MODERNISATION OF HIGHER EDUCATION PROGRAMMES IN THE FRAMEWORK OF BOLOGNA: ECTS AND THE TUNING APPROACH

Robert Wagenaar
Joint co-ordinator Tuning Projects
Co-ordinator Dutch team of Bologna Experts
Modernization of Higher Education programmes in the framework of Bologna

Outline of presentation

1. Some Challenges regarding the Implementation of Bologna
2. The role of Profiles, Competences and Learning Outcomes
Modernization of Higher Education programmes in the framework of Bologna

1. Challenges regarding the implementation of *Bologna*

- **Grow of student mobility to 20% by 2020: Youth on the Move – New Flagship Programme of the EU**
- **Implementation of a three cycle system: Use of the Tuning model**
- **Correct use of transparency elements for comparison and recognition:**
  - **ECTS**: the role of Profiles, Competences and Learning Outcomes
  - The *missing tool*: how to formulate degree programme profiles, key competences and good Learning Outcomes?
What is Tuning?

- Developed by and for **academics** and **students**
- Offers:
  - A transparent way to (re-)design degree programmes based on the concept of **student centred learning**
  - A **language** understood by all stakeholders (employers, professionals and academics)
  - An approach respecting and allowing for **differentiation / diversity**
  - An approach for developing **flexible and divers degree programmes** in a Life Long Learning context
  - Shared reference points (not standards) at **subject area level**
  - **Methodology** for high standard degree programmes in terms of process and outcomes
Key factors for a necessary change of paradigm:

- Focus on employability and citizenship
- International and National cooperation in higher education: recognition of periods of studies
- Development of transnational integrated programmes
- Introduction and acceptance of (the Dublin / LLL) cycle level descriptors as a basis for degree programmes and Qualifications Frameworks

Reflected in Tuning methodology: degree programmes based on academic and professional profiles, cycle level descriptors, learning outcomes / competence and workload based and time-related (ECTS) credits
TUNING EUROPE

TUNING LATIN AMERICA

Russia

Georgia

USA

Lithuania

Africa

Australia

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

LEUVEN

LONDON

BERGEN

BOLGONA

PRAGUE

BOLOGNA

Bologna Process and Tuning
TUNING the World

Tuning Educational Structures in Europe

Tuning Educational Structures

- Tuning Africa
- Tuning Australia
- Tuning Europe
- Tuning Georgia
- Tuning Kyrgyz Republic
- Tuning Latin America
- Tuning Russia
- Tuning Ukraine
- Tuning USA
Focus on key competences and learning outcomes

Tuning approach based on 6 consistent features for degree programmes:

- an identified and agreed need
- a well described profile
- corresponding learning outcomes phrased in terms of *generic* and *subject specific* competence (lines 1 and 2)
- the correct allocation of *ECTS* credits to units (line 3)
- appropriate approaches to *learning, teaching and assessment* (line 4)
- methodology for *quality enhancement* (line 5)

TUNING focuses on:

<< *fitness of purpose* >> (meets expectations) and
<< *fitness for purpose* >> (meets aims)
Profiles, Competences and Learning Outcomes

Degree profile (Doctorate)
Third cycle learning outcomes defined in terms of generic and subject specific competences

Degree profile 2nd cycle (MA)
Second cycle learning outcomes defined in terms of generic and subject specific competences

Degree profile 1st cycle (BA)
First cycle learning outcomes defined in terms of generic and subject specific competences

Degree profile Associated degree
Associated Degree / Certificate LO defined in terms of competences
THE TUNING DYNAMIC QUALITY DEVELOPMENT CIRCLE

Definition of academic and professional profiles

Identification of resources

Programme design: definition of learning outcomes / competences

Evaluation and improvement (on the basis of feed back and feed forward)

Selection of types of assessment

Selection of teaching and learning approaches

Construction of curricula: content and structure
What is a competence according to Tuning?

**Tuning definition of competences**

- Competences represent a dynamic combination of cognitive and meta-cognitive skills, *demonstrated* knowledge and understanding, interpersonal, intellectual and practical skills and ethical values.
- Fostering competences is the object of educational programmes.
- Competences are formed in various course units and assessed at different stages.

*competences are obtained by the student*
Relation between Competences and Learning Outcomes

Competences: ‘a dynamic combination of knowledge, understanding, skills and abilities [...] formed in different course units and assessed at different stages’

Doctorate Degree Profile (as below)

Masters Degree Profile (as below)

Bachelor Degree profile, showing:
- The specific aims of the programme
- How it fits into the academic map of disciplines or thematic studies
- How it relates to the professional world
- What are its main distinguishing features

Learning Outcomes* for Bachelor

Learning Outcomes* for Masters

* ‘Statements formulated by academic staff of what a learner is expected to know, understand and be able to demonstrate after completion of a process of learning.’

