LEARNING OUTCOMES IN BOLOGNA TOOLS:
The strengths, weaknesses and challenges represented by learning outcomes with particular reference to curricula development

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The Bologna and Copenhagen processes represents a revolution for European higher education...

A huge reform agenda to modernise European higher education
- still in panic about globalisation and competitiveness

IMPACTS ON:
Education systems
Educational structures
Educational processes
Delivery mechanisms
+
Students / citizens
Employers
Academics
Administrators
+
International transparency, recognition, mobility, competitiveness, efficiency and attractiveness of European higher education
CURRENT EUROPEAN HIGHER EDUCATION REFORM ISSUES

SURVIVAL?

CONTEXT:
• Growth in demand
• Constrained funding
• Demographic change
• Increased competition
• Globalisation

Revenue sources – Finance and mergers!
Mission statement/diversity in university roles
International quality assurance - Standards and Guidelines (ESG) + EQAR
Recognition issues (Diploma Supplement + Lisbon Recognition Convention + RPL)
Credit Systems + confusions ECTS v ECVET
Bologna and Copenhagen processes – not complete!
Mobility Targets (By 2020 20% study/training abroad)
Curriculum reform/development maintaining diversity
Markets Borderless education (TNE) Internationalisation

A multitude of tools, initiatives and realities – all linked!

Re-think curricula and qualifications or…

Student-centred learning
Employability
Learning outcomes - delivery assessment

Re-think role Autonomy Modernisation agenda + Restructure
We will strive for more coherence between our policies, especially in completing the transition to the three cycle system, the use of ECTS credits, the issuing of Diploma Supplements, the enhancement of quality assurance and the implementation of qualifications frameworks, including the definition and evaluation of learning outcomes.

To consolidate the EHEA, meaningful implementation of learning outcomes is needed. The development, understanding and practical use of learning outcomes is crucial to the success of ECTS, the Diploma Supplement, recognition, qualifications frameworks and quality assurance – all of which are interdependent. We call on institutions to further link study credits with both learning outcomes and student workload, and to include the attainment of learning outcomes in assessment procedures. We will work to ensure that the ECTS Users’ Guide fully reflects the state of on-going work on learning outcomes and recognition of prior learning.

We welcome the clear reference to ECTS, to the European Qualifications Framework and to learning outcomes in the European Commission’s proposal for a revision of the EU Directive on the recognition of professional qualifications. We underline the importance of taking appropriate account of these elements in recognition decisions.

National priority by 2015 - Ensure that qualifications frameworks, ECTS and Diploma Supplement implementation is based on learning outcomes;

European priority by 2015 - Work to ensure that the ECTS Users’ Guide fully reflects the state of on-going work on learning outcomes and recognition of prior learning;

European priority by 2015 - Coordinate the work of ensuring that qualifications frameworks work in practice, emphasising their link to learning outcomes and explore how the QF-EHEA could take account of short cycle qualifications in national contexts;
Focus on:

1. Definition
2. Learning outcomes - a difficult paradigm change
3. Typology of learning outcomes - multiple applications
4. Bologna - learning outcomes and curricula development
5. Problems + benefits of using learning outcomes
6. Good and bad practice creating learning outcomes
7. Examples of learning outcomes
8. How to write good learning outcomes
9. Curricula development – checklist of questions
1. Definitions: what are learning outcomes?

- A statement of what a learner is expected to know, understand and/or be able to demonstrate at the end of a period of learning.

- Learning outcomes (are) statements of what a learner is expected to know, understand and/or be able to demonstrate after a completion of a process of learning.

- Statements of what a learner can be expected to know, understand and/or do as a result of a learning experience.

- Student learning outcomes are properly defined in terms of knowledge, skills, and abilities that a student has attained at the end (or as a result) of his or her engagement in a particular set of higher education experiences.

