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**LEARNING OUTCOMES CURRENT DEVELOPMENTS IN EUROPE:
UPDATE ON THE ISSUES AND APPLICATIONS OF LEARNING
OUTCOMES ASSOCIATED WITH THE BOLOGNA PROCESS**

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The views expressed in this report are those of the researcher and do not necessarily represent those of the Department or Scottish Ministers.

1. INTRODUCTION - the paradigm shift towards adopting learning outcomes

Since the first official Bologna seminar ‘Using learning outcomes’ held at Heriot-Watt University, Edinburgh in 2004 there has been considerable interest in the topic, with numerous national and international conferences and seminars subsequently having taken place across Europe.¹ This prosaic topic has assumed a significance that was not recognised at the start of the Bologna Process. Learning outcomes are acknowledged as one of the basic building blocks of European higher education reform.

Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate at the end of a period of learning. They are explicit assertions about the outcomes of learning - the results of learning. Learning outcomes are concerned with the achievements of the learner rather than the intentions of the teacher (expressed in the aims of a module or course). They can take many forms and can be broad or narrow in nature. They are usually defined in terms of a mixture of knowledge, skills, abilities, attitudes and understanding that an individual will attain as a result of his or her successful engagement in a particular set of higher education experiences. In reality, they represent much more than this. They exemplify a particular methodological approach for the expression and description of the curriculum (modules, units and qualifications) and level, cycle and qualifications descriptors associated with the ‘new style’ Bologna qualifications frameworks. Section 2 of this report explores the state of current developments in learning outcomes in Europe.

Learning outcomes were not mentioned in the original 1999 Bologna Declaration or in the Prague Communiqué 2001. Since then they have appeared in every new ministerial Communiqué, culminating in the most recent London pronouncement where no less than four separate references were made. They have gradually assumed greater importance as the practicalities of implementing radical educational reforms across Europe were encountered. It is valuable to explore the various ministerial mentions of learning outcomes better to understand their role in the current stage of the Bologna Process:

*‘Ministers encourage the member States to elaborate a framework of comparable and compatible qualifications for their higher education systems, which should seek to describe qualifications in terms of workload, level, **learning outcomes**, competences and profile. They also undertake to elaborate an overarching framework of qualifications for the European Higher Education Area.’*

Berlin Communiqué 2003

*‘We adopt the overarching framework for qualifications in the EHEA, comprising three cycles (including, within national contexts, the possibility of intermediate qualifications), generic descriptors for each cycle based on **learning outcomes** and competences, and credit ranges in the first and second cycles.’*

Bergen Communiqué 2005

*‘We underline the importance of curricula reform leading to qualifications better suited both to the needs of the labour market and to further study. Efforts should concentrate in future on removing barriers to access and progression between cycles and on proper implementation of ECTS based on **learning outcomes** and student workload.’*

*‘Qualifications frameworks are important instruments in achieving comparability and transparency within the EHEA and facilitating the movement of learners within, as well as between, higher education systems. They should also help HEIs to develop modules and study programmes based on **learning outcomes** and credits, and improve the recognition of qualifications as well as all forms of prior learning.’*

*‘We urge institutions to further develop partnerships and cooperation with employers in the ongoing process of curriculum innovation based on **learning outcomes**.’*

*‘With a view to the development of more student-centred, outcome-based learning, the next (Stocktaking) exercise should also address in an integrated way national qualifications frameworks, **learning outcomes** and credits, lifelong learning, and the recognition of prior learning.’*

London Communiqué 2007

There is a clear pattern here - initially Ministers in 2003 called on learning outcomes to be used to help describe qualifications. In 2005 they were applied as the basis of the generic ‘Dublin descriptors’ for the three European Higher Education Area (EHEA) cycles that constitute the overarching framework of qualifications of the EHEA. Most recently in London May 2007, their use was further emphasised and widened to encompass multiple applications: to define European Credit Transfer and

¹ The bibliography section 6 of this report details some of the most useful conferences and information sources on the topic.

Accumulation (ECTS) credits; aid curricular reform and innovation; express modules and study programmes; as well as to promote student-centred outcomes-based learning. The humble learning outcome has moved from being a peripheral tool to a central device to achieve radical educational reform of European higher education.

The Bologna reforms embrace learning outcomes in a number of different ways. It is arguable that the whole Bologna Process represents a complex systemic application of learning outcomes. The Dublin Descriptors guide the creation of 'new style' national qualifications frameworks that in turn employ outcomes-based approaches that use level descriptors, national generic qualification descriptors and subject benchmark/sectoral statements. Collectively, these external reference points in turn fit with the emerging national quality assurance frameworks based on the European Association for Quality Assurance in Higher Education (ENQA) '*Standards and Guidelines for Quality Assurance in the European Higher Education Area*'² that also require the use of learning outcomes. Similarly, familiar recognition tools and approaches (The Diploma Supplement, ECTS, etc.) are being reinvigorated by the application of learning outcomes. Finally, the end product of the Bologna reforms - better qualifications - are expected to emerge from an invigorated curriculum reform process enlivened by the application of outcomes. These and other dimensions are explored more fully in section 3 of this report. A new unified European higher education infrastructure, underpinned methodologically and practically by learning outcomes, is emerging fast. It is designed to make European higher education systems more efficient, competitive, compatible and comparable, whilst respecting academic autonomy and the requirement for institutional and national diversity.

Learning outcomes are at the heart of a paradigm change that is impacting on all sectors of European education and, to a slightly lesser extent, worldwide education. Any search of Google reveals over 4,790,000 hits for the term 'learning outcomes' and 222,000 hits on the topic 'writing learning outcomes'. This unscientific evidence of the interest and literature on learning outcomes is about to be bolstered by an exhaustive and groundbreaking study on learning outcomes commissioned by CEDEFOP (The European Centre for the Development of Vocational Training).³ Furthermore, the OECD is actively investigating the international comparative assessment and evaluation of learning outcomes, not least as a powerful lever for quality assurance and quality improvement and to foster competition among institutions.⁴

European countries are increasingly referring to learning outcomes when setting overall objectives for their education and training systems and when defining and describing qualifications. There is a strong move from focusing on input factors like the duration, location and the pedagogical content underpinning a qualification, towards what a learner knows and is able to actually do at the end of a learning process.