Source: Jeremy Cox (Polifonia Network) for Tuning
What is a learning outcome according to Tuning?

**Level** of competence is expressed in terms of Learning outcomes:

- Statements of what a learner is expected to know, understand and be able to demonstrate after completion of learning.
- They can refer to a single course unit or module or else to a period of studies, for example, a first or a second cycle programme.
- Learning outcomes specify the requirements for award of credit.

[learning outcomes are formulated by academic staff]
Role of Employment

Academic area vs. professional area and competences
European perspective: Tuning and Qualifications frameworks

- EQF for Lifelong Learning (an EC initiative) (27 countries)
- EQF for Higher Education (Bologna Process - 48 countries)
- Dublin descriptors
- National Qualifications Frameworks
- Sectoral Qualifications Frameworks
- TUNING reference points for Higher Education programmes
International environment

European QF

NQF

QFs of other world regions

Sectoral QF

Internationally established (subject specific) Tuning reference points

OECD-AHELO pilot

Qualifications Frameworks

Word wide perspective: Tuning and Qualifications Frameworks
Qualifications frameworks and cycle level descriptors

Tuning reference points have global relevance

Tuning reference points are generic and subject specific

Tuning Australia
Tuning America Latina
Tuning Africa
Tuning USA
Tuning Europe
Tuning Russia
Tuning Georgia
Tuning East-Asia? Tuning South Asia? Tuning Canada?
Tuning EUROPE publications

On the Tuning website many more translations: Georgian, Lithuanian, Polish, Russian, Spanish (also published as brochures), etc.
Acceptance of Tuning Methodology World Wide

Tuning methodology is of global significance: nearly 60 countries involved

CLEAR CONCEPT

EASY TO UNDERSTAND

WORLDWIDE ACCEPTANCE

RESPECTS DIVERSITY
Web sites:
Tuning Europe: http://tuning.unideusto.org/tuningeu
www.rug.nl/let/tuningeu
Tuning América Latina: http://tuning.unideusto.org/tuningal/
2. The role of Profiles, Competences and Learning Outcomes

From the Tuning glossary

“Degree profile

“A description of the character of a degree programme or qualification. This description gives the main features of the programme which are based on the specific aims of the programme, how it fits into the academic map of disciplines or thematic studies and how it relates to the professional world”.
Profiles have to serve different purposes

A good profile takes into account different users’ perspectives & interests
Role of Profiles

CoRe Project ENIC-Naric and Tuning:

Preparation and publication of Tuning – ENIC-NARIC manual to assist university staff in writing reliable degree profiles and sets of degree programme Learning Outcomes to be used for RECOGNITION purposes.

Input European Diploma Supplement
Role of Profiles

Degree profile (professional and/or academic)

Key elements:
A. Purpose
B. Characteristics
C. Employability & further education
D. Education style
E. Programme competences
F. List of programme learning outcomes

As part of the CoRe-project a Template has been developed which also contains guidelines for formulating Programme Competences and good Programme Learning Outcomes.
A Guide to Formulating Degree Programme Profiles
# A TUNING Guide to Formulate Degree Programme Profiles

## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>11</td>
</tr>
<tr>
<td>Introduction</td>
<td>15</td>
</tr>
<tr>
<td>Chapter 1 - The Degree Profile in the context of the Bologna Process</td>
<td>19</td>
</tr>
<tr>
<td>The Bologna paradigm</td>
<td>19</td>
</tr>
<tr>
<td>The Degree Profile</td>
<td>20</td>
</tr>
<tr>
<td>Programme Competences and Programme Learning Outcomes</td>
<td>21</td>
</tr>
<tr>
<td>European, national and subject area reference frameworks</td>
<td>23</td>
</tr>
<tr>
<td>Conclusion</td>
<td>25</td>
</tr>
<tr>
<td>Chapter 2 - Degree Profile Template &amp; Instructions</td>
<td>27</td>
</tr>
<tr>
<td>The Template</td>
<td>27</td>
</tr>
<tr>
<td>How to use the Template</td>
<td>29</td>
</tr>
<tr>
<td>Chapter 3 - Glossary</td>
<td>51</td>
</tr>
<tr>
<td>Annex 1 - Designing a Study Programme</td>
<td>59</td>
</tr>
<tr>
<td>Annex 2 - List of Generic Competences</td>
<td>63</td>
</tr>
<tr>
<td>Annex 3 - Examples Degree Profiles History, Nursing, Physics</td>
<td>65</td>
</tr>
</tbody>
</table>
Degree profile (professional and/or academic)

