanisms of quality assurance, primarily at the programme level, by establishing that there is

— an identified and agreed need for the programme,

— a well identified degree profile,

— a set of corresponding learning outcomes defined in competence terms,

— an equitable allocation of ECTS credits to the programme units, balanced across the different areas,

— an appropriate range of approaches to teaching, learning and assessment,

— a system of regular review and agreed procedures for quality enhancement.

An evaluation scheme should involve the systematic collection and analysis of statistical information on key indicators such as student recruitment information; supports for students with learning and other disabilities; examination success rates; results of student surveys; academic appeals procedures; career education, information and guidance; progression of students to employment or higher degrees; feedback of employers, partner institutions and alumni; and peer review exercises. The latter might take some or all of the following forms:

— reviews by external examiners, on an annual basis,

— less frequent but more fundamental reviews (e.g. quinquennially), possibly to fulfil national or university requirements,

— reviews by professional accreditation agencies (such as EQUIS or AMBA).

Business schools / departments often set up advisory boards, with a mix of local, regional, national and international membership, to provide general guidance and direction, and – where public funding is inadequate – raise funds for projects such as new buildings and facilities, sponsored professorships and scholarships.

The principles for setting up and improving programme content and delivery are outlined Chapter 6 *Quality enhancement at programme level: the Tuning approach* of the introductory Tuning book (p 119–132).[17]

The ultimate aims of continuous internal quality enhancement processes are

— to ensure that graduates achieve a pre–determined set of subject specific and generic learning outcomes and competences that lead to employability and mobility;

— that they have developed a capacity for life long learning within and beyond their field of study;

— to reassure society, primarily through external accreditation and quality assurance agencies, that public investment in higher education meets specified 'value–for–money' criteria.

17 The Tuning approach to quality enhancement is represented in the ***Dynamic Quality Development Circle*** which is illustrated on page 15 of Chapter 2 (Introduction to the Tuning Methodology) and on 124 of Ch 6 (on Quality Enhancement) of Tuning Educational Structures in Europe,

7. The Third Cycle

Cycle	Typical degrees offered
Third Cycle	PhD usually requires examination and defence of a substantial and original piece of research described in a comprehensive thesis. *Note: This booklet contains a separate section devoted to the third cycle (Section 7).*

Introduction

As was found in the first and second cycles, doctoral studies in business and management are also diverse. There is a vibrant strand of research in business history, often through specialist 'lenses' such as accounting, economics or law. With regard to contemporary research, the areas of accounting, management (including strategic management), marketing, production/operations management, managerial economics, organizational studies and management/computer information systems figure prominently on the list of PhD awards in most countries. These sub–disciplinary subject areas are what might be expected in a world where business activities throughout all stages of the supply chain, from acquisition of resources through to ultimate sale and after–sales service, are increasingly complex and globalised. However, the area of finance (including banking) has been especially popular in recent decades and, since the emergence of the sub–prime crisis and its consequences in the summer/autumn of 2007, and its escalating consequences since then, this area has gained in impetus and urgency.

The Business SAG commenced its discussions, in a very general way (because of the focus then on the first and second cycles), at the Tuning II Athens meeting in 2003. From 2005 onwards the discussions of the Group have been inspired by the 10 principles agreed by the EUA follow–up group in Salzburg in 2005.[18] [See chart]

At its Brussels meeting in June 2006, the business group had wide–ranging discussions on these principles. It was agreed that

18 http://www.eua.be/fileadmin/user_upload/files/EUA1_documents/Salzburg_Conclusions.1108990538850.pdf

— the principles were essential for the further development of doctoral programmes in a subject area still characterised by great diversity, both as to subject studied, extent, form and requirements for passing doctoral programmes;

— the Bologna process has speeded up national efforts to formulate and formalise development, contents and requirements in doctoral programmes for students and graduates in the business area.

Using these principles as a guide, the Business Group continued to work on mapping PhD studies across the following areas:

— types of third–cycle programmes,

— level descriptors for the third cycle,

— sets of agreed learning outcomes expressed in terms of competences,

— role of ECTS credits,

— role and implementation of thesis supervision,

— relationship between academic research and professional employment,

— trends, developments and concerns.

EUA general principles for doctoral programmes (in response to the Bologna process)
i. **The core component of doctoral training is the advancement of knowledge through original research.** At the same time it is recognised that doctoral training must increasingly meet the needs of an employment market that is wider than academia.
ii. **Embedding in institutional strategies and policies:** universities as institutions need to assume responsibility for ensuring that the doctoral programmes and research training they offer are designed to meet new challenges and include appropriate professional career development opportunities.
iii. **The importance of diversity:** the rich diversity of doctoral programmes in Europe – including joint doctorates – is a strength which has to be underpinned by quality and sound practice.
iv. **Doctoral candidates as early stage researchers:** should be recognized as professionals – with commensurate rights – who make a key contribution to the creation of new knowledge.

EUA general principles for doctoral programmes (in response to the Bologna process)

v. **The crucial role of supervision and assessment:** in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners).

vi. **Achieving critical mass:** Doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate schools in major universities to international, national and regional collaboration between universities.

vii. **Duration:** doctoral programmes should operate within an appropriate time duration (three to four years full–time as a rule).

viii. **The promotion of innovative structures:** to meet the challenge of interdisciplinary training and the development of transferable skills

ix. **Increasing mobility:** Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners.

x. **Ensuring appropriate funding:** the development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding.

Types of third–cycle programmes

The traditional model of the lone researcher working under the close guidance of one mentor is gradually giving way to more structured programmes that contain a number of advanced taught modules. The latter generally fall into two clusters – (a) philosophy of science / research methodology and (b) subject–specific modules (e.g. advanced quantitative methods in the case of PhD programmes in Finance).

The normal admission requirements for enrolment in third–cycle programmes are completion of second cycles in business programmes or similar qualifications from a related subject area, for instance a programme in economics. In some countries, it is possible for master students to be upgraded to doctoral students before having obtained

a traditional master degree. The main qualification for admittance of a doctoral student is usually academic performance at first– and especially second–cycle programmes; however, the members of the Business Group are of the opinion that more emphasis should be put on teaching and presentation skills, because it is vital that doctoral students graduating in the area of business possess both research skills as well as well–developed skills in presenting research results to students and professionals in organisations. In some countries, third–cycle students are recruited from practitioners holding positions in business organisations, and partly or fully financed during the programme by employers. However, in the business group, among business schools and universities and across EU countries there are concerns as to whether graduates under such DBA [professional (industrial) PhD] programmes achieve the same level as PhD/doctorate graduates. The business group finds that more well–defined strategies should be formulated at the institutional level on admission to such programmes to ensure more national and international transparency in recruitment.

Doctoral programmes in business are normally three– to four–year full–time programmes, depending on the length of the second cycle. In many countries the third cycle is a very individual process depending on the topic; but there is a growing tendency in many countries to have formalised and compulsory PhD–courses. These courses are mostly divided into highly specialised courses in a specific subject area such as marketing or finance, courses in research methodology and courses in presentation skills.

Level descriptors for the third cycle – learning outcomes

Because of the diversity of the subject area of business, it has been difficult to map the diversity of specific subject–related competences. However, based on previous descriptions of the typical tasks of a business graduate at first and second cycles, and required competences and achievements at these two previous levels, the Business Group has formulated the following general subject competence requirements at a third–cycle program:

> *The doctoral student must demonstrate the ability to perform independent, original and ultimately publishable research in one or more business or subject areas relating to business analysis, choice and implementation.*

In addition to these broad subject–specific competences, doctoral students should achieve the following generic competences – assuming that the generic competences at first– and second–cycle programmes have been successfully documented through assessment before admission to a doctoral programme. The Business Group finds the following generic competences to be of great importance:

— Expert skills in a specific subject.

— Research skills.

— Creativity.

— Appreciation of diversity and multi–culturalism.

— Critical and self–critical abilities.

— Self–management.

— Entrepreneurship.

In the Business Group, there are differences of opinion as to whether teaching competences are generic competences to be achieved in doctoral programmes, and on the importance of doctoral programmes preparing graduates for direct employment in industry, or be seen as the start of an academic career as a researcher in the university world only. In general, there is a need for more surveys in order to establish the importance of doctoral programmes for business organisations, and the tasks and responsibilities of doctoral graduates employed outside universities.

It is generally agreed that the main learning outcome of the doctoral programme is a thesis, which should be assessed as well as defended orally. There are significant differences from country to country in the requirements and/or encouragement to publish papers before obtaining a PhD degree as well as whether PhD students are considered to be researchers only, or teacher and researchers.

