Learning outcomes based higher education: the Scottish experience
Bologna seminar held on 21-22 February 2008 at Heriot-Watt University, Edinburgh

Introduction
The purpose of this seminar was to support the countries of the Bologna Process by sharing the experience of the Scottish higher education sector in the development of policy and practice in the use of learning outcomes at national, institutional and programme level, with a particular focus on "how" to apply learning outcomes in a national context, and by highlighting the links between learning outcomes and curriculum design, assessment of student achievement, quality assurance, standards of programme and awards, and national qualifications frameworks.

Topics covered included: quality assurance at national, institutional and programme level; the design and implementation of outcome based programmes; learning outcomes and the assessment of learner achievement; learning outcomes and information for stakeholders (e.g. general public, employers); and the recognition of learning: informal learning, learning from work and the transfer of learning outcomes (credit).

The seminar was delivered by and aimed at higher education institutions, students, national quality bodies and included a perspective from employers. It was attended by 160 delegates from 37 countries.

Opening session
The first day, chaired by John Harper (Universities Scotland), began with welcome addresses by Andy Walker (Heriot-Watt University) and Fiona Hyslop MSP (Cabinet Secretary for Education and Lifelong Learning). The latter stressed the critical roles of learning outcomes in putting students at the centre of learning and of qualifications frameworks, such as the Scottish Credit and Qualifications Framework (SCQF), in enabling users to understand the meaning and relationship of awards.

Plenary addresses
The four short plenary addresses focused on the importance of learning outcomes for higher education institutions, staff, students and employers.

1. Higher education institutions
Judith Vincent (University of West of Scotland) recalled how, before the development of learning outcomes, it was hard to know what graduates could do and to ensure compatibility of standards between degrees. The impact of learning outcomes could now be seen in three ways:
- standards and benchmarks, exemplified in such external reference points as the SCQF (described as a "road map" or "climbing framework" for learners), the Quality Assurance Agency Subject Benchmark Statements and the Higher Education Academy's Student Employability Profiles;
- new approaches to learning design in respect of awards, levels and modules, which encouraged team design and the creation of a horizontally and vertically integrated student learning experience;
- flexibility, which promoted variety and distinctiveness of provision and lifelong learning, enabled accreditation of prior and experiential learning, and created the possibility of different routes to the achievement of outcomes.

Learning outcomes, she concluded, had fundamentally changed the Scottish sector's approach to learning since the 1990s and had resulted in enhanced coherence of the learning experience, greater transparency, increased dialogue with stakeholders, more opportunity for students to manage their own learning and better support for transitions into and out of learning programmes at points that suited the needs of the student.

2.   Staff
Alastair Hunter (University and College Union) addressed a recent critique of learning outcomes in the *Times Higher Education Supplement* as "a futile bureaucratic burden…favoured more by managers than by teachers and academics." While acknowledging that this was a not uncommon view and that, when crudely used, learning outcomes could be counter-productive, he defended their value for staff, since the requirement to consider learning outcomes was a useful discipline at the design stage of modules and programmes, prompting staff to ask questions about need, intellectual coherence, linkages and likely take-up. Reflection on learning outcomes also encouraged consideration of the most appropriate methods of delivery and assessment. Their usefulness in student course evaluation, however, depended on staff being more explicit about learning outcomes at the start.

3.   Students
Jill Little (National Union of Students Scotland) argued that learning outcomes were an important aspect of student centred learning which focused on student needs. They provided students with a clear idea of what was expected, helped them to identify their own personal and professional development, increased their sense of ownership of their educational experience and encouraged them to engage more actively in their learning. From the users' perspective, learning outcomes gave a more accurate and meaningful picture of student achievement than workload. This made the learner's educational journey easier to understand and rendered courses and awards more transparent to institutions in Europe and beyond, thereby easing the administrative burden of recognition and facilitating the process of recognition and mobility between study programmes and institutions, as well as between further and higher education. They also promoted lifelong learning by enabling students to map their knowledge and skills, decide where they wanted to go next and dip in and out of learning as their careers developed. In addition, learning outcomes enhanced employability by providing clearer information to potential employers about what an applicant had learned, particularly about the benefits of study abroad.

Learning outcomes should not be used, however, in a tokenistic way (for example, by being written retrospectively or only referred to in course handbooks) but communicated to students so that they can articulate the knowledge and skills they have acquired. They should be neither so prescriptive as to impede freedom of learning nor so broad as to become meaningless.

The use of learning outcomes with ECTS, she concluded, would result in a broader, fairer and more accurate recognition of students' knowledge and skills; a more transparent learning environment, easier to engage with and to choose from; easier mobility within academic fields, education systems and countries; enhanced employability in Europe and beyond; and more student centred learning.

In the question and answer session that followed, the presenters were asked about how change had been managed in Scotland. In reply, they commented that the size of the Scottish sector encouraged collegiality and dialogue between agencies and institutions; that the drive to increase participation rates had triggered a need to articulate the benefits of higher education for a range of students; that their early involvement in course evaluation had resulted in students being treated as partners; that review teams were led and constituted by practitioners; and that the sector had moved gradually from audit via quality assurance to quality enhancement. In reply to a query about whether courses covered enough content, it was pointed out that the first cycle degree was now a starting point for subject specific knowledge in a diverse, mass system. It was also suggested that teachers could measure whether their courses were doing what they said by canvassing the views of students and employers.

4.   Employers

Presenting an employer's perspective at the start of the second day, Konica Stones (PricewaterhouseCoopers) defined a learning outcome as "what people have learned as a result of an experience" and acknowledged their value as a means of assessing the learning that has taken place. It was not enough, however, for students to say that they had learned or could do something; employers needed to know how they had gone about acquiring the new knowledge or skills and whether they could display the competencies being sought. Employers were interested in <u>how</u> as well as <u>what</u> people had learnt.

In the recruitment, development and progress of their staff PricewaterhouseCoopers looked for evidence of the following set of global core competencies: enhancing value through quality; putting ourselves in each other's shoes; sharing and collaborating; and investing in relationships.

To get through competency-based recruitment processes graduates must be able to provide examples or evidence of the skills employers were looking for. Many failed by being unable to articulate how their learning and its outcomes mapped on to these competencies. Evidence could be provided to support a learning outcome by citing an example and then describing the situation, how they learned, what were the challenges, what was the outcome, and what knowledge and skills were gained from the experience. Employers looked for this evidence because, while they could teach the technical knowledge (provided graduates had the necessary academic capability), they needed graduates to be able to demonstrate the kind of softer skills exemplified above.

In the ensuing discussion it was suggested that academics and employers might have different views about the balance between generic and subject specific competences that make up a "good student" and that academics were likely to put a very much higher value on attributes such as individualism and command of the subject.

Learning outcomes: current developments in Europe

The keynote presentation was given by Stephen Adam (UK Bologna Expert), who had also been commissioned to write a special report on the topic for the seminar.

He began by stressing that learning outcomes were only a tool but that this approach to the curriculum had now assumed a significance unrecognised at the start of the Bologna Process. Indeed, it was arguable that the main end product of the Bologna reforms would be better qualifications based on learning outcomes, which were part of an important paradigm shift in European higher education that was of interest to all sectors.

While there was little information on the state of learning outcomes across Europe, official sources revealed a number of issues and problems. These included the move from an input to an output student-centred focus; the multiple uses of learning outcomes (qualifications frameworks, lifelong learning, ECTS, recognition and quality assurance); terminological difficulties; and the danger of fake or superficial reforms. A number of countries had made considerable progress, however, and the situation was not at all negative, as learning outcomes were part of a massive reform package that spanned enormous structural changes. So the process of introduction must not be rushed but managed in a careful and measured way in parallel with other reforms.

Having presented a typology of learning outcomes and their multiple applications, he stressed that their creation and implementation was a complex and difficult process. There was no simple and correct way forward, since much depended on local circumstances, the decision about how best to introduce learning outcomes with an appropriate mix of top-down and bottom-up measures being a matter for local and national autonomy. Their introduction, however, was often made more problematic by the sceptical attitude of some staff, who viewed learning outcomes as

a threat that would dumb down education and constrict academic studies. Such objections required to be taken seriously, since poorly conceived and implemented learning outcomes could damage education. Fortunately there were numerous sources of good practice and advice on their writing and implementation.

Turning to the use and abuse of learning outcomes, he offered the following guidance:
- writing good learning outcomes takes time and reflection and is not a precise science;
- creation is a dynamic and cathartic process involving simultaneous reflection on possible outcomes, mode of delivery and assessment;
- the best learning outcomes are the product of sincere reflection about realistic and attainable combinations of knowledge and understanding, practical and cognitive skills, levels of autonomy, learning skills etc.
- it is pointless to write learning outcomes to fit existing unmodified modules;
- it is easy to get them wrong and create a learning straitjacket;
- learning outcomes should be fit for purpose and appropriate for the user;
- regular stakeholder input at some stage is important in their creation and review;
- the effort required at institutional level requires to be sustained by sensitive and constructive support from appropriate national authorities;
- introducing learning outcomes at institutional level requires a carefully tailored strategy, whose primary goal should be quality enhancement rather than compliance with external directives;
- learning outcomes at the individual module or qualification level should be written in the context of appropriate national and international external reference points;
- learning outcomes must be capable of assessment and at the module level should be linked to assessment criteria, also expressed in terms of learning outcomes;
- at the institutional level, assessment should be directly linked to learning outcomes and firmly aligned with an appropriate delivery strategy.

With reference to bad practice, he warned against:
- learning outcomes that are over-prescriptive or too vague and that fail to inform as to the level and nature of the knowledge, understanding and abilities to be acquired;
- use of simplistic and imprecise terms such as "understand" or "explain";
- treating generic qualifications descriptors, subject benchmarks, sectoral statements and national level descriptors as prescriptive rather than a source of guidance;
- repackaging existing qualifications with newly minted but fake learning outcomes and using these to decorate substantially unchanged units;
- creating an assessment-driven curriculum where learning outcomes are over-prescribed and restrict the learner's ability to make imaginative jumps and insights;
- regarding the adoption of learning outcomes as part of a move towards a national or European standardisation of content.

He went on to list several unresolved practical and technical questions which could affect mutual understanding and confidence in the quality and transparency of learning outcomes:
- how best to encourage a common European understanding when learning outcomes are open to a range of interpretations as they are translated into different contexts and uses?
- should learning outcomes have primacy over workload in defining ECTS and ECVET credits?
- should they be written at the module and qualification level as minimum "threshold" statements or as what the "best" or "average" student might be expected to achieve?
- what is the appropriate number and range of individual learning outcomes required at this level and how much detail is needed?
- should learning outcomes be used to establish detailed standards of achievement (assessment criteria) as well as relative individual performance (grading criteria)?
- what are the implications of assessment criteria based on learning outcomes for international

grade translation in ECTS?

- what are the implications of the association of learning outcomes with criterion referencing for overall grading systems for classifying awards, when many countries and institutions have strong traditions of norm referencing?
- how to resolve the complications caused by wide variations in the number of levels which national qualification framework express in terms of learning outcomes (from 8 to 12), employing different levels of detail and priorities in their descriptors?
- how to reconcile differences in the relationship and recognition of modules and awards expressed in terms of the Framework for Qualifications of the EHEA and those expressed in terms of the European Qualifications Framework for Lifelong Learning?

These problems might be solved by a combination of market forces, transparency instruments and common approaches to quality assurance. Learning outcomes, he concluded, might be challenging but it was impossible to have a meaningful European Higher Education Area without their widespread and consistent use.

Workshops
In setting the scene for these, Norman Sharp (QAA Scotland) stressed the importance to the Bologna Process of dialogue and debate about what good education is all about.

Workshop 1: programme design and staff development
Presenter: Lorraine Walsh (Dundee University)

Issues	Recommendations
• learning outcomes in programme design, development and review • the aligned curriculum • engaging academic staff and employers • encouraging student participation without distorting course content • terminology - "learning outcomes", competences", "thresholds" etc	• collect and share good practice in relation to engaging staff and students in the process of developing learning outcomes • develop guidance about the role of employers • develop common definitions of key terms for shared understanding • explore whether student evaluation of learning outcomes is effective and worthwhile

Workshop 2: recognition of prior learning
Presenter: Ruth Whittaker (Glasgow Caledonian University)

Issues	Recommendations
• development of national policy • resource intensive so streamlining is necessary • link with qualifications frameworks • variations of policy and practice between countries	• develop resources and introduce national legislation to facilitate RPL • raise awareness and acceptance • streamline processes and tools • develop compatible funding mechanisms

Workshop 3: public information
Presenter: James Dunphy (The Robert Gordon University)

Issues	Recommendations
• clarification of expectations • linking learning outcomes and assessment to promote acceptance by employers • width of public audience for information	• introduce students to learning outcomes in year 1 • review public information for fitness for purpose, clarity and accessibility • use alumni to inform review of the relevance of programmes • make learning outcomes broad enough for wide public understanding but specific enough to differentiate programmes and institutions

Workshop 4: learning, teaching and assessment
Presenter: Elaine Payne (Higher Education Academy)

Issues	Recommendations
• narrow learning outcomes kill creativity • problem of translation • subject specific learning outcomes can only be written by teachers • lack of student awareness • threshold vs modal level • differentiation via grades • students as consumers • staff resistance to work involved in learning outcomes based assessment	• develop clear definition of terms • involve Tuning groups and begin dialogue with employers • improve stakeholder involvement (including public bodies) • agree that learning outcomes should be set at the threshold level • more sharing of good practice at all levels • start dialogue between staff to co-ordinate assessment and promote mutual learning

Workshop 5: national qualifications frameworks and levels
Presenters: Norman Sharp and Janice Ross (QAA Scotland)

Issues	Recommendations
• support for development of learning outcomes • stakeholders • quality enhancement • tools • research-teaching linkage • terminology	• implementation takes time and should involve the relevant people • adopt a holistic approach to quality enhancement • learning outcomes should reflect the links between teaching and research • clarify definitions, terms and purpose • frameworks should be based on clear democratic principles and should simplify not complicate matters • emphasise quality enhancement not control

Workshop 6: workload and ECTS
Presenters: Gerard Madill (Universities Scotland) and Anne McGillivray (University of the West of Scotland)

Issues	Recommendations
• learning outcomes and workload/credit • benefits of monitoring student workload • problem of translating learning outcomes into each country's system • difficulty of quantifying prior or non-formal learning because of rigid distinction between VET and HE	• learning outcomes and workload are equally important in the award of credit • achieving learning outcomes is what counts, not the route or time taken to get there • monitoring workload makes students likely to spend more time on their learning and produces better results • learning outcomes should clarify what is expected of students and what students can expect from the course • need for dialogue between ECTS and ECVET to ensure interoperability

Workshop 7: employability
Presenters: Brent Macgregor (Edinburgh College of Art) and Shelagh Green (Edinburgh University)

Issues	Recommendations
• engaging academic staff • "employability" as an Anglo-Saxon concept • terminology	• share good practice relating to engaging staff with employability • consider whether the concept of "employability" is universally appropriate? • support for countries to catch up with new concepts and terminology

Workshop 8: transfer and accumulation between VET and HE
Presenter: Andrew Eadie (Glasgow Caledonian University)

Issues	Recommendations
• developing qualifications frameworks • recognition of prior learning • potential for credit transfer between institutions • government funding levers • general and specific credit • bridging courses • 2+2 models	• avoid the need for bridging courses by forward planning and dialogue between institutions about curriculum design • pay more attention to transition • recognise different learning models • need for more consistency in decision making about access to HEIs • make the system more flexible

Workshop 9: case study on comparing nursing programmes
Presenters; Andy Gibbs (Napier University)

Issues	Recommendations
• co-operation between Napier and its Hungarian partners to give credit to pre-registration nursing programmes and provide a Scottish top-up to degree level	• use learning outcomes to assist with the comparison of vocational and academic programmes

Workshop 10: quality enhancement
Presenters: David Bottomley (QAA Scotland) and Alan Davidson (UK Bologna Expert)

Issues	Recommendations
• use of research-teaching theme to articulate learning outcomes and help institutions define what is distinctive about their degree • importance of institutional ownership • convincing disengaged staff who may have developed new or good practice • what is seen as traditional practice in one discipline may be revolutionary in another • measuring enhancement • motivating academics to take on new activities through institution's recognition and reward systems • engaging class representatives in addition to student leaders • staff development	• re-engage with original Bologna concept of using staff mobility to share best practice • include implementation of learning outcomes in 2009 Stocktaking Exercise • use student bodies to ensure that learning outcomes are meaningful and useful rather than just compliance-driven • get staff to be explicit about learning outcomes so that students can articulate what they have achieved • extend enhancement themes using pan-European disciplinary bodies • use learning outcomes as a translation tool when discussing, engaging and giving ownership of quality agenda to students • need to evaluate effectiveness of learning outcomes approach after graduation • embed learning outcomes in staff induction and training • link research funding to how the research could contribute to graduate attributes • no rankings or metrics!

