

Aligning learning outcomes descriptors in national and meta-frameworks of qualifications – Learning from Irish experience

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SUMMARY

In this paper, the issues involved in aligning national and meta-frameworks are explored and analysed. The exploration is timely, given that two qualifications meta-frameworks are currently being developed and implemented in Europe: the question is now how relationships should be established between these new reference tools and national qualifications structures and systems. Drawing on recent experiences in Ireland of comparing the national framework of qualifications with the Bologna framework and the emerging European qualifications framework, the paper addresses some of the methodological issues in establishing such alignment and identifies a process that may be useful as a starting-point in developing common approaches to be adopted by other countries in undertaking these tasks.

In this paper, the processes of aligning learning outcomes descriptors in national and meta-frameworks are explored and analysed, focused through recent experiences in Ireland of comparing the national framework of qualifications with the framework for qualifications of the European higher education area and the emerging structure of the European qualifications framework. This is a report on work in progress, as the development and alignment processes for these two meta-frameworks are still underway at the time of writing. While aligning learning outcomes descriptors is the core of the task of framework alignment, other issues also need to be addressed in a comprehensive alignment – such as award-type profiles, progression routes and quality assurance arrangements. The latter issues are not addressed in this paper.

Context

This paper was initially drafted in September 2006, a key time in the development of qualifications frameworks in Europe. National frameworks of qualifications have been introduced in several countries, and are at varying stages of development in many others. While these frameworks differ widely in their intended purposes and design, they generally share a relational function and structures characterised by levels defined by ‘descriptors’ based on learning outcomes. Meanwhile, preliminary structures have emerged for two meta-frameworks at European level:

- the *framework for qualifications of the European higher education area* was adopted by European Ministers for Higher Education in Bergen in May 2005. This meta-framework for higher education qualifications was developed as a product of the Bologna process. It is a structure of three cycles, designed to enable national frameworks of higher education qualifications to relate to one another. The three cycles have associated descriptors – the ‘Dublin descriptors’ – defined as learning outcomes, comprising general statements of the typical achievement of learners who have been awarded a qualification on successful completion of a cycle;
- in July 2005, the European Commission published a document (*Towards a European qualifications framework for lifelong learning*) setting out possible parameters for a European qualifications framework (EQF). Following extensive consultation, the model was refined, leading to a proposal for a ‘Recommendation of the European Parliament and of the Council on the establishment of a European qualifications framework for lifelong learn-

ing' in September 2006. EQF is to be a structure of eight levels, defined in terms of learning outcomes. It is intended to provide a common reference framework to serve as a translation device between different qualifications frameworks and systems. EQF is designed to relate to all possible levels of qualifications, relevant to learning achievement from the most basic to the most advanced. The EQF descriptors at levels 5 to 8 correspond to the Bologna cycle descriptors.

In Ireland, a national framework of qualifications (NFQ) has been introduced. The NFQ is a central element in the broad reform of the qualifications system in Ireland which has been under way since 2001. It is a structure of 10 levels, accommodating qualifications achieved in school, further education, vocational education and training and all stages of higher education. NFQ levels are based on learning outcomes, defined in terms of nationally agreed standards of knowledge, skill and competence.

Establishing compatibility between national and European meta-frameworks

It is now apparent that two international meta-frameworks will, in due course, operate in and between the national qualifications systems in Europe. How can national systems interact with these new relational structures? The Bologna framework sets out specific arrangements for verifying the comparison of national frameworks of higher education qualifications with the meta-framework. As for EQF, the 2005 consultation document refers to the need for criteria and procedures for establishing how national frameworks link to EQF, but these are not specified in the 2006 proposal for a recommendation; it must be presumed that appropriate arrangements will be further refined as the development process of EQF continues.

The Bologna framework: building trust

The success and acceptance of the Bologna framework depends on trust and confidence among all stakeholders. The manner in which this trust and confidence is to be developed and improved in linking national frameworks to the Bologna framework is by having a 'self-certification' process in each participating country.