The role of ECTS credits

ECTS plays an increasing role in third–cycle programmes as a number of doctoral courses are made compulsory and carry ECTS points, but in general few if any institutions have yet developed doctoral programmes with components aggregating to a full 180 or 240 ECTS. The Business Group discussed whether it would be possible to have full ECTS cover-

age of doctoral programmes and still respect two divergent aspects of doctoral programmes. ECTS is a workload–based system measuring the time needed to successfully achieve the learning outcomes of an activity, which in this case, by our standards, means the ability to perform independent, original and ultimately publishable research. Research by definition is the development of new knowledge, and it will therefore be very difficult to set up transparent workload time–related specifications to achieve these learning outcomes. However, further research among supervisors and programme directors could help to set up preliminary estimates on the workload which ought to be devoted to the research component by different categories of candidate.

Thesis supervision and assessment

As is the case with ECTS points, supervision is becoming more formalised too. In most countries, there is tight supervision and assessment and specific performance requirements during the first year of a doctoral programme. In some countries the PhD students are very closely connected to a supervisor, and it is basically the supervisor's responsibility that the student reaches specified targets at critical stages in the process. In most countries assessment is regulated by law, usually by specifying that the thesis must be evaluated by a group of external examiners, often international, combined with an oral presentation and defence. The business group finds that more diverse assessment forms would be desirable, for instance assessment procedures documenting collaboration with private industry and the relevance of the research findings to industry.

Relationship between academic research and professional employment

The Business Group discussed the existing levels of and potential for third–cycle graduate employment in organisations outside universities. Based on the comments made by the group members, it is possible to make the following very general map on selected countries:

— Spain: Academic careers – private companies have no preference for employing PhDs because of higher wages.

— Switzerland: PhDs are educated with the aim of working in the universities, but some have to find work in private companies because more graduate than are needed in universities.

— Norway: Approximately 20% end up in banks, industry, oil companies etc. 80% get a scholarship.

— Portugal: Most graduates want to use their competences in research and teaching activities in higher education.

— Sweden: The majority want academic careers; varies from subject area to subject area; more economics PhDs are going to private companies than business PhDs.

— Ireland: Most PhDs would like to teach in academic life, but up to 1/3rd may end up in other organisations (consultancy, research institutes etc), sometimes as part–time teachers in the evenings.

— The Netherlands: Decreasing minority go into the private sector.

— Austria: No PhD degree but a doctoral degree – habilitation is needed for an academic career.

— Germany: Traditionally a habilitation is needed for an academic career at universities but a new model has been introduced: junior professorship – which may be entered with a doctorate. At universities of applied sciences a doctorate may allow a candidate to become a professor if a further criterion is also fulfilled, namely 5 years of business experience in a managerial position.

— Denmark: 25% get a job in private companies, but most aim for an academic career.

Trends, developments and concerns

According to Professor Georg Winkler (EUA President), "doctoral education is a major priority for European universities and the EUA".[19] The Foreword to this report continues as follows: "In the context of the Bologna Process the importance of doctoral education as the third cycle of higher education and the first cycle of a researcher's career, and thus in linking the European Higher Education and Research Areas was first highlighted in the 2003 Berlin Communiqué. EUA's first project *Doctoral Programmes for the European Knowledge Society* (2003 – 2005) then opened a dialogue between universities and policy makers on the re-

19 *Doctoral Programmes in Europe's Universities: Achievements and Challenges* (Report prepared for the European Universities and Ministers of Higher Education). EUA (2007, p5).

form of doctoral programmes and enabled the adoption, in a Bologna Seminar held in Salzburg in February 2005, of 'ten basic principles' [see above] for the future development of doctoral programmes. The subsequent Bergen Communiqué (May 2005) further stressed the importance of enhancing synergies between higher education and research, and gave a mandate to the EUA to prepare a report on the further development of the basic principles for doctoral programmes for the 2007 London Conference of Higher Education Ministers".

There is no doubt therefore that more investment in research will be high on the political agenda in the EU in the coming years, and these investments will have a substantial impact on the possibilities of universities and business schools. To turn these investments to the best possible use, a number of issues will have to be addressed. First of all, the financial conditions for entering a third–cycle programme must be improved in order to compete with the salaries and career opportunities for business master students in private industry, and in addition opportunities after the completion of a third–cycle business programme must be improved. As it is, many PhDs already leave Europe for the USA to have a research career. Whether elite universities on national or European level will help is an open question. Besides, greater attention to the prestige and career opportunities connected with teaching need to be developed in order to make university careers more attractive. However, the Business Group believed that there was potential for developing more professional doctorates: organisations across all sectors could benefit from a pool of more insightful and reflective managers, and there is a large and increasing pool of master graduates in specialised business sub–disciplines and from more general MBA–type programmes.

8. Conclusions

Participation in the Tuning Project has been an enjoyable exercise for the members of the Business Subject Area Group. It has also been challenging and stimulating, provoking each one of us to question the structures and approaches employed in our own countries and institutions. We learned a great deal from each other. We all agree that such important matters as programme design, teaching and assessment in our home institutions have benefited to a greater or lesser degree. Our conviction about the importance of business education in society has been strengthened. We believe that a competence–based learner–centred model of higher education is the only valid way forward – to justify and reward student and societal investment in advancing aggregate levels of knowledge and expertise. We also formed the view that transition to this model is making steady progress, but that it will need to continue well beyond the 2010 'deadline' for implementing the Bologna process.

The high correlations, especially in the 2008 survey, of employer, graduate, student and teacher perspectives on the importance of a long list of generic competences is viewed as a solid platform on which to build subject–specific competences – about which there is somewhat less agreement, and which is an area that needs more research. As the three–cycle structure becomes increasingly embedded throughout Europe, the construction of more targeted degree profiles will need attention. In tandem with this, the identification of more precise generic and subject–related competences at each level will need to be monitored and refined, as will the most effective ways of developing and assessing these competences. Also, continuing efforts will need to be made to close the 'gap' found between the rankings of 'importance' and 'achievement'. Likewise, the broadening and deepening of Europe's 'knowledge society' needs to be accelerated through further development of doctoral studies. Our group viewed the professional doctorate as having an important role to play in improving the quality of management and governance in the wide range of market and non–market organizations to be found throughout the continent.

Finally, contact with and occasional contributions from members of other Tuning groups – for example Education and European Studies – has stimulated many of us to think more deeply about several questions. Here are just a few:

— how do learners learn?

— how should we develop more effective instruction methods that are appropriate to a competence–based system?

— how should we change assessment procedures, and design imaginative integrated assessment mechanisms that are desirable for the intra, multi– and inter–disciplinary programmes universally found in business and management education?

— what does it mean to be European?

We look forward to continuing our research and debate on these and other issues in whatever post–Tuning assemblies we may find ourselves over the years that lie ahead.

The Subject Area Group for Business and Management Education

9. References & other sources of information

9.1. Tuning and EU sources of information

The selection of references below (labelled as **General**) is highly random and far from comprehensive. They are offered as supplementary to the following sources of further information:

— Tuning literature, particularly the two comprehensive volumes published on conclusion of Tuning I and Tuning II, and the Tuning website. See in particular the **'Goldmine'** list of relevant Websites and Bibliography, published in the *Final Report of Tuning II: "Tuning Educational Structures in Europe; Universities' Contribution to the Bologna Process"* (pages 367 – 378); University of Deusto and University of Groningen (2005). Sources of information on learning outcomes and competences, descriptors, qualification frameworks and quality assurance are listed, as well as the web addresses of a wide range of official and other organizations.

— Publications and website of the European Universities Association (EUA). Its 'Trends Series' *Trends in Learning Structures in Higher Education* provide valuable comparative information.

— European Commission Directorate–General for Education and Culture (including *Focus on the Structure of Higher Education in Europe 2006/07 – National Trends in the Bologna Process* published by EURYDICE, the information network on education in Europe).

— Literature and websites of national institutions concerned with Higher Education (Ministries of Education, National Qualifications Authorities etc).

9.2. By members of the Business Subject Area Group

DUQUE, JOÃO, «Seremos Capazes de Sintonizar?», *Diário de Noticias, Suplemento de Economia,* 17th of June, 2002, pp. 7.

DUQUE, JOÃO, «Sintonizando o Ensino Superior Europeu», *Seminário Económico,* 802*,* 24th of May, 2002, Suplemento Universidades, pp. 4.

OIJEN, Aswin van, «Bringing European Education into Tune», *EURAM Newsletter, European Academy of Management,* place of publication: n/a (internet), June 2004.

Ostergaard, Peder and Gemlich, Volker: *Statistical Analysis of Tuning 1 Findings Concerning Competences,* in Part V of this brochure (Appendices); also available on the main Tuning website (under Publications > Business).