There are many motives behind this shift to learning outcomes. These include the desire to obtain greater precision and transparency for both qualifications and qualifications frameworks, to provide clear information to learners, to tailor education more to individual needs, to improve links to the labour market and employment, to advance recognition, to provide a more seamless link between vocational and higher education, to reform the curriculum, etc. This list is by no means exhaustive as the various Bologna dimensions and applications detailed in section 3 of this short study illustrate. However, despite this optimistic scenario there is a real danger of idealistic and overstated short-term expectations that the simple adoption of learning outcomes cannot meet. Learning outcomes are a tool and methodological approach that has to be combined with other reforms and implemented over time

² ENQA '*Standards and Guidelines*', second edition 2007: http://www.enqa.eu/files/ESG_v03.pdf.

³ This CEDEFOP commissioned study was undertaken by the UK Qualifications and Curriculum Authority (QCA) on learning outcomes and is due for publication early 2008. This study focuses on learning outcomes as they are conceptualised, developed and used across the 32 European countries participating in the Education and Training 2010 programme. Its primary concern is Vocational Education and Training but it also encompasses general and higher education. The report has been informed by a conference, '*Rhetoric or reality: The shift towards learning outcomes in European education and training policies and practices*' held in Thessaloniki, 15-16 October 2007. The papers associated with the conference are available at: <http://www.trainingvillage.gr/etv/news/default.asp?idnews=2924>.

⁴ The OECD held several expert and one ministerial meeting to explore the topic and establish valid and reliable measures of learning outcomes. In January 2008, the ministers welcomed the initiative led by the OECD to assess the feasibility of an international study on the assessment of learning outcomes, with the aim of contributing to increased accountability and improvement of assessment methods of learning outcomes by governments, institutions and quality assurance agencies. Details can be found at:

[http://www.oalis.oecd.org/olis/2008doc.nsf/ENGDIRCORPLOOK/NT000009B6/\\$FILE/JT03238904.PDF](http://www.oalis.oecd.org/olis/2008doc.nsf/ENGDIRCORPLOOK/NT000009B6/$FILE/JT03238904.PDF).

if the full benefits are to be achieved. Their use does represent an enormous cultural change amongst educational establishments. This and other problems and issues associated with learning outcomes are explored in section 4 of this report.

The potential and widespread significance of learning outcomes is only just beginning to be realised. Their introduction is designed to facilitate the fundamental reform of existing qualifications and the creation of new ones fit for the 21st century. It is arguable that the main end product of the Bologna reforms is better qualifications based on learning outcomes and certainly not just new educational structures. For this sort of bottom-up reform it is recognised that there is a need for fundamental changes at the institutional level where academics are responsible for creating and maintaining qualifications. This transformation from using traditional input/content approaches to output/outcomes approaches to conceive, validate, monitor and express qualifications is proving slow and difficult. This is to be expected, but does not make their resolution any easier. There are also a number of important European-level technical and practical questions that confront the ongoing application of learning outcomes which are explored in section 6.

In 1962, Thomas Kuhn wrote *'The Structure of Scientific Revolution'*, and developed the concept of 'paradigm shift'. Kuhn argues that scientific advancement is not evolutionary, but rather is a 'series of peaceful interludes punctuated by intellectually violent revolutions'. A paradigm shift is a change from one way of thinking to another. It is a transformation in thinking that is driven by change agents. In the context of learning outcomes a case can be made that they are an essential part of a Bologna paradigm change driven by the imperatives of the need to respond to globalisation. They are at the heart of an educational revolution that has been slow to gestate but is beginning to have a profound impact.

2. CURRENT DEVELOPMENTS IN EUROPE - evidence from official Bologna reports

There is currently no perfectly reliable and accurate information on the state of implementation of learning outcomes in the Bologna countries. This is understandable as the situation is changing so fast. The best sources of information are the: official Bologna Process - *Stocktaking Report 2007*; European Universities Association (EUA) *Trends V report - Universities shaping the European Higher Education Area 2007*; Eurydice report - *Focus on the Structure of Higher Education in Europe 2006-2007 - National Trends in the Bologna Process*; and the ESIB (European Students Union) report - *Bologna with Student Eyes 2007*.

These publications present an interesting picture. There is undoubtedly a multi-speed Europe regarding higher education reform and this is perhaps most prominent in terms of the use and implementation of learning outcomes. It is useful to pull all these information sources together and briefly reflect on what they report as they contain a number of significant points:

*'Although new degree structures are still commonly perceived as the main Bologna goal, there is increasing awareness that the most significant legacy of the process will be a change of educational paradigm across the continent. Institutions are slowly moving away from a system of teacher-driven provision, and towards a student centred concept of higher education. Thus the reforms are laying the foundations for a system adapted to respond to a growing variety of student needs. Institutions and their staff are still at the early stages of realising the potential of reforms for these purposes. Understanding and integrating the use of a **learning outcomes** based approach remains a key medium-term challenge. When achieved, it will enable students to become the engaged subjects of their own learning process, and also contribute to improving many issues of progression between cycles, institutions, sectors, the labour market and countries.'*

*'It is important to highlight, however, that the mention of much of the terminology of the Bologna process – whether qualifications frameworks and **learning outcomes**, or to a lesser extent diploma supplements and ECTS – often met rather blank reactions.'*

*'Unsurprisingly, when starting in this mode, the process has sometimes been implemented rather superficially. Rather than thinking in terms of new educational paradigms and re-considering curricula on the basis of **learning outcomes**, the first reflex has been to make a cut in the old long cycle and thus immediately create two cycles where previously one existed. With minimal effort, the onerous task of "reform" is thus seemingly achieved. However, this approach inevitably has few positive consequences, and often has a counter-productive impact.'*

*'The recognition of informal, non-formal and work-based learning remains a key challenge to institutions in the context of lifelong learning, and ECTS now needs to be developed more holistically in order to ensure that **learning outcomes** are recognised appropriately in all institutions and for all types of learning.'*

*'ECTS continues to gain ground as the credit system for the European Higher Education Area. Yet attention to correct understanding of the two key elements of the system – student workload and **learning outcomes** – is still imperative.'*

*'It is particularly important for staff and students to think in terms of **learning outcomes** to ensure that curricula are re-considered in appropriate depth.'*

EUA Trends V Report 2007

*'While the 2007 stocktaking found that there has been good progress on specific action lines and indicators, it is not enough to look at these in isolation because all aspects of the Bologna Process are interdependent. There are two themes that link all action lines: a focus on learners, and a focus on **learning outcomes**.'*

*'If the Bologna Process is to be successful in meeting the needs and expectations of learners, all countries need to use **learning outcomes** as a basis for their national qualifications frameworks, systems for credit transfer and accumulation, the diploma supplement, recognition of prior learning and quality assurance. This is a precondition for achieving many of the goals of the Bologna Process by 2010.'*