Arrangements for how a 'self-certification' process should be conducted are set out in detail in the Bologna working group report (2005) that introduced

the framework. The process envisaged requires more than a mere expression of qualifications by the competent national body. National frameworks and their associated quality assurance arrangements must satisfy a series of criteria and procedures, including designation of competent bodies responsible for maintaining the framework by the national ministry or other bodies with responsibility for higher education, clear and demonstrable links between the qualifications in the national framework and the cycle qualification descriptors of the Bologna framework, the existence of national quality assurance systems for higher education consistent with the Berlin communiqué and any subsequent communiqué agreed by ministers in the Bologna process. Further, the national framework, and any alignment with the Bologna framework, is to be referenced in diploma supplements.

Following the Bergen Ministerial meeting in 2005, Ireland responded to an invitation to undertake a pilot project on the self-certification of the compatibility of the Irish national framework of qualifications with the Bologna framework. This activity is described in more detail below. A parallel pilot project is being undertaken in Scotland.

Compatibility of national systems with EQF: principles of self-certification and transparency

The recommendation of the European Commission and Council on establishing EQF from September 2006 does not refer to how national frameworks of qualifications should link to the metastructure. However, this issue was explored in initial development of the EQF concept, and specific procedures were proposed in the consultation document (2005), which also indicates an intention that 'the process by which qualifications link with the EQF would be supported by procedures, guidance and examples'. Acknowledging that EQF is being developed and implemented voluntarily, with no legal obligations, the paper notes the need for 'clear commitments from national education and training authorities to a set of agreed objectives, principles and procedures'. An optimal approach is suggested, in which each country would set up a single national framework of qualifications and link this single national framework to EQF. Another guideline proposed each country should identify a single representative body to realise the link with EQF; this guideline is reflected in the recommendation proposal (2006), in which countries are urged to designate national centres to support and coordinate the relationship between national qualifications systems and EQF.

Addressing the technical issue of establishing alignment, the consultation document (2005) identifies self-certification by each country as the most ap-

propriate procedure. This should be overseen by a competent national body, but should involve both national and international experts. Evidence supporting the self-certification process should address set criteria and should be published with a formal record of the decisions and arrangements put in place in relation to the national systems or framework. A further key element in the alignment process suggested is that a public listing of countries completing the self-certification process should be maintained.

These suggested EQF procedures are clearly derived from the corresponding conceptual base as the Bologna self-certification process.

Considering the self-certification approach, two exercises described below have been undertaken in Ireland to compare the Irish national framework of qualifications with EQF.

Establishing compatibility with emerging European meta-frameworks – the Irish experience

As European meta-frameworks of qualifications are emerging, how these new entities should link to national structures is being considered in many countries. In Ireland, some work has already been undertaken to actively explore this link. This is still work-in-progress: verifying the compatibility of the Irish national framework of qualifications with the Bologna framework is not yet complete and the detailed infrastructure of a European qualifications framework remains to be developed. Nevertheless, it may be useful to examine the work undertaken in Ireland to date in aligning the Irish framework with the Bologna framework and with EQF and note some issues and lessons learned. Brief outlines of two processes follow to explore the correspondence between the Irish NFO and emerging European meta-frameworks of qualifications, the European higher education area (EHEA) and the European qualifications framework (EQF).

Following the Bergen ministerial meeting in 2005, Ireland responded to an invitation to study, as a pilot project, the compatibility of the Irish national framework of qualifications with the EHEA framework. Guidelines were already available, as criteria and procedures for verifying that national frameworks are compatible with the EHEA framework were set out in the report to Ministers in Bergen (2005). Initial technical examination and comparison of the two frameworks has been completed and the results form the basis of a consultative document (the draft 'compatibility report') (1) issued by the National Qualifications Authority of Ireland (2006). The authority held a consultative seminar on this

issue in October 2006 and completed the compatibility verification process in November 2006.

The 'compatibility report' describes a process of analysis of the Irish NFO in relation to the criteria and procedures set out in the EHEA framework for linking frameworks of qualifications. An example follows of establishing compatibility with criteria:

Criterion 3 – The national framework and its qualifications are demonstrably based on learning outcomes and qualifications are linked to ECTS or ECTS-compatible credits ⁽²⁾.

The Irish framework is required by law to be based on learning outcomes (or as the legislation ⁽³⁾ states, 'standards of knowledge, skill and competence') – this is set out in the material provided for in relation to Criterion 1 of the EHEA framework.