SCHERMUTZKI, Margaret and Reinhard SCHMIDT: Work Based Learning, «Ein neues Konzept des lebensbegleitenden Lernens», *Hochschule und Weiterbildung,* published by Deutsche Gesellschaft für wissenschaftliche Weiterbildung und Fernstudium e.V. (DGFW)/German Association for University continuing and Distance Education, no. 2/2003, Hamburg, January 2004, pp. 47 et seq.

SCHMIDT, Reinhard and Margret, SCHERMUTZKI, «Das europäische Projekt, Developing European *Work Based Learning* Approaches and Methods' (DE*WBL*AM). Europäische Ansätze und Modelle Zur Anerkennung von Work Based Learning durch die Hochschulen», *Lebenslanges Lernen*, published by Prof. Dr. Hans–Peter Füssel and Prof. Dr. Ewald Terhart, Berliner Wissenschaft–Verlag GmbH (BWV), Berlin 2004, pp. 87 et seq.

SCHERMUTZKI, Margret, Alice PETERS–BURNS, Stefan KLUSS, «Verknüpfung der organisatorischen Bildung von Modulen mit der Umstellung auf ein Leistungspunktesystem (Arbeitspaket 1), Abschlussbericht», Aachen, 09/2004 as part of the BLK–Project (pilot model project funded by the confederacy and the federal states) „Entwicklung und Erprobung eines integrierten Leistungspunktesystems in der Weiterentwicklung modularisierter Studienangebote am Beispiel der Ingenieurwissenschaften«, edit Dr. Petra Hennecke, TU Ilmenau.

SCHERMUTZKI, Margret, Alice PETERS–BURNS, «Empfehlungen zur Anwendung des ECTS–Systems als Transfer– und Akkumulierungssystem im Rahmen der Umstellung auf Bachelor– und Masterabschlüsse an der FH Aachen», published by Aachen University of Applied Sciences, Aachen 2004 as part of the BLK–Project (pilot model project funded by the confederacy and the federal states) «Entwicklung und Erprobung eines integrierten Leistungspunktesystems in der Weiterentwicklung modularisierter Studienangebote am Beispiel der Ingenieurwissenschaften», TU Ilmenau.

SCHERMUTZKI, Margret, and Stefan KLUß, «Kontaktstunden oder *workload*? Die Vergabe von ECTS credits», *Das European Credit Transfer and Accumulation System* (ECTS) *in der Praxis,* published by the German Academic Exchange Service (DAAD), Bonn, September 2004.

Additional information by Margret Schermutzki: In February 2005 the Aachen University of Applied Sciences was one of four recipients of the Innovation in Continuing Education Prize 2005 (WIP 2005) awarded by the Federal Institute of Vocational Education and Training (BiBB) for the project «Work Based Learning» as part of the DE*WBL*AM Project. Various newspaper articles have been published about the WIP 2005. The outcomes of the Tuning project have been introduced into the application for the prize.

OIJEN, Aswin van, «Bringing European Education into Tune», *EURAM Newsletter, European Academy of Management* (June 2004).

9.3. General

The Challenges of Educating People to Lead in a Challenging World

McCuddy, M.K.; van den Bosch, H.; Martz, W.B.J.; Matveev, A.V.; Morse, K.O. (Eds).
Series: Educational Innovation in Economics and Business (Volume 11)
Springer Publications (2007)

Business and Society

Business and Society: Stakeholder Relations, Ethics and Public Policy (11th Ed); McGraw–Hill Higher Education (2005).

The Principles for Responsible Management Education; United Nations (2007) – (published by UN Global Compact).

Web searches of word combinations such as '*Business and Society*' reveal a wide range of references for areas such as Nonprofit Resources, Socially Responsible Investing, Development Economics and Business Ethics.

Business Education: Surveys and Degree Profiles

— Web searches of word combinations such as '*surveys university business education'* and other appropriate combinations are likely to provide rich sources of information. For example, a recent survey[20] estimated that in 2004/05 more than 7,500 institutions worldwide were offering business degrees. The US headed the list with 1,500 (presumably a rough estimate), followed closely by China with around 1,400 and then by the Philippines, India and Mexico, all with 1,000 or more institutions providing business education at bachelor level or higher. Europe's total came in at less than 700, but this is likely to be significantly below the true number as countries such as Belgium, Denmark, Norway and Spain – all enthusiastic contributors to the Tuning project (including the Business SAG) – are not listed among

20 By the Global Foundation for Management Development, cited in the 2007 AACSB *Guide to Business Education.*

the survey results. It seems certain, therefore, that the European and global statistics for business education are significantly underestimated in this study.

— Additionally, the websites of leading universities provide useful information concerning the structure and content of general and specialized business degrees at all three cycles. Within each country, the universities known to be most advanced / skilled in the implementation of the Bologna Process might be checked as initial 'reference points'.

Learning Outcomes and Competences

Writing and Using Learning Outcomes – A Practical Guide, by Dr Declan Kennedy, Department of Education, University College Cork (UCC), Ireland. Published by the Quality Promotion Unit of UCC (2007). This publication includes section on how learning outcomes are linked to teaching and assessment. It also contains examples of learning outcomes from a selection of commonly–found modules in different disciplines, as well a useful list of references and web addresses.

Teaching, Learning and Assessment

Teaching methods, knowledge, technology and assessment: an interlinked field? – A contribution to the Tuning project; Joost Lowyck, Centre for Instructional Psychology and Technology (CIP&T), Leuven University.

10. Appendices

Appendix 1. Organisations promoting business education at the European Level
(an indicative rather than a comprehensive list)

EABIS – The European Academy for Business in Society. Supported by the European Commission, EABIS is an alliance of companies, business schools and academic institutions committed to integrating business in society issues into the heart of business theory and practice in Europe.

EAIE – European Association for International Education (Business Section).

ED*i*NEB – Educational Innovation Network for Economics and Business.

EFMD – European Foundation for Management Development *[EFMD operates the EQUIS, EPAS, CLIP and CEL accreditation systems.]*

EGOS – European Group for Organisational Studies.

EIASM – European Institute for Advanced Studies in Management.

EIASM hosts & provides administrative support for the following associations & networks.

— EAA: European Accounting Association.

— EARIA: European Association for Research in Industrial Economics.

— EDAMBA: European Doctoral Programmes Association in Management and Business Administration.

— EDEN: EIASM's Doctoral Education Network (doctoral seminar series).

— EFA: European Finance Association.

— EIBA: European International Business Academy.

— EMAC: European Marketing Academy.

— EURAM: European Academy of Management.

— EUROMA: European Operations Management Association.

— G2G: Gate2Growth Academic Network in Entrepreneurship, Innovation & Finance.

EQUAL – An EU initiative in the areas of European Employment Strategy and the Social Inclusion process. Its mission is to promote a better model for working life by fighting discrimination and exclusion on the basis of gender, racial or ethnic origin, religion or belief, disability, age or sexual orientation. It includes such EU thematic activities as employability, entrepreneurship, adaptability, equal opportunities and asylum seekers.

SPACE – The European Network for Business Studies and Languages.

Other organisations, such as the **Academic Cooperation Association (ACA)**, organise conferences and seminars, engage in research and produce newsletters and publications relating to collaboration, Europeanisation and internationalisation within higher education.

Appendix 2. Statistical Analyses of Tuning I findings concerning competences

Peder Østergaard (Chair), Volker Gehmlich (Academic Expert)
Business & Management Subject Area Group

This appendix provides further statistical analysis of academics' responses to the Tuning 1 survey concerning competences.

Without going into too many details the results revealed that at least two assumptions taken–for–granted should be regarded carefully:

— the importance of subject–related knowledge,

— the need of an "international orientation".

Therefore the Business Group decided to analyse the results more deeply, focusing on the returned questionnaires of the business group. In detail this meant the following:

Methodology

The approach was to use the results based on academics' perceptions of both generic and subject–specific competences found in the Tuning 1 surveys among academics together with the results from the exercises on competences carried out by the members of the business group in Tuning 2 related to specific competences at first and second cycle programs. This allows a triangulation of quantitative and qualitative methodologies aiming at cross–checking findings. The paper therefore introduces additional results from the survey among academics made in Tuning 1 and gives a brief description of the general findings in the exercises on competences, aiming at reaching a conclusion on best practice in teaching, learning and assessment on how to achieve different subject specific competences.

First, analyses are made of academics' ranking of generic skills to find underlying structures in the importance perception of skills made by academics in the subject area of business.