- Learning outcomes are statements that specify what a learner will know or be able to do as a result of a learning activity. Outcomes are usually expressed as knowledge, skills, or attitudes.
Represents a move from teaching to learning - from an input to an output focus (permeates the Bologna + EQF reforms) – ubiquitous by reference but poorly understood and implemented across Europe

Often strongly resented by ‘conservative’ academics (re-thinking qualifications)

Raises fundamental questions about the learning-delivery-assessment relationship + purposes of qualifications (curriculum development)

Represents a move towards student-centred learning = a difficult paradigm shift

Difficult to create and write well …
3. Typology of learning outcomes – multiple applications

Learning outcomes permeate directly or indirectly all the Bologna reforms including QA, recognition (Diploma Supplement), mobility, credits (ECTS), qualifications frameworks, etc.
4. Bologna reforms have changed traditional approaches to curriculum development – influences now include:

- EQF and Bologna meta-descriptors
- International peer group comparisons + input
- Subject Benchmark Statements, sectoral statements, NOS
- New national and international approaches to quality assurance (internal + external)
- Inclusion of generic transferable/transversal skills + employability agenda + more Stakeholder input
- New delivery and assessment methods + new technology
- Use of learning outcomes + new modes of delivery & assessment + student-centred learning
- National Qualifications Frameworks (NQF) descriptors/standards
- New improved qualifications and curricula based on learning outcomes
5. Problems and benefits of using learning outcomes

NEGATIVE
[Might inhibit/constrict the learning process – yes - if written badly]
- May suit training better than open-ended higher education
- Can create a target-led culture + tick box mentality
- Attacks the liberal conception of the university
- Technically difficult and expensive to introduce + resented by staff
- Cannot treat students like Pavlov’s dogs …

POSITIVE
(for course design and learners)
- Helps ensure consistent delivery across programmes of learning
- Provides more precision to curriculum/course design + stops overlap
- Informs student choice
- Highlights teaching, learning and assessment relationship
- Benefits quality assurance
- Potential to link vocational education & training (VET) & higher education (HE) and facilitate the creation of lifelong learning systems
- Only effective and fair way to recognise non-formal and informal learning (RPL)
- Increases transparency for stakeholders
- Improved national/international recognition and transparency of qualifications
6. Good and bad practice creating learning outcomes

**GOOD PRACTICE**

- Writing good learning outcomes takes time and reflection.
- It is pointless to write them to fit existing, unmodified modules.
- The benefits in the creation of learning outcomes result from the dynamic and cathartic process of creation. This will involve a simultaneous reflection on possible learning outcomes, their mode of delivery and their assessment.
- 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 divided into different categories of outcomes. The most common sub-divisions are between subject specific outcomes and generic (sometimes called transferable or transversal skills).
- 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), subject specific and transversal/transferable skills, etc. (see BLOOM: cognitive, affective and psychomotor domains).

**BEWARE**

- Do not be too prescriptive or too vague
- Avoid the use of simplistic terms such as ‘Understand’ or ‘Explain’ as these are imprecise and convey little.
- Generic qualifications descriptors, subject specific benchmarks/sectoral statements and national level descriptors should always be presented as guidance. They are not straitjackets.
- Existing qualifications should never be repackaged with newly minted but fake learning outcomes used to decorate old and substantially unchanged units.
- Beware of creating an assessment-driven curriculum where learning outcomes are over-prescribed and confine the learners’ ability to make imaginative jumps and insights.
- The adoption of learning outcomes should never be regarded as part of a move towards the national or European standardisation of content.
7. Examples of learning outcomes?