The Irish framework is a structure of levels and characteristic 'award-types'. The descriptors for the major award-types in the framework are based on strands and substrands of learning outcomes as follows:

- knowledge: breadth and kind;
- know-how and skill: range and selectivity;
- competence: context, role, learning to learn and insight.

The descriptors for the major award-types are included in Appendix 4 of the authority's determinations document: <http://www.nqai.ie/determinations.pdf>.

Higher education qualifications in the Irish framework are awarded by universities, the Dublin Institute of Technology and the Higher Education and Training Awards Council. All of these 'awarding bodies' have agreed to use the descriptors set out in the framework as the descriptors of the awards they make.

Following establishment of the Irish framework, the authority – in partnership with education and training stakeholders, through its technical advisory group on credit – has been working towards development of a national approach to credit. A twin track approach has been pursued (one

⁽¹⁾ Available from Internet: <http://www.nqai.ie/en/International/Bologna/#d.en.1664>

⁽²⁾ ECTS refers to the European credit transfer and accumulation system. This credit system is in widespread use in higher education throughout Europe. The system supports transnational student transfer and is also commonly used to provide a 'metric', a notional calculation of the amount of learning outcomes required for a qualification, expressed in terms of student workload.

⁽³⁾ Government of Ireland. Qualifications (Education and Training) Act, 1999, Section 7(a).

for further education and training, the other for higher education and training) because the way forward on credit is more clearly signposted for higher education and training within the context of the Bologna process and the general acceptance and use of ECTS. Adopting a consultative and developmental approach, and having considered the domestic and international contexts of the credit agenda, the authority's technical advisory group on credit (higher education track) has now produced a set of 'principles and operational guidelines for implementing a national approach to credit in Irish higher education and training'. These principles and operational guidelines have been adopted by the authority. The operational guidelines recommend that a typical credit volume or credit range be established for each major award-type from levels 6 to 9 in the framework in line with existing ECTS conventions and current practice in the Irish higher education system as follows:

Level 6 higher certificate	=120 credits
Level 7 ordinary bachelor degree	=180 credits
Level 8 honours bachelor degree	=180-240 credits
Level 8 higher diploma	=60 credits
Level 9 masters degree (taught)	=60-120 credits
Level 9 postgraduate diploma	=60 credits

Irish doctoral degrees and masters degrees (by research) do not usually have credit values assigned. However, masters degrees (by research) typically have a two year duration which would equate with an appropriate number of credits. Also, emerging practice on professional doctorates provides for a typical model of 180 credits.

All Irish higher education awarding bodies are operating within these arrangements.

Alignment analysis

The compatibility report sets out how the EHEA and Irish frameworks align, providing a detailed technical analysis and comparison of the two frameworks. The analysis essentially involves two stages: first, the structures and technical bases of the two frameworks are analysed and compared; then a detailed comparison is made between the descriptors that define the cycles/levels in each framework.

A comprehensive comparison is made between the two frameworks, dealing with issues including origins and purposes of the frameworks, scope, structural similarities and differences, descriptor architecture and methodologies

for defining learning outcomes. This is followed by an analysis of the strands of learning in each descriptor set, working from the meta (Bologna) to the national (Irish). Two examples follow of the material presented in the report, illustrating the nature of the technical exercise involved:

'The Dublin descriptors might be said to have been derived inductively from the process of identifying common features of graduates across disciplines and countries for the various levels of award. The Irish descriptors were derived rather more deductively from the overarching ambition to provide for the recognition of all learning in the framework. Proceeding from the expression used in the legislation, which defined learning as "knowledge, skill or competence", the Authority developed an understanding of how learning might be further analysed or parsed, first into three strands of knowledge, know-how and skill and competence and then further into eight sub-strands. This analysis drew on a number of different intellectual traditions, ancient and modern, formulating an understanding that was deliberately eclectic and hence as comprehensive as possible. Pragmatically this had the effect of being intelligible and acceptable to a wide variety of stakeholders, which is an essential feature for such a key element of a national framework, while at the same time having coherence. It was only after initially parsing learning in this comprehensive way that the national framework developers attempted to differentiate between levels, developing level indicators. To be sure, there was a measure of iteration, as the understanding of the sub-strands were tweaked, following the development of level indicators. Moreover the sub-strands were devised to cover all levels of learning, not just those associated with higher education and training. Therefore they did not focus in on the distinguishing characteristics of those who have received higher education awards in the way the Dublin descriptors do.

The Dublin descriptors have five strands, labelled: knowledge and understanding; applying knowledge and understanding; making judgements; communications skills; and learning skills. Even these strands were not explicitly identified or labelled during development, and not all strands are represented in the third cycle, in particular. The Irish descriptors have eight sub-strands: knowledge-breadth; knowledge-kind; know-how and skill-range; know-how and skill-selectivity; competence-context; competence-role; competence-learning to learn; and competence-insight. As pointed out above, the Irish framework has positive statements of how the different sub-strands are to be understood whereas the strands in the EHEA

framework have to be inferred from the descriptors themselves.'

Following this general comparison, the compatibility report goes on to analyse descriptor compatibility on a cycle-to-level basis. The actual descriptor statements for the two frameworks are arranged in parallel tabular form to enable clear comparison. An example follows of the outcome of one of these analyses:

'Second cycle – masters degree (level 9)

The Dublin descriptor refers to building on the first cycle. The Irish descriptor affirms the importance of the concept forefront of the field of learning in masters' knowledge. The Dublin descriptor introduces the expression "basis or opportunity for originality" where the Irish descriptor speaks of "critical awareness of ... new insights". The two are quite compatible. Indeed, the experience of those drafting the Dublin descriptors was that the masters level was easier to agree on in generic terms than the bachelors, though the Tuning project (Tuning educational structures in Europe, 2003) reported the reverse was the case when attempting to agree outcomes within individual disciplines, as was their task. The agreement on generic level is possible because the continental countries had a history of long cycle programmes with outcomes at approximately this level, already recognised as broadly similar to Anglophone masters degrees in terms of admitting to doctoral studies, whereas they were much less familiar with bachelors level qualifications.

The application of the knowledge and skills at this level is qualified in the Dublin descriptor as taking place "in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study" whereas the Irish descriptor refers to "a wide and often unpredictable variety of professional levels and ill-defined contexts".

Judgments in the Dublin descriptor are made with incomplete or limited information. In the Irish descriptor the skills include "specialised ... techniques of enquiry" (presumably to address gaps in information). The requirement of the Dublin descriptor to reflect on social and ethical responsibilities linked to the application of their knowledge and judgments is less demanding than the Irish descriptor's call in the insight sub-strand to "scrutinise and reflect on social norms and relationships and act to change them" but it could be said to encompass it.

The Irish masters' descriptor does not contain any explicit reference to communication but they are included in the development of "new skills to

a high level" and are certainly required to engage in the outcomes called for in the insight sub-strand cited above. In contrast, the Dublin descriptor is quite detailed about the substance of the communication, tying it specifically to the new knowledge acquired or originated by the learner.

While the Dublin descriptor says relatively little about the further development of autonomy at this level, the Irish descriptor places an onus on the learner to self evaluate and take responsibility for their own ongoing learning.

The comparison of outcomes in the second cycle Dublin descriptor and masters' descriptor supports the contention that the Irish masters degree is a second cycle qualification.'

The Irish framework and EQF

As part of the EQF consultation in Ireland, a paper (European Commission, 2005) was developed to introduce the EQF concept to Irish stakeholders; this included a brief comparison of the EQF and the newly-introduced Irish national framework of qualifications (NFQ). Also, the Commission requested examples of comparisons from countries to assist in developing guidance on how national and sectoral bodies should try to reference qualifications and frameworks to EQF levels and descriptors; Ireland responded to this request, analysing two major award-types in the Irish system in relation to the draft EQF descriptors. The same process of analysis and comparison informed both exercises and the overall experience is summarised here. In interpreting this report, it is important to bear in mind that these were experimental activities rather than definitive alignments. Also, the EQF model, against which the Irish framework was compared, was itself a developmental entity. The level descriptors in the recommendation version (September 2006) are quite different, with only three strands (knowledge, skills and competence) defining learning outcomes through short, highly-generalised statements.