*'Developing national frameworks of qualifications will bring together a number of strands of the Bologna Process, all of which are based on a **learning outcomes** approach: quality assurance; credit transfer and accumulation systems; recognition of prior learning; lifelong learning; flexible learning paths and the social dimension.'*

*'The results demonstrate that ECTS is developing as a system of credit transfer and accumulation. However, national reports also show that while many countries have begun to use credits both for transfer and for accumulation, a much smaller number link credits with **learning outcomes**.'*

*'In some countries, new initiatives are emerging to introduce truly flexible learning paths combining different kinds of learning. These developments are often made possible by the implementation of a national framework of qualifications, based on awarding credit for **learning outcomes** achieved in a range of formal, informal and non-formal learning contexts.'*

'The three Bologna cycles are based on generic descriptors of learning outcomes, so it is clear that describing higher education programmes in terms of learning outcomes is a precondition for achieving many of the goals of the Bologna Process by 2010. Learning outcomes are critically important in the development of national qualifications frameworks, systems for credit transfer and accumulation, the diploma supplement, recognition of prior learning and quality assurance.'

'However, the 2007 stocktaking shows that the movement towards adopting a learning outcomes approach in higher education takes time. This is particularly evident in the slow progress on establishing national qualifications frameworks and arrangements for the recognition of prior learning. Very few countries have put in place national qualifications frameworks that provide seamless progression for learners through all cycles of higher education, thus affirming the national commitment to lifelong learning.'

'Recommendations for countries: Work towards fully implementing a national qualifications framework based on learning outcomes by 2010.'

Bologna Process Stocktaking Report 2007

'No country uses ECTS for accumulation and transfer, with a full implementation of the learning outcomes approach and ECTS credits being linked to properly measured student workload. Few countries have only minor problems still to be solved, but the dominant majority of countries still have significant problems which need to be addressed.'

'Recommendations: Promotion of an approach based on competences and learning outcomes at all levels of education.'

ESIB/ESU - Bologna with Student Eyes, 2007 edition

'In some countries, ISCED 5A and 5B programmes (academic theoretical and practical professional vocational) are provided by different types of institutions (university and non-university, respectively). However, this 'binary' form of organisation is changing; it is increasingly common for universities and non-university institutions to offer programmes at both levels. Furthermore, the two programme levels are gradually becoming more similar to each other in terms of curriculum, orientation and learning outcomes.'

Eurydice: National Trends in the Bologna Process 2006/2007

These observations make a number of important points. The educational paradigm change underway involves the move from an input-centred approach to an output-focused student-centred approach in which learning outcomes play a central role. Learning outcomes also play a fundamental role in the enormous but embryonic process of European curricular reform. Bologna countries have agreed to use learning outcomes for multiple applications, including the development of new style national qualifications frameworks, lifelong learning, credit transfer and accumulation requirements, recognition needs and quality assurance purposes. The application of learning outcomes to lifelong learning and the recognition of non-formal and informal learning is in its infancy. Their introduction is also arguably having some impact on any artificial barriers between vocational education and training (VET) and higher education by challenging national binary divides. This is also strengthened by the development of the European Qualifications Framework for Lifelong Learning (EQF) as a seamless translation device.

The move to learning outcomes must not be underestimated in terms of the difficulties associated with it. One difficulty is the complex relationship between learning outcomes and competences. The relationship between learning outcomes and competences is a complex and contested area; the subject of some debate and no little confusion. 'Competence' and 'competences' are often used in association with learning outcomes in a number of ways. 'Competence' can broadly refer to aptitude, proficiency, capability, skills and understanding, etc. A competent person is someone with sufficient skills and knowledge and capabilities. However, some take a narrow view and equate competence just with skills acquired by training. It should be recognised that there is no common understanding or use of the term and the matter is further complicated when apparently similar terms are used in translation. This is evidenced in the forthcoming CEDEFOP study mentioned above. Learning outcomes are commonly expressed in terms of competences or skills and competence. The loose use of all these terms in an almost interchangeable way does lead to confusion, therefore the development of a common terminological understanding should be encouraged.

A further difficulty associated with learning outcomes is that the danger of fake and superficial reforms is ever present. Progress with learning outcomes is naturally slow and difficult; their implementation cannot and should not be rushed.

Learning outcomes, although important, are just one part of the Bologna reform process which involves a mix of interdependent initiatives that reinforce and interact to create the European Higher Education Area. However, learning outcomes do constitute a precondition for the successful attainment of the Bologna goals.

Information on the exact state of implementation of learning outcome across the 46 Bologna countries is patchy and somewhat unreliable as national reports on the subject vary in precision and quality. The next Stocktaking report could usefully sharpen its guideline questions for national reports on the actual state of implementation. The most highly developed systems - that use learning outcomes as a basis of their qualifications frameworks, level descriptors, generic qualification descriptors, subject descriptors and at the level of individual modules - exist in Scotland and Eire. It is no coincidence that these are the first two countries to have successfully undertaken the Bologna self-certification process where their national qualifications frameworks were articulated against the overarching framework of the qualifications of the EHEA. This self-certification is a complex procedure that is designed to ensure real reform takes place. The creation of these 'new style' qualifications frameworks based on learning outcomes is acknowledged to be a challenge⁵.

In addition to Scotland and Eire, England, Wales and Northern Ireland have well established systems that have pioneered the higher education use of learning outcomes. Belgium, Croatia, Denmark, Estonia, Hungary, Italy, Moldova, Portugal, Romania, Spain, Sweden and Switzerland are making rapid progress towards a more comprehensive implementation of learning outcomes. Progress on mainland Europe is often initially being achieved by national legislation. Such top-down measures need to be matched by bottom-up activity. A further complication is that the 2007 Stocktaking report indicated that, while many countries have begun to use credits for transfer and for accumulation, a much smaller number currently link credits with learning outcomes. The European Credit Transfer and Accumulation System (ECTS) clearly requires the use of learning outcomes, but progress is slow to date.

Overall, official reports indicate positive but slow progress in the national and institutional adoption and implementation of learning outcomes. This is not a negative situation as learning outcomes are part of a massive reform package that spans enormous structural and process changes from macro to micro levels, encompassing qualifications frameworks, quality assurance, institutional and curriculum reform. Such innovations, if to succeed at the first attempt, require careful and slow implementation. This is the clear experience of those countries that have been developing such approaches for more than a decade. The European Higher Education area cannot be fully completed by 2010.