The analyses are done by way of multidimensional scaling. Multidimensional scaling attempts to find the structure in a set of distance

measures between objects or cases. This is accomplished by assigning observations to specific locations in a conceptual space (usually two– or three–dimensional) such that the distances between points in the space match the given dissimilarities as closely as possible. In many cases, the dimensions of this conceptual space can be interpreted and used to further understand data.

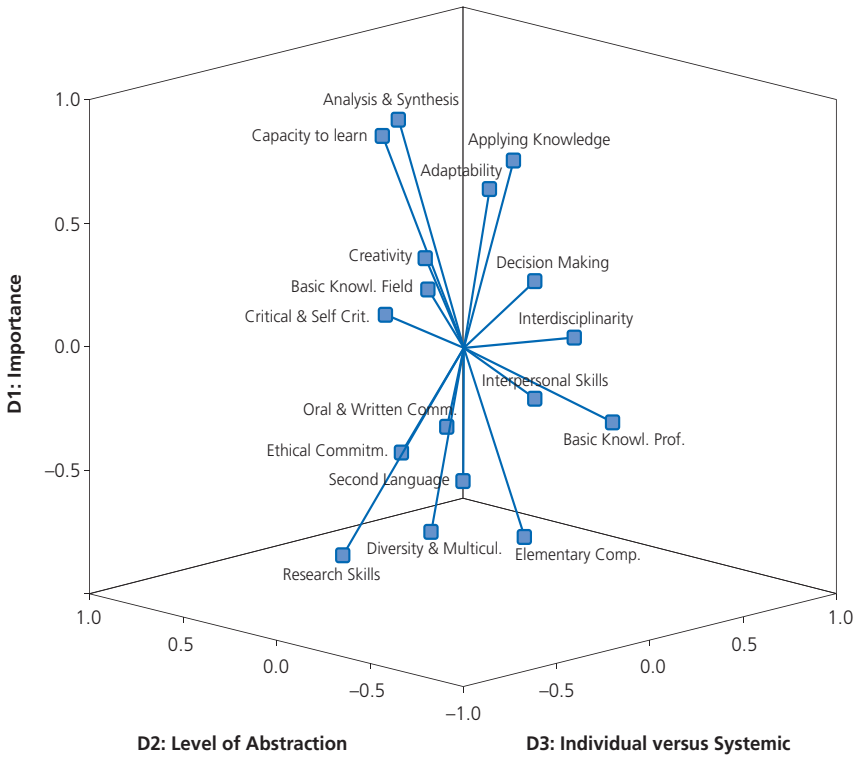
The analyses came up with the following 3 dimensions for the 17 items on generic competences together with the general rating of the items across the 154 respondents:

Table 1

Multidimensional scaling results on generic competences
(n=154 business academics)

Ranked items	Dimension with final coordinates			Average ranking in surveys among academics
	Level of importance	Level of abstraction	Individual versus Systemic skills	
Capacity: Analysis & Synthesis	0,83	0,40	0,06	4,99
Capacity to learn	0,85	0,24	–0,19	5,14
Capacity: Applying Knowledge in practice	0,75	–0,12	0,14	6,23
Adapt to new situations	0,6 1	0,00	0,14	6,28
Ceativity	0,37	0,09	–0,12	7,36
Basic Knowl. of study field	0,41	–0,37	–0,57	7,41
Critical & self-critical abilities	0,06	0,39	–0,03	8,44
Decision Making	0,19	0,01	0,39	8,85
Work in interdisciplinary teams	0,07	–0,38	0,21	9,10
Oral & Written Comm	–0,25	–0,13	–0,23	9,52
Interpersonal Skills	–0,25	–0,08	0,30	9,91
Basic Knowl. of profession	–0,16	–0,77	0,02	9,99
Second Language	–0,53	–0,04	–0,05	10,75
Ethical Commitment	–0,54	0,46	0,12	11,12
Appreciation of Diversity & Multiculture	–0,79	0,18	0,00	12,25
Elementary computer skills	–0,77	–0,18	0,14	12,34
Research Skills	–0,85	0,31	–0,33	12,88

The latent structures can be visualised in a 3D plot as follows:



The interpretation of the dimensions gives reason to believe that the 3 dimensions may be interpreted as:

1. Importance perception (very closely linked to the average perception of importance).
2. Level of abstraction.
3. Individual versus systemic skills.

The interpretation becomes clearer by mapping the skills in 2D perceptual maps. In the maps on the following pages, skills and competences describing pure knowledge skills are mapped by means of circles, and other generic skills and competences are illustrated by squares.

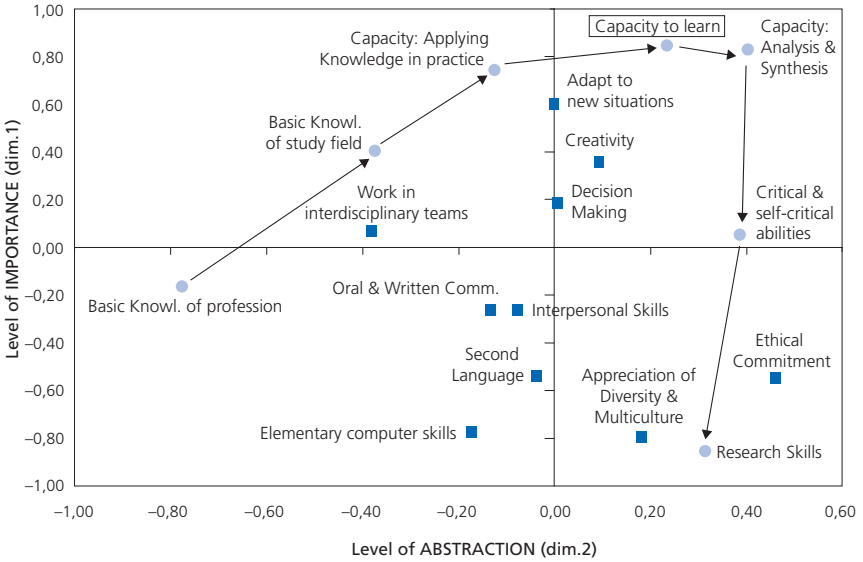


Figure 2

Perceptual map of level of abstraction and level of importance

Conclusions to be drawn from figure 2 are that the skills "Capacity to learn" and "Capacity to make analysis and synthesis" are located as the most important skills to be achieved according to academics. At the same time, these skills require a high degree of abstraction.

Because the two skills are located very closely in the map, there is reason to believe that the two skills are very closely related in the minds of academics, and should be seen as the level descriptors for business programmes.

At the same time, and in accordance with the taxonomy, it is interesting to see that business academics view transferable skills such as: "Adapt to new situations", "Creativity" and "Decision making" to be closely associated with learning skills.

The arrows show the relationship between the knowledge skills as argued in the Bloom taxonomy: "Basic knowledge of the profession" could be seen as a requirement for "Basic knowledge of the study field", which again is followed by "Capacity to apply knowledge in

practice", leading to the "Capacity to learn" and "Capacity to analyse and synthesis". At the top level of abstraction, we find "Critical and self–critical abilities" and "Research skills".

The "Critical and self–critical skills" and "Research skills" are at a high level of abstraction, but are not regarded as important learning outcome objectives. In the map, the associative transferable skills to "Research Skills" are "Appreciation of diversity and multi–culture" and "Ethical commitment". This finding is in good accordance with the requirements and the objectives of a researcher and (his or her) capacity to do international research; however, not considered important to first and second cycle students.

The positions of the skills in dimension 1 versus 3, are shown in figure 3.

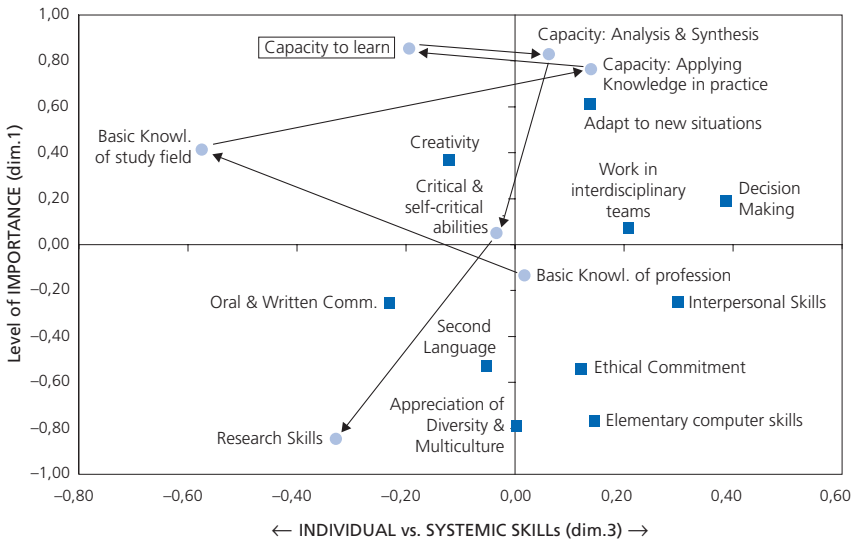


Figure 3

Importance and orientation of skills

The lessons to be learned from figure 3 is that "Capacity to learn" is generally an individual skill and "Creativity" is rather closely related to this skill.