The comparison process began with a general analysis of each framework, setting out and contrasting the different approaches to describing learning outcomes:

EQF levels [as set out in the consultation paper (European Commission, 2005)] are defined in three types of learning outcomes:

- knowledge,
- skills,
- wider competences described as personal and professional outcomes:
 - autonomy and responsibility,

- learning competence,
- communication and social competence,
- professional and vocational competence.

These parallel in many ways the Irish strands and substrands which are:

- knowledge: breadth and kind,
- know-how and skill: range and selectivity,
- competence: context, role, learning to learn and insight.

There are some differences in the approaches used in the two frameworks to describe learning outcomes:

- the outcomes captured under the heading 'Professional and vocational competence' in EQF are similar to those categorised as a 'selectivity' substrand of skills in the Irish framework. The Irish statement for 'selectivity' also contributes to the correspondence between the two Irish skills substrands and the skills statement in EQF;
- EQF levels include a statement defining outcomes in communication, under the heading 'Communication and social competence'. The Irish level indicators make no specific reference to communication;
- there are also concepts in some EQF descriptors that are not made explicit in the Irish indicator statements, such as at EQF level 4 the need to 'take account of ethical and social issues', and the supervision and training of others.

Following this, the specific indicators/descriptors at the various levels in the two frameworks need to be compared. The following table illustrates the comparison in relation to EQF level 4 and the EQF 'knowledge', 'skills' and 'autonomy and responsibility' strands of learning outcomes:

Comparison of level descriptors from EQF and the Irish NQF

Learning outcome strands in EQF	EQF Level 4 descriptor	NQF Level 5 descriptor	Learning outcome strands in NQF (Ireland)	Comment
Knowledge	Use a wide range of field-specific practical and theoretical knowledge	Broad range of knowledge. Some theoretical concepts and abstract thinking, with significant depth in some areas	Knowledge – breadth Knowledge – kind	Strong correspondence between the Irish award and the EQF descriptor
Skills	Develop strategic approaches to tasks that arise in work or study by applying specialist knowledge and using expert sources of information Evaluate outcomes in terms of strategic approach used	Demonstrate a broad range of specialised skills and tools Evaluate and use information to plan and develop investigative strategies and to determine solutions to varied unfamiliar problems	Know-how and skill – range Know-how and skill – selectivity	The Irish award demands that the learner be able to plan to address ‘varied unfamiliar problems’, which is slightly more than the EQF descriptor; however, this is still within the range of outcomes appropriate to a Level 4 (EQF) qualification
Personal and professional competence: <i>autonomy and responsibility</i>	Manage role under guidance in work or study contexts that are usually predictable and where there are many factors involved that cause change and where some factors are interrelated Make suggestions for improvement to outcomes Supervise routine work of others and take some responsibility for training of others	Act in a range of varied and specific contexts, taking responsibility for the nature and quality of outputs; identify and apply skill and knowledge to a wide variety of contexts. Exercise some initiative and independence in carrying out defined activities; join and function within multiple, complex and heterogeneous groups	Competence – context Competence – role	There is good correspondence between the Irish award and this EQF descriptor, but the emphasis on supervision and training of others is not seen in the Irish award. The Irish award does demand that the holder be able to take responsibility for the quality of outputs

Conclusion

Given the importance attached to developing and implementing new international meta-frameworks for qualifications in EU policies, it is vital that common approaches are put in place for establishing how national frameworks align to these meta-frameworks. This paper has addressed some of the technical issues arising in establishing such alignment. Drawing from recent Irish experiences, it identifies a process of working from general comparison of framework architecture and methodologies for defining levels, on to analysis of the learning outcomes associated with descriptors and the statements through which these outcomes are expressed. This process may be useful as a starting-point in developing common approaches to be adopted by countries in undertaking these tasks. It is significant that the alignment processes piloted in Ireland were undertaken in relation to a national framework of qualifications that shares several fundamental features with the two meta-frameworks in question. The task of establishing the compatibility of a 'non-framework' system of qualifications with a meta-framework would undoubtedly be more difficult and complex.

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