Panel Session
The final panel session was chaired by Sjur Bergan (Council of Europe) and comprised Lucien Bollaert (EURASHE), Caroline Carlot (ESU), Michael Hörig (EUA), Cathy Macaslan (Aberdeen University), Seámus Puirseil (ENQA), Norman Sharp (QAA Scotland) and Jens Vraa-Jensen (Education International).

The panel agreed that the case for learning outcomes as a tool for promoting learner-centred higher education and reflective teaching practice had been established: the challenge was how to implement this approach across the EHEA in a way that respected the diversity of the sector. The panel noted the importance of teaching staff to write learning outcomes in a way that respected the openness of higher education to the creation of new knowledge. They also recognised that there were subtle differences between VET and higher education in the way learning outcomes were understood. The panel's comments are reflected in the conclusions and recommendations that follow.

Conclusions and recommendations:

1   Learning outcomes
The seminar endorsed the proposition that "learning outcomes are the basic building blocks of the Bologna package of educational reforms" and that this methodological approach is at the heart of the paradigm shift from teacher to student-centred learning.

2   Implementation
The seminar drew attention to the danger of learning outcomes being implemented in a false or superficial way in response to external pressures and the need to recognise that such a complex and multidimensional reform cannot be easily or rapidly achieved. If it is to be more than a merely cosmetic or bureaucratic exercise and if it is to result in a better learning experience for Europe's students, the learning outcomes based approach needs time to develop, embed itself and mature in a way that respects and reflects the local priorities, diverse needs and national traditions of the Bologna countries. Training in the writing and implementation of learning outcomes should be given a high priority. A list of useful resources compiled for the seminar that could help in this regard is included at Annex A.

3   Stakeholder engagement
The seminar recognised the need to find effective ways of engaging and supporting staff, students and other stakeholders (such as employers) in the development and implementation of a learning outcomes based approach.

It recommends that the Bologna Follow-Up Group consider what national or international action is needed to bring about the willing and informed cooperation of staff and students in the systematic implementation of learning outcomes (properly understood) at institutional, programme and module level and to support the constructive alignment of learning outcomes with learning, teaching and assessment.

One suggestion is the creation of a special programme to promote trans-national staff and student mobility to share good practice in the development and implementation of learning outcomes – thereby re-engaging with one of the original Bologna concepts.

4   European Qualifications Frameworks
The seminar believed that there was a need to clarify further the relationship between the overarching *European Qualifications Framework for Lifelong Learning* and the Framework for *Qualifications of the EHEA*, so as to ensure that Europe has a widely understood and accepted approach to lifelong learning that facilitates recognition of all forms of learning and the transition between VET and HE, and that promotes mobility, encourages individual educational ambition and motivates learner achievement. In particular, there is a need to promote dialogue between ECTS and ECVETS to ensure interoperability.

5   Terminology
The seminar noted that there is a perceived lack of clarity and shared understanding about some of the key terms associated with the introduction of learning outcomes in different countries (for example, "competences", "workload", "notional learning effort"), which was likely to impede effective implementation. It recommends that consideration be given to developing an agreed terminology based on a shared understanding amongst staff, students and other stakeholders about what the key concepts mean.

6   Levels
The seminar noted that there is uncertainty about whether learning outcomes should be written at "threshold" or "average" or "modal" level. It recommends that outcomes should normally be written at "threshold" level to facilitate recognition and mobility.

7   Learning outcomes and workload
The seminar agreed that it was unhelpful to counterpoise learning outcomes and workload, since both elements were important in the use of ECTS.

8   Learning outcomes, assessment and grading
The seminar agreed that there was value in mutual discussion and exchange of good practice in relation to the use of learning outcomes applied to assessment and their role in assessment and grade criteria.

9   Monitoring progress
The seminar noted that it is difficult to obtain accurate information about the progress of implementation of this fundamental Bologna reform across the EHEA. It therefore <u>recommends</u> that consideration be given to finding an effective way of assessing progress in the 2009 Stocktaking Exercise, as well as in the next EUA *Trends* exercise and the ESU *Bologna With Student Eyes* report.

10   Evaluation
The seminar noted that there remains a degree of scepticism about the value and appropriateness of the learning outcomes approach in the context of higher education. It <u>recommends</u> that consideration be given to commissioning a longitudinal study which would collect evidence from graduates and employers about its impact and effectiveness.

11   Guidance
The seminar <u>recommends</u> that the report on *Learning Outcomes: Current Developments in Europe,* prepared by Stephen Adam for this event, be widely circulated as an additional source of guidance for the sector. Attention is particularly drawn to chapters 4 and 5, which contain helpful advice about the use and abuse of learning outcomes (including sections on good and bad practice) and identify some of the practical and technical issues that may need to be resolved if problems of interpretation are to be avoided.

Graeme Roberts, Rapporteur
26 February 2008

USEFUL RESOURCES

National Qualifications Frameworks

The overarching framework http://www.bologna-bergen2005.no/EN/BASIC/050520_Framework_qualifications.pdf

The report by the Bologna Working Group on Qualifications Frameworks 2005 (Chair: Mogens Berg) http://www.bologna-bergen2005.no/Docs/00-Main_doc/050218_QF_EHEA.pdf. (but NB this is a book length report)

The report by the Bologna Working Group on Qualifications Frameworks 2007 (Chair: Mogens Berg) http://www.dfes.gov.uk/londonbologna/uploads/documents/WGQF-report-final2.pdf

Conference report from the 2005 Copenhagen conference on the Framework for Qualifications of the European Higher Education Area, by Sjur Bergan: http://www.bologna-bergen2005.no/EN/Bol_sem/Seminars/050113-14Copenhagen/050113-14_General_report.pdf

Conference report from the 2003 Copenhagen conference on Qualification Structures in Higher Education in Europe, by Sjur Bergan: http://www.bologna-bergen2005.no/EN/Bol_sem/Old/030327-28Copenhagen/030327-28Report_General_Rapporteur.pdf

Background report for the 2003 Copenhagen conference on Qualification Structures in Higher Education in Europe, by Stephen Adam: http://www.bologna-bergen2005.no/EN/Bol_sem/Old/030327-28Copenhagen/030327-28S_Adam.pdf

Publication on Qualifications - Introduction to a concept, by Sjur Bergan: http://book.coe.int/EN/ficheouvrage.php?PAGEID=36&lang=EN&produit_aliasid=2212

Learning outcomes

Stephen Adam: "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", article B.2.3-1 in Eric Froment, Jürgen Kohler, Lewis Purser and Lesley Wilson (eds.): *EUA Bologna Handbook – Making Bologna Work* (Berlin 2006: Raabe Verlag) http://www.eua.be/index.php?id=129

Stephen Adam: "Using Learning Outcomes". Report for the Bologna conference on learning outcomes held in Edinburgh on 1 – 2 July 2004 http://www.bologna-bergen2005.no/EN/Bol_sem/Seminars/040701-02Edinburgh/040620LEARNING_OUTCOMES-Adams.pdf

Declan Kennedy, Áine Hyland, Norma Ryan: "Writing and using learning outcomes: a practical guide", article C 3.4-1 in Eric Froment, Jürgen Kohler, Lewis Purser and Lesley Wilson (eds.): *EUA Bologna Handbook – Making Bologna Work* (Berlin 2006: Raabe Verlag) http://www.eua.be/index.php?id=129

Jennifer Moon: "Linking Levels, Learning Outcomes and Assessment Criteria". Report for the Bologna conference on learning outcomes held in Edinburgh on 1 – 2 July 2004 http://www.bologna-bergen2005.no/EN/Bol_sem/Seminars/040701-02Edinburgh/040701-02Linking_Levels_plus_ass_crit-Moon.pdf

Declan Kennedy, Writing and Using Learning Outcomes: A Practical Guide, Quality Promotion Unit, University College Cork, 2007

European Consortium for Accreditation [ECA] 2007 International Conference on Learning Outcomes, *Defining and measuring learning outcomes in higher education*, Zurich, 3-4 September 2007:
http://www.oaq.ch/pub/en/Conference_LO.php

European Universities Association EUA (2007) *Bologna Handbook - Making Bologna Work*, *Writing and using learning outcomes* by Declan Kennedy, Áine Hyland, Norma Ryan. Raabe Academic Publishers:
http://www.bologna-handbook.com/docs/downloads/C_3_4_1.pdf

Tuning Educational Structures in Europe Project (2006), *Universities´ contribution to the Bologna Process - An introduction:*
http://www.tuning.unideusto.org/tuningeu/