Key elements:
A. Purpose  
B. Characteristics  
C. Employability & further education  
D. Education style  
E. Programme competences  
F. List of programme learning outcomes

As part of the CoRe-project a Template as been developed which also contains guidelines for formulating Programme Competences and good Programme Learning Outcomes.
From the Guide:

Please note that the Degree Profile should:

- be readable in five minutes;
- not be longer than two pages;
- provide a coherent impression of the specific degree; and,
- be succinct and to the point, yet provide detailed information and references where necessary.

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 DISCIPLINE(S) / SUBJECT AREA(S)</td>
<td>Please indicate the main discipline(s) / subject area(s) of the degree programme. If the programme is multi- or interdisciplinary, please add the relative weight of the major components, if applicable (e.g. politics, law and economics (60:20:20)).</td>
<td></td>
</tr>
<tr>
<td>2 GENERAL / SPECIALIST FOCUS</td>
<td>Please specify the general and/or specialist focus of the degree programme.</td>
<td></td>
</tr>
<tr>
<td>3 ORIENTATION</td>
<td>Please outline the orientation of the degree programme. For example, whether the degree is primarily research, practically based, professional, applied, related to designated employment, etc.</td>
<td></td>
</tr>
<tr>
<td>4 DISTINCTIVE FEATURES</td>
<td>Please indicate any additional features that distinguish this degree programme from other similar degree programmes. For example: if the programme includes a compulsory international component, a work placement, a specific environment or is taught in a second language.</td>
<td></td>
</tr>
</tbody>
</table>
Developing the key competences is the main objective of a programme. These competences are called Programme Competences (PCs) because they are the cornerstones of a programme. Their achievement is verified through reference to Programme Learning Outcomes (PLOs). More information on PCs and PLOs can be found under Sections E and F of this Guide.
### Programme Competences

Please list below the key generic and specific competences up to a total of 15 (see page 28-29 for details).

In the case of regulated professions, please refer to page 28-29.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E</strong></td>
<td><strong>Programme Competences</strong></td>
</tr>
<tr>
<td></td>
<td>Please list below the key generic and specific competences up to a total of 15 (see page 28-29 for details).</td>
</tr>
<tr>
<td></td>
<td>In the case of regulated professions, please refer to page 28-29.</td>
</tr>
<tr>
<td>1</td>
<td><strong>Generic</strong></td>
</tr>
<tr>
<td></td>
<td>Please list here the generic programme competences.</td>
</tr>
<tr>
<td>2</td>
<td><strong>Subject Specific</strong></td>
</tr>
<tr>
<td></td>
<td>Please list here the subject specific programme competences.</td>
</tr>
</tbody>
</table>

### Complete list of programme learning outcomes

Please list here the learning outcomes of the programme, up to a total of 15 to 20.

For details, see pages 43 - 49
Example of a generic key competence:

Creativity: *capacity to be creative in developing ideas and in pursuing research goals*

<table>
<thead>
<tr>
<th>Level</th>
<th>Programme learning outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>First cycle/</td>
<td>Demonstrable ability to generate and convey new ideas or to generate innovative solutions</td>
</tr>
<tr>
<td>Bachelors</td>
<td>to known problems or situations</td>
</tr>
<tr>
<td>Second cycle/</td>
<td>Demonstrable ability to generate original, quality ideas that can be made explicit and</td>
</tr>
<tr>
<td>Masters</td>
<td>defended in both known and unfamiliar situations</td>
</tr>
<tr>
<td>Doctorate</td>
<td>Demonstrable ability to contribute original, practical, applicable and complex ideas and</td>
</tr>
<tr>
<td></td>
<td>solutions that affect self and own processes as well as others.</td>
</tr>
</tbody>
</table>
The following are characteristics of good verifiable, comprehensible and observable PLOs. They should be:

- **Specific** (giving sufficient detail, written in clear language)
- **Objective** (formulated in a neutral way, avoiding opinions and ambiguities)
- **Achievable** (feasible in the given timeframe and with the resources available)
- **Useful** (they should be perceived as relevant for higher education studies and civil society)
- **Relevant** (should contribute to the aim of the qualification involved)
- **Standard-setting** (indicate the standard to be achieved)
A Learning Outcome should contain 5 elements:

1. An active verb form
2. An indication of the type of LO: knowledge, cognitive processes, skills, or other competences
3. The topic area of the LO: this can be specific or general and refers to the subject matter, field of knowledge or a particular skill
4. An indication of the standard or the level that is intended / achieved by the LO
5. The scope and/or context of the LO.
The student has demonstrated capability to address a research problem, retrieving the appropriate sources and bibliography, and giving critical, narrative form to his/her findings in a text of around 60 pages.

<table>
<thead>
<tr>
<th>b) to address</th>
<th>retrieving the appropriate sources and bibliography (skill)</th>
<th>a research problem</th>
<th>critical, narrative form</th>
<th>findings in a text of around 60 pages.</th>
</tr>
</thead>
<tbody>
<tr>
<td>verb</td>
<td>type</td>
<td>subject</td>
<td>standard</td>
<td>scope/context</td>
</tr>
</tbody>
</table>
Examples of levels in the subject area History

BA

— that he/she is able to formulate texts and briefs based on up-to-date historical information such as can be of use in e.g. journalism, for local bodies and museums.

— ability to speak and write simple texts and presentations as well as the more complex and scholarly text required in the final year, using the appropriate communication registers.

MA

— ability to formulate and refine a significant research problem, gathered the necessary information to address it and formulated a conclusion which can be defended in a scholarly context.

— awareness of and commitment to scientific standards in accuracy and breadth of the documentation located, utilised and cited in assignments and in the final dissertation.

PhD

— ability to elaborate and present convincingly to a group of qualified researchers a relevant and well-argued research plan for dealing with a significant problem.

— capability to carry out an extended original research product based on critical examination of sources and provided with the necessary scientific apparatus in terms of notes, bibliographies and publication of relevant documents.
Verschillende niveaus en typen: Verpleegkunde

<table>
<thead>
<tr>
<th>Level</th>
<th>Programme learning outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>First cycle/ Bachelors</td>
<td>The nurse can work closely with individuals, groups and carers, using a range of skills to carry out comprehensive, systematic and holistic assessments. The assessments must take into account current and previous physical, social, cultural, psychological, spiritual, genetic and environmental factors that may be relevant to the individual and their families.</td>
</tr>
<tr>
<td>Second cycle/ Masters</td>
<td>In his/her designated speciality, the nurse must demonstrate his/her mastery of advanced nursing skills, (including diagnostic and therapeutic techniques) to assess and manage patients with complex health/illness states.</td>
</tr>
<tr>
<td>Clinical Doctorate</td>
<td>The nurse can demonstrate leadership in his/her chosen clinical area; able to influence and set strategic practice development and research agendas.</td>
</tr>
<tr>
<td>Doctorate/ PhD</td>
<td>Can demonstrate a systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of the discipline of nursing, or an area of professional nursing practice.</td>
</tr>
</tbody>
</table>

- Reasons for having such a system
- Relations between LO and credits
- Role of time in the learning process
- From ECTS grading system to ECTS grading table
ECTS KEY FEATURES - 21 December 2007 (final)

ECTS is a learner-centred system for credit accumulation and transfer based on the transparency of learning outcomes and learning processes. It aims to facilitate planning, delivery, evaluation, recognition and validation of qualifications and units of learning as well as student mobility. ECTS is widely used in formal higher education and can be applied to other lifelong learning activities.

The new workload / learning outcomes based ECTS was developed in the framework of the Tuning Project
Main reasons for having a Learning Outcomes and Student Workload / Time-based credit system

• Improve the comparability and compatibility of study programmes
• Make study programmes more transparent
• Allow for more flexibility and diversity of pathways
• Make it easier to construct well-balanced programmes
• Promote the feasibility of programmes in terms of student workload
• Enhance the quality of programmes
• Facilitate and promote student mobility
• Facilitate and improve the recognition of periods of studies taken elsewhere successfully
• Facilitate different types of learning (informal, non-formal, formal, part-time, etc.)

ECTS is a key element for the accumulation of knowledge and skills expressed and measured in terms of (workload / time-based) credits
Workload / time based credits and learning outcomes: two sides of the same coin!

Opportunities
- Learning outcomes allow for better comparison and recognition of periods of successful learning
- Time required to achieve expected learning outcomes can be expressed in ECTS credits
- Learning outcomes allow for different approaches to reach the same results

Difficulties
- Formulating learning outcomes requires expertise and experience
- Learning outcomes should express reality
- Learning outcomes should always be measurable
Some notions

• Time is an unchangeable dimension
• Time is the basis for organising live
• Becoming competent requires effort and time (experience)

Although time is absolute, it is relative at the same time ……

What (really) counts is productivity: what can be done in a given timeframe depends on many factors.