⁵ For details of the challenges and the current situation on the introduction of qualifications frameworks see the documents produced for the Council of Europe Forum on Qualifications Frameworks, 11-12 October 2007: <http://www.coe.int/t/dg4/highereducation/QF/>. In addition, there is much valuable information in the BFUG Working Group on Qualifications Frameworks (2007) *National Qualifications Frameworks Development and Certification- final report*, DfES: <http://www.dfes.gov.uk/londonbologna/uploads/documents/WGQF-report-final2.pdf>.

3. THE PLACE OF LEARNING OUTCOMES IN THE BOLOGNA PROCESS

The phrase ‘learning outcomes’ has become an ubiquitous axiom that haunts official communiqués, reports and pronouncements on educational reform. Since the London Communiqué it is evident that much work needs to be done for learning outcomes to achieve their full potential as devices to help improve qualifications, educational structures and learner-centred education. Their possible range of application is wide and the rhetoric that surrounds them is such as they are in danger of being hyped as the solution to all academic problems. This is unrealistic and dangerous. They need to be regarded as part of a suite of tools that collectively, and when properly implemented, can lead to positive change. The following sections briefly explore the potential contribution of learning outcomes to different aspects of the Bologna process across the various Action Lines. It is valuable to focus more on the collective impact of various Bologna innovations as they interact to have a collective impact on the different dimensions of the Bologna reform process.

Learning outcomes make a contribution to different levels and dimensions of education. They are not just devices to express the curriculum - they also represent a way to communicate external reference points at the regional, national and international levels. The three distinct levels of application can be summarised:

- (i) At the institutional level they have curriculum implications for teaching, learning and assessment. Here learning outcomes can be used to express learning at the level of the unit or module. In so doing they clarify for the learner what is expected of him or her as well as the skills/competences, understanding and abilities that they will acquire on successful completion of their study. For the teacher, learning outcomes clarify what exactly the module will deliver and unite this with the appropriate mode of delivery and assessment. The dynamic process of marrying outcome and learning with assessment is not simple but does lead to improved courses. The qualification itself can also be described in broader learning outcomes that link to external reference points leading to better design. This results in qualifications that are fit for their now clearly stated purposes.
- (ii) At the national level learning outcomes play a wider role permeating the ways in which the national qualifications framework is described and the tools used to describe it. Quality assurance is improved, as explicit guides to standards can emerge based on level descriptors, qualification descriptors and subject benchmark statements. These descriptors and statements themselves take the form of learning outcomes – statements that show what a student will achieve at a particular level of study in a type of qualification, or in a specific discipline.
- (iii) At the international level learning outcomes play a subtly different role than at the local and national levels. They will by definition be much broader and less precise than any national descriptors. For example, the European Higher Education Area has adopted the broad generic ‘Dublin’ descriptors as the cycle descriptors for its Bologna overarching qualifications framework. These cycle descriptors provide a context to help national authorities develop their own more detailed level descriptors. Provided common approaches are used by different states within their own national systems, learning outcomes open up the possibility of real transparency, mobility and fair recognition on a scale impossible in the past. At the international level they aid transparency, recognition and comparability by providing common overarching reference points.

3.1 Learning outcomes and qualifications frameworks

It has already been established that learning outcomes play an important role in the creation and articulation of national and the Bologna overarching qualifications frameworks. Their main role here is to provide explicit and transparent level descriptors and qualifications descriptors. These in turn guide the curriculum designers and act to help establish standards. Clear descriptors - and common approaches to descriptors based on learning outcomes - aid the process of international evaluation and recognition of qualifications and systems. The creation of these ‘new style’ qualifications frameworks is acknowledged to be difficult. This is particularly true of the self-certification process where one of the criteria for verifying that national frameworks are compatible with the EHEA framework set out 2005 in the report to Ministers in Bergen, page 80, states:

*'The national framework and its qualifications are demonstrably **based on learning outcomes** and the qualifications are linked to ECTS or ECTS compatible credits.'*

2005 BFUG Working Group Report on: A Framework for Qualifications of the EHEA

Furthermore the 2007 second BFUG Working Group report, page 31, states:

*'The **learning outcomes** contained in the national frameworks are essential to the process of aligning the national framework with the EHEA framework.'*

2007 BFUG Working Group Report on: National Qualifications Framework Development and Certification

The message is clear that successful self-certification depends on the verifiable implementation of learning outcomes – not just the creation of national qualifications frameworks but evidence of their practical application.

3.2 Learning outcomes and lifelong learning

Lifelong learning is complex and relatively poorly developed across Europe. It is recognised that there is a need to improve educational opportunities for all citizens throughout their lives. The concept of lifelong learning as set out in various Bologna communiqués clearly indicates the Ministers' view that lifelong learning is an inclusive way to define all learning activity and that, within this, higher education has a vital role. The real challenge still with us is how to make such changes a reality - to move from theory to common practice. Many countries are accepting the need for more flexible and integrated systems of qualifications and the main tool to accomplish the necessary linkages between Vocational Education and Training (VET) and higher education, as well as all learning from cradle to grave, is logically the adoption of credit-based qualifications frameworks. The European Qualifications Framework for Lifelong Learning (EQF) obviously has an important function in this connection.⁶ Few countries have so far created an integrated lifelong learning framework and the evidence suggests that learning outcomes, along with credits, play a key role in developing different aspects of European education and training systems and more importantly play a vital integration role in linking different sectors of education within lifelong learning frameworks.⁷

In higher education lifelong learning is often confined to the recognition of non-formal and informal learning together with policies to widen participation via non-standard admission and the recognition of prior learning. It is clear that these areas often depend on the usage of learning outcomes as the means to identify and evaluate learning wherever it has taken place. The London Communiqué recognises the importance, and contains multiple mentions of the recognition of prior learning (including formal, non-formal and informal learning). It is clear that progress in this area is dependant on the widespread use of learning outcomes.

3.3 Learning outcomes, credits, workload and credit systems

The European Credit Transfer System (ECTS) is in the process of developing from a simple credit transfer tool into a more sophisticated and powerful credit accumulation and transfer system. The generalisation of ECTS has occurred as different states have adopted it as the basis of their domestic credit systems. However, this process has been slowed by the lack of levels in ECTS and the imprecise nature of ECTS credits, which in practice at the institutional level are only beginning to be defined in terms of learning outcomes. Credits expressed in terms of learning outcomes are a powerful way to recognise and quantify learning achievement from different contexts; they also provide an effective structure for relating qualifications to each other. The addition of the learning outcomes dimension has the potential to improve dramatically the effectiveness of ECTS as a true pan-European framework. However, there are some problems associated with ECTS that may well be resolved with the publication of the new ECTS Users' Guide in 2008.⁸ Currently, there are difficulties associated with the definition and understanding of ECTS credits in terms of learning outcomes and workload –

⁶ The European Parliament voted in favour of adopting the 'Recommendation on the establishment of the European Qualifications Framework for lifelong learning' (EQF) on 24 October 2007.