Figure 3 also shows that to follow the Bloom taxonomy (arrows between the learning items) at different levels of learning, changes in the orientation toward individual and systemic skills are needed. This should therefore be reflected in the study programmes, and emphasis and priority of subject–specific skills may have to be different from first to second cycles, when assuming that the learning levels to be achieved in the second cycle are higher than those of the first cycle. In this sense, the orientation could be part of level descriptors.

Overall, the perceptual maps provide good descriptions of the perception of business academic' views on skills and competences.

Analyses of the importance of academics' perceptions of knowledge descriptors have been made across the participating business institutions to find out whether differences exist. By testing the similarity in rakings across institution by means of a Kruskall–Wallis test, the following results are found:

Table 2

Test of similarity in rankings
Test Statistics (a,b)

	Basic Knowl. Field	Basic Knowl. Prof.	Analysis & Synthesis	Applying Knowledge	Capacity to learn	Critical & Self Crit.	Research Skills
Chi–Square	16,680	11,985	19,597	18,142	13,253	14,284	11,602
df	10	10	10	10	10	10	10
Asymp. Sig.	,082	,286	,033	,053	,210	,160	,313

a Kruskal Wallis Test.
b Grouping Variable: UNIVERSI.

Table 2 shows that the "Capacity for analysis and synthesis" is the only item presenting a somewhat significant difference. It therefore seems fair to conclude that in terms of pure knowledge/learning outcome, there is great similarity in the perceptions among academics across the different business universities/schools in the Tuning I project.

As for the transferable skills, the following results are found:

Table 3

Test of similarity in rankings
Test Statistics (a,b)

	Diversity & Multiculture	Basic Knowl. Field	Ceativity	Adatability	Decision Making	Elementary Comp.	Ethical Commitm.	Inter-personal Skills	Second Language	Oral & Written Comm.
Chi-Square	27,126	16,680	24,977	13,817	25,380	22,097	6,781	21,113	16,921	16,941
df	10	10	10	10	10	10	10	10	10	10
Asymp. Sig.	,002	,082	,005	,182	,005	,015	,746	,020	,076	,076

a Kruskal Wallis Test.
b Grouping Variable: UNIVERSI.

The tests show that differences exist on perception of importance, in particular in terms of:

— Appreciation of diversity and multi–culture.

— Creativity.

— Decision making.

— Elementary computer skills.

— Interpersonal skills.

Preliminary conclusions on generic competences

The preliminary conclusions are that academics across business schools/ universities have a similar perception of the knowledge levels to be achieved. However, in several perspectives their views on the importance of transferable skills to be achieved differ significantly.

Analysis of subject–specific competences and skills

As for the second part of the questionnaire used to find academics' importance perceptions on a number of subject–specific skills at both first and second cycle, analyses are made to find out the extent to which the perceptions of academics differs across participating business uni-

versities/schools, and whether the importance perceptions are identical at first and second cycle.

The rationale behind these analyses it to find out whether it is possible to reach a common understanding across institution of the importance perception of these skills, facilitating transparency and collaboration across European business HE institutions. Secondly, by analysing the differences of importance perceptions from first to second cycle at the institutional levels, we can find arguments for the progression in the approach to competence building as well as business school priorities as to the development of subject–related skills at first and second cycle. Furthermore, this could also be useful in the interpretation and the analyses of the competence matrices filled in by the participants in Tuning 2.

In this exercise the individual members of the group were asked to state:

1. What does this competence mean for your students?
2. How do you help students to achieve this competence in your teaching methods?
3. What learning activities do your students engage with in order to develop this competence?
4. How do you assess whether, or to what degree, they have achieved this competence?
5. How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?

The table on the following page shows the results and analyses of academics' importance perceptions found in the Tuning 1 survey.

Table 4

Test of the importance of different subject specific skills
(sorted by conceptual area and importance at first cycle)

Conceptual area	Subject specific competences/skills	Average importance at first cycle	Homogeneity across universities	Average importance at second cycle cycle	Homogeneity across universities	Homogeneity of importance perception at first and cycle
1 Basic Knowledge	Identify the functional areas of an organisation and their relations (i.e. purchasing, production, logistics, marketing, finance, human resource)	3.19	Yes	3.21	No	Yes
	Identify the constitutional characteristics of an organisation (i.e. goals and objectives, ownership, size, structure)	2.97	Yes	3.17	Yes	No
	Identify the impact of macro- and micro economic elements on business organisations (i.e. financial and monetary systems, internal markets)	2.89	Yes	3.27	No	No
	Define criteria according to which an enterprise is defined and link the results with the analysis of the environment to identify perspectives (i.e. SWOT, internal and external value chain)	2.68	No	3.32	No	No
	Use the respective instruments for business environment analysis (i.e. industry analysis, market analysis, PEST)	2.45	No	2.99	Yes	No
	Change management	2.26	No	3.15	Yes	No
2 Knowledge Widening -Verticil	Identify related issues such as culture and ethics and understand their impact on business organisations	2.87	Yes	3.19	Yes	No
	Understand details of business functions, business enterprises, geographic regions, size of enterprises, business sectors and link them with the basic knowledge and theories	2.79	Yes	3.09	No	No
	Managing a company by planning and controlling by use concepts, methods and tools (i.e. strategy design and implementation, benchmarking, TQM, etc.)	2.47	No	3.22	No	No
	Audit an organisation and design consultancy plans (i.e. tax law, investment, case studies, project work)	2.19	No	3.14	Yes	No

Conceptual area	Subject specific competences/skills	Average importance at first cycle	Homogeneity across universities	Average importance at second cycle cycle	Homogeneity across universities	Homogeneity of importance perception at first and cycle
3 Knowl. Widening -Horizontal	Understand the principles of Law and link them with business /management knowledge (i.e. competition law, taxation laws etc.)	2.64	No	2.80	No	Yes
	Understand the principles of engineering and link them with business / management knowledge (i.e. operations management, Gantt chart, information technology)	2.26	No	2.79	Yes	No
4 Knowl. Widening -Diverse	Understand the principles of ethics, identify the implications for business organisations, design scenario (i.e. exploitation of human resources, environment)	2.74	Yes	3.07	No	No
	Understand the principles of psychology, identify the implications for business organisations, and redesign (i.e. working in groups, teams, behavioural studies)	2.58	Yes	2.95	Yes	No
5 Supportive -Instrumental	Identify and use adequate tools (i.e. market research, statistical analysis, comparative ratios)	3.03	Yes	3.51	Yes	No
	Understand and use bookkeeping and financial systems (i.e. profit and loss account, balance sheet)	3.01	Yes	2.82	No	Yes
	Identify and operate adequate software.	2.71	No	2.74	No	Yes
	Understand existent and new technology and its impact for new / future markets.	2.60	Yes	3.27	Yes	No
	Design and implement information systems	2.00	No	2.56	No	No
6 Organisation and Communication -Interpersonal	Understanding, reading, speaking, writing in a foreign language (i.e. working in English as a foreign language)	3.19	Yes	3.34	No	No
	Understand the structure of the foreign language, and develop a vocabulary allowing to work i.e. in English as a foreign language	3.11	Yes	3.23	No	Yes
	Learn-to-learn, i.e. how, when, where - new personal developments is needed (i.e. rhetoric's, presentation, working in teams, personal management)	2.99	No	3.35	Yes	No

Conceptual area	Subject specific competences/skills	Average importance at first cycle	Homogeneity across universities	Average importance at second cycle cycle	Homogeneity across universities	Homogeneity of importance perception at first and cycle
7 Transferable -Systemic	Ability to analyse and structure a problem of an enterprise and design a solution (i.e. entering a new market)	2.84	No	3.70	Yes	No
	On the basis of knowledge acquired in university, identify the impact of culture on business operations, (i.e. the possibility of seeling beer worldwide)	2.41	Yes	3.02	Yes	No
	Work assignments abroad (i.e. work experience in an enterprise for 20 weeks abroad)	2.38	No	2.99	No	No

The items in the table are structured in accordance with the taxonomy (conceptual area) used in the business group. The individual item's placement in the taxonomy may be debatable. The table shows the average mean ratings, based on an importance scale from 1–4. The results are divided into perceptions of importance at first and second cycle. The tests to determine homogeneity are based on different non–parametric tests respecting the ordinal measurement of importance, and a traditional p–value of 0.05 is used. In case homogeneity exists, a "Yes" is used in the columns, whereas test results giving p–values below 0.05 indicate that homogeneity does not exits, and consequently a "No" is used for this conclusion.