On successful completion of this module/programme the student will be able to:

MODULE IN RESTORATIVE DENTISTRY: (2/7)
- Examine a patient extra-orally and intra-orally;
- Formulate an appropriate treatment plan based on an understanding of the disease process present and a prediction of the likely success;

MODULE IN ECONOMICS: (3/9)
- Interpret national income and expenditure accounts;
- Differentiate between monetary and fiscal policy;
- Criticise budgetary decisions using economic criteria;

PROGRAMME LEARNING OUTCOME FOR A SECOND CYCLE COMPUTER SCIENCE DEGREE: (3/8)
- Use, create and manipulate large computational systems;
- Work effectively as a team member;
- Write thesis/report to a professional published standard;

PROGRAMME LEARNING OUTCOME FOR A FIRST CYCLE ENGINEERING DEGREE: (2/5)
- Identify, formulate and solve engineering problems;
- Design a system component or process to meet specified needs and to design and conduct experiments to analyse and interpret data;

ESSAY (BA Politics)
- Compare the notion of freedom in Marx’s ‘Communist Manifesto (1848)’ with that which Rousseau presents in the ‘The Social Contract (1762)’. Which provides most insight into understanding current issues of freedom in Syria?
8. How to write good learning outcomes:

Initial institutional steps – audit of current situation

- Undertake an audit of the existing curricula, their content, relevance, effectiveness, delivery and assessment.
- Draw upon multiple independent information sources including students, alumni, employers, academics (internal and external), success/failure rates, employment record of graduates.
- The results of such analysis should feed into any overall plans to reposition the institution in terms of its mission statement direction and plans for the future.
Curriculum policy development (teaching and learning strategy)

• Develop a teaching and learning strategy
• There is no agreed format for these (see examples on web)
• They have direct links to quality assurance (internal/external)
• You can include: vision, objectives, learning outcomes, generic skills, employability, student-centred learning, flexibility programmes, wider variety of assessment, standards for feedback, new delivery methods, wider participation, learning environment, increased choice and subject combinations, use of new technologies, etc.
• Establish all its implications (physical + human resource)
Consider: what do you want your students to achieve?

'What' may include subject knowledge and understanding; a range of intellectual, subject based and transferable skills and their application in a range of contexts - perhaps also competency to practise; values and other qualities. Programme outcome statements can be created by completing sentences like:

◆ This programme is distinctive because it develops...
◆ The most important values which inform this programme are...
◆ The academic content of this programme concentrates on...
◆ The most important intellectual skills developed in the programme are...
◆ The most useful practical skills, techniques & capabilities developed are...
◆ The most important ways in which a student will learn are...
◆ On completing the programme we want students to know & understand...
◆ On completing the programme we want students to be able to....
Steal active verbs from Bloom’s taxonomy:

**Knowing**
- Define
- Describe
- Identify
- Label
- State
- Quote
- List
- Measure
- Organise

**Comprehension**
- Interpret
- Translate
- Estimate
- Predict
- Paraphrase
- Differentiate
- Convert
- Discuss
- Summarise
- Find

**Knowledge/Understanding**
- Apply
- Solve
- Compute
- Predict
- Illustrate
- Relate
- Assess
- Verify
- Operate

**Analysis**
- Differentiate
- Relate
- Select
- Compare
- Elucidate
- Plan
- Devise
- Criticise
- Appraise
- Identify

**Synthesis**
- Integrate
- Combine
- Compose
- Compile
- Devise
- Design
- Report
- Categorise
- Argue

**Evaluation**
- Contrast
- Compare
- Assess
- Discriminate
- Evaluate
- Rate
- Value
- Measure
- Question
Think about the module/qualification developmental process:

- Identify **AIMS** of programme
- Write **LEARNING OUTCOMES**
- Design **ASSESSMENT**
  - Define **THRESHOLD** assessment criteria
  - Define **GRADING** assessment criteria
- Develop **ASSESSMENT METHOD** to test achievement against both criteria
  - Develop a **TEACHING STRATEGY** to enable learners to achieve both learning outcomes and assessment criteria
  - Develop Programme by reviewing Learning Outcomes, Assessment Methods & Criteria, Student Achievement

**SOURCE:**
Dr Louise Naylor, University of Kent
Selecting methods of assessment – examples
(See Oxford Brookes website – Learning and teaching briefing paper)

1. Thinking critically and making judgements (Developing arguments, reflecting, evaluating, assessing, judging)

2. Solving problems and developing plans (Identifying problems, posing problems, defining problems, analysing data, reviewing, designing experiments, planning, applying information)