⁷ The forthcoming CEDEFOP study on learning outcomes provides comprehensive evidence on the widespread and increasing use of learning outcomes particularly in VET.

⁸ Consultants and a drafting group are working on this to update the old guide in terms of the Bologna reforms and other recent educational developments.

as to whether learning outcomes or workload takes primacy in the definition of a credit. If credits are tied too firmly to workload their application to lifelong learning (the recognition of informal and non-formal learning) is made problematic and the possibility of the multi-speed flexible delivery of qualifications is prevented. It is also not clear what the exact relationship might be between ECVET and ECTS credits. For the EQF, or any integrated credit systems for lifelong learning, it is imperative there is a single understanding of credits or artificial barriers are built into the very system that seeks to eradicate them. It is clear that complex national and institutional credit systems must seamlessly articulate with national qualifications frameworks and international overarching frameworks and one way to achieve this is by universal application of credits based on a common understanding of learning outcomes.

3.4 Learning outcomes, mobility and recognition

Learning outcomes will have an enormous impact on recognition matters. The existing recognition tools⁹ will be reinforced and modified by learning outcomes once they are in place across Europe. The use of learning outcomes (unit/module or as course descriptors) has an obvious role to play in making qualifications more transparent for students, credential evaluators and employers. If qualifications are described in terms of learning outcomes the process of evaluation and recognition is simplified and better informed and fairer judgements can be made. Furthermore, this helps the systematic recording of information about qualifications in Diploma Supplements.¹⁰

There was a clear acknowledgment five years ago by those involved in the recognition area that learning outcomes have a vital role in recognition by making learning more transparent and therefore easier to evaluate. At the *Bologna Seminar on Recognition* held in Lisbon in April 2002 it was stated that:

*'Learning outcomes are important for recognition, since the basis for recognition procedures is in the process of shifting from quantitative criteria such as the length and type of course studied, to the outcomes reached and competencies obtained during these studies. The principal question asked of the student or the graduate will therefore no longer be "what did you do to obtain your degree?" but rather "what can you do now you have obtained your degree?" This approach is of more relevance to the labour market and is certainly more flexible when taking into account issues of lifelong learning, non-traditional learning, and other forms of non-formal educational experiences.'*¹¹

2002 Bologna Seminar on Recognition Issues in the Bologna Process

The whole area of academic and professional recognition is likely to be transformed by transparency that the adoption of learning outcomes brings to qualifications and qualifications frameworks. Improvements in recognition with simplified and accurate decision making must in turn facilitate mobility of students, staff and programmes of learning.

3.5 Learning outcomes and curricula reform

The 2007 London Communiqué included the first mention of '*more student-centred, outcome-based learning*'. The significance of this endorsement of 'student-centred learning' as opposed to 'teacher-centred teaching' should not be underestimated. The traditional input-related curriculum has proved to be too focused on the teacher instead of the learner. This change has been associated with a need for improvement in curriculum design, and an acknowledgement that more effective and varied learning styles benefit the learner. This has strengthened the need to express, through the medium of learning outcomes, the knowledge, understanding, competences and other attributes within qualifications. This pedagogical trend is at the heart of the Bologna agenda that emphasises the need for dramatic reform to modernise Europe's antiquated education systems.

The European Commission has supported the *Tuning Educational Structures in Europe* project as a major driver of change promoting the introduction of a learning outcomes approach.¹² This university-

⁹ The *Convention on the Recognition of Qualifications concerning Higher Education in the European Region*, 1997 (commonly known as the Lisbon Convention), the Diploma Supplement, ECTS and the ENIC-NARIC information network, Directives, etc.

¹⁰ In particular, section 4.2 of the Diploma Supplement requires clear information about the programme requirements and the contents of qualifications - these are best expressed in terms of learning outcomes. New updated explanatory notes for Diploma Supplements emphasise such realities.

¹¹ Council of Europe, *Seminar on Recognition Issues in the Bologna Process*, Lisbon. April 2002: <http://www.coe.int>.

¹² The Tuning Project: <http://www.tuning.unideusto.org/tuningeu/>

driven project has, *inter alia*, led a Europe-wide consultation process including employers, graduates and academics to identify key learning outcomes and competences that should inform generic (transferable) and subject specific reference points for those creating qualifications. The project strongly encourages a more student-centred approach to higher education and therefore promotes curriculum reform and concomitant changes in teaching, learning and assessment. It also is making a major contribution to the employability agenda by identifying and promoting the inclusion of appropriate learning outcomes and competences in academic qualifications.

Learning outcomes are key tools in the shift towards student-centred learning as they focus attention on explicit and detailed statements of what students learn – the skills, understanding and abilities we seek to develop and then test. The adoption of a learning outcomes approach focuses activity on the learner and away from the teacher. It promotes the idea of the teacher as a facilitator or manager of the learning process and recognises that much learning takes place outside the classroom without a teacher present. It suggests that students should be actively involved in the planning and management of their own learning, progressively taking more responsibility as he/she develops as an independent learner.¹³

It is important to recognise that student-centred learning necessitates the use of learning outcomes as the only logical approach. It produces an automatic focus on how learners learn and the design of effective learning environments. There is a cascade effect that links the use of learning outcomes, the selection of appropriate teaching strategies and the development of suitable assessment techniques. The use of learning outcomes as a dynamic way to develop any curriculum also facilitates collaborative work with partners, as has been confirmed by the experience of those involved with the development of joint degrees such as the Erasmus Mundus masters programme.

3.6 Learning outcomes and quality assurance

Quality assurance benefits from the adoption of learning outcomes via the resulting improvement in transparency and comparability of standards between and within qualifications. Outcomes-based qualifications should possess greater credibility and utility than traditional qualifications.

Quality assurance plays an obvious and important role in creating the European Higher Education Area, increasing mutual trust and confidence between those in different educational systems. Learning outcomes and the approaches associated with them (external reference points) play an important part in encouraging common methodologies and techniques that directly relate to the establishment of universal standards and assurance procedures. Universal approaches to reference points, based on learning outcomes, make cross-border judgements as to the level, nature and equivalence of qualifications easier and more accurate. The European Association for Quality Assurance in Higher Education (ENQA) ‘*Standards and Guidelines*’¹⁴ are predicated on the use of explicit external reference points and an implicit recognition of an outcomes-based philosophy:

*‘The quality assurance of programmes and awards are expected to include development and publication of explicit **learning outcomes**.’*

*‘Student assessment procedures are expected to be designed to measure the achievement of the intended **learning outcomes** and other programme objectives.’*

*‘In fulfilment of their public role, higher education institutions have a responsibility to provide information about the programmes they are offering, the intended **learning outcomes** of these, the qualifications they award, the teaching, learning and assessment procedures used, and the learning opportunities available to their students.’*

ENQA 2005. Standards and Guidelines

The following table seeks to clarify the different applications of learning outcomes by exploring their different modes and areas of application in terms of their associated features and attributes:

¹³ The development of modular credit-based frameworks invariably involves a high degree of choice (multiple study routes) and a progression and sequence in the modules studied. This sort of framework provides sufficient flexibility to facilitate the progressive assumption of more responsibility, by the student, for the choice and management of their studies – they develop as independent learners as the course progresses.

¹⁴ ENQA Standards and Guidelines, 2005: http://www.enqa.eu/pubs_esg_lasso

3.7 TOWARDS A TYPOLOGY OF LEARNING OUTCOMES AND THEIR MULTIPLE APPLICATIONS IN HIGHER EDUCATION

(Table developed from one originally reproduced in the European Universities Association EUA (2007) Bologna Handbook - Making Bologna Work, *An Introduction to Learning Outcomes. A Consideration of the Nature, Function and Position of Learning Outcomes in the Creation of the European Higher Education Area* by Stephen Adam. Raabe Academic Publishers)

MODE AND AREA OF APPLICATION

FEATURES AND ATTRIBUTES

MODULES:

(learning outcomes employed at the level of the unit or module as statements that identify what a successful learner will be able to know, understand and / or be able to do)

ASSESSMENT AND GRADING CRITERIA

(at the level of the module, learning outcomes can be used to express the criteria that establish the standard of achievement and the relative performance of individuals)

INDIVIDUAL QUALIFICATION DESCRIPTORS

(learning outcomes used for describing and expressing each individual subject-specific qualification validated / accredited by a Higher Education Institution)

NATIONAL QUALIFICATION DESCRIPTORS

(learning outcomes as generic descriptions of types of qualifications)

NATIONAL SUBJECT SECTORAL / BENCHMARK STATEMENTS

(learning outcomes employed as statements designed to make explicit the general subject-specific academic characteristics and standards of programmes)

NATIONAL LEVEL DESCRIPTORS

(Learning outcomes employed as generic statements that describe the characteristics and difficulty of learning.)

CYCLE DESCRIPTORS

(Also known as the 'Dublin descriptors' describe the three cycles of the Bologna overarching qualifications framework in terms of learning outcomes)

- Concerned with the achievements of the learner.
- Differ from 'aims' that indicate the intentions of the teacher.
- Directly link to a teaching strategy for the effective delivery of the learning outcomes.
- Directly link to an assessment strategy and appropriate assessment criteria.
- Are developed in a context of a wide range of internal and external reference points and influences.
- Assessment criteria describe what the learner is expected to do to demonstrate that the learning outcome has been achieved. They are normally written at threshold level and distinguish the pass and fail threshold.
- Grading criteria refer to the precise quality of the achievement of the outcome – how well an individual has passed or failed. They distinguish the relative performance of each student. Grading criteria are also written as learning outcomes.
- Written individually or collectively by academics for a specific qualification and institution.
- Include subject specific statements of skills, abilities and understanding.
- Can include general transferable / transversal skills that are sought by employers
- Represent more than the sum of the individual component module learning outcomes
- Will be created within the context of the appropriate national and / or international 'external reference points' and qualifications frameworks
- Exemplify the generic (non-subject specific) outcomes of a nationally recognised type of qualification.
- Produced by appropriate national authorities with stakeholders' agreement.
- Will include statements of the wider abilities of a typical holder of the qualification (transferable / transversal skills).
- Linked to national level descriptors. A generic qualifications descriptor can encompass several national level descriptors to show progression or just typify one level.
- Generally describe the learning achieved by a student at the end of a qualification (as do the international 'Dublin Descriptors').
- Act as an external reference point, for those at the institutional level, developing individual qualifications.
- Subject sectoral/benchmark statements set out expectations about standards of degrees in a range of subject areas. They describe what gives a discipline its coherence and identity, and define what can be expected of a graduate in terms of the techniques and skills needed to develop understanding in the subject.
- These have been most extensively developed and applied in the UK by the Quality Assurance Agency (QAA).
- They function as subject-specific external reference points for curriculum designers and can have an internal and external quality assurance function.
- Internationally, the Tuning project explores the significance and nature of subject-specific and general competences associated with the first and second Bologna cycles.
- Designed to provide a shared understanding of each level and to facilitate the comparisons to be made between qualifications and learning at each level. A qualification will often straddle several levels. Levels facilitate progression
- The number and complexity of national level descriptors is a matter of national decision. They are often expressed in terms of knowledge and understanding, cognitive skills, practical applied skills, learner autonomy etc.
- They represent a developmental continuum that acts as a guide to the curriculum designer and the learner.
- They can be expressed in terms of what the best student might achieve (aspiration) or minimum standards (threshold) or something in between.
- Act as an external reference point for those developing individual qualifications as well as modules and units. They play a central role in qualifications frameworks.
- Adopted by the 46 Bologna Process countries and used to express the three cycles of the 'Framework for Qualifications of the European Higher Education Area (EHEA)'.
● Are composed of generic statements of the typical expectations of achievement and abilities associated with awards that represent the end of each Bologna cycle.
● Function as meta-level international descriptors (guidance tools) that act as an external reference point for those developing 'new style' national qualifications frameworks and national levels descriptors. They are similar to the European Qualifications Framework for Lifelong Learning (EQF) eight 'levels' in functions but differ slightly in nature.

4. THE USE AND ABUSE OF LEARNING OUTCOMES

The creation and implementation of learning outcomes is a highly complex and difficult process. There is no simple and correct way forward as much depends on the local situation and conditions. It is a matter of local and national autonomy exactly how they best might practically be introduced with the appropriate mix of top-down and bottom-up measures. Things are made more problematic as learning outcomes are frequently met with strong and widespread scepticism by higher education staff. They are often viewed as a threat that will dumb down education and constrict academic studies by reducing them to mere 'Tick box' training and rote learning. These objections should be taken seriously, as learning outcomes, if poorly conceived and badly implemented, can damage those precious qualities typified by the Humboldtian conception of higher education. Fortunately, there are now numerous texts, handbooks and in-house university publications providing good practice and step by step advice on the writing and implementation of learning outcomes. In addition, there is a considerable bank of global and European good practice experience to be found in those countries and institutions that have already introduced them.¹⁵ Although it is not the purpose of this report to explore in detail how learning outcomes are written and implemented it is useful to identify some points of good and bad practice. However, the following should be regarded as only useful tips and not an exhaustive approach to the topics.

4.1 Good practice and the creation and implementation of learning outcomes

The process of writing good learning outcomes at the module and qualification level is something that takes time and reflection. They are developed in a context where many variables have to be taken into consideration including: qualifications frameworks, external reference points, past experience, subject benchmark statements, employer requirements, student feedback, qualifications descriptors, etc. It is essential that such an exercise is not seen as a sterile creation of learning outcomes to fit existing unmodified modules and courses. The benefits in the creation of learning outcomes result from the dynamic and cathartic process of creation where a new approach to learning is honestly undertaken. This will involve a simultaneous reflection on possible learning outcomes, their mode of delivery and their assessment. All learning outcomes must be capable of assessment or they are not fit for their task and should be scrapped. At the level of course and module design there is an obvious and intimate connection between the teaching-learning-assessment relationships.

The creation of learning outcomes is not a precise science and they require considerable thought to write – it is easy to get them wrong and create a learning straitjacket. Learning outcomes are commonly further divided into different categories of outcomes. The most common sub-divisions are between subject specific outcomes that relate to the subject discipline and the knowledge and/or skills particular to it, and generic (sometimes called transferable or transversal skills) outcomes that relate to any and all disciplines, e.g. communication and teamwork skills. The identification of generic transversal skills is seen as important in enhancing the employability of graduates whatever their discipline.¹⁶

Learning outcome statements commonly begin with '*On completion of the learning (unit/module or qualification) the successful student will be able to...*' This formulation has a number of benefits as it focuses the writer of the learning outcomes on precisely what skills, abilities and knowledge will be acquired. Such statements are typically characterised by the use of active verbs. Six categories of learning were identified by Bloom in his hierarchy of thinking as: knowledge, comprehension, application, analysis, synthesis and evaluation.¹⁷ Useful examples of verbs used are as follows: for knowledge - duplicate, state, relate; for comprehension - classify, describe, recognise, review; for application - apply, demonstrate, solve; for analysis - calculate, analyse, appraise, criticise; for synthesis - assemble, construct, plan, formulate; for evaluation - appraise, argue, predict evaluate, etc. Certainly Bloom, when writing learning outcomes, is a useful starting place for inspiration but his hierarchy of thinking should not be regarded as correct or the only source of stimulation. The best learning outcomes are the product of sincere reflection about realistic and attainable combinations of any of the following: knowledge and understanding, practical skills (including applying knowledge and understanding), cognitive intellectual skills (subject specific and transversal), levels of autonomy, learning skills, etc.

¹⁵ An excellent explanation of useful arguments and approaches to counter negativity associated with learning outcomes was presented by Peter Ewell at the 2007 Zurich conference on learning outcomes in a PowerPoint presentation *Creating Authentic Academic Cultures of Evidence: A Perspective on Learning Outcomes*:
http://www.oaq.ch/pub/en/documents/Peter_Ewell.pdf

¹⁶ The Tuning Educational Structures project is a valuable source of information and research on generic, transversal learning outcomes:
<http://tuning.unideusto.org/tuningeu/>.

¹⁷ Bloom B (1956) *Taxonomy of Educational Objectives – The Cognitive Domain*. Longman, New York.

Good practice associated with the creation and implementation of learning outcomes:

- Learning outcomes should be fit for their purpose whether they are employed at the level of the individual module, the qualification, as a level or qualifications descriptor. This means that they should be constructively valuable to the user in question (student/learner, academic, quality agency, curriculum designer, employer, etc.). Different users may well require different language to make learning outcomes accessible to their needs.
- Regular stakeholder input (at some stage) is important in the creation and review of learning outcomes whatever their application (at module, qualification or national descriptor levels). All learning outcomes should be periodically reviewed.
- Sensitive and constructive support from appropriate national authorities is important to sustain the effort required at institutional level to make a full and successful transition to a higher education system based on learning outcomes. Furthermore, the system-wide adoption of learning outcomes has implications for educational structures and processes. These implications need to be clearly explained to all stakeholders to familiarise them with and the new approaches and functions.
- The introduction of learning outcomes at an institutional level requires a carefully tailored strategy and the primary goal should be quality enhancement, never just compliance with outside (national, ministry or quality assurance agency) edicts.¹⁸ The use of learning outcomes also has implications for all aspects of quality assurance internal and external processes and procedures at institutional and national levels.
- At the level of the module and individual qualifications learning outcomes must be written in the context of appropriate national and international external reference points. More detailed national reference points should include generic qualification descriptors, level descriptors and possibly subject specific benchmarks statements. In addition, the institutional mission statement will identify institutional priorities that will also have an impact on the shaping of leaning outcomes.¹⁹
- Learning outcomes must be capable of assessment. Applied at the level of the individual module they should be linked to comprehensive assessment criteria, also expressed in terms of learning outcomes. These pre-defined criteria are used to delineate the pass-fail threshold. This sort of criterion referencing is then often supplemented by grade referencing that delineates how well the student has passed or failed!²⁰ It is important that for each individual qualification there is some review of the total assessment load to ensure balance, avoid repetition and check that all the learning outcomes for the qualification are being assessed. It is important to remember that qualifications are more than the sum of their parts – their constituent module learning outcomes. It is good practice to use a matrix or grid to map module learning outcomes against those for the qualification as a whole. This aids reflection on the progressive development of the assessment tasks that match the increasing complexity and depth of the knowledge, skills and competences demanded by the qualification. The creation and use of such assessment criteria is often undertaken with reluctance by academic staff – with even less enthusiasm than writing learning outcomes.
- It is important to ensure that at the institutional level not only is assessment directly linked to learning outcomes but also firmly aligned with an appropriate delivery strategy. Teaching, learning and assessment are part of a continuum that is fundamental to the development of student-centred learning.