As for the comparisons of subject–specific competences ***at first cycle***, the analyses across the participating universities and business schools show that on 13 out of 25 subject–specific competences, homogeneity exists in the importance ratings; and almost systematically, there is homogeneity in the top–ratings of competences. This indicates general agreement across institutions on the most important subject–specific competences to be achieved a first cycle.

Comparisons of subject–specific competences ***at second cycle*** show that on 12 out of 25 subject–specific competences homogeneity exists

in the importance ratings, and mostly homogeneity exists in the highest competences ratings.

Taking an overall look at the results based on the conceptual areas, there is general agreements in nearly all conceptual areas. Only in one conceptual area: *knowledge widening in a horizontal direction* at first cycle, no general agreement in the importance rating is found; however this may be explained by the fact that the length of first cycles varies across institutions (3 to 4 years), allowing differences in the possibilities of having knowledge widening in a horizontal direction as formulated in items representing this direction.

In the results on the importance ratings of subject–specific skills across first and second cycle, it should be noted that according to academics nearly all areas grew more important at the second cycle compared to the first cycle, and only in 4 out of 25 comparisons homogeneity in importance perception can be concluded, namely *on identification of functional areas of company*, understanding *bookkeeping/financial systems of a company, law* and the *identification of adequate software,* including the use of software. As for all other subject–specific competences tested, the importance perceptions are significantly higher at second cycle than at first cycle.

This certainly emphasises academics' orientation toward second cycle curricula, however, it also underlines the possible problems in designing and teaching in first cycle programs. At the same time the findings present a paradox, because first cycles normally last 3 to 4 years, whereas second cycles are of 1–2 years' duration. Obviously first cycles offer much better possibilities to fulfil skills development, compared to second cycles. And just as obviously, first–cycle programs affect many more students, including those who do not take the second cycle.

Analyses of the results from the exercise on competences

It should be emphasised that because only a few answers are given in respect of each subject specific competence, the analyses are only to be regarded as explorative and gives no reason for generalization. Therefore only more general observations are intended; they are not presented as general descriptions according to the taxonomy of the Business Group.

Basic Knowledge

1. What does this competence mean for your students?

First cycle: Most students are aware of the context and subjects of business studies already at the start of their first cycle in some cases introduction courses are used to make new students aware of basic knowledge required to be a business academics.

Second cycle: Mostly build on the courses at first cycle however, because specialisation often takes place at second cycle emphasis are made on stipulating basis knowledge within a specific direction of specialisation at second cycle.

2. How do you help students to achieve this competence in your teaching methods?

First cycle: Student are normally to have a lot of courses in different subject areas and in some instances in the later part of first cycle programmes have some courses, exercises and thesis to help get a more holistic view on the relationship in the different subject specific courses.

Second cycle: In some cases core courses on basic knowledge of the specialisation student have made.

3. What learning activities do your students engage with in order to develop this competence?

First cycle: Mainly lectures and exercises in the subject specific courses, and later in first cycle presentation, seminar and project work***.***

Second cycle: General lectures to give an overview on subject, before further specialisation.

4. How do you assess whether, or to what degree, they have achieved this competence?

First cycle: Use of written, oral exams seminars and presentation normally assessed only by marks and seldom by additional feed–back.

Second cycle: No indications.

5. How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?

First cycle: First of all by the overall grading after the first cycle and in several cases by doing a thesis or major project at the end of first cycle demonstrating their general abilities or lack of these in solving real–life problems in companies.

Second cycle: No indications

In table we find that academics at ***first cycle*** have the perception that basic knowledge should concentrate on the identification of functional areas and objectives of a company and identifying the impact of micro and macro economic elements on the business organisation, whereas the perceptions of important basic knowledge at ***second cycle*** still the first cycle element and added to this abilities in analysing business environment, reaching the goal of the organisation in a change perspective.

Knowledge Widening – Vertical

1. What does this competence mean for your students?

First cycle: Students gradually become aware of the need for vertical knowledge widening through their different basic knowledge courses, and develop an interest in specific subjects.

Second cycle: Vertical specialisation is often in the direction where they have their main interests, and therefore they directly relate to the competence. Students grow to see themselves as experts in a field.

2. How do you help students to achieve this competence in your teaching methods?

First cycle: Student have the possibilities of doing elective courses, in which teaching methods are often adapted to and facilitate vertical widening by offering more dialogue, presentations and teamwork

Second cycle: In some cases core courses in the basic knowledge of the specialisation student have chosen.

3. What learning activities do your students engage with in order to develop this competence?

First cycle: Elective courses are often offering more differentiated learning activities, where professors test new concepts of learning activities, for instance game, simulation, discussions. ***Second cycle:*** General lectures, combined with seminar, project and thesis in their specialisation.

4. How do you assess whether, or to what degree, they have achieved this competence?

First cycle: Often oral exams, seminars, projects and presentations.

Second cycle: Their thesis and their grades

5. How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?

First cycle: It is difficult to make any specified points on this, but often specialisation at first cycle is followed by further specialisation at second cycle.

Second cycle: By the grade they achieve, but they may also, during their thesis prepared in collaboration with companies or by internship, get a fairly good indication of whether they have achieved the competence.

Table 4 shows that knowledge widening at first cycle is ranked as a relatively low priority by academics. Only *understanding of culture and ethics* together with understanding *details of business functions* are given some importance at first cycle, while such aspects together with management, planning and auditing aiming at new design of the company is given a very high priority at second cycle.

Knowledge Widening – Horizontal

1. What does this competence mean for your students?

First cycle: Opening the students' eyes to new aspect of a subject–specific skill, and is often linked to soft skills aimed at enabling the student to get a job.

Second cycle: Specialisation at second cycle opens the students' eyes to new aspect of the specialisation. For both cycles, underlining the interdisciplinary connections between subjects

2. How do you help students to achieve this competence in your teaching methods?

First cycle: Courses in language, philosophy, ethics, history, and allowing students to take elective courses, even at other faculties.

Second cycle: Same as first cycle.

3. What learning activities do your students engage with in order to develop this competence?

First cycle: Traditional teaching, internship, case studies, preparing papers, colloquia.

Second cycle: Similar activities as at first cycle.

4. How do you assess whether, or to what degree, they have achieved this competence?

First cycle: Often oral exams, seminars, projects and presentations.

Second cycle: Same as at first cycle.

5. How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?

First cycle: Often from the direct feed–back they get on their work in the various assessment activities.

Second cycle: Similar to first cycle.

Table 4 shows that knowledge widening in a horizontal direction is given much importance among academics at first cycle, and only a slightly importance rating at second cycle. One of the main reasons for this is that much research, by nature, is specialisation in a vertical direction, and the horizontal dimensions are often not recognised to the same extent in highly specialised research.

Knowledge Widening – Diverse

1. What does this competence mean for your students?

First cycle: During first cycle courses and project work students may become aware of the need for looking in diverse directions, such as psychology, engineering, chemistry.

Second cycle: The need for specific diverse knowledge widening may become more evident during specialisation; for instance marketing may accentuate the need for knowledge of psychology; supply–chain management may lead to a need to know more about engineering etc.

2. How do you help students to achieve this competence in your teaching methods?

First cycle: No general trends found.

Second cycle: In some instances students are allowed to take elective courses at other universities in different subject areas.

3. What learning activities do your students engage with in order to develop this competence?

First cycle: Usually not activities at business universities/schools.

Second cycle: Like description of first cycle.

4. How do you assess whether, or to what degree, they have achieved this competence?

First cycle/Second cycle: Normally done by the institution offering (elective) courses for business students.

5. How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?

First cycle/Second cycle: Student will often not have a clear perception of the degree to which they have achieved this competence in relation to business, unless they engage in practical project work. Business universities/schools do not normally give such diverse courses a

high priority because by nature diverse courses are offered by other providers than business schools/universities, and therefore funding and the way in which resources for teaching are allocated may be a structural obstacle.

Table 4 shows that knowledge widening in a diverse direction is given relatively low priority among academics at first cycle, and a significantly higher importance rating at second cycle, which could be interpreted to mean that academics view such competences as competences of special relevance only once students have a solid understanding of core business subject areas.

Supportive – Instrumental competences

1. What does this competence mean for your students?

First cycle: Student normally have a clear perception that skills in information technology are needed for doing business, and relatively soon after starting their studies they become aware of the fact that skills in quantitative methods such as mathematics, statistics and research methodology are needed to be a business practitioner.