The concept of productivity is related to the concept of learning outcomes

Tuning works with the concepts of notional learning time and the typical student to obtain the expected learning outcomes
Definition: the notional learning time is the time an average student will need to meet the expected learning outcomes. These learning outcomes can be formulated at threshold (minimum) level or at desired level.

These concepts are used to design a degree programme or a course unit or module: a realistic estimation for calculating time.

However ..... the average student does not exit in reality.

Warning!

The notional learning time is not the actual time that any particular learner needs to spend. The actual time will differ from student to student.

ECTS credits are also a tool for planning!
Time is absolute in terms of the length of formal degree programmes

Formal programmes serve as the main indicator for informal / non-formal learning and different types of programmes like part-time, distance learning

Surveys executed by Tuning, the European Commission and others show us that the vast majority of countries have programmes that fit in the range

1500 – 1600 hours per academic year (9 months programmes)

And although we have concluded that time is relative in terms of productivity this has implications ....
# PLANNING FORM FOR AN EDUCATIONAL UNIT/ MODULE

**Programme of Studies:**

- Name of the module / course unit:
- Type of course (e.g. major, minor, elective):
- Target group (e.g. BA, MA, PhD):
- Prerequisites:
- Number of ECTS credits:
- Competences to be developed:
  1. 
  2. 
  3. 
  4. 
  5. 
  6. 

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Educational Activities</th>
<th>Estimated student work time in hours</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# ECTS: the Grading issue

## ECTS grading scale

The ECTS grading scale can be represented in tabular fashion:

<table>
<thead>
<tr>
<th>ECTS Grade</th>
<th>% of successful students normally achieving the grade</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10</td>
<td>The use of words like “excellent” or “good” is no longer recommended as they do not fit with percentage based ranking of the ECTS Grade Transfer Scale.</td>
</tr>
<tr>
<td>B</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>FX</td>
<td>--</td>
<td>Fail – some work required to pass</td>
</tr>
<tr>
<td>F</td>
<td>--</td>
<td>FAIL – considerable further work required</td>
</tr>
</tbody>
</table>
ECTS Grading Table

What it is!

ECTS Grading table is a simplified version of the ECTS Grading scale: limited to comparison of percentages

What it should do!

Obtain maximum transparency regarding grading culture of a HE Institution / Faculty / School / Department / Degree Programme / cycle
ECTS Grading Table 2009

Comparison and recognition of national grades

<table>
<thead>
<tr>
<th>National / Institutional grade country / system A</th>
<th>Grading percentage*</th>
<th>National / Institutional grade country / system B</th>
<th>Grading percentage*</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 lode</td>
<td>5.6%</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>30</td>
<td>15.7%</td>
<td>2</td>
<td>35%</td>
</tr>
<tr>
<td>29</td>
<td>0.5%</td>
<td>3</td>
<td>25%</td>
</tr>
<tr>
<td>28</td>
<td>12.3%</td>
<td>4</td>
<td>20%</td>
</tr>
<tr>
<td>27</td>
<td>11.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>9.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>8.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>11.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>2.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>6.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>2.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>5.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>1.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>6.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Based on the total number of grades awarded in the degree programme concerned during two preceding years.

Example: Italy and Germany
ECTS Grading Table 2009

To sum up, the ECTS grading table allows for simple, transparent interpretation and conversion of grades from one system or context to another, and therefore does justice to the level of academic performance of all learners. Used correctly, it bridges different grading systems as well as different cultures in the European Higher Education Area and beyond.

To use the ECTS grading table the following steps should be taken:

1. Identify the reference group for which the grade distribution will be calculated (usually a degree programme, but in some cases a wider or different grouping of students such as a Faculty or sector -- e.g. Humanities).

2. Collect all grades awarded over a period of (at least) two academic years for the reference group identified.

3. Calculate the grade distribution in terms of percentages for the reference group.

4. Include the grading percentage table of your degree programme in every Transcript of Records/Diploma Supplement.

5. For transfer, compare the percentage table of the other institution’s degree programme with your own. On the basis of this comparison individual grades can be converted.

The first four steps in the procedure concern all programmes and are purely administrative tasks. The academic responsible for credit transfer may get involved in step 5 when general guidelines for the conversion of grades are being established.
Modernization of Higher Education programmes in the framework of Bologna

Thank you for your attention!