4.2 Bad practice and the creation and implementation of learning outcomes

Unfortunately, there are plenty of examples of poor learning outcomes that fail at both ends of the spectrum – they are either over-prescriptive or are too vague and fail to inform about the level and nature of any skills, understanding and abilities that are to be acquired. This is particularly true of learning outcomes used at the level of the individual module, the qualification, as a level or qualifications descriptor. Beware the following pitfalls:

¹⁸ An excellent explanation of the institutional strategy used at Hong Kong Polytechnic University titled '*On the learning curve: Institutional efforts in Implementing outcome-based approach in student Learning: to implement learning outcomes*' was explained at the 2007 Zurich conference on learning outcomes by Angela Ho:
<http://www.oaq.ch/pub/en/documents/AngelaHo.pdf>

¹⁹ There are many staff development packages on writing learning outcomes, produced by universities, available from the web that can be employed as part of an institutional support programme. There is a useful chapter in the European Universities Association EUA (2007) Bologna Handbook - Making Bologna Work, *Writing and using learning outcomes* by Declan Kennedy, Aine Hyland, Norma Ryan. Raabe Academic Publishers:
http://www.bologna-handbook.com/docs/downloads/C_3_4_1.pdf

²⁰ A useful and detailed explanation of these matters can be found in Moon J (2004) *Linking levels, learning outcomes and assessment criteria*: http://www.bologna-bergen2005.no/EN/Bol_sem/Seminars/040701-02Edinburgh/040701-02Linking_Levels_plus_ass_crit-Moon.pdf

- When writing learning outcomes at the level of the module try to avoid the use of simplistic terms such as ‘understand’ or ‘explain’ as these are imprecise and convey little about the depth of knowledge, skill or understanding required. Learning outcomes must be realistic and appropriate to the level(s) of the qualification.
- Generic qualifications descriptors, subject specific benchmarks/sectoral statements and national level descriptors should always be presented as guidance. They are not straitjackets. Their purpose is to help establish and maintain standards as well as support the curriculum designer. If they are regarded as legal requirements they will prevent innovation and stifle academic autonomy. Obviously, at any validation and approval stage of new qualifications these reference points must be explored but with sensitivity and appropriate opportunity for any curriculum team to explain any particular approaches. It is important that such external reference points are developed collectively by all stakeholders in an open and transparent way.
- Existing qualifications should never be repackaged with newly minted but fake learning outcomes used to decorate old and substantially unchanged units. The process of module and qualification review should be a cathartic experience for the curriculum designers leading to a real reconsideration of the purpose, delivery, assessment and outcomes of learning.
- Beware of creating an assessment-driven curriculum where learning outcomes are over-prescribed and confine the learners’ ability to make imaginative jumps and insights. There is also a temptation to overcrowd the curriculum and thereby create an impossible workload for the learner. It is the responsibility of the curriculum designer and those responsible for the approval (validation) to ensure this is not the case.
- The adoption of learning outcomes should never be regarded as part of a move towards the national or European standardisation of content. European higher education can only thrive on diversity and competition and any widespread move to harmonise the content and delivery of subject-based qualifications is a misuse of the outcomes approach.

The writing and implementation of learning outcomes is a formidable task that involves a huge staff-development process as well as cost implications in terms of time and money. It is a massive undertaking to transform all curricula to be expressed in terms of outcomes and this often takes years to accomplish. Learning outcomes must be developed with care and sensitivity. Much depends on how they are constructed and whether (and how) they include knowledge, skills, abilities/attitudes and understanding. Badly constructed, narrow and limiting learning outcomes are not appropriate for higher education where creativity and imaginative leaps are highly valued.

5. CONCLUDING ISSUES

The Bologna vision is clear, as is the role of learning outcomes within it at national, regional and institutional levels. It is up to individual countries now to ensure that the necessary reforms are implemented. This is not simple process and is further complicated by often different and difficult relationships between higher education and VET that are sometimes further clouded by ambiguous national policies for lifelong learning. Obviously, the situation in each of the 46 Bologna countries is different. Furthermore, there are a number of important yet unresolved common technical problems associated with the expression of learning outcomes within the Bologna process and allied reforms.

There is no common agreement about the nature and depth of application of learning outcomes, how they should be expressed and the level of detail they should encompass. This is understandable given national autonomy, diverse interpretations and dissimilar contexts for their creation. But it does give rise to significant questions about the levels of quality, transparency, confidence and understanding the European higher education community will have in each other's approaches. It is likely that these concerns will be resolved in part by market forces that may well establish some sort of norm (common standard) for the expression and nature of learning outcomes. However, it is worthwhile detailing some of the practical and technical issues that need resolution if problems of interpretation are to be avoided:

- (i) How can a common European understanding and set of applications of learning outcomes be best encouraged when they are open to a range of interpretations as they are translated into different contexts and uses?
- (ii) What is the role of learning outcomes in terms of defining credits - do they take primacy over workload in the definition ECTS and ECVET credits?
- (iii) Should learning outcomes expressed at the level of the module and individual qualification be written as minimum 'threshold' statements or what a 'best' or 'average' student might be expected to achieve?
- (iv) What should be the appropriate number (or range) of individual learning outcomes required at the level of the module and individual qualification? What sort of detail is appropriate?
- (v) Should learning outcomes be used to establish detailed standards of achievement (assessment criteria) and the relative performance of individuals (grading criteria) at the level of the module and qualification? What are the implications of assessment criteria based on learning outcomes for international grade translation purposes in the context of ECTS?
- (vi) What are the implications of learning outcomes approaches for overall grading systems for the classification of qualifications where learning outcomes are naturally associated with criterion referencing but many states and institutions have strong traditions of norm referencing?
- (vii) How can we resolve the complications that are caused by big variations in the number of national qualifications frameworks levels expressed in terms of learning outcomes - anything from 8-12, employing different levels of detail and descriptor priorities?
- (viii) How to avoid differences in the relationship and recognition given between qualifications and units expressed in terms of the Bologna Framework for Qualifications of the EHEA and those expressed against the European Qualifications Framework for Lifelong Learning (EQF) where differences in the respective cycle and level indicator learning outcomes exist?

Currently, these matters are unresolved and different countries may well adopt different solutions and approaches, which will cause confusion. It is to be hoped that some commonality will naturally develop in the understanding, use and expression of learning outcomes. There is much good practice and experience that can help resolve these sorts of practical and technical problems and it is quite possible that they may well be naturally solved by a combination of market forces, transparency instruments and common approaches to quality assurance. However, their resolution does raise the important question of how rapidly changing higher education and VET relate to each other in terms of their respective technical practices associated with learning outcomes. The existence of major technical disjunctions in approach would establish not remove national and international barriers to mobility and recognition.

The harmonisation of Europe's disparate higher education systems was never going to be straightforward or easy. Learning outcomes are not the universal panacea for all educational problems facing higher education and they certainly create distinct challenges that should not be underestimated. However, it is not possible to have a meaningful European Higher Education Area without their widespread and consistent use.

'It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.'

CHARLES DARWIN 1809-1882

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