Second cycle: During the first cycle, students are taught basic supportive and instrumental skills, and during first cycle courses and learning activities they often realise that additional skills in these areas are needed.

2. How do you help students to achieve this competence in your teaching methods?

First cycle: Often the basic courses in supportive and instrumental skills are compulsory, and later on additional elective courses are offered.

Second cycle: Specialised courses relevant to the specialisation subject often offered at second cycle. Such courses could be in advanced marketing research methods, econometrics, matrix algebra.

3. What learning activities do your students engage with in order to develop this competence?

First cycle: Often lectures and exercises and later on more project–oriented teaching.

Second cycle: Some focus on traditional lectures with exercises, but eg project work and case–based teaching play a more dominant role at second cycle than at first cycle.

4. How do you assess whether, or to what degree, they have achieved this competence?

First cycle: Often oral or written exams and gradually more presentations.

Second cycle: Oral or written exams, sometimes combined with presentation of projects or cases.

5. How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?

First cycle: Often by the grading, but student become aware of the degree of achievement when they have to use these skills for subject–related problems.

Second cycle: By applying these skills to subject–related problems, and especially when doing their final thesis.

Table 4 shows that most supportive and instrumental skills are rated highly by academics at both first and second cycle, especially adequate tools such *as market research, statistical analysis and understanding of new technology* in a business context. For two of the subject specific competences mentioned in the questionnaire homogeneity exist as to the importance at first and second cycle.

Organisation and Communication – Interpersonal skills

1. What does this competence mean for your students?

First cycle: The business area is by definition an area where graduates have to be able to organise, communicate and interact, so students are aware that in order to be a successful student and graduate, such skills are required.

Second cycle: Similar to first cycle, and students in general are more aware of such skills at second cycle because they have got a substantial

insight into business functions from first cycle. Both first and second cycle students often have contact will older student close to graduation or who have got their first job, and therefore become more aware of these competences.

2. How do you help students to achieve this competence in your teaching methods?

First cycle: In some cases by having formalised compulsory or elective courses in languages, negotiation, presentation techniques, but more often student achieve these competences by doing seminars, project work and thesis, where personal organisation and communication skills are essential parts of the learning process.

Second cycle: Similar to the description at first cycle

3. What learning activities do your students engage with in order to develop this competence?

First cycle: Formalised teaching in these competences, as well as feed–back on seminars and presentations and during the supervision students get from teachers when doing project work and thesis.

Second cycle: Similar to first cycle.

4. How do you assess whether, or to what degree, they have achieved this competence?

First cycle: To some extent oral or written presentation skills count in the grading.

Second cycle: Similar to first cycle.

5. How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?

First cycle: During the feed–back and the grading of projects etc, and in case they do projects in companies, they realise the extent to which these skills have been achieved.

Second cycle: Similar to first cycle.

Table 4 shows that most supportive and instrumental skills are rated highly by academics at both first and second cycle, especially adequate tools such as *market research methods, statistical analysis and understanding of new technology* in a business context. For two of the subject–specific competences mentioned in the questionnaire, homogeneity exists as to the importance at first and second cycle.

Transferable – Systemic Skills

1. What does this competence mean for your students?

First cycle/second cycle: Capacity to tackle new and real–life problems in existing or new environments. Better understanding of what is expected of business graduates.

2. How do you help students to achieve this competence in your teaching methods?

First cycle: Seminars, open discussions, evaluation of their papers' ability to argue and real–life problem–solving. Emphasis on understanding problems.

Second cycle: Similar to the description of first cycle but further emphasis at second cycle especially on abilities to analyses the cross–functional problems of a company and ability to use the specialised knowledge gained in second cycle in a real–life context.

3. What learning activities do your students engage with in order to develop this competence?

First cycle: Seminars, presentation of papers, internship and bachelor thesis.

Second cycle: Similar to first cycle.

4. How do you assess whether, or to what degree, they have achieved this competence?

First cycle: Students have to do large assignments or thesis at the end of first cycle.

Second cycle: Similar to first cycle.

5. How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?

First cycle: During the feed–back and the grading of projects, thesis etc, and in case they do projects in companies, they realise the extent to which these skills have been achieved.

Second cycle: Similar to first cycle. Sometime students have part–time jobs in companies during first or second cycle studies, and thereby realise the extent to which these systems skills have been developed.

Table 4 shows that academics at first cycle put special emphasis on students' abilities in structuring a problem of an enterprise, and this capacity is seen as the most important skill at the end of second cycle. As to the impact of culture and work assignments abroad, these are not regarded very important at first cycle but become significantly more important at second cycle.

Conclusions

Academics' perception of the importance of some subject–specific topics differ significantly across business institutions, but when it comes to the most important subjects there is a high degree of consensus. Normally first cycle programs last 3–4 years and second cycle programs 1–2 years. Academics attach low priority to topics taught in first cycle programs, often also reflected in large sized classes (more than 50 students). Universities have to organise themselves in ways that focus more on first cycles courses and programs. The incentives and the employment conditions of academics have to be changes and differentiated in order to put more focus on first cycle courses and programs. In the business group we found that in many universities large parts of courses at first cycle programs were taught by part–time teachers. It is important to ensure that the needed skills for higher education are present when students start at first cycle of HE. Firstly, because students only get to the second cycle if they stay on and actually pass the first cycle exams. And secondly, the skills gained at first cycle are the building blocks needed at second cycle.

Good practices in teaching, learning and assessments

First cycles programs will have to focus on general knowledge acquisition, in order to get students acquainted with the different business functions, the environment in which these functions are carried out in a company and their interrelationships. This is all the more necessary as the skills of the student intake vary a good deal. In order to achieve these teaching and learning goals, the student needs at the same time to become familiar with a number of basic supportive instruments, organisation and communications skills together with abilities to structure the problems of a business organisation. To reach these learning objectives at first cycle, students should experience different types of teaching methods, such as traditional lectures and exercises, seminars, project work and relatively simple practical cross–functional problems found in companies. Added and linked to this, students should experience a variety of assessment methods to document that learning outcomes have been achieved. This means that the learning objectives of a course should be matched with the appropriate teaching and assessment methods, where students document not just their levels in basic knowledge, but also their abilities to use supportive instruments, to organise their own work, communicate and argue for the results and recommendations. This means that business schools even at the first cycle should use a variety of assessment methods, especially assessment methods that enhance the students' organisation, communication and system competences.

The teaching at second cycle should focus on knowledge widening, building on first cycle basic knowledge. As to the direction, whether it should be vertical, horizontal or diverse, the group does not intend to give any recommendations, except that the direction should be based on knowledge acquired during the first cycle. At second cycle, just as at first cycle, a variety of teaching and assessment methods should be used, to stimulate not just knowledge acquisition in the subject field but also to prepare the students to find the relevant instruments to do problem solving, as well as to stimulate their abilities to organise and communicate, and finally to be able to present their solutions to a problem in a broad business organisation context.

The aim of the paper is to focus on approaches to teaching, learning and assessment in order to build up these competences, and the degree to which students relate to and have a perception of these competences. The methodology of the paper is to use the results based

on academics' perceptions of both generic and subject–specific competences found in the Tuning 1 surveys among academics together with the results from the exercises on competences carried out by the members of the business group in Tuning 2 related to specific competences at first and second cycle programs. This allows a triangulation of quantitative and qualitative methodologies aiming at cross–checking findings. The paper therefore introduces additional results from the survey among academics made in Tuning 1 and gives a brief description of the general findings in the exercises on competences, aiming at reaching a conclusion on best practice in teaching, learning and assessment on how to achieve different subject specific and generic competences.

Appendix 3. Generic Competences – Importance (all subject areas) – Tuning 2008 survey

Comparison of Academics', Graduates', Students' & Employers' rankings

Competence Reference No	Generic Competence	Academics	Graduates	Students	Employers
1	Ability for abstract thinking, analysis and reasoning	1	2	2	2
2	Ability to apply knowledge in practical situations	2	1	1	1
4	Knowledge & understanding of the subject area & understanding of the profession	3	4	4	4
14	Ability to identify, pose and solve problems	4	3	3	3
9	Capacity to learn and to stay up–to–date with learning	5	5	7	9
13	Capacity to generate new ideas (creativity)	6	9	8	8
11	Ability to be critical and self–critical	7	11	9	19
5	Ability to communicate both orally and in writing in native language	8	12	13	12
10	Ability to search for, process and analyse information from a variety of sources	9	8	12	15
8	Ability to undertake research at an appropriate level	10	15	18	22
16	Ability to work in a team	11	7	5	5
17	Interpersonal and interaction skills	12	14	14	11
22	Ability to work autonomously	13	17	15	16
3	Ability to plan and manage time	16	10	10	7
12	Ability to adapt to and act in new situations	15	10	10	7

Competence Reference No	Generic Competence	Academics	Graduates	Students	Employers
15	Ability to make reasoned decisions	16	13	16	10
26	Ability to act on the basis of ethical reasoning	17	25	23	24
6	Ability to communicate in a second language	18	16	11	18
7	Skills in the use of information and communication technologies	19	20	19	23
18	Ability to motivate people and move toward common goals	20	19	17	13
21	Ability to work in an international context	21	23	21	28
28	Determination & perseverance in the tasks given & responsibilities taken	22	21	20	14
27	Ability to evaluate and maintain the quality of work produced	23	24	24	21
30	Ability to act with social responsibility and civic awareness	24	27	27	27
23	Ability to design and manage projects	25	18	22	20
20	Appreciation of and respect for diversity and multiculturality	26	28	26	31
19	Ability to communicate with non–experts in one's field	27	26	29	26
29	Commitment to the conservation of the environment	28	29	28	30
25	Spirit of enterprise, ability to take initiative	29	22	25	17
24	Commitment to safety	30	30	30	25
31	Ability to show awareness of equal opportunities & gender issues	31	31	31	29

Observations on the results:

1 Despite having an additional group of respondents, there is even greater agreement concerning the ranking of the top generic competences than there was in the 2002 survey. All four groups agreed on the top four. Even more surprisingly, the rankings by employers, graduates and students were exactly in the same order – just slightly different from academics' rankings.

2 The only major difference in the top five rankings is that employers and students put 'ability to work in a team' in 5th place compared with 11th by academics (graduates put it in 7th place). The priority accorded by employers to this competence did not surprise the Business Group.

3 There was less agreement about the ranking of the last five competences. However, with one exception, all four groups placed their last five choices in the bottom eight – therefore showing a fairly strong degree of correlation (allowing for the fact that the questionnaire contained 31 items to be ranked). The exception was that employers placed 'ability to work in an international context in 28th place, well below the rankings of academics, graduates and students (all three of whom ranked it either as 21 or 23).

4 Differences of more than 10 places arose in the rankings of the following three competences:

   —ability to be critical and self–critical (ranked at 19 by employers, but in or very near the top 10 by the other three groups);

   —ability to undertake research (ranked 22 by employers, compared with a highest ranking of 10 (awarded by academics));

   —spirit of enterprise (ranked at 17 by employers, compared with a low of 29 by academics).

   The Business Group considered this results to be in line with expectations, but thought that institutions and programme leaders should reflect carefully on whether the findings had any significance for re–ordering their priorities in course content, teaching methods, competence development and modes of assessment.

5 Differences of 5 to 8 places in the rankings occurred in respect of 13 of the 31 competences, while differences of less than 5 places arose on 14 (including the top 6 and 4 of the bottom 8).

6 Overall, following the 'unscientific' analysis above, it is hardly surprising to find that the Spearman correlations are as follows:

	Academics	Graduates	Students	Employers
Academics	1			
Graduates	0,921	1		
Students	0,923	0,974	1	
Employers	0,790	0,917	0,900	1

The table illustrates the degrees of correlation in rankings across the four groups. All except one appears at 0,900 or higher (with that for graduates with students at 0,974). The weakest correlation (0,790) occurs between employers and academics. Given that the Tuning project focuses on competences and employability, this result suggests that these two groups might usefully engage in greater levels of dialogue concerning those competences for which significant ranking differences arose.

Appendix 4. Subject–Specific Competences – Business Importance – Tuning 2008 survey

Ranking Comparisons for Employers, Graduates, Students & Academics
(ordered by Employer means)

Reference No	Subject–Specific Competence [Abbreviated – see Appendix [xx] for full description of each competence]	Employers	Graduates	Students	Academics
1	Ability to analyse & structure an enterprise problem + design solution (e.g. entering a new market)	1	1	1	9
6	Identify & use adequate tools (e.g. market research, statistical analysis, comparative ratios)	2	4	7	8
16	Understand existent & new technology & its impact for new / future markets	3	5	5	18
11	Learning to learn (how, when, where new personal developments are needed)	4	3	6	3
9	Identify the functional areas of an organisation and their relations	5	9	4	1
13	Managing a company – planning & controlling by using concepts & methods	6	21	11	19
5	Design and implement information systems	7	22	25	24
4	Identify and operate adequate software	8	16	22	7
8	Identify the constitutional characteristics of an organisation	9	11	10	5
20	Understand the principles of psychology, identify implications for organisations	10	17	14	16
23	Understanding, reading, speaking & writing in a foreign language	11	2	2	2

Reference No	Subject–Specific Competence [Abbreviated – see Appendix [xx] for full description of each competence]	Employers	Graduates	Students	Academics
19	Understand principles of law & link them with business / management	12	14	19	17
3	Define criteria by which an enterprise is defined & link the results with an analysis of the environment	13	6	12	12
22	Understand & use bookkeeping and financial systems	14	7	15	4
24	Use the respective instruments for business environment analysis	15	12	12	11
10	Identify impact of macro & microeconomic elements on business organisations	16	13	8	15
15	Understand details of business functions, size, sectors & link with theories	17	18	17	10
2	Audit an organisation and design consultancy plans	18	15	9	20
14	Use university knowledge to identify impact of culture on business	19	23	21	21
12	Change management	20	10	16	23
7	Identify related issues such as culture and ethics & impact on business	21	19	18	14
17	Understand principles of engineering & link them with business	22	24	24	22
18	Understand the principles of ethics & implications for business organisations	23	25	23	13
21	Understand structure of a foreign language (+ adequate vocabulary to work)	24	8	3	6
25	Work assignments abroad (e.g. work experience for 20 weeks)	25	20	20	25

Note: Academic rankings of importance are based on their responses for the Bachelor cycle (they also ranked these competences for the second and third cycles).

Observations on the comparative rankings:

1 There is considerable agreement about the top five rankings (highlighted in yellow): while academics chose only two of their top five competences from 1, 6, 16, 11 and 9; the other three groups selected at least four from these five);

2 There was also a fair level of agreement concerning those competences that were least important: all four groups ranked at least four of these among the last seven on the table;

3 However, there is also considerable variation between the groups over the ranking of several competences:

   (i) the most extreme difference relates to students' ranking of competence 21 (understanding the structure of a foreign language) in 3rd place compared with 24th by employers (and 6th / 8th by academics and graduates respectively);

   (ii) allied to this are the rankings of competence 23 (understanding, reading, speaking and writing in a foreign language): graduates, students and academics all put this in second place, well above employers' ranking (11th place).

   Note: Two comments appear apt here: (a) as noted earlier in this document, there were significant country differences concerning the ranking of this competence, and (b) it might be concluded that many employers do not envisage that graduates will in the first instance be employed in international roles.

4 Graduates, students and academics placed 'design and implementation of information systems' in the last four (22, 25 and 24 respectively), while employers ranked it in 7th place; however, employers and academics showed close agreement about the ranking competence 4 (identification and operation of adequate software), placing it in 8th and 7th position respectively (compared with 16th and 22nd place by graduates and students);

5 Other competences to show considerable variations in rankings included:

   —competence 13 (planning and controlling at the company level) was ranked in 6th place by employers, but in the last five by the other three groups;

   —ompetence 22 (understand and use book–keeping and financial systems) was placed in the top five by academics, but in 14th place by employers.

Overall, compared with the rankings given for generic competences, the preferences indicated for subject–specific competences are more divergent. The differences may be summarised as follows (reading from the top of the table in each case, rather than by magnitude of difference):

— four competences (16, 5, 4, 21) show differences in rankings of 15 places or more

— five competences (13, 22, 2, 12, 18) show differences of 10 to 14 places;

— twelve competences (1, 6, 9, 8, 20, 23, 19, 3, 10, 15, 7, 25) show differences of 5 to 9 places; *and*

— confirming the lower levels of correlation than for generic competences, only four competences (11, 24, 14, 17) show ranking differences of less than five places.

Looking at the greater divergence in the rankings by the four groups of subject–specific competences (compared with generic competences), it may be concluded that more comprehensive dialogue between relevant stakeholders could, in particular, lead to better understandings within higher education institutions of

(c) the range of such competences that are desired in employment and society, and

(d) the level to which they should be developed at each cycle.

Such dialogue – when undertaken with a willingness to embrace change – should lead, in many institutions, to some reform of programme profiles, rebalancing of content and changes in teaching and assessment methods within a competence–based, learner–centred model.

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