3. Performing procedures and demonstrating techniques (Computation, taking readings, using equipment, following laboratory procedures, following protocols, carrying out instructions)

4. Managing and developing oneself (Working co-operatively, working independently, learning independently, being self-directed, managing time, managing tasks, organising)
5. **Accessing and managing information** (Researching, investigating, interpreting, organising information, reviewing and paraphrasing information, collecting data, searching and managing information sources, observing and interpreting)

6. **Demonstrating knowledge and understanding** (Recalling, describing, reporting, recounting, recognising, identifying, relating and interrelating]

7. **Designing, creating, performing** (Imagining, visualising, designing, producing, creating, innovating, performing)

8. **Communicating** (One and two-way communication, communication within a group, verbal, written and non-verbal communication. Arguing, describing, advocating, interviewing, negotiating, presenting, using specific written forms)
What transferable skills might be included?
(see Oxford Brookes – Teaching and learning website)

A. **Self Management** This refers to a student’s general ability to manage her own learning development. Abilities required to do this successfully include:
- an ability to clarify personal values
- an ability to set personal objectives
- an ability to manage time and tasks
- an ability to evaluate one's own performance

B. **Learning Skills** This refers to a student's general ability to learn effectively and be aware of her own learning strategies. Abilities required to do this successfully include:
- an ability to learn both independently and co-operatively
- an ability to use library skills, to find and organise information
- an ability to use a wide range of academic skills (research, analysis, synthesis etc.)
- an ability to identify and evaluate personal learning strategies

C. **Communication** This refers to a student's general ability to express ideas and opinions, with confidence and clarity, to a variety of audiences for a variety of purposes. Abilities required to do this successfully include:
- an ability to use appropriate language and form when writing and speaking
- an ability to present ideas to different audiences using appropriate media
- an ability to listen actively
- an ability to persuade rationally
D. Teamwork This refers to a student's general ability to work productively in different kinds of team (formal, informal, project-based, committee based, etc.) Abilities requires to do this successfully include:

- an ability to take responsibility and carry out agreed tasks
- an ability to take initiative and lead others
- an ability to operate in a range of supportive roles within teams
- an ability to negotiate, asserting one's own values and respecting others
- an ability to evaluate team performance

E. Problem solving This refers to a student's general ability to identify the main features of a given problem and to develop strategies for its resolution. Abilities required to do this successfully include:

- an ability to analyse
- an ability to think laterally about a problem
- an ability to identify strategic options
- an ability to evaluate the success of different strategies

F. Information Technology This refers to a student's general ability to use IT appropriately for their learning and employability. Abilities required to do this successfully include:

- an ability to use IT as a communication and learning tool
- an ability to use IT to access and manage information
- an ability to use IT to present ideas
- an ability to use specialist software where relevant to the discipline
Higher education learning outcomes, curriculum development, qualifications frameworks and quality assurance

Many common problems associated with learning outcomes:

[Linkages between learning outcomes, curriculum development, qualifications frameworks and quality assurance are not fully understood]

1. Learning outcomes often created with no link to external reference points (standards)
2. Generic national level descriptors are too vague to provide useful guidance
3. Assessment is often traditional and inappropriate to learning outcomes
4. Assessment criteria are missing or lack detailed learning outcomes
5. Learning outcomes employ inappropriate active verbs; they are vague and meaningless
6. Module/unit learning outcomes fail to support overall qualification LO
7. Lack of academic autonomy /staff autonomy stifles creative learning outcomes
8. The context of delivery prevents creation of good learning outcomes (+ finance)
9. ECTS credit allocation fails to be linked to learning outcomes
10. Staff development /support re learning outcomes development is missing
11. HEI lack teaching, learning delivery policies to support curriculum development
12. Insufficient stakeholder involvement in the creation of learning outcomes
13. Transferable skills missing from learning outcomes – including ‘employability’ aspects
14. Internal and external quality assurance not focusing on learning outcomes
15. Learning outcomes fail to embrace student-centered learning + support RPL
16. New ‘cosmetic’ learning outcomes placed on unreformed curricula academic (inertia)
9. Curricula development checklist of questions:

1. How is your HEI strategically placed (e.g. undertake SWOT/PEST/Decision Tree analysis)?
2. What is your current institutional profile and how do those outside perceive it?
3. How would you like your institution to be perceived + what are its natural + emerging markets?
4. Given globalisation, competition and market realities, do you need to change your mission statement – do you need to change institutional priorities and directions?
5. Do you need to conduct an internal curriculum audit of the current situation + on what basis?
6. What are your current curriculum strengths and weaknesses (teaching/research/subjects, etc.)?
7. What sort of qualifications do your students require and how do you know this?
8. Is there a need to introduce more intermediate qualifications (i.e. within the first Bologna cycle) and new qualification types (i.e. Professional/Industrial Doctorates, Master programmes)?
9. Are your current qualifications fit for purpose - what is the evidence for this?
10. Are your questionnaire/feedback and stakeholder (alumni, student/employer) involvement mechanisms effective in obtaining practical information to help curriculum development?
11. What areas of the curriculum do you need to develop/re-develop/drop?
12. Can you develop/exploit links with other HEI (national and international) to aid the internal process of curriculum change?
13. What are the implications of curriculum change on: management; Institutional organisation and structures; learning resources; staffing and staff development; building/room configuration; management Information systems; finance, quality assurance, etc.
14. Do new curriculum development approaches conflict with any existing institutional (and national) regulations (e.g. subject combinations, joint-degrees, admissions, recognition of prior learning)?
15. What are the limits (resource constraints) to the introduction of more varied assessment and course delivery?
16. Do you have a policy towards curriculum development - are staff aware of it and is it effective?
17. Is there an institutional teaching and learning strategy document? When was it last reviewed and does it have any impact?
18. Which stakeholders were consulted, and by what mean, when any such policy/strategy was created?
19. Does your teaching and learning policy reflect the institutional mission statement – do you need to reconsider the institutional orientation?
20. Is curriculum development given sufficient priority within the institution – is it a standing item on the highest university committees? Is it considered a dynamic element within the HEI?
21. What do you need to include in your teaching and learning strategy document – main focus, deadlines, measurable outcomes, rolling plan, feedback/review mechanisms, etc?
22. What sort and level of support do you need to give to those charged with policy implementation?
23. What key staff do you need to appoint and how should they be organised – a special unit (with rotating seconded personnel?) and with what level of rectorate backing and resources?
24. If established, what might be the most effective way forward for any staff development unit - offer walk-in sessions, public events, newsletters, etc?
25. How will you train the trainers (capacity building) - do you require a staff development manual, in-house training modules?
26. What impact do you expect your teaching and learning policy to have on new staff appointments and promotions?
27. How do you overcome staff resistance to curriculum change (carrot v stick or something else)?
28. How can curriculum development link to staff research expertise + should it?
29. Do staff fully understand 'learning outcomes' and their major impact on curriculum building?
30. How does your teaching and learning policy link to internal and external quality assurance?
31. How can you use the internal validation/review process as a way to change the curriculum?
32. How does curriculum development link to the introduction of more flexible study programmes and the use of ECTS credits?
TWO FINAL THOUGHTS:

'What we have to learn to do, we learn by doing.'
[active learning, student-centred learning, outcomes-based learning]

'**It is not the biggest, the brightest or the best that will survive, but those who adapt the quickest.**'

- Learning outcomes are the basic building blocks of the Bologna HE reforms (permeate all)
- Provide a framework for quality & standards by relating to external reference points
- Increase national and international transparency and recognition + improve qualifications
- Also help us reconsider the ‘who, how, when, where and why’ of education in 21st Century
References + further information:

A large number of guides and handbook exist that give step by step advice on creating effective and appropriate learning outcomes including: