


ISSN 2340-8170

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Tuning Journal
for Higher Education

Competence-based
learning: a global
perspective

Volume 1, Issue No. 2, May 2014

Tuning Journal for Higher Education

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University of Deusto
Bilbao
2014

Tuning Journal for Higher Education (TJHE), Tuning Journal in short, is an international peer-reviewed journal publishing in English original research studies and reviews in all aspects of competence-based, student-centred, and outcome-oriented education reforms at university level across the globe. It is a joint initiative of the University of Deusto (Spain) and the University of Groningen (The Netherlands) through the Tuning International Academy (<http://tuningacademy.org/>): an international meeting point for fostering innovative teaching, learning, and research in higher education.

The main goal of the Journal is to promote quality research into the 'Tuning Methodology' for designing, implementing, and assessing context-sensitive degree programmes and to subject the tools developed during Tuning projects and other educational projects to full academic scrutiny and debate among students, teachers, policy makers, administrators, and academics across societies, cultures, professions, and academic disciplines. To this end, the Journal invites applications for thematic issues, conference proceedings or monographs from all stakeholders. Guidelines for the preparation and submission of manuscripts are appended to this Issue and available at the web of the Journal: <http://www.tuningjournal.org/>

Publication Frequency

Tuning Journal is a biannual publication. Its first issue was published in November 2013.

Subscriptions

Currently, no individual charges for submission or access are applicable.

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P.O. box 1 - 48080 Bilbao
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E-mail: tuningjournal@deusto.es

ISSN: 2340-8170
Legal Deposit: BI-1482-2013

Printed in Spain.

Tuning Journal for Higher Education, Volume 1, Issue 2 (May 2014)

Competence-based learning: a global perspective

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Tuning Journal for Higher Education (TJHE)

Competence-based learning: a global perspective

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Editorial

Editorial

Paul D. Ryan

Editor

Welcome to the second issue of the Tuning Journal for Higher Education which addresses “Competence-based learning: a global perspective”. The change in third level education from *syllabus-dominated* to *competence-based* programmes of learning can perhaps be described as a move away from assessing students by what they *did* during a programme of learning to assessing them by what they *can do* at the end of it. The first three contributions provide insights into how this new paradigm come about and how it can be implemented. The next three articles provide examples of how implementation fosters internationalisation.

Wagenaar describes the role played by the Tuning Higher Education in Europe Project (Tuning) in persuading academics, institutes and governments from across the continent to adopt the competence-based approach as part of the Bologna Process of Higher Educational Reform. The subsequent global interest in the Bologna Process has led to the Tuning methodology, developed by academics as a response to these reforms, being adopted in some 100 countries. This methodology has always emphasised the importance of generic competences which, whilst they underpin learning in a given subject, can be considered as part of a holistic education which allows students to transfer knowledge to the wider society or the work place. At the start of a Tuning project, stakeholders are surveyed concerning both the generic and subject specific competences they feel should be developed within a particular subject area. Tuning has some 69,000 returns globally from students, academics, graduates and employers. The second contribution by Bartolomé and Beneitone presents a statistical analysis of the largest of these data sets for generic competences and shows the similarities and differences between cultures. This provides an insight into programme design that is relevant to all those involved in, for example, employing graduates from other systems of higher education, running joint international degree programmes or who aim their graduate output at the global, rather than the local, job market. Many academics, like myself, have found this new way of formulating degree programmes in terms of competence-based learning and assessment of learning outcomes a challenging process. One problem has been that the

concept of competences has become multinational. The language in which they are defined has become more and more generic and smeared across many cultures. Adelman in his article addresses this issue head on. He challenges us to write our degree programmes in exciting, informative language. That is not to say we should ignore the concepts behind the globally agreed wording, but we must communicate them in ways that demonstrate our passion for the subject.

The next three contributions illustrate how a coming together of stakeholders can promote internationalisation of competence-based learning programmes. Varella describes the European Chemistry Thematic networks Eurobachelor[®], Euromasters[®], Chemistry Doctorate Eurolabel[®] and the Chemistry Short Cycle Eurolabel[®]. These provide an example of a subject area qualifications framework which has been made possible by each participating institution profiling its degrees in Chemistry. A clear statement of the competences that are developed within the learner is fundamental to such profiles. Bedny, Erushkina and Kuzenkov describe how Information and Communication Technology (ICT) programmes have been transferred from a syllabus-based to a competence-based system in Russia, a vast country which has national standards for all higher education programmes. This transformation has taken cognisance of the needs of both the Russian and the European ICT industries. Namubiru, Ezati, Bisaso, Pekkola and Hölttä describe a methodology which allowed a joint degree programme to be developed between an Ugandan and a Finnish university. This process involved a series of workshops in which an understanding of the required competences played a key role but was culturally sensitive and preserved the values of the African programme whilst aligning it with one in Finland.

The Editorial Board has decided that each issue in the first two volumes should have several thematic articles. However, it is our policy that each issue should also contain research articles not specifically related to this particular theme. In this issue, we include two such articles. Aardema and Churruca explain the work leading to the development of the European Universities on Professionalisation on Humanitarian Action Project (EUPRHA) aimed at improving the recognition of qualifications within the humanitarian sector and whose ultimate goal is the development of a European Humanitarian Qualifications Framework. The last work by Serbati and Surian reports the results of a survey of a focus group, the Tuning Russia Social Work Subject Area Group, analysed using appropriate software. Such surveys as to the effectiveness of Tuning, or indeed any methodology, in developing new degree profiles are currently rare but comprise an essential component in maintaining and improving quality.

The Editorial Board welcomes submission of articles that fall within the compass of this Journal (see www.tuningjournal.org) and in particular articles that would be relevant to the theme of our next issue, Volume 2, Issue N^o 1, “Policy and Implementation: actions for Curriculum Reform”.

Articles

Competences and learning outcomes: a panacea for understanding the (new) role of Higher Education?

Robert Wagenaar

Abstract: The competence and learning outcomes approach, which intends to improve effective performance of academic staff and students, is becoming dominant in today's higher education. This was quite different 15 years ago. This contribution aims to offer insight in the reforms initiated and implemented, by posing and answering the questions why the time was appropriate — by identifying and analysing the underlying conditions — and in what way the change was shaped — by focusing on terminology required and approaches developed. Central here is the role the Tuning project — launched in 2000-2001 — played in this respect. The contribution starts with contextualising the situation in the 1990s: the recession and growing unemployment in many European countries on the one hand and the development of a global society and the challenges the higher educational sector faced at the other. It offers the background for initiating the Tuning project, and the discourse on which its approach is based. In particular, attention is given to choosing the concept of competences, distinguishing subject specific and general/generic ones, as an integrating approach of knowledge, understanding, skills, abilities and attitudes. The approach should serve as a means of integrating a number of main goals as part of the learning and teaching process: strengthening employability and preparing for citizenship besides personal development of the student as a basis for the required educational reform. Tuning's unique contribution is the alignment of this concept to learning outcomes statements as indicators of competence development and achievement and by relating both concepts to profiling of educational programmes.

Keywords: Competenc(i)es; generic competences; subject specific competences; learning outcomes; transferable skills; subject specific skills.

I. Introduction

In the current debate about higher education the concepts of student centred and active learning, competence development and learning outcomes have obtained a central place. This was quite different when the Bologna Declaration of 1999 was published now fifteen years ago. These concepts do not appear in that document which launched the reform process of higher education in Europe to develop one European Higher Education Area to

match one European economic area. At its start, the Bologna Process focused on easily readable and comparable degrees, introduction of a two cycle system, establishing a credit system and mobility, cooperation in quality assurance and the promotion of European dimensions. As one of the reasons behind this initiative it mentions explicitly “to promote European citizens employability”, although the document carefully avoids making a direct link to the European economic agenda. Instead it stipulates the importance of a Europe of Knowledge “as an irreplaceable factor for social and human growth and as an indispensable component to consolidate and enrich the European citizenship, capable of giving its citizens the necessary competences to face the challenges of the new millennium, together with an awareness of shared values and belonging to a common social and cultural space”.¹

Four years later at the Bologna Follow-up conference held in Berlin (2003), “the European Ministers of Education were much more explicit in confirming that the conclusions of the European Councils in Lisbon (2000) and Barcelona (2002), which aimed at making Europe “the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion”, should be taken into account”. The objectives “easily readable and comparable degrees and introduction of a two cycle system” were rephrased as “to elaborate a framework of comparable and compatible qualifications for their higher education systems, which should seek to describe qualifications in terms of workload, level, learning outcomes, competences and profile”.² The rephrasing shows the development in thinking about the role of higher education and the content of its degree programmes. In practice it implied a change of paradigm with wide implications.

The aim of this contribution is to offer insight into this change of paradigm and its implications, by posing and answering the questions of (i) why the time was appropriate, by identifying and analysing the underlying conditions, and (ii) how the change was shaped, by focusing on the terminology required and approaches developed. Central here is the role the Tuning project — launched in 2000-2001 — played in this respect. Was it a means to understand the (new) role of higher education institutions in today’s world?

¹ “Bologna Declaration,” http://www.bologna-berlin2003.de/pdf/bologna_declaration.pdf.

² “Berlin Communiqué,” http://www.ehea.info/Uploads/Declarations/Berlin_Communique1.pdf

II. Context

In the late 20th century a number of developments coincided which triggered change with regard to the higher education agenda in Europe. Economies, already in recession, slowed down further as a result from the East-Asian financial crisis in 1997 and the Ruble crisis in 1998, preceded by the Mexican crisis of 1995.³ In 1996 the European Commission stated in a *White Paper on Education and Training* that long term unemployment continued to increase, resulting in the spread of social exclusion, particularly among young people.⁴

At the same time mass higher education reached its peak in Europe. As Peter Scott had pointed out already in 1995, this development of mass education did not take place in isolation but was related to a much wider transformation in the nature of society and the structure of the economy(ies) in the late 20th century and it affected the intellectual culture as well as science and technology.⁵ At the same time the limits of public spending on (higher) education were reached. Cost effectiveness, efficiency and accountability of higher education became serious issues, and were related to quality assurance mechanisms and (high) dropout rates. In the background the information and communication society, based on the revolutionary development of new technology, developed at tremendous speed. Internet was commercialised in 1995 and gave rise to electronic mail and instant messaging. As an effect, new social media methods developed by the end of the 1990s. Transparency became a buzz word. The global society was further stimulated by faster and cheaper transportation, which facilitated the internationalization of higher education in terms of staff, but in particular student mobility and curriculum development.

Mechanisms for the latter were — as is well known — developed from 1985 in the framework of the Erasmus Programme. In the autumn of 1988 the

³ Steven Radelet and Jeffrey Sachs, “The Onset of the East Asian Financial Crisis,” Harvard Institute for International Development, 30 March 1998, http://scholar.google.nl/scholar_url?hl=nl&q=http://academiccommons.columbia.edu/download/fedora_content/download/ac:124144/CONTENT/paper27.pdf; Iris van de Wiel, “The Russian Crisis 1998” (Economic Report, Rabobank, Economic Research Department, September 16, 2013), <https://economics.rabobank.com/publications/2013/september/the-russian-crisis-1998/>; World Bank, “Country Note F. Lessons and Controversies From Financial Crises in the 1990s”, in *Economic Growth in the 1990s: Learning from a Decade of Reform*, World Bank (Washington, D.C.: World Bank Group, 2005), 242-251; <http://www1.worldbank.org/prem/lessons1990s/>

⁴ European Commission, “Teaching and Learning: Towards the Learning Society” (White Paper on Education and Training, Luxembourg, European Commission, 1996), 1, http://europa.eu/documents/comm/white_papers/pdf/com95_590_en.pdf

⁵ Peter Scott, *The Meanings of Mass Higher Education* (Buckingham: Open University, 1995).

European Commission launched an initiative to create one European credit system based on student workload instead of contact hours, which was to be developed on the basis of a bottom-up approach. The Commission invited institutions and their academics to setup and test such a system. This was done successfully. However, at the end of the 1990s a growing concern developed among the initiators and developers of the European Credit Transfer System (ECTS) that one credit system would not be a sufficient answer to societal challenges as described above and was not the sole solution for (trans)national mobility of students and cooperation between higher education institutions in and outside Europe. It was concluded that the emphasis should be much more on the outcomes of the learning process — as well as on the accumulation of credits —, with much more attention to be given to transferable or general skills and competences. It was also thought necessary to highlight the role of higher education institutions as major contributors to the welfare of society. This fitted in the described trend in which higher education institutions were forced to show that they are accountable, responsible, and sustainable. It was thought that this should not only apply to the higher education institution but also to all individual degree programmes on offer.

III. The Tuning initiative

These concerns led to the grass roots initiative in 2000 to establish the Tuning Educational Structures in Europe Project. The initiative was based on the following assumptions formulated as challenges:

- Higher education structures and programmes and qualifications should be reformed on a large scale to be able to respond to the needs of society, to be understood in terms of preparing for employability and citizenship;
- Academics should be given a key role in this process;
- The reform process would require the development of internationally shared reference points / standards at disciplinary / subject area level;
- A language for communication should be developed which would be understood by all major stakeholders, that is academics, students, graduates, (potential) employers of graduates as well as professional organisations;
- All stakeholders, including (potential) employers and professional organisations, but in particular graduates should be (indirectly) involved in the process of curriculum design and quality enhancement;

- The focus should be on diversification of degree programmes by profiling and stimulating flexibility;
- The reform should facilitate national and international mobility and the recognition of periods of study, including qualifications for obtaining access to the next level of programmes.

As stated in the introduction the focus in this article is on the methodology and terminology developed and applied to respond to these challenges. During time these have been further developed and fine-tuned.

When developing the Tuning project the terminology to be used was not chosen lightly. By focusing on competence development and relating these to the outcomes of the learning process, the initiators were very much aware that the change in higher education had to be made from the then dominant staff centred approach to a student centred approach. Tuning was unique and first by integrating the concepts of competences and learning outcomes (1) by stating that level of competence should be expressed in terms of learning outcomes statement as well as vice versa and (2) by relating both concepts to the definition of profiles for subject areas.⁶

By making this choice Tuning aligned with a development which had obtained credibility in the preceding decade. In 1995 Robert B. Barr and John Tagg published their groundbreaking article in *Change. The Magazine for Higher Education*, entitled “From Teaching to Learning. A new paradigm for undergraduate education”.⁷ According to the authors a shift was taking place in US colleges from *providing instruction* to *producing learning*. This meant, in their vocabulary, a change from the *Instruction Paradigm* to the *Learning Paradigm*. They bluntly called the first paradigm no longer effective, by quoting an article in the same Journal published in the autumn of 1994: “the primary learning environment for undergraduate students, the fairly passive lecture-discussion format where faculty talk and most students listen, is contrary to almost every principle of optimal settings for student learning.”⁸

Peter T. Ewell, executive editor of the magazine noted in the autumn of 2002 that the Barr-Tagg article had been “arguably the most widely cited piece that *Change* has ever published”. He made this remark in the

⁶ Tuning Educational Structures in Europe, *Final Report. Pilot Project – Phase I* (Bilbao and Groningen: University of Deusto Press, 2003), 24.

⁷ Robert B. Barr and John Tagg, “From Teaching to Learning. A new paradigm for undergraduate education,” *Change. The Magazine for Higher Education* 27, no. 6 (1995): 13-25. http://www.athens.edu/visitors/QEP/Barr_and_Tagg_article.pdf

⁸ Alan E. Guskin, “Reducing Student Costs and Enhancing Student Learning. The University Challenge of the 90’s — Part II: Restructuring the Role of Faculty,” *Change* 26, no. 5 (1994): 16-25.

foreword of a book *The Learning Paradigm College*, John Tagg published in 2003 as a follow-up to the article. The article gained support and met severe criticism. Tagg himself was surprised by its reception which in his wording “struck a responsive chord with many in the higher education community”⁹ This is remarkable against the background that already during the mid-1980s national groundbreaking reports were published in the US which highlighted the issues at stake.¹⁰ The terminology regarding learning we now know so well has been developed since. What alarmed the readers of the article was probably less its content as the use of the phrase *educational paradigm shift*. Did the reports and the article have much impact in the shorter run? In 2002 they had not yet, as Ewell stipulates in the foreword cited above. That does not mean that the issues covered by the article of Barr and Tagg were not current. What makes the article very important is not only the readability of their argument but also and in particular the comparison of the old and new paradigms, the Instruction Paradigm and the Learning Paradigm, structured around six topics: mission and purposes; criteria for success; teaching/learning structures; learning theory; productivity/funding and nature of roles.

Some of the key words are picked out here from this comparison: produce learning (versus delivering instruction); improve the quality of learning (versus improve the quality of instruction); quantity and quality of outcomes (versus quantity and quality of resources); holistic (versus atomic); cross disciplinary (versus independent disciplines); external evaluations of learning (versus grading within class); degree equals demonstrated knowledge and skills (versus accumulated credit hours); knowledge is constructed, created (versus learning is cumulative and linear); learning is student centred and controlled (versus learning is teacher centred and controlled); learning environments and learning are cooperative, collaborative and supportive (versus the classroom and learning are competitive and individualistic); funding for learning outcomes (versus funding for hours of instruction). This all culminates in a changing role for (the) academics. According to the new paradigm they are no longer primary instructors but primary designers of learning methods and environments, which requires academics and students

⁹ John Tagg, *The Learning Paradigm College*, ix-xii.

¹⁰ National Institute of Education (ED), “Involvement in Learning: Realizing the Potential of American Higher Education. Final Report of the Study Group on the Conditions of Excellence in American Higher Education” (Washington, DC., 1984), 127, <http://eric.ed.gov/?id=ED246833>; Association of American Colleges, “Integrity in the college curriculum: a report to the academic community: the findings and recommendations of the Project on Redefining the Meaning and Purpose of Baccalaureate Degrees” (Washington, DC., 1985), 47.

work in teams with each other and with other staff. The main role of academic staff is to “develop every student’s competencies and talents”.¹¹

The Tuning initiators concluded, like Barr and Tagg, that a change of paradigm was required in the way higher education was organized and implemented. This was the core of the project proposal submitted to the European Commission in the autumn of 2000. Nevertheless, there were also striking differences. First of all Tuning intended to cover both undergraduate and (post)graduate studies. It also thought it wise to involve all stakeholders, besides academics and students, that is, graduates, employers and professional organisations, in implementing the initiative. This involvement was clearly related to the aim formulated in the Bologna Declaration to promote European citizens’ employability. To avoid any misunderstandings it stipulated at the same time that this should be read in conjunction to the role of higher education institutions have for personal development of the student as well as preparing them for citizenship.

Tuning developed a two way approach: on the one hand to contribute to the development of easily readable and comparable degrees by identifying common ground and on the other by developing a bottom-up approach for modernizing existing and new degree programmes by strengthening the role of higher education institutions in today’s societies. The context was most of all a European one. Having more than ten years of experience with large scale student mobility in Europe — which showed partial failure in recognition of period of studies taken elsewhere — as well as a growing gap between the content of degree programmes and the requirements of society, urged action on the part of universities. If the universities and their academics were not able to take the lead in the required reform process, others would do it for them. The Sorbonne (1998) and the Bologna (1999) Declarations were clear indicators in this respect.

IV. ‘New terminology’

To develop its agenda Tuning needed a “language” to be able to communicate with all stakeholders involved, and for the stakeholders to communicate among each other; a language, which would be understood as being relevant for the changes to be made and the results to be obtained. It introduced — in conjunction — the concepts of competences and learning outcomes in its discourse with academics from a range of disciplines, which

¹¹ Robert B. Barr and John Tagg, “From Teaching to Learning”.

were named subject areas to stress the wider context. Of course, these were not new concepts, but linking the competences and learning outcomes gave a unique focus to the project. The use of the term competence symbolises and underpins the intention to relate the higher education sector to the labour market. Tuning was well aware that the language chosen originated from outside academia. The term competence has a long history going back to Ancient times, but seems to be ‘established’ already in different languages in the 16th century.¹² In 1973, it was related to education by Harvard professor David McClelland.¹³ In the 1980s it was linked to the professional world in particular Human Resource Development and in the 1990s to the learning paradigm.¹⁴ In a report to the US National Institute of Education (1980), G.O. Klemp defined competence as “an underlying characteristic of a person which results in effective and/or superior performance on the job”.¹⁵ S.R. Parry refined this definition in 1996 to “a cluster of related knowledge, skills, and attitudes that reflects a major portion of one’s job (a role or responsibility), that correlates with performance on the job, that can be measured with well-accepted standards, and that can be improved with training and development”.¹⁶ The development and use of the concept is reflected in educational research, in which three main traditions developed, starting with the behaviourist approach (McClelland and the Hay Group) followed by the generic approach and the cognitive approach. All three are “performance” oriented but the scope of competences to be owned / developed is widened through time.

¹² M.T. Mulder, Weigel and K. Collins, “The concept of competence in the development of vocational education and training in selected EU member states. A critical analysis,” *Journal of Vocational Education and Training* 59, no.1 (2006). The Oxford English Dictionary suggests the first use was by Shakespeare in *Henry IV* (1597) in the sense of ‘a sufficiency of’ and E. Burke, *French Review* (1790, 291), in the sense of ‘capacity to deal with a subject’.

¹³ David McClelland, “Testing for Competence Rather Than for Intelligence,” *American Psychologist* January (1973): 1-14, <http://www.therapiebreve.be/documents/mcclelland-1973.pdf>.

¹⁴ P. Hodkinson and Issitt, M., *The challenge of competence* (London: Cassell, 1995).

See also: M. Eraut, *Developing Professional Knowledge and Competence* (London: Routledge, 1994); L.M. Spencer and S.M. Spencer, *Competence at Work: Models for Superior Performance* (New York: John Wiley and Sons, 1994); H. van den Bosch and R. Gerritsen, “Het verwerven van conceptuele competentie als doelstelling van wetenschappelijk onderwijs,” *Tijdschrift Voor Het Hoger Onderwijs* 15 (1997): 365-389; K. Schlusmans, R. Slotman, C. Nagtegaal, and G. Kinkhorst, G. *Competentiegerichte leeromgevingen* (Utrecht, Lemma B.V., 1999). See also the References as included in the chapter “Learning Outcomes: Competences”, Tuning Educational Structures in Europe, *Final Report. Pilot Phase 1*. Deusto and Groningen, 2003, 94-98.

¹⁵ G.O. Klemp, *The assessment of Occupational Competence* (Report to the National Institute of Education. Washington, 1980), 21.

¹⁶ S.R. Parry, “The Quest for Competence,” *Training Magazine* (July 1996): 50.

In 1997, Walo Hutmacher could state in the *European Journal of Education* that the term competency is now widely used and accepted in Europe. He added however that there was still discussion on its definition, “doubtless partly due to language differences”. However, he also stipulates that there seems agreement that “the notion of competency lies very firmly within the field of ‘knowing how’ rather than ‘knowing that’”.¹⁷ This is an important observation. For Tuning the same notion was the reason to state that learning outcomes are expressed in terms of competences. This is reflected in its initial definition where it says “by learning outcomes we mean the set of competences including knowledge, understanding and skills a learner is expected to know/ understand/demonstrate after completion of a process of learning — short or long”.¹⁸ This fits the definition offered by Hutmacher: “Competency is a general capability based on knowledge, experience, values, dispositions which a person has developed through involvement with educational practices. Competencies cannot be reduced to factual knowledge or routines; to be competent is not always synonymous with being knowledgeable or cultivated”.¹⁹

This did not imply that the concept of competences was not challenged. It was from the moment that the concept was linked to education. From a present day perspective criticisms in the 1990s discourse regarding the term were strongly inspired by defending the staff centred approach. As Sultana summarizes the debate: “competence approaches were considered to focus on performance at the expense of complex intellectual processes, and reflection *in* and *on* action”. The argument sounds familiar, the competence approach “understates and belittles the role of knowledge and understanding, with the focus on skill serving to separate theoretical from practical knowledge and undermining values of personhood”.²⁰ It symbolized the ivory tower mentality, which did not value that notions and concepts might change their meaning over time or might be perceived differently in another language or country. Although Sultana argues the contrary, the notion of competences as a way to frame learning was not seriously influenced by these criticisms. Many quibblers seemed to have ignored the fact that the term developed during the most recent two decades into having a more holistic or

¹⁷ Walo Hutmacher, “Key Competencies in Europe,” *European Journal for Higher Education* 32, no. 1 (1997): 45.

¹⁸ Tuning Educational Structures in Europe, *Final Report. Pilot Project — Phase 1* (Bilbao and Groningen: University of Deusto Press, 2003), 24.

¹⁹ Walo Hutmacher, “Key Competencies in Europe,” 45.

²⁰ Ronald G. Sultana, “Competence and competence frameworks in career guidance: complex and contested concepts,” *International Journal for Educational and Vocational Guidance* 9, n° 1 (2009): 18. See also W. Westera, “Competences in education: A confusion of tongues,” *Journal of Curriculum Studies* 33, n° 1 (2001): 75—88.

encompassing meaning covering all elements of learning. In the ongoing discourse among educational scientists the term is put aside by some of them as suffering from “fuzziness and conceptual confusion”. This judgement is based on a number of arguments as spelling of the word (GB versus US vocabulary / competence versus competency), related to different meanings in different contexts: behaviourism versus outcomes. In this argument behaviourism is defined as the competency of an employee related to high level of performance, while competence is measured against defined standards. Most users of the terms will not be aware of this difference and use them interchangeable nowadays. The difference seems to be relevant for purists only. Another criticism is (or was) that the concept of competence is used as equivalent to knowledge, skill, or ability, which adds to the confusion.²¹ Is this indeed conceptual inflation or is it an outdated opinion?

In 2000 it was concluded in an OECD expert paper produced in the framework of the OECD’s Definition and Selection of Competencies (DeSeCo) Project (1997-2003) that there is not a single theoretical concept of competence and the paper recommended a pragmatic approach towards the term. According to these experts competencies should be “conceptualized as the necessary prerequisites for meeting complex demands”.²²

However, at their meeting in April 2001 the OECD Education Ministers stated in a communiqué that “Sustainable development and social cohesion depend critically on the competencies of all of our population — with competencies understood to cover knowledge, skills, attitudes and values.”²³ In a summary report of the DeSeCo Project, published in 2005, it is stated that “a competency is more than just knowledge and skills. It involves the ability to meet complex demands, by drawing on and mobilizing psychosocial resources (including skills and attitudes in a particular context”. It also states that “despite the fact that competencies comprise more than just taught knowledge, the DeSeCo Project suggests that a competency can itself be learned within a favourable learning environment”.²⁴

²¹ Sultana, “Competence and competence frameworks in career guidance,” 19-20. See also W. Westera, “Competences in education: A confusion of tongues,” *Journal of Curriculum Studies* 33, n° 1 (2001): 75—88.

²² OECD, “Definition and Selection of Competencies: Theoretical and Conceptual Foundations (DeSeCo). Background paper” (revised December 2001), 6. See also: Dominique S. Rychen, and Laura H. Salganik, eds., *Defining and Selecting Key Competencies*. Göttingen, 2001.

²³ Meeting of the OECD Education Ministers, “Investing in Competencies for All” (Communiqué, Paris, 4 April 2001), <http://oecd.org/dataoecd/48/24/1870589.pdf>.

²⁴ OECD, “The Definition and Selection of Key Competencies” (Executive Summary), <http://www.oecd.org/pisa/35070367.pdf>

As stated above, Tuning chose as its language of communication with stakeholders the concepts of competences and learning outcomes. By doing so it made the choice for a holistic interpretation of competences. It became firm ground in the years to come. This was confirmed in a CEDEFOP report finished in 2005. This report which relates in particular to the VET sector, signaled that the dominant theoretical educational frameworks were converging. “Functional and cognitive competences are increasingly being augmented by social or behavioural competences and there appears to be a general movement towards the more holistic approaches that have been associated with Germany and France, where knowledge, skills and social attitudes and behaviours are viewed as related dimensions of competence.”²⁵

This not only counted for the VET sector, it was also obviously true for Higher Education. In particular in continental Europe the concept of competences to structure teaching and learning gained influence during the last years of the last century and the first decade of the 21st century. A good example in this respect is the introduction of domain competences for clusters of educational programmes developed by the Universities of Applied Sciences in the Netherlands, which were published from 2004 on, and which were prepared in the previous years.²⁶ This is a relevant example for Tuning because the role of this type of university is to educate graduates for defined employability sectors. Due to their mission they are much closer to the world of employment than most academic disciplines.

V. Role of Tuning

The intention of Tuning was most of all to focus on research based universities and traditional subject areas, not — at first instance — the more applied studies or multi- and interdisciplinary ones. They would follow later. The argument was that when these traditional disciplines could be convinced to adopt the notions of competences and learning outcomes, others would follow. At the launch meeting of the Tuning project in May 2001 many academics were sceptical. In particular because the initiators stressed that the

²⁵ Jonathan Winterton, Françoise Delamare - Le Deist, and Emma Stringfellow, “Typology of knowledge, skills and competences: clarification of the concept and prototype” (Cedefop Reference series; 64. Luxembourg, Office for Official Publications of the European Communities, 2006).

²⁶ Annemarie Knotnerus en Chiel Renique, “Domeincompetenties in het HBO als sleutel voor herkenbaarheid en flexibiliteit,” *Thema* 5, n° 4 (2004), <http://www.vno-ncw.nl/SiteCollectionDocuments/Cmsdocs/domeincompetenties.pdf>

project planned to give special attention to generic competences or transferable skills besides subject specific ones.

Although the initiators were not aware of the “paradigm shift” discussions taking place in the USA, they were well informed about the European discourses regarding competences and teaching and learning. For them competence development and a shift of paradigm were closely related. The ECTS experience showed them that full recognition of periods of studies or even degrees would never take place if the focus was kept on the content of knowledge. Ten years of intensive experience with ECTS as a transfer system proved that trust and confidence could actually be developed between academics but that course to course comparison continued to be very strong, because equivalent knowledge was sought. The Tuning initiators were also aware that universities were very much focused on themselves (and each other) instead of following what was happening in society. Studies were input and staff-centred based instead of output and student oriented.

When preparing Tuning, no serious discussion took place about (dominant) educational frameworks or typologies to follow. If fitting in any, it would be the holistic multi-dimensional or integrative approach towards competence-based models, allowing for an analytical concept of competences and by giving it its own flavour. This would encourage new practices in teaching, learning and assessment, including problem-based learning, project-based and team learning as well as active and autonomous learning. What was also clear, was that the approach would be student-centred, by which is meant an approach or system that supports the design of learning programmes which focus on the learners’ achievements, accommodates different learners’ priorities and is taking into consideration student workload (i.e workload that is feasible within the duration of the learning programme). Thus promoting greater student involvement in the choice of content, mode, pace and place of learning.

The emphasis in Tuning would be on the methodology to apply; to identify common ground among academics in an international context. Teamwork and consultation were identified as the key features of this approach and its sense for success. What had been noticed that the theoretical discourse among educational scientists about educational frameworks and typologies and new approaches regarding learning, teaching and assessment had (very) limited impact in day-to-day life in higher education institutions. University teachers might have heard of or even been acquainted with the typologies such as those of Benjamin Bloom and theories such as of John Biggs regarding learning,²⁷ but these had

²⁷ J. Biggs, *Teaching for Quality Learning at University: What the Student Does* (Buckingham: The Society for Research into Higher Education and Open University

limited to no influence in the teaching and learning process itself. In other words, advocating educational theory and methodologies developed by experts would not lead to change in how educational programmes were actually designed and implemented.

The strategy, instead, was to come-up with simple approaches and solutions for complex issues. This on the one hand meant to develop a feasible and convincing methodology to modernize higher degree programmes and on the other hand to develop guidance and acceptable models on which the reform of individual degree programmes could be built. This would require full alignment and serious commitment of large numbers of academics who could act as peers for their subject area.

To establish the basis for change, it was thought necessary to identify common points of reference. These reference points should be dynamic and allow for diversity, autonomy and flexibility. At all costs Tuning wanted to avoid harmonization of degree definitions, because it would not only hinder personal development, but most of all possibilities for employment and mobility of students and graduates. Although they might be used in setting standard for a given discipline, the term standard as such was avoided to make clear that the points of reference to develop were not set in stone. The idea was and is to update them regularly to keep reflecting present day developments and the state of the art of the discipline involved.

This philosophy thus implied the choice of the competence approach as the backbone for the Tuning initiative. This choice would allow for an open discussion for what made the core of a discipline but also its relation to and relevance for society both in terms of research outputs and type of students to graduate. As stated above, in the project outline emphasis was given to the growing role of generic competences or transferable skills (subdivided in instrumental, interpersonal and systemic ones) besides subject area competences for the dynamic society of the 21st century. Although the distinction between generic and subject specific competences was made, there was full awareness from the start that they are closely related. This implied agreement that generic competences could not seriously be developed and applied without a domain of knowledge and that — although named transferable skills — these were influenced by the subject area

Pres. Maidenhead, 1999); J. Biggs, "What the Student Does: teaching for enhanced learning," *Higher Education Research & Development* 18, n° 1 (1999): 57-75; J.B. Biggs and K. Collis, *Evaluating the Quality of Learning: the SOLO taxonomy* (New York: Academic Press, 1982); B.S. Bloom, ed., *Taxonomy of Educational Objectives, the classification of educational goals — Handbook 1: Cognitive Domain* (New York: McKay, 1956).

involved. In some cases generic competences would even be seen as subject specific ones, if they were at the core of the subject area. To illustrate this point: the competence *abstract thinking, analysing and synthesizing* in history is based on a different theoretical and methodological framework than for example the one used in physics or mathematics. This also applies — in general — for oral and written skills, leadership, teamwork, entrepreneurial spirit etc. because each discipline has its own academic culture and paradigm.

Those who are acquainted with the Tuning approach know its methodology. In the framework of this volume it is nevertheless useful to describe it once more, also because it developed and was enhanced over time. The basic idea is to develop — on the basis of agreed and shared reference points — so-called (inter)national competences frameworks for subject areas. For each of these competences frameworks a group of 12 to 15 international experts is established. Its members are selected from a wide range of countries and are representing their country model and higher education institution in the field involved.

The process started with a mapping process to describe the field involved and to identify the employability field(s) for which graduates are prepared (in wide terms if required) followed by a consultation of stakeholders. To prepare for the first Tuning consultation process ever a common list of generic competences was drawn up by the different groups together. This led to a list of 30 generic competences for Europe. That list was revised over time, which implied that competences were rephrased and replaced. Tuning projects in other part of the world draw up their own agreed list of generic competences.

Furthermore, each disciplinary group — originally in Europe, later in other world regions — developed its own list of so-called key subject area competence statements which should ‘frame the subject area’. This list contained on average of 25 statements. That list was established on the basis of a collection of ideas and expectations regarding degree programmes in the subject area resulting from open reflection and group discussion. On the basis of this long list consensus was sought on a short list (key competences) to be used for the consultation process. Because the focus was on competences to be covered in the subject area as a whole, the first cycle / bachelor and the second cycle / master were not distinguished. To allow for the consultation process, each university drew up a list of relevant employers for its field, a list of graduates which graduated within the last 3 to 5 years and a list of academics to be consulted. In the first European consultation round (2001-2002) no students were consulted. The Tuning America Latina project decided in 2004 to involve also students in the latter years of their degree

programme. This has been standard procedure since. After finishing the consultation process, its results were analysed by the subject area group involved. This led to a redefining of the original subject specific competences lists. The next step in the process was to design academic and professional frameworks for each of the cycles, preferably formulated as descriptors and to build consensus on the most relevant competences for each of them, combining both what is common for academic recognition and what is different (the specific features).

As part of the Tuning America Latina 3 (2011-2014) project ideas about the development of competences frameworks were further refined and deepened, by introducing the concept of meta-profiles. Both reference points and meta-profiles have the aim to identify and describe the core (elements) of a discipline / subject area. However, the meta-profile approach is slightly different. While in the original approach the focus is on identifying the core or key competences, both generic and subject specific, in the second approach the focus is on the clustering of generic and subject specific competences to derive so-called meta-competences.²⁸ The interlinked groups of meta-competences then serve as the basis for defining a meta-profile (competences framework) which captures the essence of the discipline in more general terms. When the meta-profile is decided, it can be used as a basis for constructing individual degree programmes. This approach has successfully been used as the recent Tuning publication *Meta-perfiles y perfiles. Una nueva aproximación para las titulaciones en América Latina* shows us.

This new method which was and is being applied later in Tuning projects in other regions of the world such as Russia, Africa and Central Asia, offers us a more sophisticated way forward, because the existing template of collecting a long list of competences and then boiling it down to the more essential ones, lacked sufficient structure.

Two main approaches have been developed for the grouping of competences. The first is to cluster the most related competences in a feasible number of groups, a minimum of five to a maximum of eight. After having done so, a label for each group is decided which reflects best its content and purpose. However, it is also possible to work the other way around, defining labels for the group's first and then using these as a basis for clustering the competences. Each group or meta-competence will contain a mix of generic and subject specific competences. This is fully in line with the Tuning philosophy, which requires that these are developed together.

²⁸ Julia Gonzalez and Maria Yarosh, "Building degree profiles: the Tuning approach," *Tuning Journal for Higher Education* 1, no. 1 (2013): 37-69.

VI. Definitions and Confusion of Terms

Having explored the position of the concept and the way Tuning has absorbed and applied these, it seems appropriate to offer insight into the definitions developed and/or used by Tuning over time and to position these in the current debate.

Against the background that the term and concept of competence / competences / competency / competencies were challenged, it has been important to develop clear definitions. Tuning did not have and does not have the illusion it would and will be standard setting in this respect, but at least it wanted to provide clarity for the users of its approach.

Day to day practice shows that many academics (still) have difficulties in distinguishing the concepts of competenc(i)es and learning outcomes. This also applies to learning outcomes and learning objectives. The difference between competences and skills also seems to be problematic. Although there are different appreciations of the terms in different languages and cultures, we focus here on the use of English.

The basic idea in Tuning was and is that the role of education is primarily to make the student / learner more *competent* as a result of a learning process. This is wider than knowledgeable and skilled, it also involves acting and 'how to be'. This is relevant for personal development, preparing for citizenship as well as positively affecting the learner's employability.

As was stated previously, Tuning uses an encompassing definition of competence. Competences should be understood as *a dynamic representation of demonstrated knowledge, understanding/insight/comprehension, (subject specific and generic) intellectual, practical and interpersonal skills and (ethical) values*. They cover the whole spectrum of capabilities from pure theoretical and methodological knowledge to vocational knowledge/insight and from research abilities to practical abilities. Fostering these competences is the object of all educational programmes. Competences are formed during the process of learning by the student in succeeding course units or modules and are assessed at different stages. Competences are therefore owned by the student / learner.

A *learning outcome* is understood as *a statement of what a learner is expected to know, understand and be able to demonstrate after completion of a process of learning*. Learning outcomes indicate the *level of competence* that is desired and should be achieved. They are in other words the specifications of the results and outcomes of a learning process. The learning process again is based on an identified set of competences. Learning outcomes are distinguished in degree programme learning outcomes and module and/or unit learning outcomes. Learning outcomes are defined by academic staff preferably involving student representatives.

Although, these definitions seem to be clear, Tuning has nevertheless been criticized for its use of terminology. The criticisms seem to originate from a misinterpretation of the concepts Tuning developed. Because Tuning is using the concept of competence(s) it is thought that it is embracing the traditional concept of Competence-Based Approach to Education and Training (CBET) which was developed in the 1990s. This is not the case. It is also a misunderstanding — expressed by educational scientists — that the Bologna Process is built on this approach.²⁹ Tuning has drawn attention to the development of generic competences besides the subject specific ones as part of the learning process, because they are of crucial relevance for functioning in today's society. These generic competences are intellectual as well as practical. To name a few: “identify, pose and resolve problems”; “to be critical and self-critical”; “abstract and analytical thinking and synthesis of ideas”; “generate new ideas”; “to take the initiative and to foster the spirit of entrepreneurship and intellectual curiosity”; besides “applying knowledge in practice”; “work in a team”; “evaluate and maintain the quality of work produced”. In the view of Tuning these types of competences should be developed / learned in close alignment with a body of knowledge, that is the subject area. Tuning has showed these can be developed at different stages during the learning process by using level descriptors / levels of mastery and indicators.³⁰ This approach can be named Competence-based learning but this is not the same as CBET. As stated before, Tuning uses identified sets of competences for identifying the reference points of a particular subject area now named meta-profile or conceptual framework.

Therefore, it does not recognise itself in such criticisms as expressed by Hyland³¹ and Hager for example. Hager, author of the integrated competence approach states: “despite its laudable aims, a project that features such flaws in its foundations, is argued to be fatally deficient ...because it fails to recognize a number of clear conceptual distinctions between, e.g. ‘performance’ and its ‘outcomes’”. What is meant here in the wording of Hager is that “...performance outcomes can be specified precisely, and that the Tuning learning outcomes are a species of performance outcomes. However, by contrast, competences cannot be specified precisely in this way. So the Tuning Project, by mistakenly equating learning outcomes and

²⁹ Terry Hyland, “Swimming against the tide: reductionist behaviourism in the harmonisation of European higher education systems,” *Prospero* 12, no. 1 (2006); Rudi Kothik, “Process Oriented Teacher Education as an Alternative to the Competence-Based Approach to Education and Training,” in *Curating the European University. Exposition and Debate*, eds. M. Simons et al. (Leuven: University Press, 2011), 74.

³⁰ Aurelio Villa Sánchez and Manuel Poblete Ruiz, eds., *Competence-based learning. A proposal for the assessment of generic competences* (Bilbao: University of Deusto Press, 2008).

³¹ Terry Hyland, “Swimming against the tide”.

competences, gives the latter a false objectivity.”³² As has been shown above, Tuning is very much aware of the difference. However, it must also be recognized there is still room for improvement in formulating competences as well as learning outcomes statements. More time will be needed to build up experience.

A *learning objective* outlines the material the teaching staff intends to cover or the questions related to the discipline that the class will address. This approach means in practice that the focus is on the teaching process (not the learning process) and on knowledge transfer of the academic staff member to the students.³³ However, in particular in the United States but also in other countries learning objectives may be read and understood as learning outcomes.³⁴ The fact that sometimes different wording is used for the same concept or notion does not automatically mean that the terminology used is blurred.³⁵

More complicated is the use of the terms skills and competences. Tuning has not always been consistent in its use. According to the definition outlined,

³² P. Hager, “Some Conceptual Questions about the Tuning Project,” *Prospero* 12, no. 1 (2006).

³³ Definition used by the University of Toronto, <http://www.teaching.utoronto.ca/topics/coursedesign/learning-outcomes/outcomes-objectives.htm>

³⁴ The following example is taken from the University of Texas to illustrate this: “A competency is the capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform “critical work functions” or tasks in a defined work setting. Competencies often serve as the basis for skill standards that specify the level of knowledge, skills, and abilities required for success in the workplace as well as potential measurement criteria for assessing competency attainment. (...) Competencies define the applied skills and knowledge that enable people to successfully perform their work while learning objectives are specific to a course of instruction. Competencies are relevant to an individual’s job responsibilities, roles and capabilities. They are a way to verify that a learner has in fact learned what was intended in the learning objectives. Learning objectives describe what the learner should be able to achieve at the end of a learning period. Learning objectives should be specific, measurable statements and written in behavioral terms. In short, objectives say what we want the learners to know and competencies say how we can be certain they know it.” University of Texas School of Health, <https://sph.uth.edu/content/uploads/2012/01/Competencies-and-Learning-Objectives.pdf>

³⁵ University of Texas School of Health, <https://sph.uth.edu/content/uploads/2012/01/Competencies-and-Learning-Objectives.pdf>. Another interesting example of a learning objective definition is the following. The example is taken from the University of New Mexico School of Medicine: A learning objective is an outcome statement that captures specifically what knowledge, skills, attitudes learners should be able to exhibit following instruction. A common misapplication of objectives is for the teacher/presenter to state what he/she is going to do (e.g., “My plan this morning is to talk about...”), rather than what the student is expected to be able to do (e.g., “After this session, you should be able to...”). <http://ccoeb.rbhs.rutgers.edu/forms/EffectiveUseofLearningObjectives.pdf>

skills are an intrinsic part of competences. In reality the project sometimes used the terms alongside each other in its publications and presentations. This happened in particular during the first years of Tuning, when the project was still developing. However since the launch and endorsement of the European Qualifications Framework for LLL the landscape of terminology has changed. In the EQF, which is mostly VET inspired but also covers Higher Education, three main categories are distinguished to order the outcomes based descriptors: knowledge, skills and competences. According to its official definition ‘competence’ “means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.”³⁶ Tuning would have preferred that the term ‘wider competences’ would have been used as one of the descriptors to avoid misunderstandings. Although there is agreement regarding the definition of the term, at the same time it is clear we have now to deal with both a wider and a tailored meaning of it. Tuning has shown already that it is able to handle the term when developing competence based Tuning Sectoral Frameworks for the Social Sciences, the Humanities and the Performing and Creative Disciplines.³⁷ It has also offered instruments to write degree programme profiles on the basis of its approach, to define good learning outcomes statements as well as an approach to calculate workload on the basis of its philosophy.

VII. Final remarks

There is no doubt that the concepts of competences and learning outcomes underpinning the student-centred approach are phenomena in today’s Higher Education. They have become tools for degree programme design, development and enhancement, as well as for quality assurance and accreditation. Although there might still be some confusion about the exact definitions of terms introduced and used, this does not imply that the multi-dimensional or integrative approach towards competence-based models has

³⁶ European Commission, “European Qualifications Framework for Lifelong Learning,” http://ec.europa.eu/eqf/terms_en.htm

³⁷ “Tuning Sectoral Qualifications Framework for the Social Sciences,” <http://www.unideusto.org/tuningeu/tuning-sqf-social-sciences.html>; “Tuning Sectoral Qualifications Frameworks for the Humanities and the Arts,” <http://www.unideusto.org/tuningeu/sqf-humanities-and-arts.html>

not taken the lead. It has, although there is still a long way to go to get it implemented at all levels of higher education. As might be expected many academics have difficulties coping with the changes proposed, in particular because they are so fundamental. Working according to a new paradigm requires time and effort. Although Tuning and the European Commission, in particular CEDEFOP, have developed tools to assist this change in paradigm, it is still a challenge to follow. Identifying an appropriate set of competences to define a degree programme profile is already an effort, let alone the definition of degree programme learning outcomes and programme unit learning outcomes. To make these learning outcomes measurable requires skills and experience which in many Higher Education institutions and departments still have to develop. However, it cannot be stressed enough that using the competence based approach is rewarding, in particular for the group of students educated today and tomorrow, but also for the educational staff and society at large.³⁸

Here we refer not only to employability, but explicitly also to personal development and citizenship. There is no doubt that it is rewarding for an institution, a department and the individual teachers when their graduates find a place in society that suits them well. However, this should not be limited to finding the right job and making a career according to the level of education, although that is a mission in itself.

Education has always been associated with personal growth. The opportunities of learning, of understanding how nature and society work holds a significant attraction to the human mind no less than the curiosity of managing natural forces, one's own behaviour or the dynamics of society. The competence-based approach, promoting flexibility and individual pathways offers students of today more opportunities to follow their interest and answer their curiosity.

One of today's challenges for those involved in planning, designing and offering degree programmes is to define precisely what the degree tries to establish and hence which competences it will need to develop in students. An important role of education is to educate students in such a way that they develop greater consciousness of their commitment to society. Who will doubt that knowledge, reflection, capacity, learning, education leading to degrees should not make people more understanding of what is happening in society at various levels, more critical of the outcomes, the limits and the impacts of issues at stake and more creative about various solutions for and possibilities to handle problems? Democratic

³⁸ Rosario M. Serrano et al., "Student Training in Transversal Competences at the University of Cordoba," *European Educational Research Journal* 10, no. 1 (2011): 47.

societies require citizens who think, debate, search, and look for alternatives. The role of education in this case is undeniable.

The concept of competences and learning outcomes in the framework of the introduction of the paradigm of student-centred learning as has been developed and applied by Tuning during the last 14 years, is relevant for the higher education sector today. This article has intended to show that the choices made were not self-evident. Have these choices paid out and proven to be a panacea to reforming degree programmes, making them more relevant for the needs of today? Only time will tell.

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Global generic competences with local ownership: a comparative study from the perspective of graduates in four world regions

Pablo Beneitone and Edurne Bartolomé

Abstract: The article addresses the issue of generic competences across different cultural contexts in the world. Using the Tuning projects data collected in Europe, Latin America, Africa and Russia, and focusing on graduates' perspective, the authors aim to classify and compare the list of generic competences throughout all geographic regions covered by Tuning, analyse the importance and achievement given to the generic competences throughout different contexts, and also contrast the latent constructs obtained from the exploratory factor analysis, in order to observe how competences are classified and clustered across regions. The article shows and explains the main differences observed and stresses the relevance of taking into account the cultural context and the traditions of education systems, in order to properly understand the importance of generic competences in different regions, and also how, even though the competences are equivalent, they may articulate distinctive dimensions in each region.

Keywords: global analysis; generic competences; context-comparative approach; graduates; consultation process; factor analysis.

I. Introduction

There is a high level of agreement that internationalisation is one of the major characteristics of Higher Education at present. This is explained in many different ways. Educational paradigms are changing and the search for international indicators is a constant development in many parts of the world. However, empirical studies of the nature and the scope of the work explained here are not so frequent despite the impact of previous studies such as Geert Hofstede's cultural dimensions theory¹ which was at the core of a significant number of intercultural studies, giving insights to the reality and the importance of cultural perceptions. Hofstede describes the effects of a society's culture on the values of its members, and how these values relate to behaviour, using a structure derived from factor analysis.

¹ Geert Hofstede, Gert Jan Hofstede, and Michael Minkov, *Cultures and Organizations: Software of the Mind*, 3rd ed. (New York: McGraw-Hill, 2010).

This initial study is based on an international project (Tuning) currently taking place. The empirical data, derived from over 48,000 questionnaires, can offer a number of insights. In fact, one of the stages of Tuning project is a consultation process, namely, a survey to a set of different stakeholders (students, graduates, academics and employers), on the level of a) relevance and b) achievement of the generic and subject specific competences. The consultation was initially used in 2000 as a contact point within the different countries of the participating academics. In addition, it was a way of creating a common language among the different members of the group who belonged to different cultural contexts.

Since then it has become a goldmine producing comparable data from more than 103 countries in different continents, across a variety of disciplines and target groups. Not all the countries who elaborated and implemented a Tuning project used a questionnaire, selecting other different methodologies to evaluate opinion on the needs and demands of the social context. Other regions which did use the questionnaire method have not been discussed here, for example, Asian countries where the process is still taking place, although preliminary results confirms what is been presented in this paper.

Many questions could be asked and will be asked in future studies about the behaviour of each of the disciplines, the different social groups consulted, the evolution taking place and above all the implications and the impartial scrutiny of those results. The study described here also only relates to generic competences and does not go into the specificity of each of the fields available and comparable. This paper opens the dialogue and the academic debate. It explores commonality and differences in the competences selected in the different geographical contexts where the questionnaires have been used and offers some conclusions which can be drawn. There also are different roads to follow in terms of the analysis of the data on generic competences: (1) at the level of selection: by analysing which of the competences are selected (or not) in each of the projects which were conducted; (2) by measuring what was the level of commonality in this selection of generic competences; (3) by studying the level of difference among the generic competences in each project and (4) by analyzing whether there is any connection between the generic competences included in the list and the related geographic and cultural context.

II. Some general definitions

In the **Tuning** experience, and in the reflection on degree profiles, **competences** emerge as an important element which can guide the selection

of what is appropriate from a wealth of possibilities. The trend towards a “learning society” has been widely accepted and consolidated for some time. This involves a move from teaching-centred to learning-centred education. Reflecting on the different aspects which characterise this trend, the relevance of focusing on competences becomes apparent.

Several terms -capacity, attribute, ability, skill- competence are used with an often interchangeable and, to some degree overlapping meaning. They all relate to the person and to what he/she is able to achieve. But they also have more specific meanings. The term skill is probably the most frequently used, with the meaning of being able, capable or skilful. It is often used in the plural, “skills,” and sometimes with a more restricted meaning than that of competences.

Different cultural contexts influence the understanding of competence² and this is especially important in relation to the extent to which competence is defined by cultural literacy involving group identities. There is such debate concerning the concept of competence that it is difficult to arrive at a definition capable of accommodating and reconciling all the different ways that the term is used.³ Describing competence as a “fuzzy concept”⁴ nonetheless acknowledges it as a “useful term, bridging the gap between education and job requirements”. The difficulty of using competence as an overarching term as well a specific one is demonstrated by the tautological definition provided by: “Competency-based behavioural anchors are defined as performance capabilities needed to demonstrate knowledge, skill and ability (competency) acquisition”.⁵

Competences tend to convey meaning in reference to what a person is capable or competent of in the degree of preparation, sufficiency and/or responsibility for certain tasks.⁶ Boyatzis⁷ defined competences as the certain characteristics or abilities of the person that enable him or her to demonstrate the appropriate specific actions, thereby leading to effective work performance.

² Maria Cseh, “Facilitating learning in multicultural teams,” *Advances in Developing Human Resources* 5, no. 1 (2003): 26-40.

³ David Robotham and Richard Jubb, “Competences: measuring the unmeasurable,” *Management Development Review* 9, no. 5 (1996): 25-29.

⁴ Jo Boon and Marcel van der Klink, “Competencies: The triumph of a fuzzy concept,” in *Academy of Human Resource Development Annual Conference*, Honolulu, HA, 27 February – 3 March 2002, Proceedings Vol. 1, 327-334.

⁵ Kim E. Dooley et al., “Behaviorally anchored competencies: evaluation tool for training via distance,” *Human Resource Development International* 7, no. 3 (2004): 315-332.

⁶ José María Prieto, prólogo to *Gestión De Las Competencias*, edited by Claude Levy-Leboyer (Barcelona: Gestion 2000, 2002).

⁷ Richard E. Boyatzis, *The Competent Manager: A Model for Effective Performance*, John Wiley & Sons (1982).

In Tuning, the concept of competences tries to follow an integrated approach, looking at capacities via a dynamic combination of attributes that together permit a competent performance or as a part of a final product of an educational process.⁸ Competences and skills are understood as including knowing and understanding (theoretical knowledge of an academic field, the capacity to know and understand), knowing how to act (practical and operational application of knowledge to certain situations), knowing how to be (values as an integral element of the way of perceiving and living with others and in a social context). Competences represent a combination of attributes (with respect to knowledge and its application, attitudes, skills and responsibilities) that describe the level or degree to which a person is capable of performing them.

In this context, a competence or a set of competences mean that a person puts into play a certain capacity or skill and performs a task, where he/she is able to demonstrate that he/she can do so in a way that allows evaluation of the level of achievement. Competences can be demonstrated and assessed. It also means that normally a person does not either possess or lack a competence in absolute terms, but commands it to a varying degree, so that competences can be placed on a continuum.

In the Tuning Project⁹ two different sets of competences were focused on. The first identifies competences which could be general to any degree, and which are considered important by society. In a changing society where demands tend to be in constant reformulation, these **generic competences** assume a greater importance. The second set, specific competences, are those competences which are subject-area related. These are intimately related to the specific knowledge and practices of a field of study. These give identity and consistency to the particular degree programme.

This paper deals only with generic competences, agreed and consulted in **4 different regions** through diverse Tuning projects.

One of the first tasks in every Tuning project was to identify the generic competences that should be developed in any programme, and which are considered important by society in a particular context or region. Defining these competences is the responsibility of academics, in consultation with other stakeholders, and the process followed was the same in all Tuning projects. The objective of the exercise is to place in the forefront of degree profiling the needs and the strengths of a particular society. Academics are therefore asked to reflect critically and to consult and discuss which are the competences that are

⁸ Yolanda Agudín, "La Educación Superior para el siglo XXI," *Didac* 36 (2000): 16-25.

⁹ Julia González and Robert Wagenaar, eds., *Tuning educational structures in Europe: Final Report. Phase One* (Bilbao: University of Deusto and University of Groningen, 2003).

considered of the greatest relevance to the region where they live and work. The debates, given the limitations of the numbers that were imposed by questionnaire, are vigorous but always end in consensus. The inclusion and the formulation of every item is subject to serious discussion which is carried out in the different subject areas participating in each project (9 groups in Europe, 5 groups in Africa, 11 groups in Russia and 16 groups in Latin America).

In 2000 Tuning Europe was the first project to define competences, later revised in 2008.¹⁰ Europe agreed a list of 31 generic competences. Tuning Latin America in 2004 defined 27 generic competences¹¹ for any university degree in the region. The academics taking part in Tuning Russia¹² agreed to have 30 generic competences, while in Tuning Africa¹³ 18 were defined, in both cases in 2011.

The competences agreed in each region/country were defined, taking as a starting point the agreements reached in previous Tuning projects. Thus, there was feedback with respect to the identification of general competences in each context. Proof of this is the high level of agreement in the competences selected in each project. The agreed lists reflect what the project in its context considers essential to define a university degree. From this perspective, it is important to note that each list of generic competences presents a glimpse of the spirit of the region or country that proposes it. Contextual aspects are decisive for the inclusion of a competence and the exclusion of others in the list agreed. Also, the way they are proposed (phrasing) shows the perspective to be given to the context. The first statement of this study could be that the context determines the generic competences to include in the list of each region/country and the emphasis given to some (in cases in which the same competence in a region is broken up into two in another), and the way to present it in semantic terms. It is aspects of the cultural context that are decisive for the choice of competences, and even the phrasing of them demonstrates this, to the extent that what is seen as a single competence in one region may be described as two distinct ones in another.

¹⁰ See the list of generic competences agreed by Europe on the Website of the Tuning Academy: <http://www.tuningacademy.org>

¹¹ Pablo Beneitone, César Esquetini, Julia González, Maida Marty Maleta, Gabriela Siufi, and Robert Wagenaar, eds., *Reflections on and Outlook for Higher Education in Latin America*. (Bilbao: University of Deusto, 2007).

¹² Artur Demchuk, Ivan Dyukarev, EYgeniya Karavaeva, Pablo Beneitone, Julia González, and Robert Wagenaar, eds., *Towards Comparability of Higher Education Programmes. Information Review* (Bilbao: University of Deusto, 2013).

¹³ Charles Awono Onana, Olusola Bandele Oyewole, DamteW Teferra, Pablo Beneitone, Julia González, and Robert Wagenaar, eds., *Tuning and Harmonisation of Higher Education: The African Experience* (Bilbao: University of Deusto, 2014).

Table 1
Comparison of generic competences in the four regions. Commonalities and differences in relation to Tuning projects

EUROPE	LATIN AMERICA	AFRICA	RUSSIA
Ability for abstract thinking, analysis and synthesis	Capacity for abstraction, analysis, and synthesis	Ability for conceptual thinking, analysis and synthesis	Ability for abstract thinking, analysis and synthesis
Ability to identify, pose and resolve problems	Ability to identify, pose, and solve problems	Objective decision making and practical cost effective problem solving	Ability to identify, pose and resolve problems
Ability to make reasoned decisions	Ability to make decisions		Ability to make reasoned decisions
Ability to search for, process and analyse information from a variety of sources	Ability to search for, process, and analyse information from a variety of sources	Capacity to use innovative and appropriate technologies	Ability to search for, process and analyse information from a variety of sources
Skills in the use of information and communications technologies	Ability to use information and communication technology		Skills in the use of information and communications technologies
Ability to communicate both orally and through the written word in native language	Capacity for oral and written communication	Ability to communicate effectively in official/ national and local language	Ability to communicate both orally and in written form in the native language
Ability to evaluate and maintain the quality of work produced	Commitment to quality	Ability to evaluate, review and enhance quality	Ability to focus on quality
Ability to apply knowledge in practical situations	Ability to apply knowledge in practice	Ability to translate knowledge into practice	Ability to apply knowledge in practical situations
Commitment to the conservation of the environment	Commitment to look after the environment	Environmental and economic consciousness	Commitment to the conservation of the environment

Table 1 Comparison of generic competences in the four regions. Commonalities and differences in relation to Tuning projects (continued)

EUROPE	LATIN AMERICA	AFRICA	RUSSIA
Capacity to generate new ideas (creativity)	Creative skills	Ability for creative and innovative thinking	Capacity to generate new ideas (creativity)
Ability to work autonomously	Ability to work autonomously	Ability to work independently	Ability to innovate
Capacity to learn and stay up-to-date with learning	Ability to learn and update learning	Ability to learn and capacity for life long learning	Ability to work autonomously
Interpersonal and interaction skills	Interpersonal skills	Communication and interpersonal skills	Capacity to learn and stay up-to-date with learning
Ability to act on the basis of ethical reasoning	Ethical commitment	Professionalism, ethical values and commitment to UBUNTU (respect for the well being and dignity of fellow human beings)	Interpersonal and interaction skills
Ability to be critical and self-critical	Critical and self-critical abilities	Capacity for critical evaluation and self awareness	Ability to act on the basis of ethical reasoning
Ability to work in a team	Ability to work as part of a team	Leadership, management and team work skills	Ability to be critical and self-critical
Ability to motivate people and move toward common goals	Ability to motivate and work towards common goals		Ability for critical thinking
			Ability to work in a team

Table 1
 Comparison of generic competences in the four regions. Commonalities and differences in relation to Tuning projects (continued)

EUROPE	LATIN AMERICA	AFRICA	RUSSIA
Ability to adapt to and act in new situations	Ability to react to new situations	Flexibility, adaptability and ability to anticipate and respond to new situations	
Ability to work in an international context	Ability to work in international contexts	Ability to work in an intra and intercultural and/or international context	
Ability to plan and manage time	Ability to organise and plan time		Ability to plan and manage time
Knowledge and understanding of the subject area and understanding of the	Knowledge regarding the area of study and related professions		Knowledge and understanding of the subject area and understanding of the
Ability to design and manage projects	Ability to formulate and manage projects		Ability to design and manage projects
Ability to undertake research at an appropriate level	Capacity for investigation		Ability to undertake research at an appropriate level
Ability to communicate in a second language	Ability to communicate in a second language		Ability to communicate in a second language
Ability to act with social responsibility and civic awareness	Social responsibility and commitment to citizenship		Ability to act with social responsibility and civic awareness
Appreciation of and respect for diversity and multiculturality	Value and respect for diversity and multiculturality		Appreciation of and respect for diversity and multiculturality

Table 1 Comparison of generic competences in the four regions. Commonalities and differences in relation to Tuning projects (continued)

EUROPE	LATIN AMERICA	AFRICA	RUSSIA
Spirit of enterprise, ability to take initiative		Self confidence, entrepreneurial spirit and skills	
Ability to communicate with non-experts of one's field			Ability to communicate with non-experts of one's field
Commitment to safety			Commitment to safety
	Commitment to socio-cultural environment	Commitment to preserve and to add value to the African identity and cultural heritage	
			Ability to focus on results
Ability to show awareness of equal opportunities and gender issues			Ability to resolve conflicts and negotiate
Determination and perseverance in the tasks given and responsibilities taken			

The first observation to make is in terms of formulation of the competences. As seen in Table 1, there are **16 common generic competences** in the 4 projects, 10 shared competences in 3 regions, 4 competences that are replicated in 2 regions and then 4 competences that appear only in one region but were not considered in the others. In the case of the competences identified as common, each region proposed a different formulation, but the essence of the competence was essentially the same.

This comparison of generic competences in the four regions shows that in some projects there are generic competences that point to the same focus but are described as more than one competence. For example in Russia, the competence related to quality, appears as two: *Ability to focus on quality* and *Ability to evaluate and maintain the quality of work produced*. Also in the same project, critical capabilities are reflected as two competences: *Ability to be critical and self-critical* and *Ability for critical thinking*. Similarly, *Creativity* is split into two competences: *Capacity to generate new ideas (creativity)* and *Ability to innovate*. This could be interpreted as the importance given in Russia to quality, creativity and critical thinking, requiring two competences that address each of the three aspects.

Unlike other regions, Africa defined only 18 generic competences, and in many cases incorporated more than one aspect into the formulation. This compact construction of the list of competences could reflect a more collective aspect of the context. In Africa, the agreements reached by academics in the definition of generic competences did not include aspects related to: *Ability to plan and manage time; and manage project design; research skill; communicate in a second language; social responsibility and civic awareness; as well as knowledge regarding the subject area*. In other cases, as Africa only identified 18 generic competences, some of them have in their definition more than one competence with respect to other regions. Such is the case for *Problem solving* and *Decision making*, that in the other three regions they appear as two separate competences and in Africa it is defined as *Objective decision making and practical cost effective problem solving*.

On the other hand in Russia, among the 30 competences, three were not included that appear in the other three regions: *Ability to work in an international context; Leadership; and Ability to adapt to new situations*. An open question for further discussion could be focused in relation to the non-inclusion of these competences in a Russian university degree profile.

There are two competences that appear only in Europe and Russia, which are: *Ability to communicate with non-experts in the field; and Commitment to*

safety. *Entrepreneurial spirit* appears in Europe and Africa but it is not so relevant in Latin America and Russia.

Finally, there are 4 competences that occur in only one region. Russia identified *Ability to focus on results* and *Ability to resolve conflicts and negotiate*, which did not appear in other lists. Only Europe included the *Ability to show awareness of equal opportunities and gender issues* and *Determination and perseverance in the tasks given and responsibilities taken*.

The diversity of the identified generic competences in each context shows the peculiarities of regions, and highlights their local nature. However, the fact that 16 common competences were agreed indicates their global scope, and that is the focus of this paper. These 16 common generic competences can be organized into groups based on some underlying theory or logic (this is called classification¹⁴ of competences). Classification enhances theoretical and practical understanding¹⁵ and significance.¹⁶ According to Boyatzis¹⁷ there are different ways to classify competences. The two main options are organizing competences based on prior theory or classifying competences based on empirical evidence. Boyatzis further mentions several relationships that may exist among competences namely complimentary, compensatory, antagonism, and alternate manifestation depending on the nature of their influence and interaction with each other. Boyatzis asserts, as several competences can be related, there may also be a certain type of relationship between competence classes. Apart from debate on advantages and disadvantages of each of the methods, theoretical classification is a relatively easier and more stable framework to start with. Therefore, it seems to be a more prudent strategy to begin the comparative analysis with some basic predefined theoretical classification scheme for subsequent empirical analysis.

¹⁴ Fotis Draganidis, Paraskevi Champoulou, and Gregoris Mentzas, "A Semantic Web Architecture for Integrating Competence Management and Learning Paths," *Journal of Knowledge Management* 12, no. 6 (2008): 121-136.

¹⁵ Anne Marelli, Janis Tondora, and Michael Hoge, "Strategies for Developing Competency Model," *Administration and Policy in Mental Health* 32, no. 5/6 (2005): 533-561.

¹⁶ Charles Woodruffe, "What is Meant By Competency?," *Leadership and Organizational Development Journal* 14, no. 1 (1993): 29-36.

¹⁷ Richard E. Boyatzis, Daniel Goleman, and Kenneth Rhee, "Clustering Competence in Emotional Intelligence Insights for the Emotional Competence Inventory," in *Handbook of Emotional Intelligence*, edited by Reuven Bar-On and James D. A. Parker (San Francisco: Jossey-Bass, 2000).

III. Theoretical classification

In the literature, several ways of classifying competences are found. Researchers often classify competences¹⁸ based on their logic, theory and purpose of the study.¹⁹ In some education systems generic competences have been categorized and grouped into clusters. While there is considerable diversity in how generic competences are organized, there are some clusters of competences common to many taxonomies. Kemp and Seagraves²⁰ in their review of the classifications developed in the United Kingdom Higher Education system identify the following grouping: *written and verbal communication skills; interpersonal skills; numeracy and information technology*. There are two international projects which conceptualise generic competences into categories: the OECD's Definition and Selection of Competences (DeSeCo) Project²¹ classifies generic competences into three broad categories as follows: *Ability to use tools interactively; Ability to act in socially heterogeneous groups; and Ability to act autonomously*. The 21st century skills project²² uses four categories after consideration of a number of other conceptualizations as follows: *Ways of thinking; Ways of working together; Tools for working; and Living in the world*. The suggested broad-category conceptualization of generic competences for the Australian Qualification Framework (AQF) policy is: *basic fundamental skills; people skills; thinking skills; and personal world view skills*. Finally, the Dublin descriptors refer to the following five dimensions: *'knowledge and understanding'; 'applying knowledge and understanding'; 'making judgements'; 'communication'; and 'learning skills'*.

All classifications described above follow different approaches. Since this article focuses on the experiences of the Tuning methodology in different regions

¹⁸ Seung Youn Chyung, Donald Stepich, and David Cox, "Building a competency-based curriculum architecture to educate 21st-century business practitioners," *Journal of Education for Business* July/August (2006): 307-314.

¹⁹ Jürgen Mühlbacher; Michaela Nettekoven, and Anna Putnová, "Competence Development in the Czech Republic," *Journal of Global Business and Technology* 5, no. 2 (2009).

²⁰ Jan j. Kemp, and Liz Seagraves, "Transferable Skills--Can Higher Education Deliver?" *Studies in Higher Education* 20, no. 3 (1995):315-329. (Retrieved from Academic Search Premier on September 27, 2010).

²¹ Dominique Simone Rychen and Laura Hersh Salganik, *Key Competencies for a Successful Life and a Well-Functioning Society* (Hogrefe Publishing GmbH, 2003).

²² Kaye Bowman, *Background paper for the AQF Council on generic skills*. Australian Qualifications Framework Council (2010).

we intend to use the Tuning in 2001²³ classification of the generic competences. This classification divides the generic competences into three categories:

1. **Instrumental Competences:** Those having an instrumental function. They include:
 - *Cognitive* abilities, capacity to understand and manipulate ideas and thoughts.
 - *Methodological* capacities to manipulate the environment: organising time and strategies of learning, making decisions or solving problems.
 - *Technological* skills related to use of technological devices, computing and information management skills.
 - *Linguistic* skills such as oral and written communication or knowledge of a second language.
2. **Interpersonal Competences:** *Individual* abilities relating to the capacity to express one's own feelings, critical and self-critical abilities. *Social skills* relating to interpersonal skills or team-work or the expression of social or ethical commitment. These tend to favour processes of social interaction and of co-operation.
3. **Systemic competences:** those skills and abilities concerning *whole systems*. They suppose a combination of understanding, sensibility and knowledge that allows one to see how the parts of a whole relate and come together. These capacities include the ability to plan changes so as to make improvements in whole systems and to design new systems. Systemic competences require as a base the prior acquisition of instrumental and interpersonal competences.

Following the Tuning classification, the distribution of the **16 global generic competences** in the four regions is as follows:

Table 2
Tuning classification of generic competences

Instrumental Competences
<ul style="list-style-type: none"> — Information management skills — Computing skills — Capacity for abstract thinking, analysis and synthesis — Problem solving — Decision making — Oral and written communication

²³ Julia González and Robert Wagenaar, eds., *Tuning educational structures in Europe: Final Report. Phase One* (Bilbao: University of Deusto and University of Groningen, 2003), 70-71.

Table 2
Tuning classification of generic competences (continued)

Interpersonal Competences
<ul style="list-style-type: none"> — Interpersonal skills — Critical and self-critical abilities — Teamwork — Ethical commitment
Systemic Competences
<ul style="list-style-type: none"> — Ability to apply knowledge in practice — Concern for quality — Commitment to the conservation of the environment — Creativity — Ability to work autonomously — Capacity to learn actively

IV. Empirical categorisation

As was explained, there are different theoretical classifications of generic competences but we can also categorize them as a result of empirical analysis. In all Tuning projects there is a **consultation process** following the initial definition of generic competences. Change and the variety of contexts both require a constant check on social demands for degree profiles. This underlines the need for consultation, and constant revision of information on adequacy. The language of competences could be considered more appropriate for consultation and dialogue with groups not directly involved in academic life, and can contribute to the necessary reflection for the development of new degrees and for permanent systems of updating existing ones. This enquiry was addressed to students, academics, employers and graduates, contacted by the academics participating in each Tuning project. The questionnaire consisted of the list of generic competences identified in each region. For each competence, the respondents were asked to indicate: 1) the **importance** of the competence, in his/her opinion, for work in their profession; and 2) the level of **achievement** of the competence that they estimated was reached as a result of taking their degree programme. To indicate this respondents were asked to use a scale of 1 = none to 4 = strong.

48,343 questionnaires were collected about generic competences, involving 82 countries, from 23 different subject areas and 410 universities

around the world. The data relating to the sample participating in the 4 studies are presented below. Given the richness of the data collected and the possibilities offered, there is a need to focus and thus, this paper will concentrate only on one of the groups: the graduates.

Table 3
Tuning projects in the four regions.
Distribution of questionnaires received
related to generic competences per group and per region

	Graduates		Employers		Academics		Students	
	N	%	N	%	N	%	N	%
Tuning Africa	1,215	24.4	977	19.6	1,297	26	1,500	30
Tuning Europe	1,948	26.5	879	12.4	2,041	28.8	2,219	31.3
Tuning Latin America	8,462	30.9	2,278	8.3	5,443	19.9	11,215	40.9
Tuning Russia	2,314	26	1,856	21	2,220	25	2,479	28
Total	13,939	28.8	5,990	12.4	11,001	22.8	17,413	36

Graduates represent 28.8% of the responses from the four regions and the correlation coefficient (Pearson's r) between graduates and the other groups (academics, students and employers) is over 0.88 in all the cases. Furthermore, they provide a real perspective on the importance of generic competences in study and in work, and of their achievement, having received a university education and then having entered society. This comparative analysis, therefore, focuses on the perceptions of graduates on the importance and achievement of competences.

It is intended to compare the perception of graduates from Africa, Europe, Latin America and Russia in relation to the generic competences defined for each context. For this, first the individual results of each study in relation to graduates are presented to enable comparison. We can then ask what is common and what is different in the graduates' valuation and grouping of the different generic competences?

V. Methodology for the analysis

In terms of methodology, two approaches have been taken. Firstly, a general overview of the average and variance on the generic competences helps us have a clear picture of the levels of two main indicators, importance

and achievement; and secondly, the use of factor analysis to summarize the dimensions in every context.

In order to proceed with the first step of the analysis, we need to take into account that the data collected in Tuning surveys has a hierarchical structure, in the sense that individuals are nested in universities themselves, and universities are nested in countries, forming a hierarchical structure. A multilevel approach²⁴ has been taken here, as the data, due to this clustering effect, are not fully independent from each other and the results cannot be considered as completely random.

To cope with this hierarchically structured data, an intra-class correlation needed to be calculated to check whether the differences between the aggregate units was high enough, and, therefore, to use the multilevel method for this purpose.

All the calculations of the data at university and country level were derived using this method as it takes into account, and controls for, the structure of data clustering. An additional advantage is that multilevel models allow the simultaneous appreciation of the difference at the individual respondent level and at the aggregate (university, subject area) level.

Once the clustering effect in the sample had been neutralized for comparison purposes, the mean scores for every generic competence were computed, in terms of the importance of the generic competence for the respondent, and in terms of the level of achievement the respondent believed has been reached for this particular competence in their context. The data analysis shows both measures, together with the average gap between importance and achievement.

The second approach has to do with the need to summarize information in every context and also identify the underlying dimensions behind the variables, in this case, the generic competences. In order to do this factor analysis was used as a method of data reduction, since it can take many variables and explain them with a few “factors” or “components”. This method follows the logic that correlated variables are grouped together and separated from other variables with low or no correlation. If two items or dimensions are highly correlated, they are likely to represent highly related phenomena, and if they tell us about the same underlying variance in the data, combining them to form a single measure is reasonable. Once patterns of correlations are identified, the researcher provides an operational definition for the latent constructs and interprets them in terms of the substantive

²⁴ Anthony S. Bryk and Stephen W. Raudenbusch, *Hierarchical Linear Models: Applications and Data Analysis Methods* (Sage: Newbury Park, CA, 1992).

meaning of the latent dimension extracted. This method²⁵ is exploratory in the sense that it is not theory driven, and we cannot test a previous theory by creating a theoretical model; it basically extracts underlying dimensions based on the high correlation within the same factor and low correlation scores across factors.²⁶

This method helps us to summarize all the information, and in our case helps to compare different contexts, as both the composition of the factors (based on correlation between the variables) and the number of factors extracted (differences in interpretation of the latent constructs) may be different, and these differences and similarities are what are interesting. The composition of the factors, and the number of dimensions, will provide important information on the composition and the latent structure of the generic competences across regions. In this paper, we have focused for the factor analyses in the importance of generic competences.

VI. Variance analysis

The following table shows a comparison between the four regions in relation to the importance and achievement given by the graduates to the 16 global generic competences. The gap between the level of importance and the level of achievement implies a complementary aspect to be considered in the comparative analysis.

European graduates have an average of evaluation of competences between 3.67 and 2.85 on a scale of 1-4. They, therefore, consider that the competences are relevant. All competences are perceived to have had lower degree of achievement, between 3.1 and 2.21. The gap between importance and achievement has a range that goes from 0.4 to 1.14 where *Ability to work autonomously* seems to be showing the smallest difference between importance and achievement and *Ability to apply knowledge in practical situations* the largest difference. This result which tends to repeat itself all through the study proves that reality is always lower than the planned objectives. The relevant point, however is to realize the level of the gap and how this relates to the importance of the competence.

²⁵ Rudolph J. Rummel, *Applied factor analysis* (Evanston: Northwestern University Press, 1970).

²⁶ Kim Jae On, *Introduction to Factor Analysis: What It Is and How To Do It* (California: Sage, 1978).

Table 4
 Comparison of the 16 global generic competences in terms of importance, achievement and gap between both per region

Generic Competences	Europe			Latin America			Africa			Russia						
	Order	Importance	Achievement	Gap between Imp. and Ach.	Order	Importance	Achievement	Gap between Imp. and Ach.	Order	Importance	Achievement	Gap between Imp. and Ach.				
Capacity for abstract thinking, analysis and synthesis	3	3.55	2.96	0.59	7	3.67	2.96	0.71	2	3.65	2.89	0.76	13	3.37	2.99	0.38
Problem solving	2	3.6	2.78	0.82	3	3.71	2.94	0.77	6	3.56	2.72	0.84	2	3.59	3.08	0.51
Decision making	5	3.49	2.63	0.86	5	3.7	2.84	0.86	6	3.56	2.72	0.84	3	3.56	3.06	0.5
Oral and written communication	6	3.49	2.8	0.69	8	3.64	2.88	0.76	13	3.47	2.8	0.67	9	3.5	3.11	0.39
Information management skills	8	3.46	3.02	0.44	10	3.56	2.91	0.65	9	3.53	2.58	0.95	6	3.52	3.26	0.26
Computing skills	13	3.35	2.57	0.78	11	3.55	2.47	1.08	9	3.53	2.58	0.95	7	3.51	3.03	0.48
Interpersonal skills	14	3.34	2.57	0.77	15	3.5	2.86	0.64	10	3.52	2.78	0.74	10	3.44	3.05	0.39
Ethical commitment	15	3.05	2.43	0.62	2	3.72	3.13	0.59	5	3.56	2.68	0.88	16	3.27	2.95	0.32
Teamwork	9	3.41	2.75	0.66	9	3.63	3.12	0.51	3	3.58	2.76	0.82	12	3.43	2.99	0.44

African graduates have an average of evaluation of competences between 3.68 and 3.35 on a scale of 1-4, meaning that the selection of the competences was perceived as very relevant, and therefore the institutions should concentrate in the development of these selected competences. All competences are perceived with a lower degree of achievement, between 2.81 and 2.54. The gap between importance and achievement has a range that goes from 0.67 to 0.95 where *Ability to communicate effectively in official/national and local language* shows the smallest difference between importance and achievement and *Capacity to use innovative and appropriate technologies* the largest.

Latin American graduates have an average evaluation of competences between 3.72 and 3.25. The similarity of the degree of perceived importance between the African and the Latin American graduates is noteworthy. Again, all competences are perceived with a lower degree of achievement, between 3.13 and 2.43, the largest range compared with other regions. The gap between importance and achievement has a range that goes from 0.51 to 1.08 where *Ability to work as part of a team* shows the smallest difference between importance and achievement and *Ability to use information and communication technologies* the largest.

The results for Russia are very similar but with a bigger gap. Russian graduates have an average evaluation of the importance of the competences between 3.66 and 2.99. All competences are perceived with a lower degree of achievement, between 3.26 and 2.67. The gap between importance and achievement has a range that goes from 0.26 to 0.67 where *Skills in the use of information and communication technologies* shows the smallest difference between importance and achievement and *Ability to apply knowledge in practical situations* the largest.

In terms of importance, graduates in all four regions identified two competences among the top six: *Problem solving* and *Capacity to apply knowledge in practice*. There are also two competences at the bottom in all four regions: *Commitment to the conservation of the environment* and *Critical and self-critical abilities*. There are other competences which in some regions are considered very important and less important in others: *Capacity to learn actively* is clearly one of the most important for Europe and Latin America but it is rated among the least important in Africa and Russia. *Ethical commitment* is very important in Latin America and Africa but less important in Europe and Russia.

Graduates in all four regions rated three competences among the five with the largest gap between level of importance and level of achievement: *Ability to apply knowledge in practice*, *Creativity* and *Decision-making*. While Russian graduates considered that *Computer skills* is one of the

competences with the smallest gap between importance and achievement, Latin American and African graduates perceived this competence to have the largest gap. This reflects an important difference, in that a competence may be rated similarly in all contexts, but differences in achievement point to the fact that this may be problematic in some regions and not in others.

The attempts to unfold the reasoning behind these differences in the perception and valuing of different competences in each of the regions can enrich the understanding of cultural perceptions of needs and is a field which offers a great capacity for further research.

VII. Factor analysis

The factor analysis by region shows differences in the way the 16 generic competences are grouped according to the perspectives of graduates. Russia shows 4 factors, Europe 3 factors, Latin America and Africa only 1 factor each.

The factorial analysis of the 16 global competences has the following features from the perspective of Russian graduates:

Table 5

Rotated factor matrix for generic competences in Russia: Graduates

Factor	Competence	Component			
		1	2	3	4
1	Ability to evaluate and maintain the quality of work produced	0.957	0.085	-0.005	0.103
	Ability to search for, process and analyse information from a variety of sources	0.957	0.098	-0.016	0.097
	Interpersonal and interaction skills	0.951	0.084	0.000	0.112
	Ability to be critical and self-critical	0.938	0.071	-0.009	0.130
	Ability to focus on quality	0.913	0.175	0.045	0.016
	Ability to innovate	0.896	0.153	0.070	0.003
	Commitment to the conservation of the environment	0.711	-0.067	0.061	0.424
	Ability to act on the basis of ethical reasoning	0.650	-0.052	0.094	0.541

Table 5
 Rotated factor matrix for generic competences in Russia: Graduates (continued)

Factor	Competence	Component			
		1	2	3	4
2	Ability to work autonomously	0.029	0.738	0.121	0.156
	Capacity to learn and stay up-to-date with learning	0.059	0.704	0.191	0.047
	Ability to communicate both orally and in written form in the native language	0.081	0.628	0.202	0.145
	Ability to identify, pose and resolve problems	0.098	0.511	0.470	-0.161
3	Capacity to generate new ideas (creativity)	-0.055	0.144	0.726	0.046
	Ability to work in a team	0.023	0.141	0.722	0.090
	Ability for abstract thinking, analysis and synthesis	-0.065	0.131	0.718	0.139
	Ability to apply knowledge in practical situations	0.206	0.398	0.487	-0.015
	Skills in the use of information and communications technologies	0.099	0.418	0.462	0.095
4	Ability for critical thinking	0.210	0.211	0.162	0.779
	Ability to make reasoned decisions	0.190	0.488	0.102	0.573

67,12% variance explained.

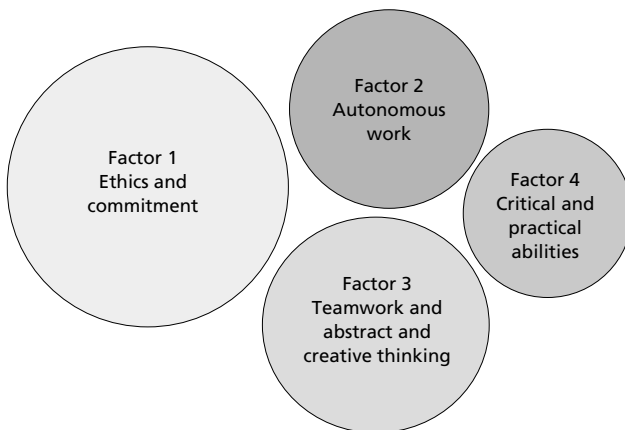


Figure 1
 Interpretation of factors for Graduates in Russia

For the case of Russian graduates, four factors have been extracted, with slight differences from the European and Latin American graduates. Ethics and commitment (factor 1) constitutes for Russian graduates a factor on its own, and so does Analysis and autonomous work (factor 2). Factor 3 is called Teamwork, abstract and creative thinking, as it is composed of competences such as abstract thinking, creativity and teamwork. Critical thinking and reasoned decision making constitute a factor on its own, suggesting specific and distinctive relevance of these two competences, which can be interpreted as Critical and practical abilities (factor 4).

Returning to the classification used in Tuning of instrumental, interpersonal and systemic competences, and crossing this categorization with the factors, Table 5a shows that in factor 1 there is a greater presence of systemic competences, factor 2 and 3 have a balance between instrumental and systemic competences. Factor 4 does not show a strong relationship with any of the three theoretical categories.

The factorial analysis of the 16 global competences has the following features from the perspective of European graduates:

Table 6

Rotated factor matrix for generic competences in Europe: Graduates

Factor	Competence	Component		
		1	2	3
1	Ability for abstract thinking, analysis and synthesis	0.627	-0.068	-0.048
	Ability to search for, process and analyse information from a variety of sources	0.626	0.029	0.140
	Ability to identify, pose and resolve problems	0.607	0.254	0.106
	Ability to work autonomously	0.594	0.174	-0.070
	Capacity to generate new ideas (creativity)	0.559	0.023	0.332
	Capacity to learn and stay up-to-date with learning	0.538	0.188	0.216
	Ability to be critical and self-critical	0.517	0.256	0.123
	Skills in the use of information and communications technologies	0.337	0.220	0.184

Table 6
Rotated factor matrix for generic competences in Europe: Graduates (continued)

Factor	Competence	Component		
		1	2	3
2	Interpersonal and interaction skills	0.005	0.781	0.143
	Ability to work in a team	-0.009	0.737	0.205
	Ability to communicate both orally and through the written word in native language	0.230	0.510	-0.003
	Ability to make reasoned decisions	0.350	0.489	0.180
	Ability to apply knowledge in practical situations	0.233	0.374	0.249
3	Commitment to the conservation of the environment	0.055	0.102	0.816
	Ability to act on the basis of ethical reasoning	0.078	0.255	0.753
	Ability to evaluate and maintain the quality of work produced	0.392	0.204	0.490

43,21% Variance explained

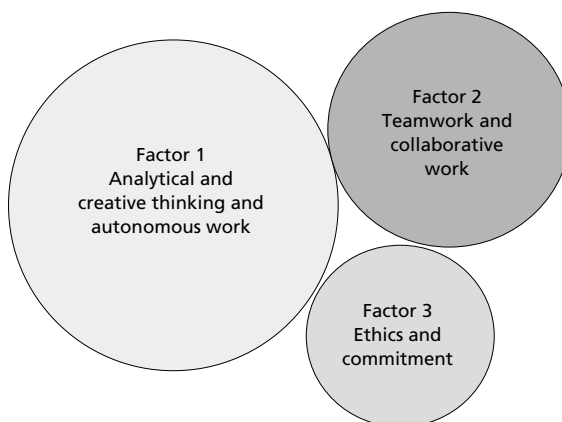


Figure 2
Interpretation of the factors for graduates in Europe

For Europe, a possible way to classify the competences according to their grouping in dimensions or factors would be by interpreting the first factor as composed of competences addressing Analytical and creative thinking and autonomous work as they focus in autonomous work, analysis and information processing. The competences which comprise the second factor could be interpreted as Teamwork and collaborative work. The competences configuring factor two are mainly related to communication skills, decision making and teamwork. Factor three can be interpreted as Ethics and commitment, as it includes those competences related to ethics, commitment to environment, quality etc.

In factor 1 there is a higher proportion of instrumental competences, factor 2 is divided into systemic and interpersonal competences and factor 3 is clearly identified with systemic competences.

The factorial analysis of the 16 global competences has the following features from the perspective of Latin American graduates:

Table 7
Rotated factor matrix for generic
competences in Latin America: Graduates

Factor	Competence	Component	
		1	2
1	Capacity for abstraction, analysis, and synthesis.	0.714	0.074
	Ability to learn and update learning.	0.710	0.217
	Ability to search for, process, and analyse information from a variety of sources.	0.658	0.271
	Capacity for oral and written communication.	0.630	0.271
	Ability to identify, pose, and solve problems.	0.621	0.385
	Ability to apply knowledge in practice.	0.596	0.158
	Critical and self-critical abilities.	0.551	0.362
	Ability to use information and communication technology.	0.540	0.324
	Ability to work autonomously.	0.467	0.387

Table 7
Rotated factor matrix for generic
competences in Latin America: Graduates (continued)

Factor	Competence	Component	
		1	2
2	Ability to work as part of a team.	0.217	0.713
	Interpersonal skills.	0.235	0.711
	Commitment to look after the environment	0.058	0.668
	Ethical commitment.	0.367	0.601
	Ability to make decisions.	0.407	0.591
	Commitment to quality.	0.416	0.549
	Creative skills.	0.446	0.446

47,58% Variance explained

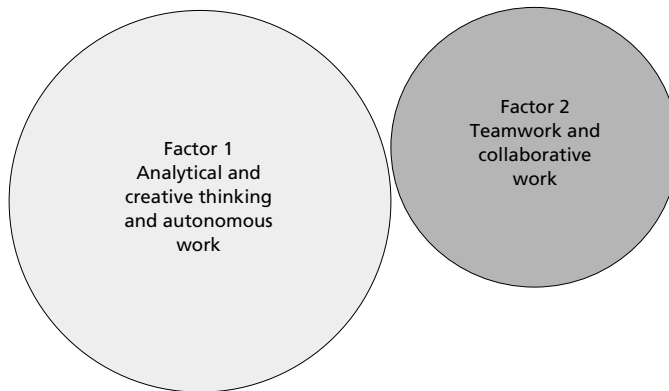


Figure 3
Interpretation of factors for graduates in Latin America

Two main factors were extracted for the Latin America experience. From graduates the groupings and the composition of each factor, the following interpretation can be made; a first factor addresses those competences related to Analytical and creative thinking and autonomous work, and the second factor can be interpreted as Teamwork and collaborative work. We can

immediately note a difference with the European graduates, in the sense that ethical and commitment skills do not constitute a factor on its own, but those competences are distributed across the two factors.

Analysing the factors with the Tuning classification we can see that factor 1 is closely linked to instrumental competences and in factor 2 there is a balanced presence of systemic and interpersonal competences.

The factorial analysis of the 16 global competences has the following features from the perspective of African graduates:

Table 8
Rotated factor matrix for generic competences in Africa: Graduates

Factor	Competence	Component
		1
1	Ability for creative and innovative thinking	0.750
	Communication and interpersonal skills	0.735
	Capacity to use innovative and appropriate technologies	0.734
	Ability to evaluate, review and enhance quality	0.725
	Objective decision making and practical cost effective problem solving	0.711
	Ability to translate knowledge into practice	0.711
	Leadership, management and team work skills	0.710
	Ability to learn to learn and capacity for lifelong learning	0.692
	Ability for conceptual thinking, analysis and synthesis	0.666
	Environmental and economic consciousness	0.660
	Capacity for critical evaluation and self awareness	0.635
	Ability to work independently	0.614
	Professionalism, ethical values and commitment to UBUNTU (respect for the well being and dignity of fellow human beings)	0.612
	Ability to communicate effectively in official/ national and local language	0.576

In the case of Africa, graduates seem to give the same relevance to all competences, so no grouping has been extracted and all variables are in the same factor. Could it be concluded that there is a more holistic view, a more integrated or a less structured perspective of educational needs? This remains an open question.

Comparatively, in relation to the three categories, one could say that in the case of Europe and Latin America there are factors “dominated” by instrumental competences (factor 1 in both cases) while in Russia factors are more closely linked to systemic competences.

VIII. Some conclusions

The level of reflection and development of competences in the definition and designing of degree profiles varies according to traditions and educational systems. A number of conclusions can be drawn, while significant questions remain open to be dealt with in future work.

1. There are **16 competences which are highlighted internationally**. From the comparison we can interpret that there are 16 global competences seen to be necessary to define any university degree. Despite having different formulations, the essence of the 16 competences are listed in the agreements of hundreds of academics who worked with the Tuning project in the four regions.
2. In each region there are other competences, not in the 16, which have high importance and these **differences** are very relevant. The 16 global competences are part of a larger list in each region, where there are other competences, some are identified in more than one region whilst others do not and are exclusively linked to the local context. This exclusivity coexisting with globalisation reflects flexibility of the Tuning approach in each region.
3. It is also critical to take into consideration the entire list, the complete picture of **combination of elements** as they define the profiles for citizenship that is considered as desirable in every region. The data suggests that the academics were aware of the critical value of the selection of competences required by different types of societies and how the present context was perceived as well as the possible evolution into the future.
4. The **relevance of the context** is critical, and is also the result of major global trends. The education systems of different countries refer to

various combinations of competences. Such diversity may be valuable; however, if such generic competences are central elements of what defines a “graduate” it poses a challenge in terms of transfer between different higher education systems. On the other hand, there are clearly differences in the expectations and conceptions of generic competences which reflect cultural values and concepts. It would be culturally homogenizing to expect that the generic competences of a graduate valued in one region would be the same as those valued in other societies. The importance of context within which the generic competences are to be applied is critical. Each list of generic competences is abstracted from a context in which they have meaning. When generic competences are described without context, their meaning not anchored, and they imply learning without context.

5. The **consultation with social groups** is relevant to contrast the expectations of society in terms of the competences to be developed at university level. A joint reflection from the universities based on updated data is important in the development of adequate degrees. This demands not only a reflection on what local social and professional groups value and demand from their programmes but also the perspective of broader trends taking place at global level.
6. The **results of the consultation** show that despite being identified as common competences in all regions, and having a high level of validation as important characteristics of graduates (the ranking in terms of importance of competences has a range from 3.68 to 2.85 taking the four regions), **the perception of graduates about what is considered important varies from region to region**. Only 2 competences were identified as common among the 6 considered most important in the four regions. Likewise, at the other end of the importance scale, coincidences of graduates in Europe, Africa, Latin America and Russia were in just 2 competences. The rest of the analysed competences vary in order of importance across the regions, showing again the context of its constitution. It is significant that when the gaps between importance and achievement are analysed, coincidences increase in terms of which require further attention. These aspects between the important and the achievable enable regions to open a number of questions on how to teach and assess certain competences.
7. The **factor analysis** emphasizes more clearly the importance of regional contexts for the clustering of competences. There are not many similarities in ways of grouping competences. Taking as

reference the Tuning classification of instrumental, interpersonal and systemic, in the four regions the response of graduates showed different ways of grouping. The analysis suggested that African graduates conceive the 16 competences in the same way, and the result is a single factor that integrates the whole. At the other extreme Russian graduates conceive the 16 competences as 4 factors. Although the study compares the 16 common competences, the factors are not comparable by region. This conclusion is very important because we may think that in order to be globally comparable we must include in the degree profiles those 16 competences. However, the phrasing and linkage to each other results in an unique combination totally related to the regional context.

8. **Global competences are articulated with a contextual logic.** The 16 common generic competences are global because of their coincidence in the four regions, but they have a way of being perceived and then organized in factors that responds to regional logic. This combination of global and local in generic competences is part of the Tuning project proposal, to work on common issues but respecting diversity. This example of 16 competences confirms this postulate of the common and the diverse coexisting at the core of the competences.

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Use and problems in the language of discipline-based qualification statements: learning from Tuning and its analogues

Clifford Adelman

Abstract: This essay is an empirical account of English language use, across three continents, in 40 Tuning and analogous discipline-based statements of desired demonstrated competences and learning outcomes in higher education. It is primarily concerned with lexical and semantic matters, takes the perspective of the student as the primary reader and beneficiary of these statements, and is as much proscriptive as it is analytical. It provides frequencies of verbs used in such statements, flags commonly but unacceptable verbs and syntax, offers a different grouping of competence-oriented verbs from that inherited from Bloom *et al's* Taxonomy, and suggests what we should do in revisiting statements of learning outcomes that have taken root in the literature.

Keywords: language, verbs, syntax, voice, and diction level; competence; meanings and contradictions; reference points; benchmarking versus Tuning.

I. Introduction: What this essay will do and why

This essay follows the spirit of the first evaluation of Tuning competence statements¹ in that it is grounded in prose actually written and promulgated by discipline-based committees. While it endorses most of the notion of “competence” set forth in the follow-up recommended template for writing Degree Profiles,² it departs from the perspective of that document in the categories of its analysis, and explicitly rejects the use of some key terms (e.g. “ability”) in statements of both competences (generic and subject-specific) and learning outcomes. The language of competence and learning outcome statements is its principal topic, and it finds many current statements wanting on lexical and semantic grounds.

¹ Lucie de Bruin et al., *Competences in Education and Cross-Border Recognition: Evaluation of the Usefulness of Learning Outcomes and Competences for International Recognition* (The Hague: NUFFIC, 2007).

² Jenneke Lokhoff et al., *A Tuning Guide to Formulating Degree Programme Profiles*. (Bilbao, Groningen, and The Hague: CoRe2 Project, 2010).

We begin with the following questions:

- What, empirically, are the lexical and syntactic qualities of current competency and learning outcome statements found in discipline-related guidances across national settings?
- Do these statements provide clear direction to current and prospective students as to what they are expected to demonstrate to qualify for degree awards?
- Which lexical features of those statements are blockages to student understanding and disciplinary clarity?
- Which lexical features in these statements are most likely to fulfill the ideals of universal clarity of learning outcomes to all stakeholders in higher education?
- How frequently are these features used in extant statements of desired competences and learning outcomes, and in what ways can they be grouped to facilitate future expansions and refinements?
- Along the way, what are the difficulties with the concept of “competence” and how might we come to live with the term? What statements do we encounter in declarations of qualifications for students in higher education that are not “competences” and in what ways? And what do we do about them?

Exploratory answers to those questions are offered on the basis of close-reading³ of high-sounding and high-impact documents that are granted an easy pass in the world of higher education, particularly those documents dealing with what they claim to be student learning outcomes, student qualifications, and student competences. They come from many countries and in many languages. Some, in fact, are national system policy documents; some are association goal statements; some are intended as rallying points for improvement by academic organizations; some are guidances for accrediting and quality assurance bodies; some are voluntary cooperative undertakings by groups of like-minded faculty and administrators. We give them a pass because their intentions are noble.

Under close reading, however, the student is sometimes either buried or outrightly forgotten in these documents, and language has turned fields of

³ Natural Language Processing (NLP) of text that originates in newswires, textbooks, advertising, novels, etc. and is subject to subsequent computer analysis of syntactic behavior requires painstaking entry in databases that is even more demanding than close reading. See, for our primary reference, Beth Levin, *English Verb Classes and Alternations* (Chicago: University of Chicago Press, 1993).

dreams into fields of mud. However noble in intent, the diction and semantic discourse of too many of these statements have become what George Orwell (in his seminal essay, “Politics and the English Language”) called “blah,” words that fall like snow, obliterating distinctive features of the landscape. We all lose our way, and I am sure that writers in languages other than English have made similar observations. Noble intentions deserve better. At the same time, however, close reading reveals the extent to which these statements succeed in providing students a clear map to the types of actions that will carry them on the way to qualifying for degree awards, and the extent to which the faculty groups responsible for constructing discipline-based reference targets for student learning have moved toward that end. Close reading unfortunately turns up both the exemplary and the mumbled in the same sentences, e.g. “the qualifying student will synthesize information and recognize relevance,”⁴ and part of our job is to muffle the mumbling.

This exploration is not about the learning process, nor is it intended as a guide to curriculum design and curricular delivery by academic units. It does not address all the features of a degree program profile, nor the theoretical nature of cognitive competences versus psychomotor competences versus affective competences versus what Sadler⁵ calls “graduate attributes.” On the other hand, though it agrees with Weinert that “competence has become a fashionable term with a vague meaning not only in public use, but also in many social sciences” and is loaded with “considerable surplus meanings,”⁶ this article uneasily retains the word out of methodological consistency: just as verbs used by the sources of our analysis are counted, so are the sources’ use of pivotal terms. This, admittedly, is an imperfect choice, particularly in light of critiques the first version of the *U.S. Degree Qualifications Profile*⁷ received from the field, claiming that the word “competence” implied minimal acceptable performance, hence did not meet standards of qualification statements. It is no surprise that the second version of the DQP⁸ shifted from “competence” to “proficiency.”

⁴ Quality Assurance Agency, *Subject Benchmark Statement: Geography*. (Gloucester, 2007), 12.

⁵ D Royce Sadler, “Making Competent Judgments of Competence,” in *Modeling and Measuring Competencies in Higher Education: Tasks and Challenges*, ed. Sigrid Blömeke et al. (Rotterdam: Sense Publishers, 2013), 13-28.

⁶ Franz E. Weinert, “Concept of Competence: a Conceptual Clarification,” in *Defining and Selecting Key Competencies: Theoretical and Conceptual Foundations*, ed. Dominique Simone Rychen and Laura H. Salganik (Seattle: Hogrefe and Huber, 2001), 45.

⁷ Clifford Adelman et al., *The Degree Qualifications Profile* (Indianapolis: Lumina Foundation for Education, 2011).

⁸ Clifford Adelman et al., *The Degree Qualifications Profile, 2.0* (Indianapolis: Lumina Foundation for Education, 2014).

It is also worth noting at this point that while this article proposes groupings of words in the writing of competency statements for higher education, it does not pretend to offer a definitive theoretically-based taxonomy. It is an *a posteriori* account and analysis, and is informed far more by canons of language style and basic linguistic units than psychology or educational theory. It invites the reader to reflect, dispute, resolve, and re-write.

1. *Why is language important in statements of competence and learning outcomes in higher education?*

The writing of competence and learning outcome statements in education is not a new phenomenon in the English language environments of this paper. Since the publication of *The Taxonomy of Educational Objectives* by Benjamin Bloom and colleagues in 1956,⁹ there has been a stream of modifications and adaptations and accompanying lists of appropriate words to use in such statements,¹⁰ but no systematic examination of how those taxonomies and words have actually been used by generations of education developers. That said, why is examination of formal learning outcome statements in higher education important?

- Both syntactic and lexical features of these statements signal statement-type (competence, metacompetence, discrete outcome) and status (possession, development, goal).
- Voice (declarative, imperative, subjunctive) signals the student-reader (and others) as to whether fulfilling or exceeding the performance described is assumed, required, or simply desired, i.e. the intent of the statement.
- Diction level (on a continuum from concrete/specific to abstract/generalized) provides focus, a camera lens setting on the breadth, tractability, and accessibility of the statement's stated subject.

⁹ Benjamin S. Bloom et al., *The Taxonomy of Educational Objectives* (Boston: Allyn and Bacon, 1956).

¹⁰ See, for noted examples, Lorin W. Anderson and David R. Kratwohl, eds., *A Taxonomy for Learning, Teaching, and Assessing* (New York: Longman, 2001); and John Biggs and Kevin Collis, *The Structure of Observed Learning Outcomes (SOLO) Taxonomy* (New York: Academic Press, 1982). The Assessment Resource Center at Hong Kong Polytechnic University offers a massive bibliography dating to the 1970s (at www.polyu.edu.hk), and 52 campus programs on assessment grounded in learning outcomes statements are listed, with links, at a site provided by North Carolina State University in the U.S. (www2.ncsu.edu).

I am looking at the outputs of different groups of faculty in different disciplines in different countries, outputs that pretend to describe desired points of cognitive development and application in the careers of higher education students, outcomes that these various writing groups understand to represent something called “competence.” Whether these writing groups acknowledged it or not, anything we call a “competence” represents a convergence of declarative knowledge, disposition, and cognitive activity. For example, a student who “identifies” X has to know something about X, is inclined (either autonomously or responding to a direction from an external source) to isolate X from a stream of phenomena, to classify and label it, and (though unstated) merge this activity with others. This is obviously a complex configuration, multifaceted, and sometimes indeterminable.¹¹ It is a “dynamic combination”, though the contributions of “metacognitive skills, interpersonal... skills, and ethical values”¹² will differ by task and environment, and may not be present at all. As will be demonstrated, we read hundreds of Tuning and Tuning-analogous statements of what it takes for students to qualify for a degree in a specific field that unfortunately reflect a far less thoughtful and sensitive a notion of “competence.”

II. Sources, Inclusions, and Exclusions

My sources come from countries in which English is the native language (even when other languages hold legal status or are spoken by notable segments of the population): the U.S., U.K., and Australia. Confining the universe to native English language sources produces a modicum of commonality, minimizes linguistic noise, and at least clamps borders on usage. The one noted exception in this universe lies in my inclusion of the default European English used in the presentation of official Tuning documents from the places of origin of the Tuning enterprise in the Netherlands and Spain.

Some 40 discrete Tuning, benchmarking, and discipline profile statements were examined: eight (8) from the Australian Learning and Teaching Council (ALTC),¹³ ten (10) from the UK’s Quality Assurance Agency (QAA),¹⁴ ten

¹¹ Dominique Simone Rychen and Laura H. Salganik, “A Holistic Model of Competence,” in *Key Competencies for a Successful Life and a Well-Functioning Society*, ed. Rychen, D.S. and Salganik, L.H. (Göttingen: Hogrefe & Huber, 2003), 41-62.

¹² Jenneke Lokhoff et al., *A Tuning Guide to Formulating Degree Programme Profiles*, 51.

¹³ The ALTC pilot Tuning project was funded by the Australian government for the 2010-2011 period. The ALTC has been superseded by the Office of Learning and Teaching.

¹⁴ One of these was not issued by the QAA itself, rather by the UK’s Engineering Council (2013), “as ‘output standards’ [that] evolved from the first edition of the [QAA] subject

(10) from the European Tuning collection, and 12 from Tuning USA.¹⁵ These 40 documents (see Appendix A for a full list) contain 1177 statements of expected student competencies or learning outcomes at the bachelor's/1st degree cycle level (though, in many cases, they also include such statements at the associate's/short cycle, master's, and/or doctoral levels). My analysis focuses only on stated bachelor's degree/1st cycle competences¹⁶ and learning outcomes with the exception of Australian cases in which the Master's is the de facto qualifying degree (architecture, education). Where lists of competences/learning outcomes are presented at both "threshold" and "typical" levels, as they frequently are in QAA documents, the statements under "typical" are chosen for inclusion. The ALTC refers to all its outcome statements as "threshold," in part to distinguish their intent and standards control from the European Tuning's "expected and intended" outcomes.¹⁷

Having acknowledged these sources, it is important to note that they do not share the same purposes or forms, hence their language tapestries will differ in notable ways. A benchmarking statement, such as those of the QAA, is different from a Tuning production. The unit of analysis in a benchmark is the institutional program or department, and any statements of expected learning outcomes are dependent on the offerings and distributional modes of that program or department. By one interpretation, the QAA is not defining degrees, rather the factors that programs and departments consider and weight in designing or revising a curricular program. Thus, a QAA statement can introduce its template of reference points with the virtual command: "We expect all programmes to address the following areas... so that graduating students" will know, understand, apply, etc. "those aspects of the discipline,"¹⁸ but not to indicate comparative weighting of the curriculum or its various modes of delivery. These are not requirements for the award of degrees. The student is not the party addressed. All statements of knowledge about the

benchmark statement for engineering" in 2000 (Quality Assurance Agency, *Subject Benchmark Statement: Engineering*, Gloucester, 2010, 2).

¹⁵ Not All 40 documents are cited in the text. They were selected to represent a range of disciplines and styles of presentation. To be sure, many others could have been included from the European Tuning group, the QAA (which has issued benchmarking statements for 57 disciplines), and Tuning USA, but given the fact that only eight (8) emanate from Australia, it was important to keep the universe relatively balanced among sources.

¹⁶ The reports for Chemical, Civil, Electrical, and Industrial Engineering from the Texas project of Tuning USA distinguish between "pre-engineering" of the first two years of study and upper-level engineering. I include competency statements for both levels.

¹⁷ Tuning Educational Structures Experts Group, "Tuning Australia Pilot Project, 2010-2011," (Groningen, 2011), 9.

¹⁸ Quality Assurance Agency, *Subject Benchmark Statement: Geography* (Gloucester: 2007), 2.

field's core concepts and principles of application are expressed as consensus for academic departments, e.g., for Geography:

- reciprocal relationships
- spatial variation
- patterns, processes, interactions and change
- significant of spatial and temporal scale on physical processes, human processes, and their interactions
- patterns of change
- diverse manners of representation of the human and physical worlds
- range of analytical and observational strategies¹⁹

Benchmarking statements are very persuasive on this discipline profile territory. When they turn the page to student behaviors, on the other hand, their language becomes uncomfortable. Verbal phrases that otherwise would be considered as required learning outcomes become noun phrases governed by fuzzy conditionals, e.g. “students should develop competence in.” Such phrasing does not in any way diminish general masteries that we would acknowledge the field to promote, but too often we get a noun-phrase, such as “decision-making” that walks us into a dead-end wall. What is “decision-making”? Without a context and a challenge, without what Natural Language Processing calls frame-agent-theme-destination,²⁰ it lacks grounding. If we said, instead, “selecting sources and choosing, describing and defending a path of investigation of an unscripted problem,” we are describing what the student does under the otherwise formless banner of “decision-making.” The language landscape of QAA documents is worth including as much to illustrate such alternatives as for its declaratives.

Another feature of benchmarking or Tuning documents in professional fields involves the inclusion and (in many cases) the dominance of statements referring not to what the student does or acquires or learns during the course of education for which universities are responsible, rather to professional activities that take place in work environments after the student leaves higher education. The difference between academic and professional competences is well marked in the literature, and its starkest example in our universe of documents is the QAA benchmark statement for Social Work. Technically, there are 61 competence/learning outcome promulgations, but of these, 37 apply only in future work contexts, e.g. “support service users to take decisions and access services, with the social

¹⁹ Quality Assurance Agency, *Subject Benchmark Statement: Geography*, 3-4.

²⁰ See Rich Pell, “FrameNet, PropBank, VerbNet” (Power Point presentation, faculty.ist.unomaha.edu/ylierler, received January 2, 2014).

worker as navigator, advocate and supporter” or “manage uncertainty, change, and stress in work situations.”²¹ While the rhetoric of presentation may assume (without explicitly saying so) that the first cycle program in social work prepares a graduate to evidence these behaviors, they are not presented as program level learning outcomes, and I chose not to include them in the analysis of the language of competences that an institution of higher education could assess in the course of a student’s degree program. The European Tuning document for Nursing is similar: of 47 subject-specific competences, twelve (12) describe post-degree professional activities that could not be demonstrated even in the clinical portion of the nursing curriculum (for which five competences open with the clinical context stage direction, “Using nursing skills, medical devices, and interventions/ activities to provide optimum care, demonstrates the ability to... ”.22). Those 12 statements are not included in the language analysis that is the subject of this article.

This last observation raises the methodological question of which statements made under the label of “competences” or “learning outcomes” were excluded from the universe of analysis and why. For a notable example, in the European Tuning Reference Points for Business, one reads the agreed on competences, generic and subject specific, only in appendices reporting on the results of surveys concerning their importance. The 31 generic competence statements include 14 describing desired aspects of personal development that, as expressed, could never be directly observed or derived from observation, e.g. “Ability to plan and manage time,” and two statements of desired “appreciation” or “awareness” that are not competences.²³ These 16 statements are not included in the analysis, nor are three similar statements in the subject-specific list, e.g. “work assignment abroad” is not a competence or outcome: it is part of a desired business curriculum.

Then, too, the reader should be aware of the range in the number of competence statements included in these documents. The Australian ALTC discipline groups were instructed to be parsimonious, and followed

²¹ Quality Assurance Agency, *Subject Benchmark Statement: Social Work* (Gloucester: 2008), 12-13.

²² Tuning Subject Area Group for Nursing, *Reference Points for the Design and Delivery of Degree Programmes in Nursing* (Bilbao: University of Deusto, 2011),73-76.

²³ Tuning Subject Area Group for Business and Management Education, *Reference Points for the Design and Delivery of Degree Programs in Business* (Bilbao: University of Deusto, 2009). In fact, a total of 21 statements asserting that the qualified student was “aware” of something, or exhibited “awareness” were excluded from consideration on the grounds that awareness is, at best, primitive consciousness and not a competence.

instructions: the maximum number of outcome statements in any of the Australian reports utilized is seven (7). On the other hand, the Tuning USA project in Marketing included discrete “sub-competences,” all 167 of which are worth marking (and more so than the 21 categories in which they are organized).²⁴ The number of learning outcomes included in a discipline’s summary seems to be largely a function of the level of abstraction determined by the writing committee. This is a camera lens decision: the close-up results in the detailed list of the Marketing group. The reader knows everything the student does on the road to the degree. A wide-angle photo inevitably results in a higher degree of abstraction, and the likelihood of fewer competences included.

III. Bias and Control

There is a bias in this analysis of which the reader should be fully cognizant at the outset: I am one of four authors of the U.S. *Degree Qualifications Profile* (DQP), a document analogous in purpose, though in neither form nor official standing, as the Qualifications Framework for the European Higher Education Area (QFEHEA), i.e. while it also focused on generic student qualifications for degrees at three levels (short-cycle, bachelor’s, and master’s), its competence statements are far more detailed than the “wide-angle diction” of the QFEHEA.²⁵ The DQP adopted strict language rules, developed in part by reading analogous products from other countries, and in languages other than English (particularly German and French), partly inspired by the principles of learning outcome statement forms advocated by Benjamin Bloom and his colleagues, and presents a striking contrast to these other outings.

The various projects under the umbrella of “Tuning USA” do not share this set of rules, though statements in harmony with those rules occasionally turn up in both interim and final reports of these projects. The difference is explained by control: the DQP is an iterative creation under the sponsorship of a non-governmental organization, the Lumina Foundation for Education, which has edited and published the Beta document and funded a process of

²⁴ Midwest Higher Education Compact Cross-State Tuning Initiative. Marketing & Psychology: Competencies + Silos. (Minneapolis, MN. 2013 Supplement). Only two of these do not qualify as outcome statements, though many will strike the reader as discrete assignments, e.g. “[the student will] differentiate the segmentation task between consumer and organizational markets” (side 1, panel 1 of fold-out summary).

²⁵ Clifford Adelman, *The Bologna Process for U.S. Eyes: Re-learning Higher Education in the Age of Convergence* (Washington, DC: Institute for Higher Education Policy, 2009), 27.

feedback and planned subsequent editions featuring the impact of both feedback and further thoughts of the original four authors. No governmental authority is involved in this work.

The “Tuning USA” projects, while also funded by the Lumina Foundation, are neither controlled nor endorsed by Lumina. State higher education authorities in Indiana, Kentucky, Minnesota, Texas, Utah, and, recently, Montana, have gone their own ways under their general understanding of what Tuning is designed to accomplish; but in none of these cases has the state authority intervened. These efforts have now been joined both nation-wide by the American Historical Association (AHA) and the American Communications Association, and regionally by the Midwest Higher Education Compact (MHEC). To the extent to which state higher education authorities function in any way beyond their roles as organizers of faculty groups, grant applicants, distributors of funds, and process managers in these projects, it certainly is not with a set of language rules, review, or approval. The same can be said for voluntary national scholarly associations such as AHA or voluntary informal regional associations such as MHEC. Across all of this is a fragmentation that works against convergence of Tuning forms among disciplines, and leaves mechanisms of control out in the cold. While language is a central engine of the DQP, it is, at best, an afterthought in the work of the various Tuning USA projects, though it is obvious from their competency statements that a majority of these undertakings absorbed productive language principles from interaction with the DQP process.

The situation is very different in analogous undertakings elsewhere. Both the Australian and English documents were produced and/or sponsored by government agencies. And while participation in Tuning Educational Structures in Europe project is voluntary, the undertaking has the official backing of the European Commission and was folded into the Bologna Process in 2005. None of this means control-by-ministry, but it does carry government endorsement. Each of these three sources operates with the same assumptions and processes, and issues its conclusions either in exactly the same forms (Australia’s ALTC) or in highly analogous forms (QAA and Tuning Educational Structures in Europe).

IV. Language Rules

In many ways, the DQP is faithful to Benjamin Bloom’s notions of competence, mastery, and evaluation—reflected in the dominant part of speech

employed and its logical extension. As previously noted, a “competence”²⁶ is a complexity exhibited or demonstrated by students (or anyone else, for that matter), therefore it is something the student *does*, therefore it is driven by *operational verbs*. More pointedly expressed by DQP co-author, Peter Ewell, “competency statements in the DQP are deliberately and relentlessly couched in ‘action verbs’ that describe what students at particular [degree] levels should be expected to **do**.”²⁷ Seen from the engine of the verb, a statement of competence is incomplete without examples of assessments/assignments that would elicit the student behaviors that allow the degree of competence to be judged. The original DQP made that point a core principle of any statement of student learning outcomes, though it did not include examples of assignment prods; Ewell’s monograph and the DQP second edition, in 2014, include those examples. While discipline profiles (the Australian Learning and Teaching Council) and subject benchmarking documents (the UK’s Quality Assurance Agency) often include brief sections describing the processes of assessment that should be considered, these are neither logically nor organically connected to the core markings of desired subject content and student learning, and are usually placed in the position of a coda to the principal document. For the DQP, the line from verb to assignment is a maxim—and not just *any* verb. Only operational, that is, “measurable, action-oriented” verbs are admitted. This rules eliminates from the text of its degree qualifications statements a heavy quintet²⁸ of English nouns and noun phrases used by the Australians, the British, other Americans, Scottish, the Irish and in a plurality of European Tuning statements. In the language world-view of the DQP authors, too many of these nominals, particularly when placed in the opening clause of a competence statement, are either deceiving, wrong, irrelevant, distracting, or downright meaningless. The DQP is very explicit as to the terms it rejects “because these do not describe discrete activities that lead directly to assessments.”²⁹

²⁶ In the second edition, or DQP 2.0, the words “competence” and “competency” have been dropped and replaced by “proficiency,” and for reasons explained in both text and an appendix to that document. For purposes of this essay, “competence” and its variants are retained, despite acknowledged complexity and fuzziness of the concept and its multiple cognitive, social, procedural, motivational, and emotional brands (see Weinert, *op cit*; and Clifford Adelman, “Competence, Technology, and Their Discontents: an Essay.” (*Inside Higher Ed* (on-line), June 6, 2013).

²⁷ Peter T. Ewell, *The Lumina Degree Qualifications Profile (DQP): Implications for Assessment* (Washington, DC: Association of American Colleges and Universities, 2013), 7.

²⁸ “Ability,” “capacity,” “appreciation,” “awareness,” and “critical thinking.” The last of these is not singled out. One simply will not find it anywhere in the DQP text.

²⁹ Clifford Adelman et al., *The Degree Qualifications Profile* (Indianapolis: Lumina Foundation for Education, 2011), 5.

V. Setting Aside Unproductive Language

With that principle in mind, and in search of forms of competence and outcome statements that are clear and unambiguous, it is incumbent on us to set aside assertions that are not competences, putative competences that are neither taught nor improved in higher education, and the most common distracting phrasings. These involve sentences governed by nouns, and that open with noun clauses. My principal targets for elimination are “ability,” “capacity,” “understanding,” “awareness,” and “appreciation,” and their verb variations, and this essay is not the first to object to the use of such barren terms in student learning outcome statements.³⁰ Some critics call them “white noise.” I obviously do not think we can afford white noise in competency statements or discrete learning outcomes, nor did the early evaluation of European Tuning competence statements by the Netherlands Organization for International Cooperation in Higher Education,³¹ whose successor project, CoRe2 noted on its Website, “European higher education institutions were experiencing difficulties in expressing the learning outcomes of their programs in clear and concise competence descriptions”³² The examples cited below will demonstrate the prescience of this understated judgment, and not merely for European sources.

1. The distracting “white noise” of “ability” and “capacity”

The most guilty opening in the 40 documents examined is the English noun, “ability,” its verb form in “able to,” and its principal analogue, “capacity.” German comes closer to the problem with the word in English: *die Fähigkeit* means “aptitude.” At least in U.S. education discourse, “aptitude” is what we would call a “red flag” word. It labels something that is putatively *inherent* in an individual, and its equivalent in discourse is “ability.” However ensconced

³⁰ I am hardly alone in inveighing against these and other terms. The reader can easily find institutional and organizational condemnations of such common learning outcomes terms and phrases as “understand,” “appreciate,” “awareness/become aware of,” “familiarity/become familiar with,” “know,” and “comprehend.” See, for example, and from a random on-line selection: University of Illinois, “Tips on Writing Learning Outcomes,” at www.library.illinois.edu/infolit/learningoutcomes.html, and “What are Learning Outcomes?” from <https://deanofstudents.byu.edu/content/what-are-learning-outcomes>.

³¹ Lucie de Bruin et al., *Competences in Education and Cross-Border Recognition: Evaluation of the Usefulness of Learning Outcomes and Competences for International Recognition*.

³² CoRe Projects: “Competences in Education and Recognition: Background,” www.core-project.eu, received 11/11/2013.

“ability” is in the literature on competence, we would do well to remember that “quantifying differences in individual mental ability” led to IQ testing and its consequent strengthening of “pervasive forms of discrimination”.³³ Its history carries too much of this unwanted baggage.

But there are other reasons for avoiding the term. “Ability” is not something an individual *does*. One doesn’t know a student has an “ability” to do anything, or a “capacity” for anything until the student *actually does it*, and the competence is reflected in what the student does. As Richard Shavelson notes, a competence is impossible to infer without an “observable performance”,³⁴ and one does not get an observable performance from “ability.” We do not judge the unseen. That is, one cannot assess an “ability,” whereas one can write prompts that extend the description of a competence demanding that a student “identify,” “categorize,” “differentiate,” “design,” “disaggregate,” “reformulate,” “evaluate,” etc.

“Ability” also gets tangled up in the intent of a qualification document. Are the stated outcomes for students subjunctive/conditional or indicative/descriptive? That is, are they something we *hope* would happen or *might* happen or something that actually happens? If our learning outcome statements are introduced with a conditional, as in “the student should have developed,” the next word or phrase will be nominal, and the writers are sorely tempted to bridge the conditional state with content by the use of “the ability to” or “the capacity to.” I take the Australian perspective on this issue: a qualifications statement is *not* a subjunctive or conditional in any language; it is *not* a wish list; it is *not* a set of hopes.

Why one should tell students that they will “develop” conditional “abilities” that never might be realized instead of telling them directly what they will do in the course of a program is a diversion of the first order. In its first draft of a Tuning statement, the Indiana History Group of the Tuning USA project took the “ability” language governance in directions that, when read slowly, also lead into brick walls, e.g.

Ability to acquire understanding...

Ability to become familiar with...

Ability to gain experience...³⁵

³³ John Carson 2001, “Defining and Selecting Competencies: Historical Reflections on the Case of IQ,” in *Defining and Selecting Key Competencies: Theoretical and Conceptual Foundations*, ed. Dominique Simone Rychen and Laura H. Salganik, 34, 41.

³⁴ Richard J. Shavelson, “An Approach to Testing and Measuring Competence,” in *Modeling and Measuring Competencies in Higher Education: Tasks and Challenges*, ed. Sigrid Blömeke et al. (Rotterdam: Sense Publishers, 2013), 29.

³⁵ Indiana Commission for Higher Education, *Tuning USA Final Report: the 2009 Indiana Pilot* (Indianapolis, 2010), 43.

And the Minnesota Tuning USA “general competence” statements for both biology and graphic arts added the fog-filled, “Ability to show awareness...” hardly a qualifying statement of anything.

Consider that “competence” of “ability to acquire understanding.” What is it that a student does to demonstrate “ability” here? The student does not demonstrate “ability”; the student demonstrates actuality! That said, one must ask, “What does a student do to ‘acquire’? What does a student do to ‘understand’? to ‘acquire understanding’?” “Acquire” is an interim process, a generalized activity that consists of locating, organizing, cataloguing, etc. Can anyone locate, organize, catalogue etc. “understanding?” And as for “understanding,” the verbs that describe what students do in “understanding” render the notion of “acquire” moot. That is, if one “understands X” one has already “acquired” X.

Some of our colleagues are cognizant of this current/future status dissonance in outcome statements, a dissonance in which “ability” lives. The ALTC’s standards statement for the Bachelor of Law degree, for example, asserts that “ability” (in this case, “to respond to ethical issues and exercise professional judgment”) “is not fully formed [at the point of graduation]... but should have commenced development”.³⁶ Even then, one does not “develop” abilities or capacities, rather the concrete skills, cognitive operations, and behaviors that demonstrate incorporation. If that is so—and it is—then why use the phrase, “develop ability,”³⁷ as an outcome for a degree qualification?

If only these qualifications and benchmark statements eschewed “able” or “ability,” and proceeded directly to the verbs that follow, the red flag would disappear. Another route around the knock-off “ability” while saving the idea is offered, with my slight emendations, by the QAA benchmarking statement in Physics. One could follow this model with “graduates have learned

- how to formulate... identify... use... present
- how to... model... approximate
- how to plan, execute, and report... analyse... evaluate... relate”³⁸

and save the day of clear communication with students, faculty, examiners, and employers.

³⁶ Australian Learning and Teaching Council, *Learning and Teaching Academic Standards Statement: Bachelor of Laws* (Chippendale, 2010), 15.

³⁷ Australian Learning and Teaching Council, *Learning and Teaching Academic Standards Statement: Bachelor of Laws*, 10.

³⁸ Quality Assurance Agency, *Subject Benchmark Statement: Physics, Astronomy and Astrophysics* (Gloucester, 2008), 4.

Reflective faculty Tuning groups are not always ignorant of this problem. For example, in its first draft of bachelor's degree competency statements, the Indiana Chemistry Group of the Tuning USA project offered 68 competences/learning outcome goals, all of which began with "ability to," followed by the verb which indicated the true substance of the competency statement;³⁹ in its final version, Indiana Chemistry contracted to 36 competency statements, none of which included "ability to" anywhere.⁴⁰ All competences were thus illuminated. Similar reconstructions are evident in the revised Indiana Tunings of history and elementary education where, in both cases, the bulk of "ability" statements were supplanted by the verbal, "demonstrates." These reconstructions illustrate what should happen during the re-writing tasks marked at the end of this essay.

2. The binds of "knowledge" and "understanding"

In the Bloom et al.'s *Taxonomy*,⁴¹ the concepts referenced by "knowledge" and "understanding" are linked under the cognitive domain, with knowledge describing recall, and "understanding," supplanted by "comprehension." "Comprehension"⁴² is conceived not as a single act, rather a sequence of translation, interpretation, and extrapolation, and at the same time that Bloom explicitly excludes "a single (unanalyzed) term such as 'understanding'."⁴³ Yet "knowledge" and "understanding," dominating the lead clauses of competency and learning outcome statements, are found in national qualification frameworks, discipline Tuning, and subject benchmarking statements. The terms are often presented without antecedents or objects, as if whatever they mean is intuitively known, and needs no details. Knowledge is presented as a

³⁹ Indiana Commission for Higher Education, *Tuning USA Final Report: the 2009 Indiana Pilot*, 27-29.

⁴⁰ Indiana Commission for Higher Education, *Tuning USA Final Report: the 2009 Indiana Pilot*, Appendix 1-B, "Revised Subject-Specific Learning Outcomes."

⁴¹ While popular usage refers simply to "Bloom's *Taxonomy*," Benjamin Bloom was the chair and editor of the work of a group of 34 contributors who attended conference meetings between 1949 and 1963. The formal version of "Handbook I: Cognitive Domain," used throughout this paper lists Bloom as editor and four other principal authors. Hence, where applicable, I cite the authorship as "Bloom et al."

⁴² The committees and writers of the 40 documents under scrutiny here preferred "understanding" or "understand" to "comprehension" or "comprehend" by a margin of 60 to 5. "Interpret" was the only one of the Bloom verbs allied to "comprehension" that was used at all in the 40 documents examined for this study.

⁴³ Benjamin S. Bloom et al., *Taxonomy of Educational Objectives Book I: Cognitive Domain*, 15.

matter of student possession, as in the German *besitzen* that introduces knowledge sections of the National Qualifications Framework,⁴⁴ or the Australian Learning and Teaching Council's simple assertion that "a student will have depth of knowledge in a particular disciplinary area."⁴⁵

"Knowledge" and "understanding," often used as synonyms in these documents, often appear with an introductory adjective indicating a general type of knowledge or understanding, e.g. broad, specialized, advanced, integrative, comprehensive, theoretical, practical. Again, it is assumed that everyone knows on their pulses what the resulting phrases, e.g. "advanced understanding," mean. But these are opaque labels. One is tempted to ask, "So, what might 'not so advanced' mean?" Ellipsis has no place in competence and learning outcome statements.

Furthermore, properly speaking, and in English, "understanding" is not a synonym for "knowledge," however much the two are related. "Understanding" is a cognitive process, one that brings into play enough operations (in addition to those specified in the Bloom *et al* taxonomy's division between knowledge and comprehension) such as description, inference, testing, and visualization so as to add depth to the individual's "knowledge" of facts, relationships, formulas, etc. Why not describe to students what they are doing in their heads instead of pushing it under the rug with "understand"?

While "understanding" is centered in individuals, hence students (in our case), and can be presented in verbal form, when we come to Tuning and subject benchmarking, "knowledge" is an irrevocable noun, and one which takes objects. The reference point templates of Tuning specify "knowledge" of a disciplinary "*what*." That is where the lists begin: legal regulations, error analysis, transport phenomena, major wars, poetic forms, auditing principles, and on and on. This is where the nouns and adjectives and their clauses take over, with both allowance and expectation for considerable detail. There is nothing objectionable about this in competence or learning outcome statements—provided that (a) the governing verb goes beyond the fact of possession to one specifying presentation of some kind (e.g. "demonstrate," "display," "perform") and (b) the disciplinary contents are specific enough as to leave no doubt that context is nursing, for example, and not economics. If nothing else will suffice, the ideal form of a knowledge competence/learning

⁴⁴ Hochschulrektorenkonferenz, Kultusministerkonferenz und Bundesministerium für Bildung und Forschung 2005. *Qualifikationsrahmen für Deutsche Hochschulabschlüsse*. At www.hrk.de/de/download/datien/QRfinal2005.pdf Received 4/7/2007.

⁴⁵ Australian Learning and Teaching Council, *Learning and Teaching Academic Standards Statement: Science* (Chippendale, 2011), 13.

outcome would read, “The student acquires and demonstrates knowledge of X, Q, and M,” whether X, Q, and M are facts, ideas and theories, terminology, methods, processes, genres—or some combination of these. Otherwise, as Bloom and his colleagues pointed out, “knowledge” invokes simple remembering and recall, acts that are assumed in virtually all other cognitive dynamics, and, for students already enrolled in bachelor’s degree programs, hardly a stand-alone performance criterion that qualifies one for a degree.

Let us think about “knowledge” with some of the distinctions the economist Fritz Machlup put on the table for consideration. Is “knowledge” first, something one possesses or an action of the mind? In Machlup’s question, is it the “known” or “the knowing”?⁴⁶ In our terms, is it a noun or a verb? Or, as the German higher education qualifications framework was configured in 2005, is it “knowledge” or *Wissenserschließungen* (“ways of demonstrating knowledge” in my loose translation)? This is an epistemology question. Because in order to answer, one must determine “the ways of knowing” or “ways of getting to know” (all the verbs that should be in qualification frameworks or Tuning learning outcome statements), as well at the types of what is possessed. One of the problems with our use of the word “knowledge” as something possessed, Machlup points out, is that we often wind up with logical tautologies and dead ends, such as “I have possession of what I possess” (not his example, but that is the form of the statement that results; a classic instance being the QAA program profile statement for accounting, “basic knowledge and understanding is characterised by knowledge of a topic...”⁴⁷).

What the simple use of verbs in competency statements does not resolve, if we accept Machlup’s analysis, is the necessity of communication. That is, as he says, knowledge is not really knowledge if it is contained solipsistically—within the knower. To be sure, that is part of Machlup’s economic analysis, since inventions and patents and art and, indeed, any new “knowledge” depend on more than one possessor, hence on various forms of communication, reaching out, implanting elsewhere. Particularly in higher education, even under the desired goal of autonomous behavior explicit in many qualifications frameworks, communication is essential. You don’t know anything unless it moves from one place to another, or unless some direction of communication is embedded in the ways you know. Put another way, no one knows what a student knows unless the competence statement includes a vehicle of expression.

⁴⁶ Fritz Machlup, *The Production and Distribution of Knowledge in the United States* (Princeton: Princeton University Press, 1962), 13.

⁴⁷ Quality Assurance Agency, *Subject Benchmark Statement: Accounting* (Gloucester, 2007), 6.

3. *The conundrum of “awareness”*

Strictly speaking, “awareness” and its verbal form means consciousness, and, the typical respondent might say, “we do not teach university students how to be conscious.” True, and Bloom *et al* point out that, in the sense of consciousness, “awareness” is part of the affective domain, not the cognitive domain, where the bulk of university learning and instruction takes place. But when we bring the language of awareness/consciousness into the cognitive domain, as 10 of our 40 documents did, it should be in the sense of students’ awareness of their own behavior, hence is not really a competence. That is not the way “awareness” was invoked by the writers of our documents, though: instead, they created tautologies of “awareness.” How so? To say that students are identifying or analyzing or explicating or even just citing a subject, topic, theory, method, etc., it is a given that those students are already “conscious” of the substance they are addressing. “Awareness”—read ‘basic consciousness’—is not a separate competence, rather involved in all competences. On the other hand, as a meta-competence, this substrate of all competences becomes “after some time and repetition, automatic,” hence exists “at a low level.”⁴⁸ If so, there is no reason to include it—noun or verb—in a qualifying competence or learning outcome statement. To put it in the gentle manner of the 2007 NUFFIC evaluation of existing Tuning language, aware/awareness amounts to “stating the obvious.”⁴⁹

4. *“Communication”: putting the verb back in*

Both degree qualifications frameworks and Tuning-type maps usually present communication in very generalized terms. Exceptions cite specific communication media (from oral to PowerPoint to “wikis, blogs, and podcasts”⁵⁰), or genres such as technical reports, laboratory notebooks, exhibit catalogues, program notes in music, architectural models, documentary videos, and extended discursive essays. Yes, these are all noun phrases, and ideally should be used in both qualifications framework statements and

⁴⁸ Benjamin S. Bloom, *Taxonomy of Educational Objectives Book I: Cognitive Domain*, 20.

⁴⁹ Lucie de Bruin et al., *Competences in Education and Cross-Border Recognition: Evaluation of the Usefulness of Learning Outcomes and Competences for International Recognition*, 32.

⁵⁰ Australian Learning and Teaching Council, *Learning and Teaching Academic Standards Statement: Science*, 15.

discipline-specific Tuning or benchmarking as examples of what students can expect in a program on the way to earning credentials. But below the surface of these examples lie two related principles through which we can put the verb back in its desired controlling position for the core competency activities of communication: intentionality and locus or origin.

Fritz Machlup wrote long before digital technology, its devices, and apps opened up a universe of communication lines in five or six dimensions. Yet, as he pointed out, the difference between ordinary yapping and “communication” lies in “talking [and writing, and texting, and e-mailing and blogging] *for a purpose*” [italics mine], and for which every language presents a range of verbal options. In English, to pick a sample of Machlup’s sample: “reporting... warning... requesting... advising, persuading, directing... convincing, permitting, teaching... edifying, confirming, affirming, denying, misleading,...”⁵¹ are all purposes. The point is not to use all of these in competency statements, rather, instead of a blank “communication,” tell us what kind and for what purpose. And, as Machlup suggests, think about what role the student is playing as the originator of communication: “transporter... transformer... processor... interpreter... analyzer... original creator,”⁵² to which we would add in our time to follow the bazaar model of knowledge creation, “contributor... editor...”⁵³ Then put the noun in verbal form, e.g. “disseminate,” “debate,” “respond,” “negotiate,” and many other forms of communication, and we will have given shape to an otherwise vague command. In Levin’s Natural Language Processing taxonomy in the context of higher education, these are verbs of “transfer,” not verbs of different purposes or behaviors such as complaints or advising.⁵⁴

As for locus, the nature of communication actions (and their verbs) varies by setting. Group work settings (to which the mushy slogan of “teamwork” is applied) require the student to negotiate, feedback, interact, argue, and contribute. The QAA benchmark statement for Social Work offers a set of such communication activities that can be elicited and judged in the process of both field work and future professional life: “consult actively... liaising and negotiating across differences... challeng[ing] others when necessary”.⁵⁵

⁵¹ Fritz Machlup, *The Production and Distribution of Knowledge in the United States*, 31.

⁵² *Ibid.*, 32-33.

⁵³ Eric S. Raymond, *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary* (Sepastopol: O’Reilly Media, 2009).

⁵⁴ Beth Levin, *English Verb Classes and Alternations*, 202-211.

⁵⁵ Quality Assurance Agency, *Subject Benchmark Statement: Social Work* (Gloucester, 2008), 13.

These are different settings than group projects within university courses. But within the brackets of their study in universities, students display, disseminate, write, and speak in a variety of forms and media, with specifications in a learning outcome statement carried by nouns and noun phrases in apposition. The broad default term of “communicate” does not do justice to all these variations of place, its conditions and expectations. Students deserve more precise and concrete parameters for academic behavior.

4.1. Interim conclusion

Why spend time on these issues before an empirical account of the uses of verbs in statements of competence and learning outcomes? Because out of 1177 competency statements in our basic universe, 322 are either not governed by verbs at all (including those introduced by “ability”) or lead with such non-operational verbs. Put another way, and assisted by the insights of Natural Language Processing, there are verbs that describe “states” and verbs that describe “events,”⁵⁶ to which subsequent research added a class of “indeterminate”⁵⁷ (for example, from our universe of verbs, “refer,” “apply,” “report,” “describe,” and “indicate”). At the very least, the verbs that drive competence and learning outcome statements refer to *events*, not states. Thus, when one considers the verbs actually used by the writers of the 40 documents that are the sources for this analysis are considered in Section VI, most of these 322 could justifiably be removed from the universe under consideration on the grounds that they do not represent observable events.

VI. Gross Data

At its first cut, the 1177 competence/learning outcome statements in the universe under consideration included 1637 provisionally qualifying English verb cases. Which verbs do we observe most frequently? Table 1 provides the account. What can we say about this collection of English verbs used in statements of competence or learning outcomes by discipline-based working groups?

⁵⁶ George Lakoff, *Irregularity in Syntax* (New York: Holt, Rinehard, and Winston, 1970).

⁵⁷ Michael R. Brent, “Automatic Semantic Classification of Verbs from Their Syntactic Contexts: an Implemented Classifier for Stativity” (paper presented to the Annual Meeting of the European Chapter of the Association for Computational Linguistics, 1991). Available at acl.ldc.upenn.edu/E/E91/E91-1039.pdf

1. Overall, and with the exception of the problem verbs asterisked, it is a very credible collection. If students are the principal audience, they know what they are expected to do in their various educational activities in order to qualify for a bachelor's/1st cycle degree in the field addressed. The fact that writers of competency and learning outcome statements in European Tuning projects, the UK's Quality Assurance Agency, the Australian ALTC, and Tuning USA converged naturally on this set of verbs lends support to our theory of inter-subjective judgment with which this article concludes. As the German philosopher, Ludwig Wittgenstein, offered, *Eine Sprache vorstellen heißt sich eine Lebensform vorstellen*, "to imagine a language is to imagine a way of life,"⁵⁸ and when the English language is applied in an environment of higher education competencies by writers spread more than half way around the world, we have a natural demonstration of what "a way of life" means in the world of higher education.

Table 1

Verbs used by all four source blocks at least a total of 10 times

	Number of uses
Demonstrate	155
Evaluate	75
Identify	74
Analyze	72
Apply	61
Understand*	60
Know/have knowledge*	54
Use/utilize	53
Explain	50
Recognize*	49
Communicate*	36
Describe	36

⁵⁸ Ludwig Wittgenstein, *Philosophische Untersuchungen/Philosophical Investigations*, Tr. G.E.M. Anscombe (New York: MacMillan Company, 1955), paras. 19, 8-9.

Table 1
Verbs used by all four source blocks at least a total of 10 times (continued)

	Number of uses
Present	34
Develop	29
Design	24
Interpret	24
Reflect*	24
Create	21
Manage	21
Synthesize	21
Solve	19
Formulate	19
Select	16
Research	15
Plan	15
Work*	15
Interpret	14
Assess	14
Collect	11

* After one removes the asterisked verbs (discussed below) plus those used only once by only one of the 40 sources, the original 1637 verb cases shrinks to 1414.

- Some of the frequencies with which we find these verbs are the products of specific disciplines in each of the four collections. For example, there were six (6) engineering reports in our portfolio, a factor that accounts for the over-weighting of the verbs “solve” and “design.” Another—and exemplary—case in the related vein is that of the Australian Learning and Teaching Council’s *Science Standards*, a document that presented a competence map that could be applied to experimental sciences (the field used was chemistry) and the non-experimental fields (also known as “formal science”) encompassed by mathematics. While nearly all experimental sciences use and

integrate mathematics, there is a distinct difference in the fields themselves, so the division is a perceptive one to begin with. The very prominent verbs in this presentation reinforce these two paths:

- Experimental science students: *observe, measure, classify, test hypotheses, revise, modify, gather, synthesize, design, select, evaluate, record, and interpret*.⁵⁹ A very impressive range of verbs that, in fact, describe what chemistry or biopsychology or physics or geology students do.
- Formal science students: *prove, model, formulate, extract, translate* (from non-mathematical language to mathematical representations), *reason through algorithms, infer, and calculate*⁶⁰ (well, these operations are common to experimental science, too, but in a supportive role).

The point, again, is that discipline drives language,⁶¹ and carefully constructed as it is, this Australian collection stands out from others, including those from Australia. With a much fuller list of discipline profile statements from all language sources, one could also determine the effects of comparative licensure (mandatory as in nursing, voluntary as in engineering, partial as in clinical psychology within psychology, and semi-professional in which licensure is not an issue, as in business administration) on the range and frequencies of outcome-driving verbs.

3. “Demonstrate” and “present,” together, account for a significant portion of verb use, pointing generically to what students do that allows faculty to judge whether they have attained competence in the specific factor at issue. They are often used, however, to cover either non-competences, e.g. “Demonstrates an ability to ...,” or to walk around the idea of possession, e.g. “Demonstrates knowledge of ...” The first of these cases remains a problem; the second does not, provided that the nature of the knowledge demonstrated is specific, e.g. “Demonstrates knowledge of major turning points in European history since 1700,” as opposed to generalized, e.g. “Demonstrates knowledge of European history.”

⁵⁹ Australian Learning and Teaching Council, *Learning and Teaching Academic Standards Statement: Science*, 9, 17.

⁶⁰ It is necessary to dig around in the various texts that feed into the ALTC to garner some of these verbs, and to impute others.

⁶¹ Performance-based fields (music, theater) and exhibit-based fields (studio art, graphic design) could easily be added to a test case of comparative verb use across the range of disciplines represented in a competence and learning outcome collection.

1. *Putting a Microscope to the Data: 6 Problem Verb Types in Competence/Outcome Statements*

All of the verbs indicated below were used in competence or learning outcome statements in the 40 documents examined for this study. Most should be avoided in such statements on the grounds that they represent states, not events of learning, or, at best, may inhabit an indeterminate space between those categories, but some can be used with appropriate additions. I urge only that writers of discipline-specific statements reflect on what these verbs refer to and represent, and whether the writers feel wholly comfortable that the verbs provide students with operational paths to higher education attainment.⁶² Writers in languages other than English should reflect in the same way, though with other syntactic and lexical contexts. As Levin pointedly notes, “ties between verb behavior [the way we use those words in relation to other parts of our written or spoken sentences and clauses] and verb meaning is not particular to English.”⁶³

1. Verbs that describe routine student activities in education or learning tasks in specific disciplines.⁶⁴ These are neither competences nor outcomes in either subject-specific or generic contexts:
ask, conceptualize, consider, parse, practice, question, read, reason, think
2. Verbs used in the course of assignments or instructions given by faculty, and/or serve as behavioral commands. They are neither outcomes nor competences:
comply, consult, discuss, list, promote, propose, weigh
3. Verbs that refer to states of generalized consciousness, not actions that demonstrate competence in anything:
ascertain, aware, become familiar, recognize, realize
4. Verbs that lead to outcomes observable (if at all) only in uncertain futures or in the future action of others:
anticipate, coach, foresee, mobilize, motivate

⁶² Not everyone will agree with the verbs set forth in this set, of course. Of the verbs indicated, “act,” “ask,” “propose,” “recognize,” and, most frequent, “list,” are cited as acceptable under Bloom’s taxonomy, for example, by Jennifer Moon, “Linking Learning Outcomes and Assessment Criteria,” in *The Modular and Programme Development Handbook* (London: Kogan Page, 2002), 64-78.

⁶³ Beth Levin, *English Verb Classes and Alternations*, 10.

⁶⁴ The Minnesota Tuning project in Graphic Design offered a revealing micro-level string of learning tasks (very edifying for the non-specialist reader, e.g. in matters of color application and color theory) leading one to ask how much of such detail from syllabi should go into a Tuning document.

5. Verbs that are basically statements of fact, not competence:
has/have, possess
6. General behaviors that are not connected to any cognitive action, let alone outcome:
act, work

Reviewing competence and outcome statements previously written and containing these verbs in lead roles, setting them aside, and rephrasing the statements with active, concrete (that is, “operational”) verbs that lead directly and logically to faculty-generated assignments and other assessments would produce a body of powerful and focused discipline-based parameters that would naturally increase the portability of credentials.

VII. Putting Common Language Together: How can our Working Verbs be Grouped?

Some 127 “working verbs,” i.e. those that describe what students do in the course of demonstrating their competences and learning were deployed across the 40 documents examined. Counting repetitions, there were 1291 cases of these 127 working verbs, but not all are worthy of our consideration (indeed, 21 of the 127 verbs were used only once by the writers of the documents under consideration). All of them are “operational,” that is, they logically lead to concrete assignments eliciting student behaviors that allow faculty to judge whether outcome specified had been attained—and to what degree it had been attained. That said, there are different strengths of “operational” verbs, depending on the burden they place on learning objects (nouns and noun phrases that specify the subjects of action), a feature of linguistic valency. For example, the default command, “demonstrate,” as the lead verb in competence and outcome statements is polyvalent, and using it allows a combination of generalized nouns to take on the burden to describing what the student does, e.g. “demonstrates specialized knowledge of...” followed by case nouns from the discipline’s core.

These verbs can be grouped in terms of 17 types of activities as set forth below, each of which constitutes a configuration of what Weinert calls “performance-specific concepts of cognitive competencies”.⁶⁵ Keep in mind that there are many other constructive, operational verbs that could be included in these categories, but they were not used at all by the writers of the 40 documents at issue. These groups are not intended as a taxonomy, do not follow

⁶⁵ Franz E. Weinert, “Concept of Competence: a Conceptual Clarification,” 47.

Benjamin Bloom's taxonomic division of six (6) knowledge-based goals, and, I propose, are what Sadler would call "intersubjective."⁶⁶ That is—and I invite readers to respond (and hence prove the case)—I created these categories inductively, labeling them with gerunds that are not repeated in the set of infinitives under each category, by sorting and re-sorting the verbs used by Tuning and benchmarking writers into sets grounded in the notion of analogous activities while keeping in mind Levin's observation (granted, based on a far more rigorous quantitative linguistic analysis) that "verbs in English and other languages fall into classes on the basis of shared components of meaning."⁶⁷ And I am convinced that other native speakers of English, poring over those 127 verbs with the question, "What, roughly, are these verbs asking students to do in the course of their learning?" would come up with similar configurations, similarly labeled, and without recourse to elaborate psychometric assessment.⁶⁸

There are no perfect matches here—or anywhere else in the world of competency statements. There is no implied rigid isolation; there is no implied hierarchy. There is no one given sequence cross-cutting all disciplines.⁶⁹ Many of these verbs could fall in more than one cognitive action category. For examples: "identify" could be a case of delineating, "extract" might be considered an act of preparation, and aspects of what I call "formatting" are involved in analysis. Table 2 matches the 17 categories of verbs emerging from 40 Tuning and Tuning-type documents against over 200 categories Levin induced from a massive analysis of 3,024 verbs in ordinary language use, indicating the labels Levin used in her classification of the meanings and behaviors of these verbs.⁷⁰ Again, there are no perfect matches and, depending on the behavior of these verbs, Levin invokes some of them in more than one category. That only five (5) of the 17 Working Verb Groups I propose do *not* find analogues in Levin's account provides one leg of a triangular backing for the "intersubjective."

All of these can be adopted, in different weightings, by the diversity of disciplines, hence fit neatly into degree profile construction, even as national codes, regulations and standards will affect the status of verbs in different fields. Accountants and chemists have different notions of "appraising"; nurses

⁶⁶ D. Royce Sadler, "Making Competent Judgments of Competence," 22.

⁶⁷ Beth Levin, *English Verb Classes and Alternations: a Preliminary Investigation*, 11.

⁶⁸ Though I would not disparage the attempt to create what Richard Shavelson calls "an alternative center of gravity" in the measurement community's attempts to define and validate competences (Richard J. Shavelson, "An Approach to Testing and Measuring Competence," 41).

⁶⁹ In fact, sequence is unlikely since the learning process itself involves both re-circling and multiple simultaneous outcomes.

⁷⁰ Beth Levin, *English Verb Classes and Alternations: a Preliminary Investigation*, passim.

and economists hold very different objects of “manipulating,” and these contextualized verbs differ in parameters by national law (accounting) and national regulations (nursing). It is also obvious, for example, that “processing” verbs will not be common in profiles of the visual and performing arts, that “operating” verbs will be prominent in business profiles, that “deliberating” verbs will sprout in law programs, “inquiring” verbs in laboratory science, “making” verbs in engineering, “converging” verbs in human service fields ranging from social work to nursing, and that all fields will demand certifying, re-thinking, communicating, valuating, explicating, examining, combining, etc. verbs to different degrees. And these lists certainly can be opened up with verbs little used in contemporary competence discourse.

Table 2
Matching 17 Working Verb Groups to Levin’s Verb Classes

Working Verb Groups Empirical Content	Levin’s Analogous Verb Class (Page References)
A) Preparing (artifacts, materials, tools, texts) Access, acquire, collect, extract, gather, locate, obtain, retrieve, seek	Obtaining (142)
B) Delineating Categorize, characterize, classify, define, describe, determine, frame, identify, prioritize, specify	Characterizing (181)
C) Explicating Articulate, clarify, explain, illustrate, interpret, outline, translate	No comparable grouping found
D) Examining Analyze, compare, contrast, differentiate, distinguish, extract, formulate, map	Separating (165)
E) Inquiring Experiment, explore, hypothesize, investigate, research	Investigating (198)
F) Formatting Arrange, assemble, collate, organize, sort	Build Verbs (172) ⁷¹
G) Combining Assimilate, consolidate, connect, integrate, link, synthesize, summarize	Amalgamating (160) ⁷²

⁷¹ This paper holds to a different semantic category for “building,” which I term “making.”

⁷² Levin repeats some verbs from her category of “separating” here.

Table 2
Matching 17 Working Verb Groups to Levin's Verb Classes (continued)

Working Verb Groups Empirical Content	Levin's Analogous Verb Class Page References
H) Making Build, compose, construct, craft, create, design, develop, generate, model, shape, simulate	Create Verbs (175)
I) Utilizing Apply, carry out, conduct, demonstrate, employ, implement, perform, produce, show, use	Performance verbs (178)⁷³
J) Operating (executive functions) Administer, control, coordinate, engage, lead, maintain, manage, navigate, optimize, plan, undertake	No comparable grouping found
K) Deliberating Argue, challenge, debate, defend, justify, resolve	No comparable grouping found.
L) Valuating Audit, appraise, assess, evaluate, judge	Verbs of Assessment (196)
M) Communicating Convey, display, disseminate, express, respond	No comparable grouping found
N) Converging (for group academic work) Collaborate, contribute, interact, negotiate, participate	"Correspond Verbs" (200)
O) Re-thinking Accommodate, adapt, adjust, improve, modify, refine, reflect, review	Change of state (244-245)
P) Certifying Cite, document, observe, record, reference, source (v)	No comparable grouping found.
Q) Processing Calculate, determine, estimate, manipulate, measure, solve, test	Measure verbs (272)

How and where does this collection of verb groupings depart yet intersect with the six dimensions of the Bloom taxonomy (knowledge, comprehension,

⁷³ Levin's collection of verbs is focused on specialized performances, e.g. dance, compose, draw, whereas the Working Verb Groups category in this paper is more generic.

application, analysis, synthesis, and evaluation)? I avoided the task since it would involve crossing gerunds with nouns, mixing a purposeful hierarchy with a purposefully random ordering, and confronting a rational theory structure with empirical chaos. This exploration relied on what discipline committees actually wrote, thus revealed warts and bumps of which the writers were evidently not conscious, and hence is valuable in its own right as a marker of current practice. The work of Levin and her successors on the field of natural language processing (NLP) is more concerned with other features of language dynamics,⁷⁴ but is obviously very helpful in providing authoritative reference groups of verbs.

VIII. What do we do at the end of the day?

This exploration has strayed outside its language boundaries, but that is inevitable. Talk about words and sentence forms in any language leads to concepts.

Obviously, a considerable amount of work, thought, and negotiation went into the production of the 40 documents in the universe examined. Their forms, tones, and expression were conditioned by national traditions, formal instructions, guidelines, and the often unstated assumptions of writers about the nature of subject-specific qualification statements in higher education. Some of them are exemplary; some of them treat us to exemplary moments; some have demonstrated how reflection and revision have brought them closer to communicating accessible substance; some still need to follow those reconstructive examples.

Thus, consider all these documents and their relatives as Beta. They are not set in cement. A majority of their creators have a great deal of revisiting and re-writing yet to do, though the task should not be difficult. Reassemble the teams that wrote these statements of competencies and learning outcomes; add new members from disciplinary faculties (which will help address a long-standing critical mass problem in Tuning projects); put two editors from outside the academy at each disciplinary table, and command them all to reconstruct Tuning-type templates to reflect, simultaneously, the stuff of the disciplines and the operational learning actions students must take to master that stuff. Then run structured surveys of faculty and student concentrators in participating departments/faculties to validate the revised templates.

⁷⁴ See, for example, Karin Kipper et al., "A Large-scale Classification of English Verbs," *Language Resources and Evaluation* 42 (2008): 21-40, which added 57 classes of verbs to Levin's groupings, using a variety of technical behavioral linguistic criteria that need not be elaborated here.

We are not writing discipline profiles and competence statements for yesterday's or today's students, but for tomorrow's, and a tomorrow in which digital translating systems will likely be far more accurate and effective communication environments than currently. New languages will enter the world of higher education competence, benchmarking, and learning outcome statements, and will likely provide more alternatives than our current misused English lists. The old categories, the sloppy constructions, the default phrases of Orwell's "blah" will not do for an environment that is changing the conditions and volume of information and information-tasks at warping speed. To leave students, employers, and societies writ large in the hammock of tired language formulations is simply not fair in light of this trajectory. We need more discipline in our language constructions, more reflection, more questioning of what our words mean, and more centrality for a new and genuine range of verbs that address the future, not the past. Many of the nouns and noun phrases that form a discipline's reference points will change, as knowledges and processes do not stand still. No competence or learning outcome statement is forever. To put all this in a Kantian construction, we cannot leave these evolving intuitions in limbo without a vibrant and convincing library of forms. The 40 documents examined for this essay provide the beginnings of that library, but it should be obvious that we have more work to do. It is not that we are not involved with setting benchmarks or defining learning outcomes or marking acceptable threshold levels of performance, rather we need to rethink the way we are involved—and we can start with our verbs.

But the story does not end with the verb. Particularly in the disciplines, verbs lead to nominal reference points, the objects of what historians, nurses, chemists, civil engineers, and economists identify, analyze, create, extract, calculate, and combine. We have said it above with the authority of Kant in support: a verb-dominated statement of competence is incomplete, so we sit at our team tables and practice writing full sentences, beginning with forms (operational verbs leading logically to assignments and assessment prods) *and* the intuitions that reference components of the discipline profile. Yes, this all means retreading old ground, but we owe such trekking to our future students.

Appendix A

Documents Used for the Core of this Study

1. Australian Learning and Teaching Council, Academic Standards Statements for:
Accounting (2010), Architecture (2011), Creative and Performing Arts (2010), Education (2011), Engineering and ICT (2010), History (2010), Law (2010), Science (2011)

2. Tuning USA, final reports to the Lumina Foundation from: Indiana Commission for Higher Education (Chemistry, Elementary Education, History, 2010); Midwest Higher Education Consortium (Marketing, 2013); Minnesota State Colleges (Biology and Graphic Arts, 2010); Texas Higher Education Coordinating Board (Chemical Engineering, Electrical Engineering, Industrial Engineering, Mechanical Engineering, all 2011); Utah Board of Regents (History and Physics, 2010)
3. Quality Assurance Agency (UK), Subject Benchmark Statements for: Accounting (2007), Archaeology (2007), Biosciences (2007), Business (2007), Economics (2007), Engineering (2010), Geography (2007), Physics (2008), Psychology (2007), Social Work (2008)
4. Tuning Project/Tuning Subject Area Group, Reference Points for the Design and Delivery of Degree programs in: Business (2009), Chemistry (2008), Earth Sciences (2009), Education (n.d.), European Studies (2008), Mathematics (n.d.), Nursing (2011), Occupational Therapy (2008), Physics (2008), Theology and Religious Studies (2012)

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The European quality labels in chemical sciences: applying the Tuning Methodology in quality assurance

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Abstract: The European Chemistry Thematic Network is a non-profit making association focused on enhancing the quality and harmonising the features of chemical education and training all over the European Higher Education Area. In the context of quality assurance, it developed European Quality Labels in Chemical Sciences, which were initiated in the frame of the Tuning project, and are following the Tuning methodology. The Labels are awarded to programmes on chemistry or related disciplines, as well as to studies at the interface of chemistry and other subjects. They are based on the Budapest Cycle Level Descriptors, a detailed adaptation of the Dublin Descriptors for the field of chemical sciences. The following aspects are considered in awarding Eurobachelor[®] and Euromaster[®] Labels: learning outcomes, including subject knowledge, abilities and skills; modularisation of courses and contents; ECTS credit distribution and student workload; mobility; methods of teaching and learning; assessment; quality assurance. For the Chemistry Doctorate Eurolabel[®] the considerations are somehow different and include: fitness for purpose; entry to the programme; length of studies; study programme structure; teaching and training in generic competences; transcripts; graduate schools; supervision; examinations; assessment; and quality assurance. The Chemistry Short Cycle Eurolabel[®] refers to study programmes, which are placed at Level 5 in the in the European Qualifications Framework for Lifelong Learning, and are also seen as an intermediate level within or linked to the first cycle of the Qualifications Framework for the European Higher Education Area. Aspects considered are analogous to those mentioned for the Eurobachelor[®] Label.

Keywords: European Chemistry Thematic Network; chemical sciences; Budapest descriptors; quality assurance; European quality labels; short cycle.

I. The European Chemistry Thematic Network

The European Chemistry Thematic Network¹ is a non-profit making association registered in Belgium, and is the outcome of seventeen years of networking activities focused on enhancing the quality and harmonising the features of chemical education and training all over the European Higher

¹ “European Chemistry Thematic Network,” <http://ectn-assoc.cpe.fr/>.

Education Area.² Academic institutions, national chemical societies, and stakeholders comprise the over 130 members coming from thirty European countries, and with associate members worldwide.

The statutory aims and objectives of the European Chemistry Thematic Network are:

- To implement, consult or supervise programmes for the assessment of skills and knowledge in chemical sciences.
- To undertake programmes concerning education and training, especially those concerning innovative approaches.
- To operate as a consultant or assessor in programmes concerning education and training.
- To provide certification of achievement when assessments have been carried out under appropriate conditions.
- To cooperate with established professional or other associations in the furtherance of its objectives.
- To extend the reach of all aspects of education in science and engineering beyond national borders.
- To provide a European framework for degrees in chemistry and related disciplines.

In order to proceed towards realisation of these goals, the European Chemistry Thematic Network is operating through pertinent committees in four closely interconnected areas, namely distance education, intensive learning, recuperation of a positive image for chemistry, and quality assurance.

II. The European Quality Labels in Chemistry

In the context of quality assurance, the Thematic Network developed European Quality Labels in Chemical Sciences. They were initiated in the frame of the Tuning project, and are following the Tuning methodology.

The European Quality Labels are awarded to programmes on chemistry or related disciplines, as well as to studies at the interface of chemistry and other subjects; and are particularly important for assuring the quality of transnational consortia of institutions. Their primary aim is to provide degrees, which will be automatically recognised by other institutions within the

² European Commission, “Bologna Process – European Higher Education Area,” <http://www.ehea.info/>.

countries implicated in the Bologna Process,³ promoting thus mobility and employability prospects for new graduates. The Quality Labels have been adopted by the European Association for Chemistry and Molecular Sciences.⁴

Evaluation procedures are monitored by a Label Committee, consisting of a Chair, an Executive Secretary and a maximum of seven ordinary members. The Chair and Executive Secretary are nominated by the Administrative Council of the European Chemistry Thematic Network, while members are elected by the association's General Assembly. In all cases nomination or election is initially for a period of two years. The Chair can be confirmed in office by the Administrative Council for one further two-year period. The Executive Secretary can be confirmed in office by the Administrative Council for an unlimited number of further two-year periods. One half of the ordinary members must be replaced every two years by election on a rotation principle taking into account national distribution.

The Label Committee maintains a Register of trained experts who carry out the processes of accreditation. The Register of Experts has been established, asking those handling EuroLabel® applications to be registered as a European Chemist,⁵ or have an equivalent qualification; and designing somehow higher standards for Chemistry Doctorate EuroLabel® experts. On-line and face-to-face training opportunities are openly available. Site visit teams are recruited from the Register. In addition, evaluators for the Chemistry Doctorate EuroLabel® should have research interests related to the subject of the doctoral programme.

The European Quality Labels are based on the Budapest Cycle Level Descriptors,⁶ a detailed adaptation of the Dublin Descriptors⁷ – generic descriptors adopted by the European Ministers Responsible for Higher

³ European Commission, “Bologna Process – European Higher Education Area. How does the Bologna Process work?,” <http://www.ehea.info/article-details.aspx?ArticleId=5>.

⁴ “European Association for Chemical and Molecular Sciences,” <http://www.euchems.eu/about.html>.

⁵ “European Association for Chemical and Molecular Sciences – European Chemist Designation,” http://www.euchems.eu/nc/members/european-chemist.html?sword_list%5B%5D=chemist.

⁶ Tuning Project, “Reference Points for the Design and Delivery of Degree Programmes in Chemistry,” http://www.unideusto.org/tuningeu/images/stories/Publications/CHEMISTRY_FOR_WEBSITE.pdf;

European Chemistry Thematic Network, “Recommendations for the Third Cycle,” http://ectn-assoc.cpe.fr/chemistry-eurolabels/doc/officials/Off_EDL061017_Eurodoctorate200611V1.pdf.

⁷ European Commission, “The Framework of Qualifications for the European Higher Education Area – Dublin Descriptors,” <http://www.ehea.info/Uploads/Documents/QF-EHEA-May2005.pdf>.

Education,⁸ and forming the basis of the Qualifications Framework for the European Higher Education Area⁹ – for the field of chemical sciences. The Budapest descriptors dealing with the three cycles of university studies were developed by the members of the European Chemistry Thematic Network forming the Chemistry Subject Area group in the Tuning project. For the short cycle, the Budapest descriptor was developed by the European Chemistry Thematic Network and the project European Chemistry and Chemical Engineering Educational Network.

In order to better align with further the European bodies awarding Quality Labels, the European Chemistry Thematic Network is a founding member and holds the vice-presidency of the European Alliance for Subject-Specific and Professional Accreditation and Quality Assurance (EASPA).¹⁰

III. The Eurobachelor[®] Quality Label

The Eurobachelor[®] Quality Label has been designed and implemented by the Subject Specific Group in Chemistry, Tuning project, and the Eurolabel Committee, European Chemistry Thematic Network.

All degree programmes holding the Eurobachelor[®] Quality Label¹¹ are learning-outcome-based. Each institution is free to decide on the length of studies within the frame of 180-240 credits, as understood in the European Credit Transfer and Accumulation System (ECTS);¹² as well as on the content, nature and organisation of courses, provided that students become conversant with the main aspects of chemistry, and develop a wide range of competences. Hence, at least 150 ECTS credits should deal with chemistry, physics, biology or mathematics, a thesis or industrial placement equivalent to 15 ECTS credits incorporated. In addition, at least 90 ECTS credits should be allocated to compulsory modules on organic chemistry, inorganic chemistry, physical chemistry, and analytical chemistry. Further modules should be of three types – compulsory, semi-optional, and elective.

⁸ European Commission, “The European Higher Education Area – Achieving the Goals (Bergen 2005),” http://www.ehea.info/Uploads/Declarations/Bergen_Communique1.pdf.

⁹ European Commission, “A Framework for Qualifications of the European Higher Education Area,” http://www.ehea.info/Uploads/qualification/050218_QF_EHEA.pdf.

¹⁰ “European Alliance for Subject-Specific and Professional Accreditation and Quality Assurance,” <http://www.easpa.eu>.

¹¹ European Chemistry Thematic Network, “The Chemistry “Eurobachelor[®],”” http://ectn-assoc.cpe.fr/chemistry-eurolabels/doc/officials/Off_EBL070131_Eurobachelor_Framework_2007V1.pdf.

¹² European Commission, “European Credit and Accumulation System,” http://ec.europa.eu/education/tools/ects_en.htm.

The following aspects are considered in the Eurobachelor® Label:

- Learning outcomes, including subject knowledge, as well as abilities and skills – chemistry-related cognitive abilities and skills, chemistry-related practical skills, generic and transferable competences.
- Modularisation of courses and contents.
- ECTS credit distribution.
- Student workload.
- Mobility.
- Methods of teaching and learning.
- Assessment and grading.
- Quality assurance.

Learning outcomes are founded on the relevant Budapest Descriptor, reading as follows:

First cycle degrees in chemistry are awarded to students who have shown themselves by appropriate assessment to:

- Have a good grounding in the core areas of chemistry: inorganic, organic, physical, biological and analytical chemistry; and in addition the necessary background in mathematics and physics.
- Have basic knowledge in several other more specialised areas of chemistry, such as computational chemistry, materials chemistry, macromolecular chemistry, radiochemistry.
- Have built up practical skills in chemistry during laboratory courses, at least in inorganic, organic and physical chemistry, in which they have worked individually or in groups as appropriate to the area.
- Have developed generic skills in the context of chemistry which are applicable in many other contexts.
- Have attained a standard of knowledge and competence which will give them access to second cycle course units or degree programmes.

Such graduates will:

- Have the ability to gather and interpret relevant scientific data and make judgements that include reflection on relevant scientific and ethical issues.
- Have the ability to communicate information, ideas, problems and solutions to informed audiences.

- Have competences which fit them for entry-level graduate employment in the general workplace, including the chemical industry.
- Have developed those learning skills that are necessary for them to undertake further study with a sufficient degree of autonomy.

Subject knowledge comprises at least the subsequent issues: major aspects of chemical terminology, nomenclature, conventions and units; the major types of chemical reaction and the main characteristics associated with them; the principles and procedures used in chemical analysis and the characterisation of chemical compounds; the characteristics of the different states of matter and the theories used to describe them; the principles of quantum mechanics and their application to the description of the structure and properties of atoms and molecules; the principles of thermodynamics and their applications to chemistry; the kinetics of chemical change, including catalysis; the mechanistic interpretation of chemical reactions; the characteristic properties of elements and their compounds, including group relationships and trends within the Periodic Table; the structural features of chemical elements and their compounds, including stereochemistry; the properties of aliphatic, aromatic, heterocyclic and organometallic compounds; the nature and behaviour of functional groups in organic molecules; major synthetic pathways in organic chemistry, involving functional group inter conversions and carbon-carbon and carbon-heteroatom bond formation; the relation between bulk properties and the properties of individual atoms and molecules, including macromolecules (both natural and man-made), polymers and other related materials; the structure and reactivity of important classes of bio molecules and the chemistry of important biological processes.

Chemistry-related cognitive abilities and skills considered necessary are: ability to demonstrate knowledge and understanding of essential facts, concepts, principles, and theories relating to the defined subject knowledge; ability to apply such knowledge and understanding to the solution of qualitative and quantitative problems of a familiar nature; skills in the evaluation, interpretation, and synthesis of chemical information and data; ability to recognise and implement good measurement science and practice; skills in presenting scientific material and arguments in writing and orally, to an informed audience; computational and data processing skills, relating to chemical information and data.

Required chemistry-related practical skills encompass: skills in the safe handling of chemical materials, taking into account their physical and chemical properties, including any specific hazards associated with their use; skills required for the conduct of standard laboratory procedures involved and use of instrumentation in synthetic and analytical work, in relation to both organic and

inorganic systems; skills in the monitoring, by observation and measurement, of chemical properties, events or changes, and the systematic and reliable recording and documentation thereof; ability to interpret data derived from laboratory observations and measurements in terms of their significance and relate them to appropriate theory; ability to conduct risk assessments concerning the use of chemical substances and laboratory procedures.

Finally, essential generic and transferable competences deal with: the capacity to apply knowledge in practice, in particular problem-solving competences, relating to both qualitative and quantitative information; numeracy and calculation skills, including such aspects as error analysis, order-of-magnitude estimations, and correct use of units; information-management competences, in relation to primary and secondary information sources, including information retrieval through on-line searches; ability to analyse material and synthesise concepts; information-technology skills such as word-processing and spread sheet use, data-logging and storage, subject-related use of the Internet; the capacity to adapt to new situations and make decisions; skills in planning and time management; interpersonal skills, relating to the ability to interact with other people and to engage in team-working; communication competences, covering both written and oral communication in both one of the major European languages (English, French, German, Italian, Spanish) and the language of the home country; study competences needed for continuing professional development, in particular the ability to work autonomously; ethical commitment.

IV. The Euromaster[®] Quality Label

The Euromaster[®] Quality Label has been designed and implemented by the Subject Specific Group in Chemistry, Tuning project, and the Eurolabel Committee, European Chemistry Thematic Network.

The Euromaster[®] Quality Label¹³ is awarded to programmes involving 90 to 120 ECTS credits, at least 60 of which must be at master's level. Since second cycle studies are much more flexible than first cycle ones, it is neither necessary nor advisable to list areas of subject knowledge, which the programme should cover. According to the needs of the institution, such programmes will be either broadly-based or specialised. The master's thesis, however, should carry at least 30 ECTS credits.

¹³ European Chemistry Thematic Network, "The Chemistry "Euromaster[®]," http://ectn-assoc.cpe.fr/chemistry-eurolabels/doc/officials/Off_EML060930_Euromaster_Framework_200609V1a.pdf.

The following aspects are considered in the Euromaster® Label:

- Learning outcomes, including subject knowledge, as well as abilities and skills – chemistry-related cognitive abilities and skills, chemistry-related practical skills, generic and transferable competences.
- Modularisation of courses and contents.
- ECTS credit distribution.
- Student workload.
- Mobility.
- Methods of teaching and learning.
- Assessment and grading.
- Quality assurance.

Although the institution can define the appropriate subject knowledge for its own individual degree programme, abilities and skills are carefully monitored, since students may come from a different undergraduate background.

Learning outcomes are founded on the relevant Budapest Descriptor, reading as follows:

Second cycle degrees in chemistry are awarded to students who have shown themselves by appropriate assessment to:

- have knowledge and understanding that is founded upon and extends that of the Bachelor's level in chemistry, and that provides a basis for originality in developing and applying ideas within a research context;
- have competences which fit them for employment as professional chemists in chemical and related industries or in public service; and
- have attained a standard of knowledge and competence which will give them access to third cycle course units or degree programmes.

Such graduates will:

- have the ability to apply their knowledge and understanding, and problem solving abilities, in new or unfamiliar environments within broader (or multidisciplinary) contexts related to chemical sciences;
- have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on ethical responsibilities linked to the application of their knowledge and judgements;
- have the ability to communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously; and

- have developed those learning skills that will allow them to continue to study in a manner that may be largely self-directed or autonomous, and to take responsibility for their own professional development.

Indispensable chemistry-related cognitive abilities and skills encompass, in addition to those requested for the first-cycle level: ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to the subject areas studied during the master's programme; ability to apply such knowledge and understanding to the solution of qualitative and quantitative problems of an unfamiliar nature; ability to be able to adopt and apply methodology to the solution of unfamiliar problems.

Further chemistry-related practical skills considered necessary include: competences required for the conduct of advanced laboratory procedures and use of instrumentation in synthetic and analytical work; ability to plan and carry out experiments independently and be self-critical in the evaluation of experimental procedures and outcomes; ability to take responsibility for laboratory work; ability to use an understanding of the limits of accuracy of experimental data to inform the planning of future work.

Finally, essential generic and transferable competences deal with: study skills needed for continuing professional development; ability to interact with scientists from other disciplines on inter- or multidisciplinary problems; ability to assimilate, evaluate and present research results objectively; advanced communication competences in a second European language, along with the mother tongue.

V. The Chemistry Doctorate Eurolabel®

The Chemistry Doctorate Eurolabel® has been designed and implemented in the frame of the project: A Framework for a Third Cycle Qualification in Chemistry, in co-operation with the European Chemistry Thematic Network.

As a framework for a third cycle qualification, the Chemistry Doctorate Eurolabel®¹⁴ interests institutions which have introduced structured doctoral programmes in chemical sciences or interdisciplinary topics based on chemistry. It is fostering quality assurance for doctoral degrees in chemistry, is promoting mobility at a global level, and is guaranteeing harmonisation and transparency towards the research community and the labour market.

¹⁴ Chemistry Doctorate Eurolabel® Project, "A Framework for a Third Cycle Qualification in Chemistry," <http://www.phdchem.eu>.

The following aspects are considered in the Chemistry Doctorate Eurolabel®:

- Fitness for purpose.
- Entry to the programme.
- Length of studies.
- Study programme structure, *i.e.* coursework and credits considered in the widest possible sense.
- Teaching and training in generic competences.
- Transcripts.
- Graduate schools.
- Supervision.
- Examinations.
- Assessment.
- Quality assurance.

The qualification is awarded on the basis of the relevant Budapest Descriptor, reading as follows:

Third cycle (doctoral) degrees in chemistry are awarded to students who

- have demonstrated a systematic understanding of an aspect of the science of chemistry and mastery of those skills and methods of research associated with the topic of this research;
- have demonstrated the ability to conceive, design, implement and develop a substantial process of research in chemical sciences with rigour and integrity;
- have made a contribution through original research that extends the frontier of knowledge in chemical science by developing a substantial body of work, some of which merits national or international refereed publication; and
- have competences which fit them for employment as professional chemists in senior positions in chemical and related industries and in public service, or for a progression to a career in academic research.

Such graduates

- are capable of critical analysis, evaluation and synthesis of new and complex ideas;
- can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise; and

- can be expected to be able to promote, within both academic and professional contexts, scientific and technological advancement in a knowledge based society.

The means used for acquiring key competences – during research work or in the context of specialised workshops and course units – are given an important place in the frame of the Quality Label, since they are crucial for entering the labour market; and are addressing environments candidates are likely to meet during any forthcoming career connected to their qualifications. They presume original, independent and critical thinking, and read as follows: The planning process – objectives, strategies, policies, decision making; the structure and process of organising – authority *vs.* self-contained work, organisational flexibility, adaptability to novel situations, time management; the management of human resources – qualifications *vs.* requirements, orienting new team members, team building, organising individual tasks and duties, formulating motivation strategies; the management of information – analysis, evaluation, synthesis and selection of complex concepts and facts; the communication process – communication skills (including presentation techniques, language skills, writing of proposals and reports); tutoring and training skills; ability for knowledge transfer and interaction under multilingual conditions with peers, audiences & panels, the scholarly community and society in general; the development process – internal and external training, handling innovation; the management of financial issues – facing budgetary and market-oriented questions, dealing with budgetary restrictions; the process of controlling and assessing quality; social responsibility and ethics.

The relevant Budapest Descriptor illustrates the goals of a doctoral programme in chemical sciences, and applicants are asked to provide a statement defining the aims and profile of the programme; and describing the skills and competences, which the graduate will have developed at the end of the programme. The accreditation process is then designed to find out whether the programme as set out in detail in the application is suitable for the purpose for which it is designed.

VI. The Chemistry Short Cycle Eurolabel®

The Chemistry Short Cycle Eurolabel® has been designed and implemented in the frame of the project: European Chemistry and Chemical Engineering Education Network, in co-operation with the European Chemistry Thematic Network.

In the Leuven/Louvain-la-Neuve Communiqué (2009),¹⁵ the European ministers responsible for Higher Education stated that: higher education is being modernised with the adoption of a three-cycle structure including, within national contexts, the possibility of intermediate qualifications linked to the first cycle. They further anticipated that: within national contexts, intermediate qualifications within the first cycle can be a means of widening access to higher education.

Three years later, in the Bucharest Communiqué (2012)¹⁶ the ministers agreed to: explore how the QF-EHEA could take account of short cycle qualifications (EQF Level 5) and encourage countries to use the QF-EHEA for referencing these qualifications in national contexts where they exist. To this aim, they committed themselves to: explore how the QF-EHEA could take account of short cycle qualifications in national contexts, at the European level, in preparation of the Ministerial Conference in 2015 and together with relevant stakeholders.

The Chemistry Short Cycle Eurolabel[®] is addressing the need of evaluating intermediate qualifications linked to the first cycle in the area of chemical sciences and chemical technology at a European level, in order to assist widening access to higher education in the Bologna Process signatory countries. The Quality Label refers to study programmes, which are placed at Level 5 in the European Qualifications Framework for Lifelong Learning,¹⁷ and are also seen as an intermediate level within or linked to the first cycle of the Qualifications Framework for the European Higher Education Area; and which are organised by universities, colleges, centres for adult education, or even upper secondary schools. Primary aim of the qualification is to provide a short cycle degree which will be recognised by other European institutions as being of a standard providing automatic right of access to further studies within first cycle programmes in chemical sciences, and ensuring recognition of knowledge and competences obtained during short cycle studies.

Curricula purely dealing with chemical sciences are not often encountered in short cycle higher education. nevertheless, topics related to chemistry and chemical technology are frequently included in study programmes dealing with bio technics, environmental studies, restoration, agriculture, domestic sciences, engineering, health care, and product development.

¹⁵ European Commission, “The Bologna Process 2020 – The European Higher Education Area in the New Decade (Leuven/Louvain-la-Neuve 2009),” http://www.ehea.info/Uploads/Declarations/Leuven_Louvain-la-Neuve_Communique%C3%A9_April_2009.pdf.

¹⁶ European Commission, “Making the Most of Our Potential: Consolidating the European Higher Education Area (Bucharest 2012),” <http://www.ehea.info/Uploads/%281%29/Bucharest%20Communique%202012%281%29.pdf>.

¹⁷ European Commission, “European Qualifications Framework for Lifelong Learning,” http://ec.europa.eu/eqf/home_en.htm.

In order to evaluate study programmes with regard to the Budapest Descriptor for the Short Cycle, it is of utmost importance to specify the educational input and learning outcomes considered necessary for Level 5 in the European Qualifications Framework for Lifelong Learning. For the short cycle, subject knowledge and subject-related competences are practically based and occupationally specific. They build upon general secondary education and are at a level supported by advanced textbooks; and offer comprehensive, specialised, factual and theoretical knowledge within the field of study, as well as a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems. Their aim is to prepare students to enter the labour market, or to provide pathways to other tertiary education programmes.

In the frame of chemical sciences, subject knowledge refers to the main areas of chemistry, as well as to mathematics and physics. Practical skills, which are acquired during laboratory courses, should include exercises in inorganic, organic and physical chemistry. Taking into account the above-cited frame, the Budapest Descriptor for the short cycle reads as follows:

Qualifications that signify completion of the short cycle (within or linked to the first cycle) in chemistry are awarded to students who

- have a good grounding in the main areas of chemistry, especially analytical chemistry; and in addition the necessary background in mathematics and physics. This fundamental knowledge should be practically based and occupationally specific, and built upon general secondary education at a level requiring the support of advanced educational material;
- have basic knowledge in several other more specialised areas of chemical sciences and/or chemical technology, as related to their particular field of study;
- have built up practical skills in chemical sciences and/or chemical technology during laboratory courses, in which they have worked individually or in groups as appropriate to the area. Although chiefly relevant to each particular field of study, laboratory courses should include exercises in inorganic, organic and physical chemistry;
- have developed generic skills in the context of chemistry which are applicable in many other contexts; and
- have attained a standard of comprehensive, specialised, factual and theoretical knowledge and competence which will allow them to continue studies in order to complete the first cycle.

Such graduates will

- have the ability to identify and use data to formulate creative responses to well-defined concrete and abstract scientific problems and ethical issues;
- have the ability to communicate about their understanding, skills and activities with peers, supervisors, clients and any informed audience;
- have competences which fit them for practically based, occupationally specific, performance related employment in the general chemistry-related workplace, including the chemical industry; and
- have developed those learning skills that are necessary for them to undertake further studies with some autonomy.

The expected outcomes of a short cycle study programme are described by the appropriate Budapest Descriptor, which forms the basis of the qualification. The Label is based on 120 ECTS credits. Nevertheless, it may be used to accredit programmes leading to short cycle degrees, and equivalent to 150 or even 180 ECTS credits. In this case, all requisites of the two year programme have to be met, and the remaining modules are considered as an added value to the curriculum.

Institutions providing short cycle programmes of the proposed type are completely free to decide on the content, nature and organisation of courses or modules. The depth, in which individual aspects are treated, will vary with the nature of specific programmes. The Label asks for a minimum of 90 ECTS credits for modules dealing with the main areas of chemistry, as well as physics and mathematics. Within these 90 credits, at least 30 should correspond to compulsory modules. The remaining 60 (or less) will typically focus on a particular field of study, and correspond to fully applied modules, which will assist students in developing specific chemistry-related cognitive abilities and practical skills intended to foster their expertise in a well-defined discipline. The remaining ECTS credits are freely allocable.

Concerning chemical sciences, subject knowledge refers to the main areas of chemistry, as well as to physics and mathematics. Subject-specific competences include cognitive abilities and skills related to chemical sciences and chemical technology, and involving intellectual tasks; and practical skills, typically involving the conduct of laboratory work in analogous topics. Furthermore, every curriculum should intrinsically develop key competences of a general nature, applicable in many other contexts.

In the frame of the Quality Label, it is suggested to ensure that students become conversant with the main aspects of chemistry, and develop the main abilities and competences expected by the end of a short cycle programme. It

should be made clear that the learning outcomes listed in the following paragraphs are intended to be indicative rather than a prescription to be adopted word-by-word across all relevant curricula.

Subject knowledge comprises at least the subsequent issues: major aspects of chemical terminology, nomenclature and units; major types of chemical reactions and the main characteristics associated with them; basic procedures used in chemical analysis and the characterisation of chemical compounds; basic concepts of instrumentation; characteristics of the different states of matter and theories used to describe them; fundamental aspects of the structure and properties of atoms and molecules; basic principles of thermodynamics and their applications to chemistry; basic kinetics of chemical change, including catalysis; characteristic properties of elements and their compounds; fundamental notions of stereochemistry; characteristic properties of organic compound classes; standard reactions in organic chemistry.

Indispensable chemistry-related cognitive abilities and competences encompass: ability to demonstrate knowledge and understanding of well-defined facts, concepts, principles and theories relating to the subject areas identified above; ability to apply such knowledge and understanding to the solution of standard qualitative and quantitative problems of a familiar nature; competences in the evaluation, interpretation and synthesis of uncomplicated chemical information and data referring to taught subjects; ability to recognise and implement basic measurement science and practice; competences in presenting well-defined scientific material, in writing and orally, to an informed audience; basic computational and data-processing skills, relating to chemical information and data.

Chemistry-related practical skills considered necessary are: skills in the safe handling of chemical materials, taking into account their physical and chemical properties, including any specific hazards associated with their use; skills required for the conduct of standard laboratory procedures and operation of broadly used instruments in synthetic and analytical work, in relation to both organic and inorganic systems, and referring to well-defined topics in the frame of the subject areas identified above; skills in the monitoring, by observation and measurement, of chemical properties, events or changes related to well-defined topics in the frame of the subject areas identified above, and the systematic and reliable recording and documentation thereof; ability to collect data derived from standard laboratory observations and measurements; ability to conduct risk assessments concerning the use of chemical substances and laboratory procedures related to well-defined topics in the frame of the subject areas identified above.

In addition, essential generic and transferable competences deal with: the capacity to apply knowledge in practice, in particular problem-solving competences, relating to both qualitative and quantitative information; numeracy and calculation skills, including such aspects as order-of-magnitude estimations and correct use of units; information-management competences, in relation to primary and secondary information sources, including information retrieval through on-line computer searches; ability to analyse material on well-defined topics; the capacity to adapt to new situations; information-technology skills, such as word-processing and spread sheet use, data-logging and storage, subject-related use of the internet; basic skills in planning and time management; interpersonal skills, relating to the ability to interact with other people and to engage in team-working; basic communication competences, covering both written and oral communication, in one of the major European languages (English, German, Italian, French, Spanish), as well as in the language in which the study programme is delivered; study competences needed for continuing professional development, including in particular the ability to handle work situations with a certain degree of autonomy; ethical commitment.

VII. Conclusions

The European Quality Labels in Chemical Sciences are an interesting factual example of how the Tuning methodology may be used by a transnational body – the European Chemistry Thematic Network – in order to promote quality assurance in the European Higher Education Area and even beyond its borders. In fact, the academic world largely welcomed the initiative. By the end of 2013, 146 European Quality Labels have been awarded to institutions and consortia coming from twenty-two European and three non-European countries, the latter being Morocco, the Russian Federation and Kazakhstan.

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Modernising educational programmes in ICT based on the Tuning methodology

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Abstract: An analysis is presented of the experience of modernising undergraduate educational programs using the TUNING methodology, based on the example of the area of studies “Fundamental computer science and information technology” (FCSIT) implemented at Lobachevsky State University of Nizhni Novgorod (Russia). The algorithm for reforming curricula for the subject area of information technology in accordance with the TUNING methodology is explained. A comparison is drawn between the existing Russian and European standards in the area of ICT education, including the European e-Competence Framework, with the focus on relevant competences. Some guidelines for the preparation of educational programmes are also provided.

Keywords: TUNING methodology; information and communication technology; competence system; ICT; Tuning; modular curriculum.

I. Bachelors programme in Information Technology at UNN

Creating a single European area of higher education and the introduction of new principles in higher education is quite a challenge, both for Russia and for Europe as a whole. Despite the importance of this task, the ideas and principles underlying the modern transformation in higher education are not always implemented effectively in specific educational process. It should also be noted that each subject area of education has significant specific features, and methods of reforming should take into account the peculiarities of each given area of studies.

Due to this, much methodological work is required to implement the plans for improving the higher education system. To ensure technical implementation of the higher education reform in Europe in accordance with the Bologna Process, an international project was launched under the title “Tuning Educational Structures in Europe” – TUNING.¹ Its integral part is the project

¹ Ivan Djukaev, Evgeniya Karavaeva, and Elena Kovtun, eds., *Tuning educational structures in Europe* (Bilbao: University of Deusto Press, 2010).

TUNING RUSSIA.² It is intended to promote modernisation of the educational system in line with international trends, with the account of Russia's cultural and educational traditions, to help universities in solving difficult problems that arise in the course of globalisation of education. Lobachevsky State University of Nizhni Novgorod (UNN) is an active participant in the TUNING RUSSIA project. The methodology of this project, which summarizes the experience of specific steps in the development of core educational programs that meet the requirements of the Bologna process, has been successfully used in the UNN to reform a number of educational areas, primarily in the field of information and communication technology.

The purpose of this article is to analyse the experience of modernisation of educational programs for bachelors based on the TUNING methodology using the example of the area of studies "Fundamental computer science and information technology" (FCSIT) implemented at Lobachevsky State University of Nizhni Novgorod. The algorithm of curriculum reform in accordance with the TUNING methodology for the subject area of information technology is presented, along with the guidelines on educational programme development.

Bachelors FCSIT programme at UNN is aimed at training graduates capable of working in various industry and business organisations engaged in the creation, development and use of systems, products and services of information technology, such as international and domestic IT corporations: Intel, Microsoft, Teleca (Telma), IBM, T- platforms, Sun, Cisco, EMC, Nvidia, Tesis, IT Academy. Such graduates should be also ready to work in research centres, educational institutions, various government bodies, including those in the Nizhni Novgorod region. The main objective of the programme modernisation was to reflect better the needs of the regional labour market, employers' requests, opportunities offered by research and human potential as well as the material infrastructure, ensuring academic mobility of students and teachers, implementing the student-centred approach, integration of UNN into a common European educational space. To achieve this goal, we applied the principles recommended by the TUNING project.

One of the most important features of the present stage in the of development of higher professional education in the framework of the Bologna process is that the requirements for the results of an educational programme are formulated in terms of "competences" of the graduate of this program. Competence is a comprehensive characteristic of a graduate's readiness to apply knowledge, skills and personal qualities in standard and

² Aurelio Villa Sanches and Manuel Poblete Ruiz, eds., *Competence-based learning: a proposal for the assessment of generic competences*. (Bilbao: University of Deusto Press, 2008).

changing situations of professional activities. In the framework of the competence-based approach, it is possible to formulate the goal of education in the form of a system of competences, understandable to both students and employers, and to create a graduate's competence model. Therefore, developing a system of competences reflecting both domestic and international trends as well as the specific needs of the region is a central task in the modernisation of educational programs.

II. Building a graduate's competence model

The system of competences of Bachelors FCSIT programme was based on the profile developed in the course of implementation of the TUNING project by the subject area group (SAG) for Information and Communication Technology (ICT).³ The list of competences proposed by the ICT subject area group of the TUNING project has the following form: general (g) and special (s) competences. These competences have been recommended by the TUNING project participants to develop core educational programs (CEPs) in the field of ICT.

In addition to this, recommendations of authoritative international ICT standards and some standards developed by the community of Russian ICT corporations were used in the development of the core educational programme. These include the Computing Curricula 2005 (CC2005),⁴ "The European e-Competence Framework" of the European Committee for Standardisation⁵ (CEN⁶), and APKIT professional standards.⁷ It should be

³ Ivan Djukaev, Evgeniya Karavaeva, Elena Kovtun, *Milestones for the development and implementation of educational programmes in the subject area "Information and communication technologies*, (Bilbao: University of Deusto Press, 2013), 43.

⁴ "IEEE/ACM Joint Task Force on Computing Curricula 2005. The Overview Report covering undergraduate degree programs in Computer Engineering, Computer Science, Information Systems, Information Technology Software Engineering, " Association for Computing Machinery, accessed January 28, 2014, http://www.google.ru/url?q=http://www.acm.org/education/curric_vols/CC2005-March06Final.pdf&sa=U&ei=gPxnU8-bM4LX4ATi qIEI&ved=0CB0QFjAA&sig2=FeC5yS_H7wU_A6JdNe_R4g&usg=AFQjCNFT45ypN8VT FJXTHS94BHuJoESpVg

⁵ Nadezhda Volpyan, "Adaptation and implementation of the European e-Competence Framework in Russia," *Quality of education* 9 (2011): 37.

⁶ "CEN Workshop Agreement. European e-Competence Framework 2.0. Part 1: A Common European Framework for ICT Professionals in All Industry Sectors," European e-Competence Framework, accessed January 28, 2014, http://www.ecompetences.eu//site/objects/download/6197_rusCWA162341Part12010.pdf

⁷ "Professional standards in the field of information technology," AP-KIT, accessed January 28, 2014, <http://www.apkit.ru/committees/education/meetings/standarts.php>.

noted that the SAG ICT profile was built on the basis of the classification of the subject area professional activity in accordance with the Computing Curricula 2005 (CC2005) standard. The European e-Competence Framework provides its list of professional competences in the field of ICT, where competences are divided into five groups corresponding to business processes in information systems: PLAN – BUILD – RUN – ENABLE – MANAGE.

It should also be noted that in the development of a competence model of a graduate, in the case of UNN as a state institution of higher education, it was necessary to take into account the Federal State Educational Standards (FSES) of the Russian Federation for higher professional education, enacted in 2011. In accordance with the law of the Russian Federation “On Education”,⁸ Lobachevsky State University of Nizhni Novgorod as a National Research University has been granted the right to develop its own self-imposed educational standards (SIES). In the first turn, these standards were created for areas of studies in ICT. In 2010, the first UNN standard was developed in the area of studies “010300 Fundamental Computer Science and Information Technology (FCSIT)” (Bachelor’s degree), in 201,⁹ two more standards on FCSIT (Master’s degree) and “Applied Computer Science” (ACS) (Bachelor’s degree), and in 2012,¹⁰ a standard in the area of studies “Applied Computer Science” (Master’s degree). The standards created were aimed at broadening and deepening the range of requirements of the Federal State Educational Standards in the relevant educational fields. The list of competences of these standards was mandatory in the formation of the core educational programme of Lobachevsky State University of Nizhni Novgorod. The competences of graduates, according to FSES and IEES, are also divided into two groups, similar to the competences of the TUNING project: general cultural competences (GCC) and professional competences (PC). The SIES competence framework for bachelors in the FCSIT programme has a complicated structure. Here, we outline integrated groups of competences, or meta-competences. Professional competences are grouped based on professional activity types specified in the APKIT professional standard: research activities, analytical activities, projects, production and technological activities, organisational and

⁸ Russian Federal Law of 29 December 2012 N 273-FZ “On education in the Russian Federation” Article 2.

⁹ Victor Gergel, Evgeniya Gugina, and Oleg Kuzenkov, *Development of the educational standard of the Nizhni Novgorod State University in the area of studies ‘Fundamental Computer Science and Information Technology’* (Moscow, 2010).

¹⁰ Evgeniya Gugina and Oleg Kuzenkov, *Using the TUNING methodology for development of educational standards of Lobachevsky State University of Nizhni Novgorod* (Saratov: Saratov University Publishing House, 2012).

managerial activities. A group of competences may contain several detailed competences.

When forming the competence model of a graduate, all these systems have been analysed and compared with each other. The summarised results of the comparison can be seen in Table 1.

Table 1
A comparison of European and Russian competence systems

Competence groups of SIES for Bachelors programme (FCSIT)	Competence groups of SIES for Masters programme (FCSIT)	SAG ICT competences	CEN competences (competence groups)
The ability to understand and apply in research and applied work the modern mathematical apparatus and the basic laws of natural science (PC 3). The ability to understand and apply in practice computational mathematics and the theory of information as a fundamental scientific basis of information technology (PC 1). The ability to conduct research (PC 5).	The ability to understand and develop mathematical knowledge, the basic laws of natural science and basic principles of information technology (PC 1).	s-11. Apply and develop fundamental and multidisciplinary knowledge, including mathematical and scientific principles, quantitative methods, tools (including software relevant to their engineering discipline) and notations for successful solving problems s-6. Develop and bring into effect new competitive ideas in the area of ICTs	
The ability to conduct analytical activities (PC 8).	The ability to analyse the subject area (PC 2);	s-1. Analyse subject area, identify, classify and describe problems; find the methods and approaches for their solving; define requirements	
The ability to conduct project activities (PC 7).	The ability to design information systems (PC 3);	s-2. Design ICT systems, including modelling (formal description) of structure and processes	A. PLAN
The ability to understand, develop and apply modern information technology (PC 4).	The ability to develop information systems (PC 4);	s-3. Develop and implement ICT systems	B. BUILD

Table 1
A comparison of European and Russian competence systems (continued)

Competence groups of SIES for Bachelors programme (FCSIT)	Competence groups of SIES for Masters programme (FCSIT)	SAG ICT competences	CEN competences (competence groups)
The ability to conduct technological activities (PC 9).	The ability to deploy, integrate, enter into operation and service information systems and their elements (PC 5);	s-4. Deploy, install, integrate, put into service and maintain ICT systems and their elements	C. RUN
The ability to conduct organisational and management activities (PC 6).	The ability to manage IT projects (PC 6);	g-5. Ability to design and manage projects	E. MANAGE
	The ability to assess, develop and implement criteria of quality, reliability and efficiency of information systems (PC 7);	s-5. Guarantee the quality of information systems according to the requirements	E6. ICT Quality Management
	The ability to develop and implemented a strategy for information security management (PC 8);	s-8. Analyse, choose and apply methods and tools to provide information security	E.8. Information Security Management
Readiness to be included in the professional community (PC 2).	The ability to solve problems of professional activity as part of the research and production team (PC 9);	g-2. Ability to work in a team	E4. Relationship Management
	The ability to understand and apply professional standards, specifications, rules and recommendations in the field of information technology in one's practical activities (PC 10);	s-7. Know, follow and assess the degree of compliance with industry specifications, standards, regulations, and recommendations	
	The ability to organise IT training (including e-learning) (PC 11).	s-10. Train and support ICT users	D3. Education and Training Provision

When comparing lists of competencies, we can see that some of them are essentially identical and differ either in the wording or in minor shades of meaning. A number of competences of the SIES in the SAG list were formulated in a more general manner. Some SAG ICT competences cover the content of several SIES competences. Several SAG competences had no direct correspondence in the list of SEIS competences, although one can find in the SEIS list some more general competences that assume the mastery of SAG ICT competences. It should be noted that the European e-Competence Framework contains no competences related to research activities in the field of ICT. This is not surprising, since originally this Framework did not cover such type of activities. Moreover, the European Framework does not contain any competences relating to the graduates' analytical work. In comparison with other competence systems, this is a disadvantage, and the Framework needs to be improved.

On the other hand, in the SAG ICT and SEIS system of competences, there are some competence groups, which in the European e-Competence Framework are represented by specific competences included in larger groups. Evidently, when developing educational programs and profiles, it would be appropriate to further enlarge these competences and to integrate them with other groups in meta-competences.

When forming the competence model of a graduate, it was necessary to fulfil the requirements of the standard, but at the same time it had to be supplemented with the competences recommended by the TUNING project. In the wording of SIES competences that have similar counterparts in the SAG list, the wording used by SAG was used, especially in those cases where it allowed a more general interpretation. Those SAG competences that did not have direct counterparts in the SIES were added to corresponding SIES competence groups. Finally, the list of SIES competences was supplemented with s-11 competence, in relation to which PC1, PC3 and PC4 competences can be considered as a group. On the other hand, detailed SIES competences were related to TUNING competences in accordance with the profile to identify the dynamic relationships between them. Generalisation and integration of definitions and requirements of the SIES and the FSES was performed. At the same time, they were expanded and provided with more details, taking into account specific conditions in which the standard is applied.

This work received extensive support from experts representing enterprises where UNN graduates are employed. To analyse and evaluate the model of a graduate, employees of leading IT corporations and enterprises were recruited, first of all, of those companies that are represented in the Nizhni Novgorod region: Intel, Teleca, Sedakov Research Institute of

Measuring Systems, Federal Nuclear Centre, Nizhni Novgorod Centre of New Information Technologies, etc.

After a detailed analysis, requirements were formulated to the results of mastering the CEP of Nizhni Novgorod State University (Bachelor's degree in the area of studies "Fundamental computer science and information technology") in the form of a profile, which is a system of interrelated competences.

III. Developing competence maps

For each competence, a competence map was developed. The TUNING methodology for competence mapping involves the description of particular competences by means of a set of indicators that show specific qualitative aspects in the mastering of the given competence. Besides, several levels of competence achievement are identified. At each level, the quantitative degree of mastering each indicator is characterized by descriptors. In most cases, five indicators, two or three skill levels and five descriptors are used to build a competence map.

Levels of mastery were determined based on the following principles: the first level corresponds to the level of technical literacy, or the lowest level of performance; the second level corresponds to the level of understanding the concepts and the ability to use them, this is the level of middle-tier managers; while the third level corresponds to the level of in-depth detailed mastery, which is the level of experts. In addition to this, learning objectives were identified for each competence.

Let us illustrate the construction of the competence map using the example of the general cultural competence "The ability for abstract thinking, analysis and synthesis." Three indicators have been identified for this competence:

1. The ability to analyse situations and systems;
2. The ability to use logical inference procedures;
3. The ability to synthesize a model of and find a solution to a problem situation.

Three levels of competence development have also been identified. These levels do not directly correspond to the year of studies, but they reflect the goals and objectives of the students' progression (in terms of competence development) in respective disciplines. Such goals and objectives are stated in the program of the course.

1. Using elementary logical procedures for understanding a particular system or situation
2. Command of technical support tools for analysis and synthesis
3. Using logical analysis of the real-life situation or case to find the optimal solution and generate new ideas.

At each level, the indicators have been appropriately specified:

Level 1:

- Analysis of a real-life system or situation in order to identify the main components and determinants;
- Using elementary logical inference procedures;
- Establishing relationships between the constituent elements and factors of a particular system or situation.

Level 2:

- Command of basic technical analysis tools and their application in the analysis of concrete situations and cases;
- Command of basic laws of formal logic;
- Command of mathematical and computer simulation techniques for the synthesis of models of real-life systems.

Level 3:

- Command of system analysis techniques;
- Using logical procedures for obtaining new knowledge;
- Using models of real-life systems for the synthesis of optimal solutions in problem situations.

For example, for the first level indicator “Analysis of a real-life system or situation in order to identify the main components and determinants”, the descriptor system has the following form:

1. The student does not identify main components and determinants of a particular system or situation.
2. The student makes mistakes in identifying the main constituents and determinants of a particular system or situation.
3. The student correctly identifies all the determinants and components of a particular system or situation.
4. The student classifies the main factors and components of a particular system or situation in order of importance.
5. The student compares the analysis of a specific system with the analysis of similar systems using previous experience to analyse a particular system.

The degree of competence achievement at each level for each indicator was assessed using five descriptors. Descriptors specify the degree of achievement of the indicator corresponding to each skill level. To develop a system of descriptors, their qualitative and quantitative content was determined, as shown in Table 2. The proposed system of descriptors reflects traditional Russian practices with the account of European recommendations. The qualitative aspect of the descriptor indicates the degree of achievement of the indicator (competence). The qualitative component in some cases gives an opportunity to compare quantitative results (answer, test, control task, etc.) with the appropriate descriptor.

Table 2
 Descriptors for degrees of competence achievement

Descriptors	Qualitative description	Quantitative evaluation (as a percentage of fulfilment of a control task, test, etc.)	Correspondence to UNN grading system
1	A given level of competence has not been achieved at all. Total lack of mastery of the material.	0 – 20%	Poor
2	The degree of achievement of a given level of competence is not sufficient to achieve the main goals of education; significant errors are made.	20 – 50 %	Unsatisfactory
3	Minimum allowable degree of achievement of a given level of competence needed to achieve the main goals of education. Some mistakes can be made, which are not critical for the achievement of this level. Knowledge of the minimum material required in the given subject, with a number of errors; the ability to solve main problems.	50 – 70 %	Satisfactory
4	Competence level achieved in general. Sufficient knowledge of basic material with some errors, ability to solve a wide range of standard problems	70 – 90 %	Good – Very Good
5	Competence level fully achieved, above mandatory requirements, the qualities associated with the manifestation of a given level of competence in a wide range are demonstrated. Connection with the formation of other competences is manifested. Excellent knowledge of the main and additional material without mistakes and errors. The ability to solve additional problems of high complexity.	90 – 100%	Excellent – Perfect

The system of descriptors thus constructed provides the basis for developing assessment materials to monitor the development of each competence. This system is based on UNN's seven-point grading system that has been used successfully for 10 years and provides a more flexible approach to the reflection of students' performance. UNN's system of grades is consistent with European practices; it facilitates the integration of the university in the European educational space and includes the following grades:

- “Perfect”: the student displays in-depth knowledge of the main and additional material without any mistakes and errors, can solve non-standard problems, has acquired all the competences (parts of competences) relating to the given subject in a comprehensive manner and above the required level. A stable system of competences has been formed, interrelation with other competences is manifested.
- “Excellent”: the student displays in-depth knowledge of the main material without any mistakes and errors, has acquired all the competences (parts of competences) relating to the given subject completely and at a high level, a stable system of competences has been formed.
- “Very good”: the student has sufficient knowledge of the main material with some minor mistakes, can solve standard problems and has acquired completely all the competences (parts of competences) relating to the given subject.
- “Good”: the student has the knowledge of the main material with some noticeable mistakes and has acquired in general the competences (parts of competences) relating to the given subject).
- “Satisfactory”: the student has the knowledge of the minimum material required in the given subject, with a number of errors, can solve main problems, the competences (parts of competences) relating to the subject are at the minimum level required to achieve the main learning objectives.
- “Unsatisfactory”: the knowledge of the material is insufficient, additional training is required, the competences (parts of competences) relating to the subject are at a level that is insufficient to achieve the main learning objectives.
- “Poor” – lack of knowledge of the material, relevant competences have not been acquired.

Thus, the use of the TUNING technology can help to significantly upgrade the learning and teaching process and provides effective tools for the development of self-imposed standards and core educational programs based on them.

The development of a core educational programme can be considered on the example of our English-medium Bachelors FCSIT programme. It should be noted that the UNN has some experience of teaching students in English. Since 2006, a Bachelors programme in Information Technology with intensive use of English has been run by the university in the framework of the second-generation state educational standards. English-speaking students from different countries were enrolled in this programme. In 2011, the first four Bachelors graduated from this programme, in 2012, the second class of 10 students graduated with Bachelor's degrees.¹¹ Teaching in English is aimed at facilitating the learning of the programme material by international students, at increasing academic mobility and creating additional advantages for alumni's active participation in international activities. Implementation of programmes of separate disciplines and the core educational programme in foreign languages makes it possible to attract leading foreign experts to reading lectures and to teaching international students. Upgrading the programme is of paramount importance for ensuring academic mobility and for the university's inclusion in the European educational space.

IV. Modular structure of the curriculum

Modular organisation of the curriculum makes it possible to improve the structure of the students' independent work, and to achieve a more uniform distribution of the workload of students' independent work over the modules, on the one hand, and a flexible distribution of the workload with respect to individual subjects and topics of the module.

Modules are relatively independent parts of the educational program. Each module is a formally structured learning unit intended to formation a certain competence or a group of related competences. It includes a logically complete part of the learning material, the targeted programme of actions and methodological guidelines for achieving the goals of the module. The module may contain a portion of some discipline, or one or more related disciplines or parts of such disciplines. The module includes the following components: a description of the goals and objectives with respect to the content; learning outcomes (knowledge, skills, and transferable competences); strategies for teaching/learning; assessment/certification procedures; a

¹¹ Alexander Bedny et al., "Main educational program for a Bachelor degree in the area of studies "Fundamental computer science and in-formation technology" in English" *Vestnik of UNN* 6, no. 1 (2012): 12.

description of student workload; admission requirements. Each module must be provided with instructional documentation.

Modular organisation of the learning process assumes that there may be five to six modules in each semester. The workload required to learn the material of one module in the framework of the programs developed is assumed to be five credit units. According to the Russian educational standards, one credit unit is equal to 36 academic hours. If a module consists of several academic disciplines or parts of disciplines, it is possible to credit students separately for each discipline, which makes part of the module. Each module is concluded with an interim certification, which includes an examination and/or a test. Within the module, a term project or a term paper may be performed. Classroom work may constitute up to 3/5 of the module volume. Within the modules, some subjects may be selected by students.

Out-of-classroom work of students within the module can be implemented in the following ways: doing their homework, working on their term papers and projects, preparation of a literature review on a specific topic, preparation of an essay, participation in seminars and research projects, implementation of research on relevant topics, conducting lectures, interactive workshops and consultations using distance learning technologies (DLT), preparation for interim certification. Out-of-classroom work of students should be provided with instructional materials; it should be monitored for workload and assessed by a teacher or a research supervisor. The assessment of the progress may be carried out both in classroom and during extracurricular work (this includes the assessment with the use of DLT means). Up to 50% of the independent work planned as part of this module may be assessed by faculty members. For organising and controlling independent work, contact hours may be allocated in addition to the primary teaching load. At the discretion of the teacher, necessary premises and time (apart from regular classes) may be allocated for the control of independent work. At least 1 credit in each module must be devoted to the preparation and passage of an interim certification. Interim certification is carried out in the following forms: examination, test, graded test. Examinations are held during the time of examination sessions. Tests may be conducted during the semester, based on current progress.

In each semester, one module is allocated for the study of the humanities and socio-economic disciplines. These modules include: "History", "Philosophy", "Sociology", "Economics", "Health, Wellness and Safety", "Social and Ethical Issues of Information Technology", "Concepts of Modern Natural Science". Every such module also includes practical Russian language classes (for international students, Russian is considered a foreign language). As a result of training under this program, Bachelors must read and speak Russian fluently (the knowledge of English is assumed a priori).

Within each of the humanities module, one general cultural (general) competence is developed, for example, in the module “Philosophy”, the competence “Understand and analyse the ideological, socially and personally meaningful philosophical problems” (GC1.1); in the module “Life safety”, the competence “Knowledge of the basic principles of protection of workers and the public from accidents, natural disasters and their possible consequences” (GC3.4).

In each semester, there are some modules of the mathematics and sciences cycle. These modules are primarily aimed at developing professional (special) competence “The ability to understand and apply modern mathematical apparatus and basic laws of natural science in research and applications” (PC3). These include “Mathematical Analysis”, “Geometry and Algebra”, “Discrete Mathematics”, “Graph Theory”, “Theory of Probability and Mathematical Statistics”, “Physics”, “Differential Equations”, “Optimization Techniques”, “Computational Mathematics and Functional Analysis”, “Operations Research”. Furthermore, within these mathematical modules (except for “Physics”), the competence “The ability for abstract thinking, analysis and synthesis” is developed. The aim of the modules “Mathematical Analysis”, “Geometry and Algebra”, “Discrete Mathematics”, “Graph Theory”, “Probability Theory and Mathematical Statistics” and “Differential Equations” is to develop the above-mentioned competence at the second level of mastery (“Command of technical support tools for analysis and synthesis”); the remaining modules are aimed at developing this competence at the third level of mastery (“Using logical analysis of a real-life situation or event to find the optimal solution and generate new ideas”).

In addition to this, it is mandatory to have in each semester some modules of the professional cycle, such as “Introduction to Programming”, “Programming Languages”, “Operating Systems”, “Computer Networks”, “Logic Programming”, “Computer Systems”, “Parallel Programming” “Databases”, “Analysis and Development of Algorithms”, “Information Systems”, “Software Engineering”, “Computer Graphics”, “Supercomputers” and some others. These modules are aimed at developing appropriate professional competences, as a rule, at the first mastery level (during the first and second years of studies) or at the second level (third and fourth years of studies).

The schedule of studies consists of eight semesters. The duration of the period of theoretical studies in each semester is 18 weeks (except the 8th semester). The duration of the examination session in each semester is 5 weeks (except the 8th semester).

The workload of the in-house practical training is 14 credits. It is evenly distributed during the first four semesters of studies. At the end of

the in-house practical training in each semester, there is a test (pass/no pass or rated). The in-house practical training is carried out in the form of computer practice in the main courses of the basic and the variable parts of the professional training cycle. In-house practical training is carried out in the laboratories of the University according to a separate schedule, which is coordinated with the schedule of theoretical studies, with direct participation and under the guidance of the teacher responsible for practical training.

The workload of the field practical training is 5 credits. It is carried out during the seventh semester. The field practical training constitutes a separate module of CEP and may take place at UNN's departments and laboratories that have the necessary personnel, expertise and equipment, or at the leading enterprises of IT industry with offices and facilities in Nizhni Novgorod, where all the necessary conditions are created for the successful acquisition of skills in the real-life production mode. The conduct of field practical training is governed by appropriate contracts for providing practical training base between the University and the following organisations.

For all types of practical training, one day a week is allocated during the period of theoretical studies. Practical training is supported with all the necessary material and technical resources (computer rooms, laboratories, software and other types of support).

Each student is provided with access to e-library systems "University Online Library" and "Lan" containing publications on main subjects to be studied. The libraries are formed in coordination with copyright owners of educational and instructional materials.

The educational process is provided by 12 specialised laboratories, a high-performance cluster with peak performance of 17,5 trillion operations per second, 3 personal mini-clusters, National Instruments equipment for laboratory practicum on the concepts of modern natural science, computer graphics and virtual reality equipment (including 3D), equipment for 3D-prototyping. The equipment has been installed for the access gateway for connecting the high-performance cluster to the Russian grid network.

V. Implementation of the student-centred approach in education

In implementing the CEP, an adequate socio-cultural environment is formed and necessary conditions are created for all-round personality development. The student-centred approach, as implemented in UNN, is based upon the UNN policies and Russian traditional practices in higher education. Some additional elements have been incorporated specifically for

international students who are not familiar with such practices and traditions in the Russian system of education.

In the course of the Bachelors programme, students are given the opportunity to engage in physical training and sports, including sport games, with the total amount of not less than 400 hours. These classes are distributed evenly over the first four semesters. Every week, there are four hours of physical training and sports in the schedule of classes. The rest of the physical training and sports classes are organised outside the schedule of regular classes. The university monitors the use by each student of the opportunities provided for physical education and sports. As an alternative, students' participation in sports circles and sections, visiting gyms and stadiums may be counted towards credits in this discipline.

The University contributes to the improvement of the social and educational component of the learning process through the development of student self-government; providing students with group curators from the faculty (junior years) and individual scientific supervisors (starting from the third year); enabling critical evaluation by the students of the content, organisation and quality of the educational process in general and with regard to the work of individual teachers; enabling participation of students in public organisations, sport and art clubs, student scientific societies.

The monitoring of the workload of students' independent work, evaluation of the success of the educational process, of the process of competence formation, and of the work done by individual teachers is carried out by means of a systematic survey of students using respective questionnaires.

Students participate in the shaping of their individual educational trajectory by choosing elective academic disciplines (modules, classes) or optional disciplines (modules, classes), research topics, academic disciplines (modules, classes) offered by their departments on the subject of research, research supervisors (tutors), location of their in-house and field practical training, and the subject of their field training.

Final State certification of university graduates is compulsory. It takes place after the CEP has been completed in full. Final state certification is held at the end of the 8th semester and includes an interdisciplinary State examination and the defence of the final qualification paper (Bachelor's thesis). The Bachelor's thesis is prepared and presented in English. It must be accompanied by an abstract in Russian. Preparation for the State examination is supported by review lectures in all the disciplines included in the examination program, and by consultations given by leading teachers. The total workload of the Final State certification is 12 credit units.

Upon completion of their studies, bachelors are issued a standard form Diploma in Russian, and may also be issued a European Diploma Supplement in English in compliance with the model developed by the European Commission, Council of Europe and UNESCO.

VI. Conclusions

Thus, using the methodology of the TUNING project, we have been able to achieve substantial modernisation of the educational process and to develop an innovative educational programme for bachelors in the area of studies “Fundamental computer science and information technology”, which testifies to the high efficiency of this methodology and its importance in the renewal of higher education.¹²

Based on this experience, we can indicate the basic fundamental aspects in the reform of educational programmes with the use of the TUNING methodology:

1. Development of a graduate competence model based on the analysis of international and national guidelines and standards.
2. Active involvement of employers (both at the international level (multinational corporations) and at the national, primarily regional, level) in the formulation of the learning objectives.
3. Supporting the competence model with competence maps and a system of learning objectives in order to form a pool of teaching and learning tools and a pool of learning assessment tools.
4. Development of the curriculum on a modular basis.
5. Empowering students to influence the learning process and the formation of an individual educational trajectory.

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¹² “An algorithm for curriculum reform on information technology in accordance with the TUNING technology,” Lobachevsky State University of Nizhni Novgorod, accessed January 28, 2014, <http://www.unn.ru/elibrary/methodmaterial.html?pscience=11>.

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Migrating a professional field of study in a multi-institutional partnership: facilitators' experience in the competence-based curriculum development process

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Abstract: With the urge to Africanise the curriculum following colonisation, many African countries are still wary of the educational initiatives from the developed countries. However, with the clear curriculum design and development guidelines provided by various national Quality Assurance bodies, African countries need not fear migrating curricula from developed countries. Drawing from the workshop experiences, authors of this paper illustrate the steps involved in migrating, contextualising and adapting a professional field of study in a multi-institutional partnership, with particular focus on the competence-based curriculum design and development process. The process of migrating higher education (HE) Administration, Leadership and Management curriculum taught at the University of Tampere (Finland) to a Postgraduate Diploma in Higher Education Leadership and Management (PGDHELM) curriculum at Uganda Management Institute (UMI) in partnership with the Makerere University and the University of Helsinki involved undertaking a needs assessment, training of trainers and adapting the programme to the UMI context. The training of trainers provided opportunity for the trainees to reflect and generate information on the status of HE leadership and management in Uganda. The curriculum was institutionalised by aligning it to the vision, mission and profile of UMI in the context of the existing internal and external Quality Assurance frameworks. This paper underscores the importance of involving stakeholders, taking into account national and institutional requirements in all the steps when migrating an academic curriculum.

Keywords: competence-based curriculum; curriculum design; curriculum development; training programmes; quality assurance; partnership; internationalisation; infusion; higher education.

* The authors are grateful to all the partner institutions and staff who participated in the Leadership and Management of Ugandan Universities (LMUU1) Project “Strengthening Institutional Capacity for Higher Education Leadership and Management in Sub-Saharan Africa” and to the peer reviewers who gave insightful comments to improve on the quality of this article.

I. Introduction

1. *Need for well-managed responsive universities*

Higher education (HE) is the heart of education, the core of national innovation and development systems, an instrument for poverty eradication and the accelerator of the rate of economic growth.¹ Despite this documented contribution of HE to national development, the governance of HE in Uganda remains problematic. At the same time, training programmes addressing capacity needs in the governance of HE have either been non-existent or have been developed in isolation from the expertise of various national and international higher education institutions (HEIs). Consequently, countries such as Uganda have lagged behind in promoting the attractiveness of their HEIs through such partnerships.

With the move towards knowledge-driven economies and societies, education has never been more important for the future economic standing of countries and individuals to perform and fully participate in the economy and society as it is today.² The role of Ugandan universities has been perceived from the government point of view mostly as an instrument of economic development. Specifically, at Makerere there has been increasing awareness about the knowledge economy and the university's role as an engine of development.³

As a result of the value attached to HE, there has been an exponential growth and expansion of HEIs in Uganda, as is the case the world over. However, this growth and expansion has not matched with the quality expected of HEIs, and has indeed posed challenges in the leadership and management of HEIs, especially in Sub-Saharan Africa⁴ and yet university leadership is one of the key actors in making a significant and sustained contribution to development.⁵

In Uganda, the growing number of HEIs, both public and private coupled with the declining quality of the graduates led to a recommendation for the

¹ Republic of Uganda, *National Development Plan* (2010); David Bloom et al., *Higher Education* (2006); Xiaoyan Liang, *Uganda Tertiary* (2004); Damtew Teferra and Philip Altbach, *African Higher Education* (2004); Republic of Uganda, *Poverty Eradication Action Plan* (1999).

² Organisation for Economic Co-operation and Development (OECD), *Human capital* (2007).

³ Nico Cloete et al., *Universities and economic development in Africa* (2011), 154.

⁴ Damtew Teferra and Philip Altbach, *African Higher Education* (2004); Peter Materu, *Higher Education Quality* (2007).

⁵ Nico Cloete et al., (2011).

establishment of a body to regulate quality of HEIs by the 1989 Education Commission. At the turn of the millennium, there were concerted efforts to improve quality in Uganda's HEIs. However, a decade later, a slower response in addressing the leadership and management challenges in HEIs has been noticeable⁶ implying that HE quality concerns have not been holistically addressed. Unfortunately, this development exemplifies the situation in many African countries.⁷

At international level, mass HE and knowledge growth have fundamentally altered the nature of university management structures, leading to the rise of the managerial approach in HE.⁸ The management of such huge organisations is complicated, i.e., '*...too slow to respond, too unwieldy to direct, too focused on process rather than outcomes, and too short on professional expertise to guarantee quality, financial probity, and on-time delivery to multiple customers.*'⁹ Consequently, there is the dilemma of applying the traditional, widely accepted 'collegial' approaches to leading and managing HE in the institutional context,¹⁰ necessitating the adoption of New Public Management (NPM) approaches in the HE system.¹¹ It is envisaged that these approaches positively impact the overall quality of HEIs.

Among the major arguments for the increased emphasis on quality assurance (QA) in HEIs include globalisation, internationalisation, new technologies, liberalisation of education, increased student enrolment, cross-border education due to demand for mobility of staff and students, market forces in HE delivery, changes in the relationship between governments and HEIs with more demand for control and accountability, and changes in funding patterns of HEIs by governments.¹²

⁶ Proscovia Namubiru S. and Micheal Mawa, "Genesis of quality assurance in higher education institutions in Uganda" (unpublished, 2011).

⁷ Jamil Salmi, *League Table* (2007), 233; Demtew Teferra and Philip Altbach, *African Higher Education* (2004), 31.

⁸ Paulo Santiago et al., *Internationalisation* (2008); Paul Ramsden, *Leadership Challenge* (1998)

⁹ Paul Ramsden, *Leadership Challenge*, 35.

¹⁰ Paul Ramsden, *Leadership Challenge*.

¹¹ Lynn V. Meek, *The Higher Education Managerial Revolution* (2003)

¹² Philip Altbach et al., *Trends* (2009); Uganda Government, *White Paper on Education*, (2008); Paulo Santiago et al., *Internationalisation* (2008); National Council for Higher Education (NCHE), *Quality Assurance Framework* (2006); Mahmoud Mamdani, *Scholars in the Market Place* (2007); National Council for Higher Education (NCHE), *The State of Higher Education* (2006); Nakanyike Musisi, *Uganda* (2003).

1.1. The policy context of HEIs in Uganda

The evolution of QA in Africa in general, and in Uganda in particular is a response to global, regional and local developments. This is because African HE systems have become a part of global tuning, and through for instance the Africa-EU strategic partnership, efforts have been made towards the harmonisation of HE to enhance degree comparability, graduate mobility and employability in addition to improving staff capacity to design and develop curricula, provide opportunities for generation of additional resources, and supporting effective and productive networking.¹³

At national level, the QA system at Makerere University, the only university in Uganda by then (1949 to early 1990s), was based on institutional affiliation, external examination, moderation, and grading following the then University of London Model¹⁴ and later on with the collapse of the University of East Africa in 1970, a strong state control. In 1980, the Inter-University Council of East Africa (IUCEA) was formed, among others to regulate quality at the regional level. From the late 1980s, QA in HEIs was through external examination and moderation and evaluation of teaching staff by students. However, there was no national regulatory framework to coordinate QA in HIEs until 2001 when the Universities and Other Tertiary Institutions Act was promulgated.

With the promulgation of this Act, a national and institutional QA system gradually took form. This marked a move from affiliation to accreditation, collegial model to national benchmarks, and a strong mix of external and internal QA systems.¹⁵ With the establishment of the Uganda National Council for Higher Education (NCHE) the statutory regulatory authority for HE in Uganda, a National QA Framework was formulated to guide the QA system. The Framework defines QA as the mechanism put in place to guarantee that education is *'fit for purpose.'*¹⁶

The institutionalisation and operationalisation of the QA Framework in Uganda has taken two major directions. First, the traditional structures and mechanisms of institutional governance continue to play a dominant role in ensuring quality of the education provided. The management structures provide the legal and organisational framework within which administrative

¹³ Tuning Africa, <http://www.tuningafrica.org/> .

¹⁴ Peter Materu, *Higher Education Quality* (2007); Carol Sicherman, *Becoming an African University* (2005)

¹⁵ Proscovia Namubiru and Michael Mawa, "Genesis of Quality Assurance" (unpublished, 2011).

¹⁶ National Council for Higher Education (NCHE), *Quality Assurance Framework* (2006)

decisions are made; they set the extent and limits of power of various players in the administration of the HEIs including councils, senate, academic boards, and students' and staff unions, among others.¹⁷ Therefore, the national and institutional frameworks provide a robust QA system through which Uganda HEIs are required to operate.

1.2. Local framework for developing a quality programme

Specific to academic programmes, the regulatory component of the National QA Framework mandates the Council to accredit individual institutions and programmes, while the institutional component stipulates that HEIs meet the requirements for courses of study and submit these to the NCHE for accreditation. The Council has published minimum standards for courses of study to measure the quality of academic programmes in terms of aims, learning outcomes, content, materials, delivery and assessment of students. The Council's minimum standards are the basis for academic programme accreditation in accordance with the Act which provides in section 119A that '*no person shall operate a University, other Degree Awarding or a Tertiary Institution without the prior accreditation of its academic and professional programmes by the National Council for Higher Education.*' To establish whether or not an institution has complied with the requirements set by the QA Framework, a process of internal and external institutional and programme assessment or evaluation has been established. The Framework provides for a regular 3-5 year cycle of external audits; and as and when it is necessary to undertake such an audit. In addition, and relevant to this paper, the Framework requires a deliberate curriculum design and development process to ensure the quality of the academic programmes.

1.3. Curriculum design, development and the changing product of knowledge

In this paper, curriculum design is a deliberate process of devising, planning and selecting elements, techniques and procedures that constitute an organised learning endeavour.¹⁸ The design provides the conceptual framework within which a curriculum is developed. Curriculum development is the systematic planning of what is taught and learned in HEIs to bring

¹⁷ Abdu Kasozi, *University education in Uganda* (2003)

¹⁸ Daniel Pratt, *Curriculum design and development* (1980), 10.

about behaviour change among a specific group of learners. It involves the selection, organisation, execution and evaluation of the learning experiences on the basis of the needs, abilities, and interests of specific groups of learners, the mandate, vision and mission of the HEIs, the national legal frameworks and the needs and nature of the society. A curriculum development process that takes into consideration the above elements underscores a curriculum that is demand- rather than supply-driven.

Other scholars¹⁹ note two modes of knowledge production by which curriculum development can be defined. In Mode 1, production refers to knowledge of discipline-based type, typically produced in the ‘traditional’ universities. Mode 2 is the production of knowledge in the context of application, i.e. arising in the process of solving problems in collaborative trans-disciplinary teams and partnerships, situated both within and outside of HEIs. Similarly, the scope of Mode 2 of knowledge production has been expanded by emphasising the competence-based curriculum development process in HEIs.²⁰ The curriculum designed and developed as analysed in this paper followed Mode 2 of curriculum development, in which generic competences and domain-specific competences related to the world of work, i.e. job profile are identified to guide the process.

Competence-based education is anchored in the learner-centred curriculum paradigm because of its emphasis on what the learner should be able to do when he or she is done with a particular training programme. In addition, competence-based education is also anchored in the problem-centred curriculum paradigm, since focus is on competences derived from societal needs and concerns, and since such a curriculum aims at preparing a graduate as an agent of social change. The problem-centred curriculum focuses on both generic and domain specific future professional practice of the graduate. The aim of the competence-based curriculum development process is to create a more relevant curriculum.

1.4. Aim and objectives of the paper

This paper aims at reflecting on and analysing the facilitators’ experiences in migrating a professional HE curriculum based on a multi-institutional partnership in the curriculum design and development process. Specifically, the paper (1) analyses the process taken to design and develop the PGDHELM at UMI and (2) documents the lessons learnt during the development process.

¹⁹ Michael Gibbons, et al., *The new production of knowledge* (1994).

²⁰ William Kouwenhoven, *Designing for competence* (2003, 2009).

1.5. Methodology

The qualitative method of inquiry was adopted for this paper. The aim was to enable the facilitators understand and interpret the curriculum migration, redesign and development process as a social phenomenon within a HE setting from their own perspective and experience. Reflection as a research method is embedded within the wider action research frame of reference,²¹ which is intended to foster change on a group or institution.²² The research method was flexible, responsive and open to contextual interpretation drawing from the actual context. Reflections for the paper were drawn from all the workshops the facilitators participated in, with a total of 25 members of the curriculum task force. Data was mainly gathered through participant observations and documentation from the project document and workshop reports. All the steps in the workshops were noted. In addition, the facilitators also observed and documented the dynamics during the workshops. This paper presents a post-reflection process.

2. Findings on the reflections

2.1. The curriculum design and development process

The emphasis placed by NCHE for accreditation of all programmes offered by HEIs necessitates the development of programmes that meet the prescribed minimum standards for courses of study and respond to current needs in society. It is against this background and the need to address the governance challenges in Ugandan HEIs that UMI, in conjunction with Makerere University, the University of Helsinki and the University of Tampere embarked on migrating a professional programme on HE Administration, Leadership and Management taught at the University of Tampere to UMI in a multi-institutional partnership. This process gave birth to the Post-graduate Diploma in Higher Education Leadership and Management (PGDHELM). Certainly, even with such a donor-funded initiative and the active involvement of multi-institutional experts, UMI and its partners had to conform to the established national standards for programme accreditation.

Any good curriculum design and development process is based on an understanding of the educational philosophy and objectives of a particular

²¹ Stephen Kemmis and Robin MacTaggart, *The Action Research Planner* (1988); Stringer, *Action Research* (1996).

²² John Cunningham, *Action Research and Organizational Development* (1993).

HEI, as well as the work-based knowledge and skills required for a given field. Specifically, the development of the competence-based PGDHELM programme can be described chronologically in the framework of a phased approach based on a combination of Hilda Taba's curriculum development model²³ and other best practices in curriculum design and development, including the following:

- a) Conducting a needs assessment,
- b) Designing the curriculum,
- c) Aligning the curriculum to the mandate, vision, and mission of UMI,
- d) Formulating the aim, competences and learning outcomes of the programme,
- e) Selecting the content,
- f) Selecting the learning experiences,
- g) Organising the learning strategies and activities, and
- h) Planning for assessment and programme review.

This paper restricted its scope to the planning elements in the curriculum development process, i.e. elements (a) to (g), because assessment and programme review takes place after the programme has been accredited and is operational. Elements (b) to (h) are the five mutually interactive elements of the curriculum development process, while elements (a) to (c) are considered factors external to Taba's model that affect the quality and relevance of a particular programme. The processes are reflected upon in the subsequent sections. However, the curriculum development process is iterative in nature; therefore, the phases reflected upon do not distinctly stand alone, but progress in a rather un-linear fashion.

a) Conducting a needs assessment

Although an often-neglected phase in curriculum design and development, conducting a needs assessment is a fundamental activity in which the curriculum development team scans the environment to identify the existing strengths and needs in terms of knowledge, skills and attitudes in society in regard to a particular field. This information is vital in identifying the knowledge, skills and attitudinal gaps that need to be addressed during the curriculum design and development process. In the process of developing the PGDHELM programme, relevant national and

²³ Hilda Taba, *Curriculum development* (1962).

international literature was reviewed and a field study conducted among current and prospective HE managers and leaders. It was from this activity that the job profile of HE managers and leaders was developed, i.e. the generic and domain-specific competences of managers and leaders in HEIs in Uganda. The job profile further enabled the curriculum development team to describe the graduate profile of the prospective students and the curriculum profile.

Needs assessment in the curriculum design and development process attests to Mode 2 of knowledge production,²⁴ i.e. the production of knowledge in the context of its application. This implies that the curriculum development team is aware of the importance of situating a training programme in the local and international context, in which the graduates are to work. Such a curriculum is secured in the requisite competences.

The involvement of stakeholders as important sources of power in the needs assessment and throughout the design and development process serves to co-opt, influence, and control the external environment. This is part of the politics in curriculum design and development, which enables an institution to seek and gain legitimacy through the creation of meaningful linkages and partnerships that consciously endorse the final curriculum. Such an environmental scan also gives a HEI the opportunity to seek a market for its service, i.e. clientele for its training programmes.

b) Curriculum design: Internationalising the PGDHELM programme through a multi-institutional partnership

Unique to the curriculum design and development process was the selection and active involvement of teaching staff from local HEIs, and a team of experts from two universities in Finland in the design and development of the PGDHELM programme. Guest speakers from local HEIs were also invited to give keynote addresses on identified thematic areas.

Specifically, and rather more uniquely, the programme was developed through a partnership under the project name: Building Institutional Capacity for Training Leadership and Management of Ugandan Universities (LMUU) with the University of Tampere, University of Helsinki, Makerere University and UMI as the partner institutions. The conception of this Project was a long-term commitment to institutional capacity building and cooperation between the Uganda Management Institute and Makerere University and the

²⁴ Michael Gibbons, *Designing for competence* (1998, cited in William Kouwenhoven, 2003, 1).

University of Tampere.²⁵ The LMUU Project therefore provided the programme a very unique and rich blend of international and local expertise, unlike many of the programmes developed in HEIs in Uganda.

A core team of 25 was purposely selected from Makerere University, the Uganda Ministry of Education and Sports and UMI to develop the training programme, which they would later on participate in facilitating after the accreditation process. This is in line with Taba²⁶ who argues that teachers who teach or implement the curriculum should participate in developing it. Taba calls this the *grassroots approach*. Closely related to Taba's model is curriculum design and development following the DACUM process, i.e. Developing A Curriculum. The DACUM process involves expert workers such as the core team of the 25 trainers in sharing what they do in their respective jobs and how they do it. Such information is used to design a DACUM chart, e.g. a job profile showing all the duties and tasks of a HE leader and manager. Through such a process, the locus in curriculum decision-making shifts from the top to the grassroots, thereby increasing the level of ownership and commitment of the curriculum team in the development process. As facilitators of the curriculum design and development process, we have found the DACUM process a cost-effective and time saving process.

During the curriculum design and development process, through a series of trainer of trainers' (TOT) workshops, the team of 25 shifted from being students on the Finnish Study Programme in Administration and Management of Higher Education (KOHA) hosted at the Higher Education Group, University of Tampere, to curriculum developers and finally to facilitators on the PGDHELM.

The migration process began with introducing the team of 25 to the KOHA Study Programme by the experts in HE educational management from the University of Tampere and University of Helsinki. The KOHA Programme provided the foundation for the core modules to be infused into the prospective Postgraduate Diploma in Higher Education Leadership and Management.

Figure one provides the model and a summary used to infuse components of the KOHA Programme into the prospective Postgraduate Diploma in Higher Education Leadership and Management. The model was adapted to capture the capacity building aspect of the project.²⁷ There were two parallel

²⁵ Leadership & Management of Ugandan Universities (LMUU) Project Completion Report (2012), 2.

²⁶ Hilda Taba, *Curriculum development* (1962).

²⁷ William Kouwenhoven, "Competence-based Curriculum Development in Higher Education: a Globalised Concept?", in *Technology Education and Development*, eds. Aleksandar Lazinica and Charles Calafate (2009).

starting points for the curriculum development process, i.e. competent professional and the existing the KOHA Programme.

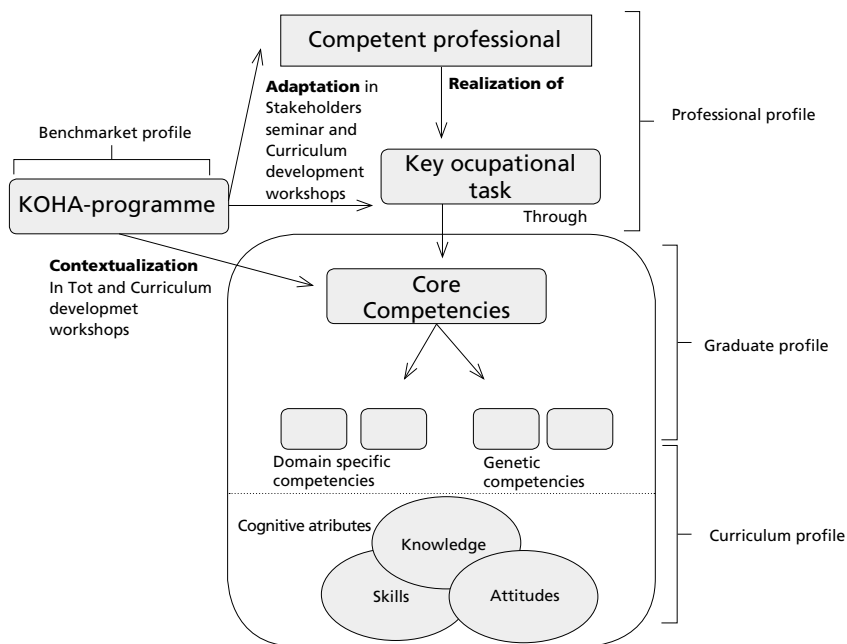


Figure 1
Migration of KOHA-programme as part of the competence based curriculum development.²⁸

The introduction of the KOHA Programme was to acquaint the team with the content, enable them reflect on it in relation to the local context and subsequently re-orient the programme to suit the UMI context. The workshops, which were spread over six months, were facilitated by Finnish, African and Ugandan experts on key thematic areas in HE leadership and management. The core team was involved in reading the provided and other materials, doing research, group assignments and making presentations. This gave the team an international perspective and benchmark pertaining to leadership and management of HEIs. In addition, the group work enabled the

²⁸ Adopted from William Kouwenhoven, “Competence-based Curriculum Development in Higher Education: a Globalised Concept?”, in *Technology Education and Development* (2009), 6.

team to collect information on the Uganda context. The knowledge and competences acquired, as well as the attitudes developed during the ToT workshops provided a basis for contextualising the prospective PGDHELM.

In addition, the competences on the KOHA programme were contextualised by the trained trainers to Ugandan circumstances. A competent professional for Ugandan HEIs was also defined. Further, the KOHA programme had an impact on the definition of a competent professional and his/her key occupational tasks which were defined in a stakeholder's workshop that had a wide participation from the Ugandan HEIs, the Ministry of Education and Sports, and other relevant agencies. The elaboration of the cognitive attributes was further done in detailed discussions during the TOT sessions and during the development of module handbooks. In addition, the trainers were exposed to the curriculum development process. Thereafter, new modules were developed and the content of existing modules upgraded.

As advocated by Taba,²⁹ the formulation of a programme aim, competences and learning outcomes originates from a variety of sources e.g. societal demands, learners' needs and the subject disciplines. Using the KOHA Programme, the findings from the needs assessment and Blooms' Taxonomy of Educational Objectives guided the team to formulate several aim statements and jointly agree on a single programme aim. By the end of the ToT, the team had also developed very long lists of competences, which through a lengthy discussion process were categorized and from these categories, competences were developed. The competences were classified into six generic- and six domain-specific competences representing at least one of the programme modules. Thereafter, the selected competences were ranked in order of priority. These competences laid the foundation for the formulation of the programme learning outcomes, selection of the content, learning experiences and organizing the learning strategies and activities as provided for by Taba.³⁰

The aim, competences and learning outcomes are key in programme alignment. They guide the selection of content, learning experiences, and the evaluation of learning outcomes.³¹ In addition, the statement of the programme aim, competences and learning outcomes enabled the curriculum development team to specify the explicit changes in behaviour the PGDHELM programme envisaged to bring about in the participants [read students] as a result of undertaking the training programme.

²⁹ Hilda Taba, *Curriculum development* (1962).

³⁰ Hilda Taba, *Curriculum development* (1962).

³¹ Fred C. Lunenburg, "Curriculum development: Inductive models, in Schooling" (2011).

This inter-institutional partnership is evident of the impact of internationalisation taking the form of a growing convergence of tertiary education systems and degree structures.³² The convergence of tertiary education programmes is also driven by the globalisation of professions, a trend yielding common concerns across countries regarding the performance of their tertiary education systems (TEIs).³³ The development of the PGDHELM is a useful example of international networking and collaboration, the type described as involving intensive networking among institutions, scholars, and students, due to among others cross-border funding.³⁴ It also presents a case of programme and staff mobility in an international context.

One of the forms of internationalisation identified by the literature is curriculum internationalisation focusing on programme content and delivery. This form consists of incorporating intercultural and international dimensions in the curriculum, teaching, research and extracurricular activities of TEIs to help students develop international and intercultural skills without ever leaving their country.³⁵ From a policy perspective, this aspect is critical to develop internationally-competent citizens insofar as the overwhelming majority of tertiary students do not participate in more direct cross-cultural education experiences such as international mobility.³⁶

Although internationalisation of HE curricula has been viewed negatively by some critics as a push towards a uniform market-driven curriculum, which would spread mono-cultural views as if they were universal³⁷ a counter argument could be to consider curricula internationalisation from the perspective of benchmarking best practices, fostering student and staff mobility through the provision of attractive national HE, as well as the opening up to international employment. The OECD Report³⁸ also documents four rationales for growing internationalisation in tertiary education to include the mutual understanding approach between different nations and cultures; the revenue-generating approach, the skilled migration approach and the capacity-building approach, which provide for further scrutiny in African HE.

³² Paulo Santiago et al., *Internationalisation* (2008).

³³ Paulo Santiago et al., *Internationalisation* (2008); David Woodhouse, 1999 cited in Santiago et al., *Internationalisation* (2008, 236).

³⁴ Paulo Santiago et al., *Internationalisation*, 15.

³⁵ Organisation for Economic Co-operation and Development (OECD), (2004) cited in Santiago et al., *Internationalisation*, 240.

³⁶ Paulo Santiago et al., *Internationalisation*.

³⁷ Paul D. Ryan (2000), cited in Santiago et al., *Internationalisation*, 240; Parker and Jary (1995) cited in Santiago et al., *Internationalisation*, 240.

³⁸ Organisation for Economic Co-operation and Development (OECD), (2004) cited in Santiago et al., *Internationalisation*, 263.

In this particular case, the ‘infusion approach’³⁹ was used to identify and infuse the internationally identified core competences of HE managers and leaders in the PGDHELM programme. Although internationalisation of HE curricula through infusion has been viewed negatively by some critics as exclusively building on western learning philosophy, emphasising summative learning outcomes, providing partial exposure to international and intercultural differences through passive class-based learning,⁴⁰ care was taken to align the PGDHELM programme to UMI’s mandate, vision and mission, involve as many relevant stakeholders as possible, integrate local case studies and use local literature, as well as take the programme through the national accreditation process.

c) Formulating the PGDHELM programme aim, competences and learning outcomes

After the ToT, the facilitators organised a curriculum write-shop to give opportunity to the core team to develop the detailed programme. This included the refinement of the programme aim, competences and learning outcomes that had been previously developed, and the formulation of the same at module level. The five-day residential write-shop concluded with a draft Post Graduate Diploma in HE Leadership and Management aligned to the KOHA programme, UMI and NCHE requirements. The draft was further edited by a smaller team before submission to the School and Directorate Board of Studies at UMI.

The core team was divided into smaller module groups according to expertise to formulate the respective module aims and learning outcomes, cautious of the alignment between programme aim, competences and learning outcomes. Care was taken to have a balance in the representation of the cognitive, psychomotor and affective domains. The module aims, competences and learning outcomes provided the framework for selecting module content and learning experiences, organising learning activities and assessment strategies.

d) Selecting module content and learning experiences, organising learning strategies, assessment and programme review

Apart from programme review, which according to the National QA Framework (2006) occurs between 3-5 years after the programme has taken

³⁹ Tonkin and Edwards (1981) cited in Santiago et al., *Internationalisation*, 240.

⁴⁰ De Vita and Case (2003) cited in Santiago et al., *Internationalisation*, 240.

off, the selection of module content and learning experiences, and organisation of learning activities and assessment strategies was done concurrently during the five-day curriculum write-shop. Such a process has the advantage of taking into consideration constructive alignment of the key curricula elements⁴¹ than when each element is developed separately.

The smaller module expert groups developed the detailed draft modules using a prepared template that adheres to the minimum standards for courses of study provided by the NCHE and contextualised to UMI. The module expert groups developed among others the module rationale, description, aim, learning outcomes, detailed content, teaching and learning methods, assessment strategies, teaching and learning materials, and reading lists. Care was taken to align all the module elements to the programme aim, competences and learning outcomes. In selecting module content, attention was paid to the relevance, balance, validity, learnability, feasibility of the content with regard to the available resources and timetable provisions, among others.

In selecting the learning experiences at module level, appropriateness, feasibility, variety, and optimal value, were considered as key criteria. Thereafter, the team had a plenary session to review and critique the draft modules. Corrections were made there and then, and the draft PGDHELM programme was ready at the end of the write-shop. Among the advantages of using curriculum write-shops is that alignment is ensured right from the programme to individual module aim, competences, learning outcomes, objectives, content, teaching and learning methods and activities and assessment strategies. In addition, peer critique and support all through the writing process ensured rich curriculum content and adherence to the NCHE standards.

e) Aligning the programme to the mandate, vision and mission of UMI

The PGDHELM programme was developed taking into consideration the mandate, vision, mission and objectives of UMI. More specifically, the mandate of UMI is to conduct in-service training for public servants, and as ‘Other Degree Awarding Institution’⁴² to offer its own certificates, diplomas and degrees. Its vision is to be ‘a World Class Management Development Institute’ and mission ‘to excel in developing sustainable management capacity.’⁴³

⁴¹ John Biggs, *Teaching for quality learning at university* (2003).

⁴² UOTIA – Universities and Other Tertiary Institutions Act (2006, amended).

⁴³ Uganda Management Institute (UMI), “Strategic Plan” (2013).

UMI's mandate, vision, and mission served as the framework within which the PGDHELM programme was designed and developed, which further served to institutionalise an international field of study. The Institutes' mandate, vision, and mission provided the internal standards for the quality of the programme in terms of policies and procedures including students' selection and admission criteria, quality of academic staff, programme structure, delivery, assessment and examination strategies, graduation load, infrastructure, facilities, and timetabling. For instance, modules that are basic to all UMI postgraduate programmes were blended into the programme.

The alignment of training programmes to the mandate, vision, and mission is part of internal self-regulation, since a HEI seeks to respond to its own internal standards. This is in line with the institutional theory, which propounds that institutions react to change in line with their profiles, missions and visions and reorganize their inner structures as a survival measure.⁴⁴ However, in *acquiescing* as an institutional strategy, the institution first and foremost conforms to the internal standards and measures before they can confirm to the external environment, i.e. the external QA requirements.

Alignment of programmes with the institutional mandate, vision and mission is a *sine qua non* as a matter of effective management.⁴⁵ Such alignment is a response to the internal consistency of a training programme, or *fitness of purpose*, a measure of internal quality. In such instance, the curriculum design and development team is cognizant of the need to respond to the institutional mission, related strategic choices, priorities and principles, to retain its own identity, and answer to its own principles.⁴⁶ Elsewhere, literature documents the importance of HEIs to demonstrate a high level of QA in the context of their missions and visions.⁴⁷ The more the internal stakeholders notice a familiar pattern of the new curriculum to existing curricula, the more the ownership of such a curriculum is strengthened. The authors of the current paper refer to such a process as *curriculum patterning or modeling*. Curriculum patterning or modeling is manifested in various ways including in the design and development process itself, the external and internal structure of the curriculum, language used, among others.

⁴⁴ Richard Scott, *Institutions and organizations* (1995).

⁴⁵ LH Martin/INQAAHE, *External quality assurance* (2012).

⁴⁶ *Ibid.*

⁴⁷ Bente Kristensen, *External quality assurance* (2010); Middle States Commission on Higher Education, *Characteristics of excellence* (2006); Commonwealth of Australian, *Australian higher education quality assurance* (2000).

In addition, the internal QA standards were carefully aligned to the provisions in the National QA Framework (2006), since the Framework requires individual accreditation of academic programmes. Below is the summary of the internal QA processes undertaken in the development of training programmes in HEIs in Uganda, and with particular reference to UMI:

- a) Undertaking a needs assessment to identify current strengths and gaps in a particular field of study at local, regional and international levels. This is initiated at departmental level. The findings from the needs assessment support the Department in coming up with a strong justification when drafting the proposed training programme.
- b) Presentation of the draft proposed training programme to the Departmental Board of Studies for discussion.
- c) Submission of the draft proposal to the respective School for discussion.
- d) Organisation of a stakeholders' workshop by the respective School for further input.
- e) Submission of the revised proposal to the Directorate Board of Studies.
- f) Submission of the revised proposal to the Quality Assurance Unit.
- g) Submission of revised proposal to Senate.
- h) Submission of the final proposal to National Council for Higher Education for accreditation.⁴⁸

Key in the process was the involvement of both internal and external stakeholders during needs assessment, as well as in the design and development process. For instance, during the needs assessment, the stakeholders identified the current strengths, gaps and competences needed in the leadership and management of HEIs in Uganda. Among the internal stakeholders was a smaller team that constituted the curriculum task team in designing and developing the PGDHELM programme. The team members were teaching staff, and either current or prospective HE leaders and managers. Participation of staff in the design and development process is a motivating factor, which propels professional growth and development, as well as ownership and responsibility in the curriculum implementation and review processes. Indeed, their participation provided them the opportunity to gain deeper understanding of the contemporary challenges and needs of leaders and managers in HEIs.

⁴⁸ Uganda Management Institute (UMI), "Quality Assurance Guidelines" (2010).

f) ToT workshop

The concluding phase in the curriculum design and development process after the PGDHELM programme was accredited by NCHE was holding a ToT for the facilitating team in preparation for full programme implementation. This phase, although not considered by Taba⁴⁹ was fundamental in re-skilling the selected team of facilitators with the requisite competences in delivery of the programme. Using a predefined peer assessment sheet, the facilitators were reviewed by their peers as they practiced team teaching using sessions of their choice extracted from the modules.

3. *Lessons learnt*

The opportunities opened up for north-south and south-south partnerships in curriculum design and development are positive responses to internationalisation of HE. Partnerships and collaborations among HEIs in the joint design, development, implementation and review of HEIs programmes is key in capacity building, expanding the repertoire of knowledge, skills, and attitudes in building stronger networks. Such forums provide platforms for learning and support through information-sharing. However, this may in future necessitate the harmonisation of qualifications and awards to ease curriculum, student and staff mobility.

Training programmes that stand the test of time are those in which stakeholders are actively involved in their development, implementation and review. This not only emphasises quality, but also relevance of the programmes. The relevance of training programmes migrated from another setting is further enhanced through observance of the national and institutional regulations. This is likely to lead to program sustainability.

HEIs in Uganda are gradually moving away from the development of discipline-based knowledge curricula, typically produced in the ‘classical’ universities to the production of knowledge in the context of application, i.e. arising in the process of solving problems in collaborative trans-disciplinary teams and partnerships, situated both within and outside the HEIs. Using the DACUM approach as a basis for competence-based curriculum development, HEIs curriculum development teams engage in backwards curriculum development beginning with the identification of generic competences and domain-specific competences related to the world of work. Competences are

⁴⁹ Hilda Taba, *Curriculum development* (1962).

increasingly considered effective in guiding the curriculum design and development process.

Curriculum development is not a linear process, it involves a forward and backward movement as the developers negotiate, renegotiate and make decisions. Closely related to the above, curriculum development is a political process, reflecting the identity, assumptions, and perspectives of individuals, groups and institutions. According to Goodson,⁵⁰ curriculum practice '*is a multifaceted concept, constructed, negotiated, and renegotiated at a variety of levels and in a variety of arenas.*' Although it is not always easy to incorporate the multiple perspectives of such groups, the way these aspects are handled in the process influences the subsequent phases of development, implementation and review.

Curriculum development is an expensive venture requiring institutional commitment in terms of logistical support, or else even with the most seasoned team of curriculum developers, the process will be rushed and the output shoddy.

The curriculum development process challenged the basic problem of applying a European professional curriculum to an African HE setting and within a national quality assurance framework in a short project period of 1.5 years. The most important lesson learnt was the importance of parallel contextualisation and training of trainers that ensured three things. First it made possible to utilise the existing (Finnish) knowledge. Second, it enabled the fast start of the project. Thirdly, and most importantly, through the stakeholder seminars it ensured that the graduate profile was adapted to the Ugandan context and that the knowledge was contextualised to African circumstances.

II. Conclusion

The curriculum migration process provided an opportunity to collaborate and network in a way that may have never been experienced before in HEIs in Uganda. Normal practice in HIEs in Uganda is that either individuals or groups of experts at departmental level write programmes, present them in their respective departments, Schools, Directorate and finally Senate before they are submitted to the NCHE. At UMI, before programmes are presented at Directorate level, a half-day workshop is organised to allow stakeholders to review and give their input to the draft programmes.

⁵⁰ Ivor F. Goodson, *Studying curriculum* (1991), 49.

This rigorous process provides useful checks and balances during the curriculum design and development process, makes the process flexible and open, ensures responsiveness of HEIs to the graduate labour market outcomes⁵¹, brings in a rich blend of knowledge, skills and attitudes due to the involvement of various stakeholders, and allows ownership and sustainability of the programme. The challenge is the lengthy process before the proposed programme is submitted to NCHE for accreditation. The process may span between six months to one year, or more. By the time the programme is accredited, it is almost two years old, due for another review cognizant of the increasingly knowledge-driven global economy.

Future trends point towards a more harmonised QA system in HEIs as taking precedence over many university preoccupations, especially with the strengthening of national, regional and international HE systems, international twinning and networking schemes in HEIs, the mobility of HEIs, programmes, students and staff, and increased institutional self-assessment and auditing.

Due to the liberalisation of the economy, there is a perception that HEIs are for-profit. Even those that are public such as Makerere University run parallel privately sponsored programmes as income generating projects amidst dwindling government financial support. Because of this negative competitive element in HEIs, universities are still lax establishing twinning and networking programmes to collaborate at national and regional levels. One of the success stories has been the collaboration between University of Helsinki, University of Tampere, Makerere University and UMI that saw a successful joint development of the Postgraduate Diploma in Higher Education Leadership and Management currently in its first year of inception at UMI at the time of writing this paper.

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⁵¹ Paul Santiago et al., *Internationalisation* (2008).

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The Humanitarian Action Qualifications Framework: a quality assurance tool for the Humanitarian Sector

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Abstract: The article presents the European Universities on Professionalisation on Humanitarian Action (EUPRHA) Project as an initiative that seeks to contribute to the professionalisation and quality assurance of the humanitarian sector. Its purpose is to explain the approach and the process leading to the development of the Humanitarian Action Qualifications Framework as an example of good practice for other sectors aiming at improving the recognition of qualifications as a precondition of academic and professional mobility. With this aim, it introduces the educational and humanitarian trends that led to this project: the move from transnational qualifications frameworks of which the European Qualifications Framework for Lifelong Learning (EQF) is the best example to sectoral qualifications frameworks and the increasing demand from the sector seeking to determine the competencies and required skills of a professional humanitarian aid worker. Based on the EQF and the Tuning methodology the framework will act as a translating device to make national and sectoral qualifications more readable and promote humanitarian workers' and learners' mobility between countries and organisations. It will facilitate inter-system transparency and recognition of (non-)formal and informal learning by linking occupations, skills, competences, and qualifications, thus benefiting the Humanitarian Sector as a whole.

Keywords: humanitarian action; emergencies; disasters; sectoral qualifications frameworks; sectoral profiles; meta-profiles; lifelong learning, learning outcomes; competences.

I. Introduction

Over the past decade, many policy developments have taken place within Europe and worldwide to provide important points of reference for setting and

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assessing learning standards in education understood as a lifelong learning process thereby including general education, vocational education and training, higher education, as well as informal and non-formal learning. Qualifications frameworks are considered one of the tools for better recognition of qualifications provided by learning programmes. Improving the transparency and understanding of qualifications systems, they transmit the signal that qualifications possess about a person's knowledge, skills and competences to those who need to receive it.¹ In order to promote geographical and labour market mobility as well as lifelong learning, the European Qualifications Framework for Lifelong Learning (EQF) has been designed to act as a reference for different qualifications systems and frameworks in Europe.²

Conceived by dr. Julia González, the European Universities on Professionalisation on Humanitarian Action (EUPRHA) Project arose in this context of intensive developments in the area of qualifications frameworks as an initiative that seeks to contribute to the professionalisation and quality assurance of the humanitarian sector.³ One of the major problems stopping the flow of trained people within the humanitarian sector concerns the creation of certification and recognition systems necessary for professionalisation. As a study of the humanitarian professional sector pointed out "in a sector where consistent humanitarian occupational standards do not exist, several NGOs, INGOs, learning providers and universities have unilaterally moved, over the years, to address the learning and capacity building needs of workers based on their particular interpretations of identified needs. This has led to an ad hoc training offering, with gaps in provision and a lack of pathways and progression routes for the sector, both for those wishing to enter the sector and those wishing to develop professionally within the sector".⁴

¹ On the meaning and development of qualifications frameworks and particularly on transnational ones see: Keevy, Chakroun, and Deij, *Transnational Qualifications Frameworks*, 2011.

² A key characteristic and a specificity of the European qualifications frameworks and systems' landscape is the existence of two levels of frameworks: European meta-frameworks which act as a common reference and national qualifications frameworks (NQF) which are rooted in the specificities of national systems. One of two European meta-frameworks is the European Qualifications Framework for Lifelong Learning - EQF. The other covers higher education qualifications only: the Qualifications Framework for European Higher Education Area. These meta-frameworks are compatible: they are both based on the use of learning outcomes to define qualifications and their levels.

³ EUPRHA is an Academic Network financed by the European Commission Lifelong Learning programme that links universities in all European countries, the core the NOHA Network, and humanitarian practitioners (International Council of Voluntary Agencies (ICVA and SPHERE) to contribute to the professionalisation of the Humanitarian Sector.

⁴ Walker and Russ, *Professionalising the Humanitarian Sector*.

In this context, the EUPRHA Project developed the Humanitarian Action Qualifications Framework, which aims at becoming a common reference system based on learning outcomes and acting as a translating and classifying device of qualification levels and systems throughout the humanitarian sector. The framework focuses on lifelong learning, thereby including general education, vocational education and training, higher education, as well as informal and non-formal learning. It intends to act as a neutral reference point for all different types of qualifications in the humanitarian sector in order to assist in the identification of potential progression routes in the context of lifelong learning and to support workers and learners mobility within the humanitarian sector and across sectors.

The purpose of this article is to explain the approach of the project and the process leading to the development of the Humanitarian Action Qualifications Framework as an example of good practice for other sectors aiming at improving the recognition of qualifications as a precondition of academic and professional mobility. In order to put it into context it first introduces the move from European to sectoral qualifications frameworks, as well as the humanitarian sector where there has been an increasing focus on competencies and required skills in the attempt to professionalise the sector and determine what a humanitarian aid worker should be capable of. However, these frameworks that focus on professional competencies are not always expressed in terms of learning outcomes and do not, most of the times, distinguish between different levels. Moreover, they do not refer to any qualifications frameworks neither European nor national and therefore, they do not facilitate the translation and the comparison of qualifications between countries and sectors.

II. The move from European to Sectoral Qualifications Frameworks

The European Qualifications Framework was developed in reaction to requests from the Member States, the social partners and other stakeholders for a common reference to increase the transparency of qualifications. The Lisbon European Council in 2000 concluded that increased transparency of qualifications should be one of the main components necessary to adapt education and training systems in the European Union to the requirements of a knowledge society. In 2002 the Barcelona European Council called for closer cooperation in the university sector and improvement of transparency and recognition methods in the area of vocational education and training. As a consequence the Council Resolution of 27 June 2002 on lifelong learning invited the Commission, in close cooperation with the Council and Member

States, to develop a framework for the recognition of qualifications for both education and training, building on the achievements of the Bologna Process and promoting similar action in the area of vocational training.⁵ It recognised that lifelong learning is often obstructed by a lack of communication and cooperation between the various education providers and competent bodies in both general and vocational education and training, and at the different levels within and between countries. This has resulted in unnecessary barriers for people to access training and continue training.⁶

The Council resolution led to the declaration by the European Ministers responsible for vocational education and training, the Commission and the European social partners at their meeting in Copenhagen in November 2002 for a strategy to improve the performance, quality and attractiveness of vocational education and training, commonly referred to as the ‘Copenhagen Process’. In March 2005, the EU Heads of Government formally requested the development of a European Qualifications Framework (EQF) based on the work carried out by the European Commission. In the context of the Bologna Process, the conference of ministers responsible for higher education held in Bergen in May 2005 underlined the importance of ensuring complementarity between the framework for the European Higher Education Area and the proposed EQF. Finally, in the context of the revised Lisbon Strategy, also the Employment Guidelines 2005-2008 stressed the need to ensure flexible learning pathways and to increase opportunities for the mobility of students and trainees, by improving the definition and transparency of qualifications, their effective recognition and the validation of non-formal and informal learning.⁷

Thus, the EQF was foreseen as a framework that would combine three important areas of policy-making: the Bologna Process (1999), the Lisbon Strategy (2000) and the Copenhagen Process (2002). The Lisbon Strategy aimed to make the European Union the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion. The lifelong learning component of the Lisbon Strategy demanded a challenging reform and modernisation of education systems in each Member State with the aim that by 2010 Europe should have become world leader in terms of the quality of its education and training systems. In order to realise this, the member states were required to make sure that there is a constant renewing of

⁵ “Council Resolution of 27 June 2002 on Lifelong Learning (2002/C 163/01),” 1.

⁶ Ibid.

⁷ *Implementing the Community Lisbon Programme. Proposal for a Recommendation of the European Parliament and of the Council on the Establishment of the European Qualifications Framework for Lifelong Learning.*

knowledge, skills and wider competences in the labour force and that there are as few obstacles as possible to access education and training and to continue developing previously acquired knowledge, skills and competences in a Member State or between Member States. The EQF is seen as instrumental to achieve all these objectives.⁸

The Commission's consultation paper on the envisioned EQF came out in July 2005 and was submitted to an extensive EU-wide consultation process. The draft proposed an eight level framework based on learning outcomes aiming to facilitate the transparency of qualifications and to support lifelong learning. It outlined an overarching framework to be set up in Europe to facilitate comparison of qualifications and qualification levels. It was presented as a meta-framework, that would facilitate relating different qualifications frameworks to each other and also allow for comparisons between individual qualifications.⁹ Such comparisons would constitute the basis of greater recognition and transfer of achieved learning outcomes in the form of qualifications acquired by individuals and should facilitate the mobility of learners and workers across Europe. The EQF was intended to be fully voluntary in the sense that Member States were able to decide themselves whether or not to relate their national systems to it.¹⁰

The consultation concerning the Commission's proposal showed widespread support among the stakeholders but also resulted in a request for greater simplification. The Commission adopted a revised proposal on 6 September 2006, which was subsequently negotiated in the European Parliament and the Council during 2007, resulting in the EQF's formal adoption.¹¹ Following the adoption in April 2008, a process of implementation started.¹² The EQF represented a new approach to European cooperation in the field of qualifications. The introduction of a set of learning outcomes based on levels and descriptors spanning all forms of qualifications and the entire range of qualification levels had not been attempted previously. Therefore, its implementation required that all stakeholders shared a clear understanding of its objectives and main functions, the principles and logic applied when defining it, and the requirements for implementation in terms of stakeholders involvement, transparency, quality assurance and peer review.¹³

⁸ Keevy, Chakroun, and Deij, *Transnational Qualifications Frameworks*, 2011, 18-19.

⁹ *Explaining the European Qualifications Framework for Lifelong Learning*.

¹⁰ Keevy, Chakroun, and Deij, *Transnational Qualifications Frameworks*, 2011, 21.

¹¹ *Ibid.*

¹² "Recommendation of the European Parliament and of the Council of 23 April 2008 on the Establishment of the European Qualifications Framework for Lifelong Learning," 1.

¹³ *Explaining the European Qualifications Framework for Lifelong Learning*.

One of the issues raised during the consultation was how sectoral qualifications emerging at international level could be linked to the EQF and national qualifications frameworks. The question of ‘sectoral qualifications frameworks’ has risen in some sectors in recent years and also in European multinationals.¹⁴ Some sectors have set up European projects concerning a sectoral implementation of the EQF: Sports and Active Leisure sector, Tourism sector, Automotive sector, Chemistry Industry, ICT sector, Construction Industry, Metal and Electrical Industry.¹⁵

Another approach has been the one adopted by the Tuning Project in 2008. The Tuning experts’ group identified two main issues: “two competing frameworks for the Higher education sector, one based on stand-alone descriptors and the other one on cumulative descriptors and the challenge to bridge the two meta-qualifications frameworks and the Tuning reference points or meta-profiles at subject area level”.¹⁶ To overcome this challenge, the solution found was to develop sectoral qualifications frameworks as a link between the subject area level and the meta-level. A sector is understood by Tuning as a combination of related fields of study which are based on more or less comparable learning profiles. Five to six sectors were distinguished: Humanities and the Creative and Performing Disciplines, Engineering, Natural Sciences, Health Care and Social Sciences.¹⁷ While being inspired by the Tuning approach, the set-up of these frameworks follows the logic of EQF levels, though not in all cases all eight EQF-levels could be addressed. Within this constellation, Tuning developed sectoral qualifications frameworks for the Social Sciences in 2010 and for the Humanities and for the Creative and Performing Disciplines in 2012.¹⁸ In addition, these projects resulted in the development of reference points for Art History, Linguistics, Literary Studies, Theology and Religious Studies, as well as level descriptors for Architecture, History, Music, Visual and Performing Arts.¹⁹

The sectoral qualifications frameworks for the Social Sciences, the Humanities and the Performing Arts have served all three as informative examples for the Humanitarian Action Qualifications Framework in terms of

¹⁴ *European Qualifications Frameworks, National Qualifications Frameworks, Higher Education, State of Play*, 6; *International Qualifications*, 8.

¹⁵ *European Qualifications Frameworks, National Qualifications Frameworks, Higher Education, State of Play*, 6; see in this regard: *International Qualifications*.

¹⁶ Wagenaar, “Columbus’ Egg?,” 82.

¹⁷ *Ibid.*, 83.

¹⁸ *Tuning Sectoral Framework for Social Sciences; Tuning Sectoral Qualifications Frameworks for the Humanities and the Arts. Final Report 2010-2011*.

¹⁹ “SQF Humanities and Arts: Outcomes.”

their internal setup, formulation and organisation and their influence can be traced back in the setup of the Humanitarian Action Qualifications Framework and particularly the EUPRHA Profile.

III. The humanitarian sector²⁰

The humanitarian sector is extremely difficult to define due to its constant evolution, changes and the many different – sometimes even opposite – points of view and definitions expressed by both scholars and practitioners. As Walker and Maxwell expressed, “its complexity of origins, multitude of players and ever-varying environment make humanitarianism a challenging system to describe and understand and an even more challenging system to predict where the system will go”.²¹ The notions of ‘humanitarian action’ and ‘humanitarian system’ have almost as many definitions as authors, organisations and institutions have defined them. Indeed, as Borton says, “a striking feature of the humanitarian system is the continuing lack of clarity as to what the ‘humanitarian system’ actually consists of and where its boundaries lie”.²²

Humanitarian action has grown into a multibillion dollar industry with capacity to cope with complex emergencies affecting millions of human beings worldwide. Just to have an idea of its size, as many sources such as ALNAP or Development Initiatives describe, the collective international government response to humanitarian crises reached an historic peak in 2010, growing by 10% to reach US \$13 billion.²³ Although financial flows have slowed down during the last two years due to the global financial crisis, it is estimated that there are some 4,400 non-governmental organisations worldwide undertaking humanitarian action on an ongoing basis and an estimated total of 274,000 humanitarian workers worldwide.²⁴ To these figures could be added those of governments, corporations, military, etc. that would result on a final still undetermined number of hundreds of thousands of individuals.

Thus, this sector has become a massive community of stakeholders and actors, who interact, collaborate, coordinate and sometimes even

²⁰ This section draws on the report developed by the EUPRHA project identifying current trends in the humanitarian sector: *The State of Art of Humanitarian Action. A Quick Guide on the Current Situation of Humanitarian Relief, Its Origins, Stakeholders and Future.*

²¹ Walker and Maxwell, *Shaping the Humanitarian World*, 136.

²² Borton, *Future of the Humanitarian System*, 4.

²³ *GHA Report 2012*, 6.

²⁴ Taylor et al., *The State of the Humanitarian System*, 9, 26.

compete to succeed on their main objective: protecting lives and dignity of vulnerable populations and communities affected by natural disasters and conflicts all over the globe. Humanitarian aid is generally considered a fundamental expression of the universal value of solidarity between people and a moral imperative. It has many different definitions depending on authors, and reflecting the diversity of organisations and institutions. Nonetheless, the main part of the academia and the humanitarian community has a shared understanding on the aim of humanitarian action. For instance, the European Consensus on Humanitarian Aid provides a common vision that guides the action of the European Union, both at its Member States and Community levels, in humanitarian aid in third countries and is supported by the main European humanitarian non-governmental organisations. It defines the aim of humanitarian aid as being “to provide a needs-based emergency response aimed at preserving life, preventing and alleviating human suffering and maintaining human dignity wherever the need arises if governments and local actors are overwhelmed, unable or unwilling to act.”²⁵

In the same line according to the Development Assistance Committee of the Organisation for Economic Cooperation and Development – which brings together the main international aid donors – “humanitarian aid is assistance designed to save lives, alleviate suffering and maintain and protect human dignity during and in the aftermath of emergencies”.²⁶

It was understood during the last two decades that as the responsibilities of humanitarians increase, so must their accountability and professionalisation. With regard to accountability, Walker and Russ mention that “humanitarian assistance is [now] much more centre-stage, politically, than it was two decades ago and the regulatory frameworks of most nations now demand higher accountability from all public service providers, particularly for the spending of taxpayers’ money”.²⁷ In addition, the humanitarian system understood that it was not only accountable to its donors, but more importantly, it should be accountable to the populations it assists. Although this idea has been in place for many years now, the rise of information and communication technologies are enabling affected communities to have finally “more of a voice and to start to demand a greater sense of accountability from those who provide vital services to

²⁵ “Joint Statement by the Council and the Representatives of the Governments of the Member States Meeting within the Council, the European Parliament and the European Commission (2008/C 25/01) The European Consensus on Humanitarian Aid,” 1.

²⁶ *DAC Statistical Reporting Directives*, para. 184.

²⁷ Walker and Russ, “Fit for Purpose,” 1209.

them”.²⁸ As per professionalisation, as Walker and Russ say, “it is clear that many of the elements of professionalisation are in place or developing”.²⁹

Accountability and professionalisation are much more needed nowadays than ever as humanitarians face new challenges. Humanitarian stakeholders are increasingly concerned about the impacts of current or emerging global challenges, such as climate change, food crises and financial crises, extreme poverty, urbanisation, water scarcity, energy security, migration and population growth, on the caseloads that humanitarian agencies work with and the operational environments they will have to work in. To anticipate the evolution of these challenges, promoted by various political, economic, legal, demographic, environmental, and technological factors, is a very complex task. Their individual and combined impacts are already shaping, and will continue to shape international humanitarian action and set new requirements for knowledge, skills and competences.

A characteristic of the humanitarian sector is the need for recognition of professional qualifications and non-formal and informal learning to allow the mobility within and across sectors. As a consequence of humanitarian action being a relatively young domain, many humanitarian professionals started their careers in different disciplines. Furthermore, aid workers locally recruited in humanitarian crises who received most of their professional humanitarian training on-the-job while working for (international) humanitarian agencies have expressed their interest in entering the humanitarian sector and have their work experience and learning development indeed recognised. An important initiative that already aimed at addressing this demand has been the Humanitarian Passport Project for instance.³⁰

IV. Project approach: the Tuning methodology and the EQF

The methods of the project are based on two different, but complementary approaches: the Tuning methodology and the European Qualifications Framework for Lifelong Learning (EQF). The Tuning methodology was formulated by the Tuning Educational Structures in Europe that started in 2000 and was initiated as a response from the universities to the Bologna Process and at a later stage the Lisbon Strategy in the higher educational area of Europe. Its main approach is to (re-)design, develop, implement, evaluate

²⁸ Ibid.

²⁹ Ibid.

³⁰ *Humanitarian Learning and Development Passport*.

and enhance quality of first, second and third cycle degree programmes (e.g. Bachelor, Master and PhD programmes) in the European Higher Education Area. In that process, Tuning reflects the idea that universities should not look for uniformity in their degree programmes or should pursue unified, prescriptive and definitive European curricula, but that they should look for points of reference, commonalities, convergence and common understanding in order to preserve the rich educational diversity in Europe while facilitating mutual legibility and comparability of curricula, structures, programmes and actual teaching.³¹

While the core of the Tuning methodology focused initially on generic competences, subject-specific competences, the role of ECTS-credits as an accumulation system, the approaches to learning, teaching and assessment, as well as the role of quality enhancement in the educational process, it has also focused on module learning outcomes and programme learning outcomes and how these are related to the level descriptors of the first, second and third cycles in the European Higher Education Area.³²

Where the Tuning methodology searches for commonalities shared between educational programmes in higher education, the European Qualifications Framework for Lifelong Learning has a different approach in that it focuses on all kinds of learning (formal, non-formal and informal) throughout a learner's education and career. Likewise, it does not concentrate so much on establishing commonalities but more on defining levels of learning for qualifications. In a European context where each state controls its own educational system and range of qualifications, the EQF is a meta-qualifications framework to which both national and sectoral qualifications frameworks can relate. This way the EQF helps making qualifications more readable and understandable across different countries and systems in Europe.³³ Central to the EQF is a table contrasting eight rows of levels of learning and describing these in the form of learning outcomes. The learning outcomes themselves are structured into three columns, making a distinction between knowledge, skills and competence.

1. *The EQF Descriptors*

The knowledge, skills and competence descriptors have in the EQF context a particular meaning. The three categories are in themselves the

³¹ "Tuning Educational Structures in Europe."

³² "Tuning Methodology."

³³ See for more details: "European Qualifications Framework."

result of a pragmatic agreement between various, common ways of differentiating learning outcomes. National and sectoral frameworks or systems that have to incorporate different approaches, specific traditions and needs are therefore allowed to diverge from this if necessary.³⁴ In the context of the humanitarian sector, there do not seem to be imperative reasons to use another descriptor categorisation. For one, humanitarian action is still a relatively new field without strong, ingrained traditions concerning how qualifications of humanitarian aid workers should be described and secondly, the EQF descriptors are already a pragmatic compromise between different national traditions.

The descriptors knowledge and skills normally don't present much difficulty in understanding. In EQF terms, knowledge is defined as "the outcome of the assimilation of information through learning" and consists of "the body of facts, principles, theories and practices that is related to a field of work or study".³⁵ In essence, the descriptor describes what you know, which can be both theoretical and/or factual. Skills are defined as "the ability to apply knowledge and use know-how to complete tasks and solve problems". In essence, this descriptor describes what you can do, which can be described as "cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments)".³⁶ Together with knowledge resources, skills form the instruments in one's toolbox that are required for resolving certain tasks or issues.

Understanding the descriptor 'competence' requires more effort and its present meaning is the outcome of several debates on different alternatives to capture a dimension that only indirectly links to knowledge and ability.³⁷ In its present EQF form, the label 'competence' has a particular meaning that differs from what some would consider the customary meaning of 'competence' in the English language. Instead, 'competence' is described in terms of responsibility and autonomy and the descriptor is defined as "the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study

³⁴ *Explaining the European Qualifications Framework for Lifelong Learning*, 5."

³⁵ "Recommendation of the European Parliament and of the Council of 23 April 2008 on the Establishment of the European Qualifications Framework for Lifelong Learning," sec. Annex I.

³⁶ *Ibid.*

³⁷ Markowitsch and Luomi-Messerer, "Development and Interpretation of Descriptors of the European Qualifications Framework.," 43–45.

situations and in professional and personal development”.³⁸ In essence, this descriptor describes in which situations you can work and to a certain extent still alludes to the professional conduct and the wider competences displayed in terms of attitudes, behaviour and initiative necessary for operating professionally, even though the label ‘wider’ was dropped officially. While knowledge and skills are specific instruments and resources that one needs to have in one’s toolbox, they do not tell much about when to use them or not use them. Responsibility and autonomy however relate to the contexts when and how one is expected to act proactively, which in the case of a humanitarian qualifications framework can be expected to receive much attention.

2. The EQF Levels

The EQF levels are intended to cover the entire span of qualifications commonly in existence, ranging from level 1 indicating the level upon completion of compulsory primary education, up to level 8 as the highest level of learning. As mentioned, the levels are applicable to general and adult education, vocational education and training, work contexts as well as higher education. In the final version of the EQF Recommendation,³⁹ all references to an explicit hierarchy of education programmes behind the levels were excluded, which also makes sense since the learning outcomes mentioned for each level define what that level of learning means and not so much the diplomas, certificates and degrees normally associated with such a level. However, when constructing a qualifications framework a basic idea of what each level of learning means in practice is indispensable. Based on the descriptions in the EQF and associated literature,⁴⁰ the EUPRHA Project broadly understood the EQF levels as follows:

³⁸ “Recommendation of the European Parliament and of the Council of 23 April 2008 on the Establishment of the European Qualifications Framework for Lifelong Learning,” sec. Annex I.

³⁹ “Recommendation of the European Parliament and of the Council of 23 April 2008 on the Establishment of the European Qualifications Framework for Lifelong Learning.”

⁴⁰ Markowitsch and Luomi-Messerer, “Development and Interpretation of Descriptors of the European Qualifications Framework,” 38–40, 46; Coles and Oates, *European Reference Levels for Education and Training. An Important Parameter for Promoting Credit Transfer and Mutual Trust*, 12–16 & 49–51; “Recommendation of the European Parliament and of the Council of 23 April 2008 on the Establishment of the European Qualifications Framework for Lifelong Learning.”

Level 1	Level 1 qualifications are not occupation specific and are often sought by those with no qualification in order to access unskilled, highly supervised employment by operational routine, no scope for taking decisions and that may include a further element of training. Learning is normally developed during compulsory primary education and contributes to general education but is also achieved through adult learning programmes (including popular adult education) and through non-formal and informal learning.
Level 2	Level 2 provides access to unskilled employment that leaves some scope for decision-making and taking action but is still highly supervised and may include a further element of training. Some of these qualifications are occupation specific but most recognise a general preparation for work and study. Learning is usually based in a school (lower secondary education), an adult education centre, college, training centre or an enterprise. Learning can also develop through non-formal means through work-based or popular adult education in communities.
Level 3	Qualifications at level 3 recognise a general education and skills base suitable for many job functions and typically provide access to semi-skilled employment, in which tasks are carried out under direction, with limited experience of practice in a particular aspect of work or study. Level 3 achievement reflects formal learning in upper secondary education or basic training in an occupational field and comprises adult education (including popular adult education labour market training) in schools, colleges, training centres or learning in workplaces as well as non-formal learning through work.
Level 4	Level 4 provides access to employment in skilled, autonomous work and entails supervisory and coordination duties. A person with this level of qualification will usually have experience of work or learning in a given field. Level 4 achievement typically reflects completion of upper secondary education and some formal learning in post compulsory education including labour market training and popular adult education (medium vocational level). It takes place in a range of institutions and takes the form of non-formal learning through work. Level 4 qualifications also form the entry level to higher education.
Level 5	Level 5 provides access to employment in highly skilled work or to career progression through improved recognition of work capabilities, as well as to job roles requiring managerial duties. High-grade technicians achieve these qualifications that often bridge secondary and tertiary education and training. Qualifications at level 5 typically follow completion of a post-secondary learning programme, such as apprenticeship together with post programme experience in a related field (higher vocational level). In higher education, level 5 is linked to the short cycle within the first cycle of the European Higher Education Area .

Level 6	Level 6 qualifications provide access to professional employment opportunities and are often career entry qualifications for professional and managerial work. People working as knowledge-based professionals or in professional management positions (e.g. first level programme managers) achieve these qualifications. Learning at level 6 is often highly specialised and usually takes place in higher education institutions. However, work settings also provide a sufficiently demanding context. Level 6 is generally linked to Bachelor degrees (first cycle in the European Higher Education Area).
Level 7	Level 7 qualifications offer access to employment and to career progression within the specialist (or closely related) field. Experts, senior professionals and managers (e.g. second level programme managers, managers of managers) achieve these qualifications. Learning at level 7 is often highly specialised, usually takes place in specialist higher education institutions and is generally linked to Master degrees (second cycle in the European Higher Education Area).
Level 8	Level 8 qualifications offer access to employment opportunities in specialised fields and career progression for those involved in jobs requiring research skills and/or high level leadership. Study for these qualifications mostly takes place in specialist higher education institutions and is generally linked to Doctorate degrees (PhDs, third cycle in the European Higher Education Area). Learners achieving a qualification at level 8 have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field. Learning at this level is mostly independent of formal learning programmes and takes place through self-initiated actions guided by high level experts.

Initially, the EUPRHA Project did not cover every level but only levels 4 up to 8, thereby basically ranging from skilled, autonomous work at medium vocational level up to occupations requiring research skills and/or high level leadership or higher. As the lower EQF levels are often associated with more general forms of education, levels 1 to 3 were left out at first. Additionally, in the case of the humanitarian sector, it was thought that these levels could coincide to a certain extent with frameworks from adjacent sectors such as civil protection. However, later feedback from the sector highlighted the importance for humanitarian workers to have the full arch of humanitarian qualifications defined in order to be able to implement recognition of prior learning. Lastly, the simultaneous development of levels 1 to 3 in conjunction with the already targeted levels 4 to 8 also prevented potential future discontinuities and inconsistencies between level descriptors and will potentially facilitate transparency and clarity about entrance conditions to gain access to higher education based on informal and non-formal learning.

V. The initial construction of the Sectoral Qualifications Framework

As a meta-framework, the European Qualifications Framework is highly abstract by necessity in the description of its levels in order to make it possible for sectoral qualifications frameworks and national qualifications frameworks to relate to it. To a large extent, this is also true for national qualifications frameworks in order to have a variety of disciplines and work fields to relate to these in turn. Sectoral qualifications frameworks however are faced with a certain balancing act between being concretely enough related to their sector and maintaining a neutral qualifications framework at the same time, i.e. not being overly prescriptive and delimiting on the content of educational programmes that train for achieving those qualifications. In other words, a diversity of formal and non-formal programmes appropriate and relevant to a sector should be able to relate to their sectoral qualifications framework in order to verify the levels of learning they aspire to.

Relating a qualifications framework to a sector requires that there is a certain consensus on what is part and parcel of that sector, what are considered adjacent disciplines and sectors and at the same time being aware of overlapping areas. For the EUPRHA Project, it meant that it was first necessary to define what humanitarian action is. In the humanitarian sector, some actors take a narrow view of what they consider humanitarian action to be, delimiting it to relief activities in the immediate emergency phase in natural disasters and conflicts. Other actors take a broader view by also including reconstruction and rehabilitation activities or even activities that border on those normally considered part of the adjacent development sector. At the same time, national traditions with regard to humanitarian assistance also influence what is perceived part of it and what not. Discussions between the 30 European countries represented in the EUPRHA Project brought different interpretations of humanitarian action to light. Diverging interpretations in some countries bordered for other countries more on social work or charity for instance.

While trying to remain aware of different traditions and interpretations, the EUPRHA Project agreed upon a joint interpretation of what was considered to be part of the humanitarian sector and what not. On the basis of the European Consensus on Humanitarian Aid, humanitarian action was understood as an organised set of actions oriented to protect, help and assist people in distress or need, based on certain ethical values and attitudes. In the project's view, it encompasses protecting human life and dignity, satisfying basic needs, alleviating suffering, protecting human rights and preventing and reducing future risks. To distinguish the project's efforts from other sectors, certain areas were excluded as not belonging to humanitarian action,

such as medium to long term development, crises that are not humanitarian in nature, human rights education, as well as migration phenomena beyond humanitarian displacements.⁴¹ For the earlier phases of the project, this working definition sufficed. For constructing the content of the qualifications framework itself however, a more in depth analysis proved necessary concerning the type of skills and competences normally deemed relevant and essential for the humanitarian sector. With this aim a group of experts, both academics and practitioners within the project analysed the current trends in the sector and their impact in terms of new skills and competences required in the humanitarian field.⁴²

The joint definition of the academic and professional field of humanitarian action and identifying problematic issues at the beginning formed together the first step. The following methodological steps in the process were based on earlier Tuning experiences with sectoral qualifications frameworks. The initial steps included investigating professional profiles and the competences associated with them, as well as defining the levels of learning in relation to the sector. Subsequently, several cycles were performed by defining and redefining progressive learning outcomes for the different levels focusing on the descriptors knowledge, skills and responsibility/autonomy separately (a vertical approach), alternated by focusing on the different levels separately in order to ensure coherent lines between knowledge, skills and responsibility/autonomy (a horizontal approach). The next step after the construction of the draft concerned consultations with the sector and stakeholders to verify the result with expectations from the field and receive feedback on the development of the qualifications framework. This input was then again used for further revisions of the draft. Due to the iterative approach, external consultations and revisions within the EUPRHA group often followed one another and helped to remain flexible towards incorporating new insights and important changes informed by the consultations.

During the project, periodical seminars with all EUPRHA partners were organised in order to present work in progress, to review texts in smaller groups, debate the way forward and particularly to maintain momentum. While the first seminar held in Bilbao was used to familiarise all EUPRHA partners with the objectives of the project, key concepts and the methodological departure points, as well as to identify problematic issues in the project and possible ways to solve them, the seminar in Warsaw nine months later

⁴¹ *EUPRHA Concept Paper*.

⁴² The outcome was summarised in the EUPRHA Report on the State of the Art that draws upon many reports and different documents that have been published during the last years.

required everyone to jointly draft learning outcomes in small groups either organised by descriptor or by level. In preparation for this exercise, a wealth of materials was collected in the form of existing humanitarian competencies frameworks, education and training programmes (mainly European) that defined their resulting qualifications in terms of intended learning outcomes, and particularly a collection of job profiles and job announcements from humanitarian agencies in the field. In the latter case, most resources were selected from job announcements available on ReliefWeb in the month July 2012 (out of ca. 2000 postings).

For all these materials, approximate levels of learning were determined based on the qualifications intended to be achieved in the case of educational training, or the minimum required diploma and years of experience in the case of job profiles. In addition, all learning outcomes, job requirements and framework competences were classified under the descriptor labels knowledge, skills and wider competences in order to structure the collected materials as much as possible according to the EQF table template. As can be expected the materials turned out to be very diverse in terms of quality, elaborateness and relevance. To increase the materials' usefulness a further distinction was made between generic elements, humanitarian sector-specific elements and elements that could be classified as local context, organisation-specific job requirements or particular training specialisations.

On the one hand, this created a rich reference basis for drafting learning outcomes for the levels. On the other hand, it also made evident differences in the use of learning outcomes and competence-based job requirements. Generally, it was noticeable that the educational sector made more use of these kinds of descriptions than the humanitarian sector, and within the humanitarian sector bigger agencies more than smaller agencies. In addition, Anglo-Saxon organisations seemed more detailed and concrete in describing programmes and job requirements in terms of skills and competences than organisations with other backgrounds. Lastly, the collected materials appeared to be dominated mostly by EQF levels 6 and 7, and less by the other levels, possibly because positions at these levels are more likely to be advertised internationally compared to levels 4 and 5, or are more frequent compared to level 8.

At the beginning in Warsaw, the collected materials were mainly used for inspiration on what should be included and to have an initial reference point on how the levels could link to education and the labour market. To structure content further, existing competencies frameworks from the humanitarian sector were used as a first guide. Particularly the Core Humanitarian Competencies Framework developed by the Consortium of British Humanitarian Agencies (CBHA) as one of the last frameworks that

received much attention and recognition was used to inform on what subjects would need to be covered in the different levels. As a result, the first draft used the competency domains developed by the CBHA as recurring dimensions whilst formulating a progressive scale from basic to more advanced levels of learning.

These outcomes also provided the first means to start initial consultations with organisations from the humanitarian field and experts on qualifications frameworks. Very important in this process resulted to be the consultation with MSF Spain.⁴³ Whereas most available competencies frameworks from the sector paid relatively little attention to progressive levels of learning, MSF had been developing a comprehensive set of competences each elaborated into four progressive levels of learning intended for all MSF offices worldwide.⁴⁴ The Barcelona-Athens Operational Centre of MSF integrated this set into an elaborate Performance Management System, which established competency profiles for the different job families in the organisation and provided detailed specifications of the minimal levels at which a certain competency was required to have been attained for a certain job position.⁴⁵ Because of the established relationship between the competency profiles and the job positions in their International Field Function Grid, it also became possible to infer approximate relationships between the MSF competency levels and the EQF levels of learning described by the EUPRHA Project. Most importantly however, it also offered proof for the potential that the qualifications framework of the EUPRHA Project could function as a bridge between the humanitarian labour market and humanitarian education and training programmes.

VI. Towards a humanitarian action meta-profile

Based on the experiences from the first consultations round, the following EUPRHA seminar in Dublin offered the EUPRHA partners the possibility to refine and recheck the first draft and improve upon it considerably, though still following the original format established in Warsaw. In Dublin however, initial ideas how a meta-profile for the humanitarian sector could inform and

⁴³ Interview with Mr Aitor Zabalgogeoasca, former director of MSF Spain, Bilbao 13 March 2013.

⁴⁴ *Dictionary of Competencies*.

⁴⁵ *MSF OCBA Performance Management System Handbook 12/2011; Field Matrix of Competencies. Competency Profiles Grouped by Levels of the International Field Function Grid (IFFG)*.

link to the qualifications framework also became more pronounced. From a Tuning perspective, a meta-profile can be defined as “a representation of the structure and combination of competences which gives identity to a subject area”.⁴⁶ The meta-profile represents thus the core elements in terms of competences and can for instance make a degree programme identifiable and recognisable as pertaining to a specific academic area.⁴⁷

To a certain degree, the competency domains developed by CBHA played this role during the writing of the first draft of the qualifications framework, although in reverse order by highlighting what kind of structure could be given to the combination of knowledge, skills and competence for the humanitarian sector. Normally, a meta-profile is constructed via a bottom-up approach by clustering competences into possible classifications to provide points of reference for further dialogue and reflection.⁴⁸ A meta-profile can also highlight the linkages between competences and discern differences in importance between them.⁴⁹ Ultimately the graphic representation can take many different forms.⁵⁰ However, to use the CBHA competency domains as a straightforward basis for the construction of a humanitarian action meta-profile seemed to overstretch its original use too much. Even though these competency domains were formulated on the basis of a relatively broad consensus of the humanitarian work field concerning which competences were deemed essential for every humanitarian aid worker,⁵¹ it nevertheless represented only one effort in the humanitarian field to come to a coherent set of humanitarian competences.

Over the years, many different competencies frameworks relevant for humanitarian action have been developed: some developed for specific organisations or target groups, some focusing in particular on specific technical areas within humanitarian action, some specifying competences for specific roles in the humanitarian system, while other frameworks do not necessarily have a true humanitarian focus but could be considered relevant or at least informative by being in use among agencies of high importance to the sector. Competencies frameworks (most publicly available) that have been developed over the years for the humanitarian sector, or have at least relevance for the sector, concern:

⁴⁶ González and Yarosh, “Building Degree Profiles,” 51.

⁴⁷ Ibid., 50.

⁴⁸ Hahn and Teferra, “Tuning as Instrument of Systematic Higher Education Reform and Quality Enhancement: The African Experience,” 151.

⁴⁹ González and Yarosh, “Building Degree Profiles,” 51.

⁵⁰ Ibid., 53–61.

⁵¹ *Core Humanitarian Competencies Framework. Keeping Crisis-Affected People at the Centre of What We Do.*

Competencies frameworks relevant for humanitarian action (with approximate years of origin) ⁵²	
2003	CARE USA
2005	Humanitarian Logistics Association
2006	Emergency Capacity Building Project
2007	People in Aid
2008	Australian Qualifications Framework (World Vision)
2009	IASC Humanitarian Coordination Competencies
2009	UNICEF Competencies
2010	UN/OHRM
2010	DFID Core Competency Framework
2010	ELRHA Humanitarian Core Competencies
2010	Child Protection In Emergencies
2010	Public Health Preparedness & Response
2010	MSF Dictionary of Competencies
2012	CBHA Core Humanitarian Competencies
2012	World Vision Integrated Competency Development
2012	Nutrition in Emergencies Competency Framework

Although this list cannot be considered exhaustive, several have performed important roles in shaping the debate on humanitarian competencies and the sector's quest towards further professionalisation.

VII. From a humanitarian action meta-profile to a qualifications framework

The development of a comprehensive though essential meta-profile for humanitarian action was based on the analysis of this diverse collection of humanitarian competencies frameworks elaborated by the sector. In the last years the humanitarian sector had developed a rich range of often detailed competencies frameworks which had to be taken into consideration to avoid duplication of efforts. There was no need to reinvent the humanitarian competencies when there was already a broad support for the existing frameworks from the different humanitarian stakeholders. This was done through several consecutive steps:

1. Collecting the relevant existing frameworks for humanitarian action and mapping for each framework the set of competencies together with their descriptions (whenever available).⁵³
2. In conformity with previous reports,⁵⁴ differentiating between core or person-based competences versus specialist or technical competences (in most cases found in specialised competencies frameworks).

⁵² A link to all these competencies frameworks can be found at: "EUPRHA Library."

⁵³ The graphic result of the mapping exercise is available at: Ibid.

⁵⁴ Cf. *Humanitarian Competencies Study*, 5; *Introduction to Local Level Staff Competencies*; *DFID Core Competency Framework*.

3. Focusing on the frameworks that already apply a certain clustering, while keeping unsorted frameworks separate at first.
4. Ordering the collected frameworks from purely humanitarian and widely accepted (most relevant) to more general humanitarian-related or discipline specific frameworks (relatively less relevant).
5. Making a first clustering of all encountered competencies by identifying competencies that have been designated by their frameworks as core, as these are most likely candidates to recur in all frameworks. Determining next under which cluster labels these core competences have been classified by the more purely humanitarian frameworks and clustering similar cluster labels together. This resulted in four 'core' clusters. Each received provisional labels based on the underlying cluster labels: 'commitment to principles', 'team relations / teamwork and cooperation', 'results and quality orientation / operational decision-making' and 'coping / pressure tolerance / behavioural flexibility'. Subsequently, adding competences from the unsorted frameworks that could be directly linked to these 'core' clusters.
6. Making a second clustering among the remaining groups of competencies by identifying whether additional 'core clusters' could be established, for instance in case two or more clusters were similar and could be supplemented with similar unsorted competencies. Four additional clusters could be identified this way: 'leadership', 'communication', 'safety' and 'thinking'.
7. Reordering within each newly formed cluster the competencies into sub themes and arranging these sub themes from more to less linked to the central theme of that group.
8. Cleaning up by reassigning outlying (less linked) competencies to more related groups, whenever opportune, and assigning the last leftover competencies.
9. Diminishing overlap between the sub themes and consolidating small clusters ('communication', 'safety') into related bigger clusters where feasible and opportune.

The results were fairly close to the dimensions identified in the CBHA domains, but several issues required further consideration. For instance, few among the frameworks identify a dimension related to the 'humanitarian context'. While the CBHA framework contains a clear reference to it, some other frameworks seem to allude to it somewhat in the form of maintaining situational awareness or maybe even political acumen. On the other hand, a relatively small but important cluster of competences centred around 'thinking and learning' emerged from the analysis without having a direct

equivalent in the CBHA framework. Interestingly, different frameworks seem to value different forms of thinking, with analytical thinking being the most frequent. Both ‘humanitarian context’ and ‘thinking and learning’ lacked sufficient support among the collection of competencies frameworks to constitute a separate dimension and were relatively difficult to link unambiguously to one of the other dimensions. As a result, a pragmatic judgement call was made to combine these under a separate dimension labelled ‘context analysis and reflection’. This had the added advantage to also facilitate a bridge toward activities in humanitarian research and education.

Another issue that required further attention concerned ‘leadership’. In the case of ‘safety and protection’, it was relatively easy to argue in favour of combining it with ‘coping behaviour’ into a separate dimension, and in the case of ‘communication’ to subsume it under the broader dimension of ‘collaborative relationships’, but ‘leadership’ remained rather ephemeral in what it should comprise and in particular what not. To a certain extent, most potential sub themes of a ‘leadership’ dimension could also be argued to belong to one of the already established dimensions. However, ‘leadership’ figured prominently in most of the competencies frameworks and not recognising its essential importance for the humanitarian sector as a separate dimension seemed unjustifiable. As a consequence, ‘leadership’ was maintained visibly as a separate dimension, even though some closely related sub themes ended up under one of the other dimensions as being more appropriate there.

In the end, the dimensions analysis resulted into six main dimensions, each with several sub themes and links to the competences existing in the different humanitarian competencies frameworks. The latter provides the potential for the meta-profile to act as a translation device between different competencies frameworks and thus their organisational contexts. As for the graphic representation of the six dimensions and their respective interrelationships, an earlier analysis of the CBHA domains and linkages between them had already led to the recognition that such a representation could easily lead to a complex and sometimes debatable picture not contributing to a better grasp of the sector’s essential characteristics. To a reasonable extent, the six dimensions could be ordered in sequential themes, but establishing the possibility of a hierarchical ordering was more precarious.

This concerned in particular the two dimensions ‘humanitarian commitment’ and ‘service to crisis-affected people’. ‘Humanitarian commitment’ includes commitment to the humanitarian principles that pervade the humanitarian sector, define it and set it apart from other sectors with ambitions to provide assistance. In particular expressed by the International

Red Cross and Red Crescent Movement,⁵⁵ these principles are often hotly debated, sometimes misinterpreted, challenged, deviated from and threatened but considered absolutely key to the modus operandi of the sector at large. The first and most important principle concerns the humanitarian imperative that relates to the prime motivation behind humanitarian action, namely to alleviate human suffering wherever it may be found. Thus, the essence of the dimension ‘humanitarian commitment’ could be viewed as being of the highest order that structures and motivates all other dimensions.

Nonetheless, since the central goal is to alleviate suffering among crisis-affected people, it could equally be argued that all dimensions are instrumental to what is ultimately delivered by the dimension ‘service to crisis-affected people’. Depending on whether the fundamental points of departure are stressed or the final cause, the choice leads to a different hierarchical ordering. For that reason, the visual rendering of the meta-profile tries to express these two different points of gravity by portraying ‘humanitarian commitment’ as a smaller but higher dimension and giving central stage to the dimension ‘service to crisis-affected people’:



Figure 1
EUPRHA Meta-profile

⁵⁵ See: *Code of Conduct for the International Red Cross and Red Crescent Movement and Non-Governmental Organizations (NGOs) in Disaster Relief*; “The Fundamental Principles of the International Red Cross and Red Crescent Movement.”

In this meta-profile, the six dimensions that resulted from the analysis of humanitarian competencies frameworks group together several related sub-domains and build upon underlying sets of competences as shown in the figure below:

- ‘Humanitarian commitment’ comprises in the meta-profile both a commitment to the general humanitarian principles, appreciation of existing humanitarian standards and codes, a professional commitment to the mission of one’s humanitarian agency, as well as maintaining one’s ethical integrity and respect for all human beings in their diversity.⁵⁶
- ‘Context analysis and reflection’ refers to an understanding and situational awareness of the humanitarian context, as well as the need to analytically analyse its complexities and critically reflect upon one’s actions in this context in order to learn for the future.⁵⁷
- ‘Coping and safety’ encompasses in the meta-profile a humanitarian’s self-awareness, adapting behaviour, coping with stress and resilience in the changing internal and external environment of a humanitarian agency, together with maintaining the safety of one’s own person, one’s team and one’s agency against the threats and risks of humanitarian emergency situations, as well as contributing positively to the preparedness and protection of crisis-affected people.⁵⁸

⁵⁶ Cf. *Core Humanitarian Competencies Framework. Keeping Crisis-Affected People at the Centre of What We Do; Dictionary of Competencies; UNICEF Competency Definitions; DFID Core Competency Framework; Swords, Behaviours Which Lead to Effective Performance in Humanitarian Response. A Review of the Use and Effectiveness of Competency Frameworks Within the Humanitarian Sector; Walker and Russ, Professionalising the Humanitarian Sector, 34–38; Child Protection in Emergencies (CPIE) Competency Framework; Competency Development Planning Guide; UN Competency Development - a Practical Guide; Public Health Preparedness & Response Core Competency Model; Knowledge, Skills, and Attitudes (KSAs) for the Public Health Preparedness and Response Core Competency Model.*

⁵⁷ Cf. *Core Humanitarian Competencies Framework. Keeping Crisis-Affected People at the Centre of What We Do; Public Health Preparedness & Response Core Competency Model; Knowledge, Skills, and Attitudes (KSAs) for the Public Health Preparedness and Response Core Competency Model; Dictionary of Competencies; Humanitarian Coordination Competencies; Humanitarian Competencies Study; UNICEF Competency Definitions; Introduction to Local Level Staff Competencies; Walker and Russ, Professionalising the Humanitarian Sector, 34–38; UN Competency Development - a Practical Guide.*

⁵⁸ Cf. *Core Humanitarian Competencies Framework. Keeping Crisis-Affected People at the Centre of What We Do; Dictionary of Competencies; Competency Development Planning*

- ‘Leadership’ focuses specifically on guiding, motivating, coaching and empowering others with authority in combination with establishing a clear vision, political acumen and strategic decision-making.⁵⁹
- ‘Collaborative relationships’ in this meta-profile centres on working with others, both internal and external to one’s organisation, in the form of teamwork, partnerships and networking activities, and includes cooperation and communication aspects, such as cultural sensitivity, trust-building and commitment, negotiation, influencing, advocacy, showing accountability and customer orientation.⁶⁰
- ‘Service to crisis-affected people’ addresses the performance, professionalism and quality enhancement of one’s services, based on needs assessment and service orientation, and includes the set-up of operations in terms of problem solving capacity, creative

Guide; Humanitarian Coordination Competencies; UNICEF Competency Definitions; Swords, Behaviours Which Lead to Effective Performance in Humanitarian Response. A Review of the Use and Effectiveness of Competency Frameworks Within the Humanitarian Sector; Public Health Preparedness & Response Core Competency Model; Knowledge, Skills, and Attitudes (KSAs) for the Public Health Preparedness and Response Core Competency Model; Child Protection in Emergencies (CPIE) Competency Framework; Walker and Russ, Professionalising the Humanitarian Sector, 34–38; Humanitarian Competencies Study; Introduction to Local Level Staff Competencies.

⁵⁹ Cf. *Dictionary of Competencies; Walker and Russ, Professionalising the Humanitarian Sector, 34–38; Child Protection in Emergencies (CPIE) Competency Framework; “Humanitarian Logistics Certification Program: Competence Model Approach”; UNICEF Competency Definitions; UN Competency Development - a Practical Guide; Introduction to Local Level Staff Competencies; Competency Development Planning Guide; Humanitarian Coordination Competencies; Public Health Preparedness & Response Core Competency Model; Knowledge, Skills, and Attitudes (KSAs) for the Public Health Preparedness and Response Core Competency Model; Core Humanitarian Competencies Framework. Keeping Crisis-Affected People at the Centre of What We Do; Humanitarian Competencies Study.*

⁶⁰ Cf. *Core Humanitarian Competencies Framework. Keeping Crisis-Affected People at the Centre of What We Do; Competency Development Planning Guide; DFID Core Competency Framework; Dictionary of Competencies; Walker and Russ, Professionalising the Humanitarian Sector, 34–38; Humanitarian Coordination Competencies; Introduction to Local Level Staff Competencies; Humanitarian Competencies Study; Swords, Behaviours Which Lead to Effective Performance in Humanitarian Response. A Review of the Use and Effectiveness of Competency Frameworks Within the Humanitarian Sector; UNICEF Competency Definitions; UN Competency Development - a Practical Guide; Public Health Preparedness & Response Core Competency Model; Knowledge, Skills, and Attitudes (KSAs) for the Public Health Preparedness and Response Core Competency Model; “Humanitarian Logistics Certification Program: Competence Model Approach.”*

innovation, initiative, facilitating change, decision making, planning & organisation and the subsequent implementation of operations in terms of project management, financial management and working accountably.⁶¹ Linked to this dimension are specialised technical and professional expertise, which in several cases have been elaborated into more specialised competencies frameworks.⁶²

Having the identified dimensions linked to underlying humanitarian competencies frameworks also gives the opportunity to identify alternative definitions for these dimensions and their sub themes, which offers on the one hand flexibility to adapt the dimensions to more specific contextual needs but also to investigate related skills and competences from multiple angles. Lastly, the links to the competencies of the different humanitarian frameworks also allow anyone to go more into depth than the end result of the EUPRHA Project, by necessity, will allow for.

Having verified the main dimensions relevant to the humanitarian sector provided the possibility to determine to what sectoral content the qualifications framework should refer to. Following the recent examples of the sectoral qualifications framework for the Humanities and for the Creative and Performing Disciplines,⁶³ the EUPRHA Project developed for each dimension learning outcomes for the EQF levels 4, 5, 6, 7 and 8. In order to ensure horizontal readability between the columns, these learning outcomes were developed both in terms of knowledge, skills and responsibility/autonomy.

⁶¹ Cf. *Core Humanitarian Competencies Framework. Keeping Crisis-Affected People at the Centre of What We Do; Dictionary of Competencies; Introduction to Local Level Staff Competencies; Humanitarian Competencies Study; UNICEF Competency Definitions; Competency Development Planning Guide; DFID Core Competency Framework; Swords, Behaviours Which Lead to Effective Performance in Humanitarian Response. A Review of the Use and Effectiveness of Competency Frameworks Within the Humanitarian Sector; UN Competency Development - a Practical Guide; Walker and Russ, Professionalising the Humanitarian Sector*, 34–38; “Humanitarian Logistics Certification Program: Competence Model Approach”; *Public Health Preparedness & Response Core Competency Model; Knowledge, Skills, and Attitudes (KSAs) for the Public Health Preparedness and Response Core Competency Model; Humanitarian Coordination Competencies*.

⁶² E.g. “Humanitarian Logistics Certification Program: Competence Model Approach”; Meeker et al., “Development of a Competency Framework for the Nutrition in Emergencies Sector”; *Child Protection in Emergencies (CPIE) Competency Framework; Public Health Preparedness & Response Core Competency Model; Knowledge, Skills, and Attitudes (KSAs) for the Public Health Preparedness and Response Core Competency Model; DFID Core Competency Framework; UNICEF Competency Definitions*.

⁶³ *Tuning Sectoral Qualifications Frameworks for the Humanities and the Arts. Final Report 2010-2011*, 14-21 and 30-37.

That way a logical relation was produced between what you should know at a certain level concerning one of the dimensions, what you should be able to do having that knowledge, and in what kind of contexts you should be able to work in making use of those skills and knowledge. The result was the EUPRHA Profile describing for each level in a separate table the knowledge, skills and responsibility/autonomy per dimension.⁶⁴

Particularly for setting up education training programmes at a certain level, this elaborated sector profile is a helpful aid and reference point. It provides for each level of learning, guidance on what this can be expected to mean for the main aspects of humanitarian aid work. Depending on the objective of a programme, it can be supplemented with more specific, technical and/or professional elements relevant to the field.

The development of the meta-profile and its detailed elaboration into a sector profile expressed in the form of knowledge, skills and competence per dimension raised the question whether this could already be considered a qualifications framework as understood in the context of the European Qualifications Framework for Lifelong Learning. In this sense, a tension was noted between the abstract and general nature of the European and national qualifications frameworks that are intended to encompass all disciplines and sectors, versus sectoral qualifications frameworks that are expected to take into account the specific characteristics of a sector. As mentioned before, the risk of addressing sectoral characteristics is that enumerating all could possibly lead to a situation where an education programme would see itself compelled to include all characteristics, leaving (too) little room to distinguish itself from other programmes in the same sector. This would mean an undesired loss in educational variety and diversity and is not part of the ideas behind qualifications frameworks. In the end, a qualifications framework is meant to set standards for the progressive levels of learning, but not so much to set a pre-defined curriculum.

Therefore, in contrast to the sectoral qualifications framework developed for the Humanities and Performing Arts, only the most salient and generally indicative elements of the developed profile and its dimensions were selected and used for the qualifications framework. This meant a relaxation of the initial idea to have the dimensions covered at each level in terms of knowledge, skills and competence, but the fact that the qualifications framework was based on a profile structured by the meta-profile dimensions still secured the required horizontal readability between the columns knowledge, skills and responsibility/autonomy.

⁶⁴ The EUPRHA Profile and the Humanitarian Action Qualifications Framework are available on the EUPRHA website www.euprha.org.

VIII. Discussion

The development of the Humanitarian Action Qualifications Framework and its underlying EUPRHA Profile and meta-profile is heavily grounded in pre-existing competencies frameworks. The participation of higher education representatives from thirty European countries in the project has helped to get the necessary traction and involvement among European educators. The same has been accomplished for the humanitarian sector through direct involvement from the humanitarian umbrella organisation ICVA and the Sphere Project, renowned for its work on setting humanitarian standards and principles, as well as from field practitioners through the NOHA Alumni Community.⁶⁵ However, the ultimate aim is that the framework is accepted by the humanitarian community at large. Therefore, the next stage is to reach as many users as possible in order that the project will continue to invite relevant groups for an open dialogue on the refinement and update of the qualifications framework and its applications.

At first thought, it seems that the primary users of the Humanitarian Action Qualifications Framework will be the educators and agencies in the humanitarian sector contending with own qualifications systems and competencies frameworks. By linking their own education and training programmes to the levels in the Humanitarian Action Qualifications Framework, they are better able to communicate with employers, prospective students, professional, statutory and regulatory bodies and other stakeholders how their qualifications compare to qualifications from other countries and different humanitarian education and training systems. As a result, employers that are recruiting humanitarian aid workers will be better equipped to assess differences in levels among the qualifications of prospective candidates, and humanitarian aid workers will be better equipped to explain the extent of their humanitarian action learning.

But this is only one part of the story. Qualifications play an important role in controlling access to and practice of tasks, professions and occupations. This control function is frequently motivated by safety and quality assurance requirements. It is, for example, widely accepted that welding of bridges and treatment of patients both involve risks and require clear and high quality standards. In the field of humanitarian action as former United Nations Under-Secretary-General for Humanitarian Affairs and Emergency Relief

⁶⁵ To increase further recognition and acceptance the project has presented its outcomes in a series of humanitarian and educational conferences and meetings (e.g. the Humanitarian Partnership Conference in Nairobi, the World Conference on Humanitarian Studies in Istanbul, the NOHA@20 Alumni Event in Brussels and many different occasions on national level in the different European countries).

Coordinator Jan Egeland noted, "... if you're not a professional in this game, you have no right to descend on someone in their moment of crisis and do on-the-job training [...] Because the poor, dispossessed and disaster-prone should have at least one basic right left to them: to be protected from incompetence."⁶⁶ However, in other cases use of qualifications to control access and practice may be linked to particular interests of professional groups and bodies. Controlling numbers of practitioners in a profession can be important to safeguard salaries and working conditions, but should not result into an exclusive 'membership club'.

During the project, the Humanitarian Action Qualifications Framework also raised questions concerning its European origin, even though its vocation is international, or better global. It should be of interest to non-European and global humanitarian actors and educators. On the one hand, the origins and methodology used are decidedly European, but its content in terms of learning outcomes is based on the humanitarian sector globally. As such, the framework can be used outside Europe to the extent that it is contextualised and adapted to the specific non-European needs. With the development of connections between regional meta-frameworks, this process might even become easier.⁶⁷

Another concern that was raised several times relates to how the progression of learning in the qualifications framework can in the end be assessed. Of course, the framework is expressed in qualification learning outcomes and not in individual learning outcomes that can be assessed directly. For that it is necessary to translate these into training programme learning outcomes first. Having said that, the framework categorises qualification learning outcomes into knowledge, skills and responsibility & autonomy, each of which may require different ways of assessment. Where traditional written exams may often suffice for testing theoretical and factual knowledge and understanding, assessing skills will frequently require a more applied ways of testing, particularly where it concerns practical skills, and testing responsibility & autonomy might be more adequate by means of for instance simulations. As a follow-up on the EUPRHA Project, the translation and contextualisation of the qualifications framework into training programmes and subsequent assessment of achieved learning is a logical and highly useful next step, particularly in the light of certification attempts by the sector to recognise informal and non-formal learning. Moreover there is a need to link it to the recently developed classification system of European Skills, Competences, Qualifications and Occupations (ESCO).

⁶⁶ Herlinger, "Saving Human Lives Is No Place for Amateurs. An Interview with Jan Egeland," 180.

⁶⁷ Cf. Keevy, Chakroun, and Deij, *Transnational Qualifications Frameworks*, 2010.

IX. Conclusion

The relevance of the Humanitarian Action Qualifications Framework lies in the fact that it can act as a translating device to make national and sectoral qualifications more readable and promote humanitarian workers' and learners' mobility between countries and organisations. Through its descriptors and levels, it facilitates inter-system transparency and recognition of (non-) formal and informal learning by linking occupations, skills & competences and qualifications, thus benefiting the humanitarian sector as a whole – humanitarian actors, educators, policy makers, students, volunteers, and the society at large – in an effort to further professionalise assistance to crisis-affected people. The Humanitarian Action Qualifications Framework addresses five purposes in particular:

1. to provide important points of reference for setting and assessing learning standards to humanitarian education providers,
2. to inform international comparability of humanitarian education and training standards in the European context and where possible beyond that,
3. to assist in the identification of potential progression routes for lifelong learning in humanitarian action,
4. to promote a shared and common understanding of the expectations associated with typical qualifications by facilitating a consistent use of qualification titles across the humanitarian and educational sector, and
5. to support workers' and learners' mobility.

The importance of the elaboration of this transparency tool rests in the fact that it serves as a context in which the different humanitarian professions with their profiles, competences, skills and levels can be articulated, thus helping with cross-border and cross-sector recognition of diplomas, training, work experience and formal and informal learning in the future. Earlier initiatives within the humanitarian sector on this topic clearly show that there is a strong need for this. In close discussion with main actors of the humanitarian sector, the EUPRHA Project has integrated these earlier initiatives in its work but specifically adds to this a more developed distinction between levels of learning, thereby also providing a stronger connection between the educational system and the humanitarian sector. A stronger connection is important both for quality assurance in the educational system and for the professionalisation demand of the humanitarian sector. The experience gained with the project process shows that there is a high complexity in purpose, type, coverage and competent bodies involved and

the outcome of the project can just be considered the start of a new phase. Ultimately, this is all in the attempt to better serve people affected by humanitarian crises: the main people for whom this project is created and who, unfortunately are too many in our world. The best result would be if they feel a higher quality in the humanitarian service even though they may not know where this comes from.

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Developing reflection on competence-based learning: the Russian experience with the Tuning approach

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Abstract: The paper focuses on the Tuning Russia project. It aims at providing an overview of the impact of the Tuning methodology and outcomes concerning University teaching, learning, and assessment activities. It identifies: the most relevant results and “lesson learnt” during the project; tools/concepts/experiences that involved teachers found most interesting; strengths and weaknesses; the usefulness of working with colleagues from different Russian universities; and the level of sharing of the Tuning methodology with other colleagues within participating Universities. The empirical data for the study were drawn from a qualitative questionnaire with open questions filled-in by the members of the subject area group “Social Work” involved in the Tuning Russia project. The respondents were six academic teachers from different Russian universities and two European Tuning experts. This reflection by academic teachers upon the initial implementation of the Tuning approach in Russia highlights the opportunities to explore methods of establishing and improving communities of practice in the field of competence-based higher education curriculum development. Results highlight the need to develop further work concerning both summative and formative evaluation in relation to competence-based curricula review in higher education.

Keywords: Competence-based learning; student-centred approach; reflection; learning and teaching; community of practice; feedback.

I. Theoretical framework: competence-based learning and new conceptions of teaching

Nowadays universities are faced with the challenge of implementing continuous change and improvement to courses and with the development of a better educational offer for young people. The Bologna process represents for European countries a cultural revolution in the field of higher education requiring changes in the structure, the approach, the responsibilities and the contents of academic courses. A core issue concerns the role of learner, i.e. the learner having a central position within the learning process. Expected learning outcomes concern knowledge as well as skills and competences, both subject specific and generic. The focus on the competences that the students must have achieved by the end of their learning process was

confirmed and spelled out through the adoption of the Framework for the Qualification of the European Higher Education Area (EHEA) in 2005.

This paper focuses on the Tuning Russia project, a component of the Tuning Academy's programme to facilitate the Bologna Process in Europe and to promote a student-centred approach in higher education institutions worldwide. It aims at providing an overview of the Tuning methodology impact and outcomes concerning teachers, courses, universities, and the Russian universities network.¹

Literature on teaching in higher education has developed specific research fields concerning **teacher conceptions of teaching**² and **competence-based learning**.³ The concept of "competence" refers to a quality, ability, capacity or skill that is developed by and belongs to the student. Competences are developed in all course units and assessed at different stages of a programme. Some competences are subject-area related (specific to a field of studies), while others are generic,⁴ since students develop in their careers an integrated body of knowledge and skills from many different disciplines as well as transferable skills such as problem-solving, critical and creative thinking, communication and leadership skills.

In this context, the Tuning methodology offers **concepts and operational tools to align** Higher Education programmes with agreed learning outcomes and competences and qualification levels, answering to the need of labour market as well as the need of young people. To design courses based on intended learning outcomes (ILO) that are consistent and aligned with related teaching, learning and assessment techniques, it is crucial to apply a

¹ Yevgeniya V. Karavayeva and Yelena N. Kovtun, "Adapting the Tuning Programme Profiles to the Needs of Russian Higher Education," *Tuning Journal for Higher Education* 1(2013): 187-202.

² Lyn Gow and David Kember, "Conceptions of teaching and their relationship to student learning," *British Journal of Educational Psychology* 63(1993): 20-33; David Kember, "Teaching beliefs and their impact on students' approach to learning," in *Teaching and Learning in Higher Education*, ed. Barry Dart and Gillian Boulton-Lewis, 1-25 (Camberwell, Australia: Australian Council for Educational Research, 1998); Keith Trigwell, Michael Prosser, and Philip Taylor, "Qualitative differences in approaches to teaching first year university science," *Higher Education* 27 (1994): 75-84; Katherine Samuelowicz and John D. Bain, "Revisiting academics beliefs about teaching and learning," *Higher Education* 41(2001): 299-325.

³ Aurelio Villa Sánchez and Manuel Poblete Ruiz, eds., *Competence-based learning* (Tuning Project, Bilbao: University of Deusto, 2008); Richard A. Voorhees, "Competency-Based Learning Models: A Necessary Future," *New directions for institutional research* 110 (2001):5-13.

⁴ Jenneke Lokhoff et al., *A Guide to Formulating Degree Programme Profiles* (Bilbao, Groningen, and The Hague: Universidad de Deusto, 2010).

programme designing approach which optimises the conditions for the quality of learning.⁵ This approach requires a personal commitment by the teacher who focuses on the students' learning outcomes and considers these the main goal of the learning and teaching process.

The model presented by Biggs is called "constructive alignment". It is based on the constructivist perspective that highlights how learners use their own activity to construct their knowledge. Students build meanings by using relevant learning activities and, knowing which and at what level educational courses should pitch the expected learning outcomes, find it is easier for them to feel motivated and interested in the contents and in the activities designed by the teacher in order to facilitate their learning process. In this learner-centred model students "will be able to study by themselves, learning what is essential more effectively, and knowing how to use and present what they learn".⁶ The teacher's role is to describe in detail the learning activity and to specify the context and the standard the students should attain. The "alignment" means that the learning activity, which is functional to the expected outcomes, needs to be fostered by teachers creating a learning environment that allows students to undertake those learning activities and then to verify with appropriate assessment tools whether the outcomes have been achieved.

This implies using active teaching methods such as problem-based learning, which is significantly more effective than traditional instruction to train competent and skilled practitioners and to promote long-term retention of knowledge and skills acquired during the learning experience.⁷

Therefore, changes are needed in the **way teachers usually think about teaching**: while lectures and tutorials are the default teaching methods, a shift towards a student-centred approach requires teachers to review and to identify the types of situations in which different teaching/learning activities can be organised, depending on the learning outcomes that are intended. The term 'lecture' focuses on what teachers should do, but it is more important to focus on what the students are doing; in that sense, the teacher becomes a learning facilitator, somebody who leads self-directed learning processes through interactive session and who triggers critical reflection and thinking. This is reflected in the following statement: "The Tuning community should

⁵ John Biggs, *Teaching for Quality Learning at University* (Buckingham: Open University Press, 2003).

⁶ Javier Burón Orejas, *Enseñar a aprender. Introducción a la metacognición*. (Bilbao: Mensajero, 1993).

⁷ Johannes Strobel and Angela van Barneveld, "When is PBL more effective? A meta-synthesis of meta analyses comparing PBL to conventional classrooms," *The Interdisciplinary Journal of Problem based Learning* 3, 1(2009): 44-58.

build skills for innovation as an integral part of its agenda on competence-based approaches to curriculum”⁸.

Since Tuning⁹ is a bottom-up approach, this study focuses on the development of **individual and collaborative reflection** as key vehicle for the construction of teacher knowledge and effective and meaningful teaching practices oriented to enhancing students’ competences for their personal and professional lives. It also explores ways to relate such a bottom-up approach to opportunities offered by “communities of practice” approach,¹⁰ especially when framed from the Engeström¹¹ collective activity and learning perspective.

II. Follow-up analysis of Tuning Russia impact and outcomes

This paper presents a reflection on the Tuning core principles and concepts developed by a group of Russian academic teachers and European colleagues during the Tuning Russia project (2010-2013). The main goal of this study is to understand the impact of the Tuning approach on the development of new courses as well as improvement of the existing ones by using a competence-based approach.

The empirical data for this study was drawn from a qualitative questionnaire with open questions filled by the members of the subject area group “Social work” involved in the Tuning Russia project. The respondents were six academic teachers from different Russian universities and two European Tuning experts. The main issues investigated are the following: the present and future impact of the Tuning methodology upon University teaching, learning and assessment activities; the most relevant results and “lessons learnt” during Tuning Russia; tools/concepts/experiences that the involved teachers found more interesting; strengths and weaknesses; the usefulness of working with colleagues from different Russian universities; the level of sharing of the Tuning methodology with other colleagues within participating Universities.

⁸ Francesco Avvisati, Gwenaël Jacotin, and Stéphan Vincent-Lancrin, “Educating Higher Education Students for Innovative Economies: What International Data Tell Us,” *Tuning Journal for Higher Education* 1(2013): 237.

⁹ Julia González and Robert Wagenaar, *TUNING Educational Structures in Europe II. Universities’ contribution to the Bologna Process. Final report Project Phase II* (Universidad de Deusto / Universiteit Groningen: Deusto University Press, 2005).

¹⁰ Etienne Wenger, Richard Arnold McDermott, and William Snyder, *Cultivating communities of practice* (Boston: Harvard Business School Press, 2002).

¹¹ Yrjö Engeström, “Expansive learning at work: Toward an activity theoretical reconceptualization,” *Journal of Education and Work* 14 (2001): 133-156.

After several informal discussions and reflections on Tuning main concepts, formal comments on these were collected at the end of the project, to allow all involved staff to outline their understanding of the methodology, as well as their beliefs and their perceptions concerning the changes that occurred in their teaching practices. The follow up questionnaires (administered 4 months after the project final conference) aimed at collecting opinions by academics after a period of personal re-working of concepts and tools and collective sharing of them with colleagues in different institutions and different contexts.

Based on content analysis supported by the use of the Atlas.ti software, the results highlight several emerging dimensions. They have been grouped in categories, based on categories found in previous literature and on a mixed approach combining bottom-up data analysis and top-down inferences based on previous studies key topics. Instead of seeking to decide beforehand the role of competence-based learning in (re)designing curricula and teaching activities, the aim of the qualitative and data-driven analysis used was to create a dialogue between the data and the interpretations by the researchers.¹²

III. Results and impacts on academic teachers' competences towards the development of a community of practice

1. Strengths and weaknesses of the project

Since 2001, the 'Dublin Descriptors' have been adopted as cycle descriptors for the qualification framework of the European Higher Education Area. The introduction of the Dublin Descriptors¹³ has guided countries to provide courses according to a three-level structure - not only in terms of knowledge, but mainly in terms of skills and competences which guarantee more flexibility and customization within programmes. Thus, higher education's responsibility became not only to guarantee updated knowledge and subjects, but also to provide students with "learning behaviours"¹⁴ such as problem solving, interaction and communication, critical reflection,

¹² David Silverman, *Interpreting Qualitative Data. Methods for Analysing Talk, Text and Interaction* (London: Sage, 2001).

¹³ These are generic statements about achievements and abilities that students should acquire at the conclusion of each programme: knowledge and understanding; applying knowledge and understanding; making judgements; communication skills; and learning skills.

¹⁴ High Level Group on the Modernisation of Higher Education, "Report to the European Commission on Improving the quality of teaching and learning in Europe's higher education institutions," (Brussels: European Commission Brussels, 2013).

meaning making, self-correction, and ability to learn continuously from formal, non-formal and informal contexts.

Participants identify as a **major result** of Tuning Russia “*the revision of study programme on the basis of shared competences and learning outcomes*”,¹⁵ in terms of measurable results of a learning experience which allows to ascertain to what extent a competence has been formed or enhanced.¹⁶ From the content analysis (extracts from the answers are reported in quotes) the key strengths identified by participants within the Tuning approach relate to the opportunity to “*develop and select competences according to Tuning methodology*” and “*the competences passport, an instrument describing the methodology of defining competences based on the needs of different actors (employers, students, professors)*”. Some of the teachers feel that the work implemented so far provides the key elements to plan further work in several academic areas and to develop step by step a benchmarking approach.

The consultation process¹⁷ (Figure 1) shows an awareness of the need to improve the dialogue between universities and business dialogue, as recommended by the European Commission: “Knowledge transfer between universities and enterprises will work best where there is a general framework of cooperation and mutual understanding, involving partnerships, joint projects and the exchange of people”.¹⁸ According to one participant, “*Russian higher education needs reforms including not only a multilevel system of education but the development of lifelong learning system. In this case Tuning would become a methodology which makes it possible to develop efficiently professional competences in accordance with the changing needs of the labour market.*”

Participants mention that the project has been an opportunity to share and to discuss “*interesting theories*” concerning Pedagogy and Social Work and to test such theories by putting them into practice. The project has also provided an opportunity to share ideas concerning Social Work, to develop a

¹⁵ Please note that in this quotation as well as in the following ones, italics is used to cite the wording of questionnaires proposed at the end of Tuning Russia Project, translated from Russian into English; therefore the language may have been modified slightly for purposes of clarity.

¹⁶ Jenneke Lokhoff et al., eds., *A Guide to Formulating Degree Programme Profiles* (Bilbao, Groningen, and The Hague: Universidad de Deusto, 2010).

¹⁷ Tuning organises a large-scale consultation among graduates, students, employers and academics to identify the most important generic competences for each of the academic fields involved.

¹⁸ Commission of the European Communities, “A new partnership for the modernisation of universities: the EU Forum for University Business Dialogue” (COM(2009) 158 final, Brussels: European Commission), 5.

thorough conceptual framework of the Social Work subject area, and to identify a set of key tools for developing a degree programme that takes into account the current European practice and debate.

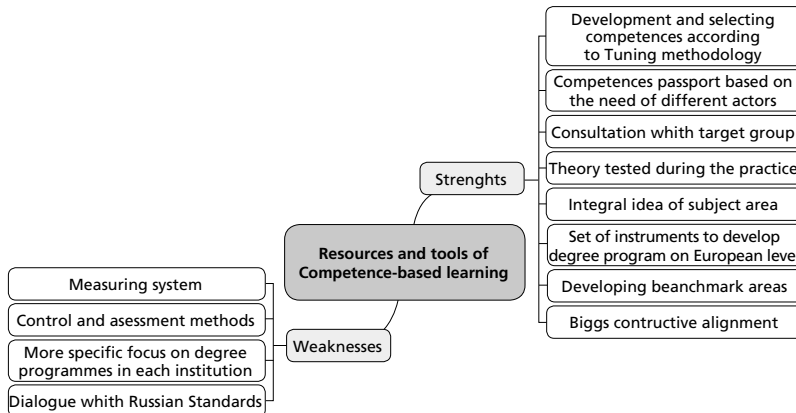


Figure 1

Strengths and weaknesses of the projects

Nonetheless, benchmarking and assessment are also mentioned among the critical issues and the actual weaknesses of the Tuning Russia project. A key **weak point** has been the timing of the implementation of the project in Russia while “*at the same time new standards were adopted*”¹⁹ and such standards seem “*incompatible with the Tuning methodology*”. In addition, the actual “*implementation period of the project is not clear*”, while there are still open “*questions*” concerning the Social Work subject area.

The main concerns are that “*assessment and assessment methods were not discussed enough*” during the implementation of the project and that within the project “*the system of assessment was represented rather fragmentarily*”. As a result, so far there is a perception that there is a lack of assessment tools, and an awareness that “*the competence measuring system is not sufficiently developed*”.

¹⁹ During the last 2-3 years, Russian higher education institutions (HEIs) have (re) designed and implemented educational programmes following Federal State Educational Standards (FSES) guidelines. Universities, academies and institutes in Russia follow these standards, which designate educational programs requirements for graduates and workload content. For more information see: Yevgeniya V. Karavayeva and Yelena N. Kovtun, “Adapting the Tuning Programme Profiles to the Needs of Russian Higher Education,” *Tuning Journal for Higher Education* 1 (2013): 187-202.

The remarks of the Tuning Russia academic staff provide evidence of a sensitivity of the need to develop further work concerning both **summative** and **formative evaluation** in higher education. The actual implementation of the Tuning Russia project provided limited space for discussing and finalising assessment tools. The focus was on curriculum development and the main contribution concerned the identification of key curriculum evaluation elements, especially with reference to the Tuning checklist for curriculum evaluation. This provides selected focal issues and questions concerning the educational process, the educational outcome, and the means and facilities required for programme delivery. The checklist is part of the Tuning Toolkit for the (re)design of ECTS-based degree programmes.²⁰ Within this framework, “evaluation” is concerned with judgments focusing on courses and course delivery, and especially concerning the process of making of such judgments. Scriven²¹ helps to focus on the “assessment” dimension which is concerned with judging students’ work according to specific, weighted set goals and based upon a preliminary justification of (a) the data-gathering instruments or criteria, (b) the weightings and (c) the selection of goals. Within this perspective, the Tuning approach can be instrumental in providing evidence on how to justify a judgment made against the stated goals and criteria. In the case of the Tuning Russia project, this would imply follow-up activities concerning both formative and summative assessment.²²

In particular, the feed-back and self-regulation aspects enhanced by formative assessment would seem to relate well with improving the quality of monitoring activities concerning the implementation of competence based approaches to curriculum development and specifically of the Tuning approach. Literature review indicates that students who are effective at self-regulation produce better feedback and are more able to use the feedback they generate to achieve their desired goals.²³ Therefore, specific focus on feedback and self-regulation would offer an opportunity for faculties to

²⁰ Tuning Checklist for Curriculum Evaluation is included in the annex 2 of the publication: Julia Gonzalez and Robert Wagenaar, eds., *Tuning Educational Structures in Europe. Universities’ Contribution to the Bologna Process. An Introduction*, 2nd, ed. (Bilbao and Groningen: University of Deusto, 2008), available at: http://www.unideusto.org/tuningeu/images/stories/Publications/ENGLISH_BROCHURE_FOR_WEBSITE.pdf

²¹ Michael Scriven, “The methodology of evaluation,” in *Perspectives on Curriculum Evaluation* (AERA Monograph Series – Curriculum Evaluation), ed. Ralph W. Tyler, Robert M. Gagné, and Michael Scriven (Rand McNally and Co, 1967), 40.

Mantz Yorke, “Formative assessment in higher education: moves towards theory and the enhancement of pedagogic practice,” *Higher Education* 45, 4 (2003): 477-501.

²³ Debora Butler and Philip Winne, “Feedback and self-regulated learning: a theoretical synthesis,” *Review of Educational Research* 65, 3 (1995): 245-281.

engage in dialogue and to gather significant monitoring data concerning progress towards Tuning goals.

From this perspective, it would be helpful to devote specific attention to the practice of obtaining effective feedback, and to take into account the results of research literature in this field for instance Nicol and Macfarlane-Dick²⁴ who identify the following seven principles of good feedback practice:

1. Helps clarify what good performance is (goals, criteria, expected standards).
2. Facilitates the development of self-assessment (reflection) in learning.
3. Delivers high quality information to students about their learning.
4. Encourages teacher and peer dialogue around learning.
5. Encourages positive motivational beliefs and self-esteem.
6. Provides opportunities to close the gap between current and desired performance.
7. Provides information to teachers that can be used to help shape teaching.

Teachers who are able to facilitate such a feedback process should find themselves better able to discuss and understand assessment criteria with peers and students, and to provide targeted feedback to learners which would encourage reflection and critical thinking.

In turn, these dimensions of formative assessment would link well with the use of the rubric, **articulating the expectations for an assignment by listing the criteria (i.e. what counts), and describing the levels of quality.**²⁵ Rubric use is associated with improved academic performance and the potential of rubrics to identify the need for improvements in courses and programmes has been demonstrated. According to a literature review by Reddy and Andrade,²⁶ “studies of the validity of rubrics have shown that clarity and appropriateness of language is a central concern” and “can lead to a relatively common interpretation of student performance”, features that relate well to Tuning’s core concerns. Two recommendations by Reddy and Andrade²⁷ seem particularly relevant in assessing the use of rubrics in implementing and monitoring a Tuning project.

²⁴ David J. Nicol and Debra Macfarlane-Dick, “Formative assessment and self-regulated learning: a model and seven principles of good feedback practice,” *Studies in Higher Education* 31, 2 (2006), 205.

²⁵ Judith Arter and Jan Chappuis, *Creating and recognizing quality rubrics* (Upper Saddle River, NJ: Pearson/Merrill Prentice Hall, 2007).

²⁶ Y. Malini Reddy and Heidi Andrade, “A review of rubric use in higher education”, *Assessment & Evaluation in Higher Education* 35, 4 (2010): 435-448.

²⁷ *Ibid.*, 446.

These authors indicate that there is a need for more research on the validity and reliability of the rubrics. Tuning projects could be instrumental in conducting pilot and reliability tests prior to the implementation of rubrics, and in providing information about the procedures, analyses and results. In addition, Reddy and Andrade claim that higher education institutions should have a closer focus on learning, to avoid using rubrics only for evaluation purposes: “The ways in which they can be used to teach has not been sufficiently addressed. Studies are needed that look beyond scores for an assignment by examining, for example, the development of positive attitudes towards and perceptions about learning, the acquisition and integration of new knowledge, extending and refining knowledge, using knowledge to perform meaningful tasks, and developing powerful habits of mind that enable students to regulate their behavior and think critically and creatively.”

2. *Lessons learnt and relevant impacts*

Participants’ answers concerning the most relevant impact of and the lessons learnt from the Tuning project, show a willingness to move “*from subject-centred education to competence based learning and student-centred one*”, and to promote “*the development of competences and their correlation with the modular structure of the degree program for teaching Social Workers*”. For some teachers, “*all the aspects of the Tuning programme are important but the most interesting is the notion of competences and the difference between the concept of “competences” and the concept of “result”. I saw interconnections of all the parts of (the) main educational programme*”; moreover, “*the lesson on the levels of the mastery of competences, which gives an idea of how and what is to be evaluated*” and the “*system of interdependence of competences and learning outcomes.*” are considered as relevant outcomes of the whole project. The Commission of the European Communities²⁸ notes that countries in Europe and outside of Europe are increasingly focusing on: a comprehensive change to curricula and learning methods towards the inclusion of transversal and transferable skills; better examination methods, more geared towards the assessment of learning and competences; greater diversification of admission profiles and approaches to learning in order to tap talent from non-traditional backgrounds, including adults returning to study; greater interdisciplinarity and transdisciplinarity of education and research agendas.

²⁸ Commission of the European Communities, “A new partnership for the modernisation of universities: the EU Forum for University Business Dialogue,” 4.

Tuning represents an answer to the above mentioned activities through the development of a competence-based approach and through the sharing of common instruments for translating into practice the use of competences and learning outcomes. The dimensions including the concepts, tools, applied elements, reflections on issues discussed and their implementation, on curricula design and implementation may be interpreted as **pedagogical competences** gained and, or developed by teachers during the project (Figure 2.)

Since “all staff teaching in higher education institutions in 2020 should have received certified pedagogical training and continuous professional education as teachers should become a requirement for teachers in the higher education sector”,²⁹ the Tuning methodology may contribute to this major goal; such a contribution could be related to the cross-fertilization through the building of Tuning Centres in Russia and other training activities.

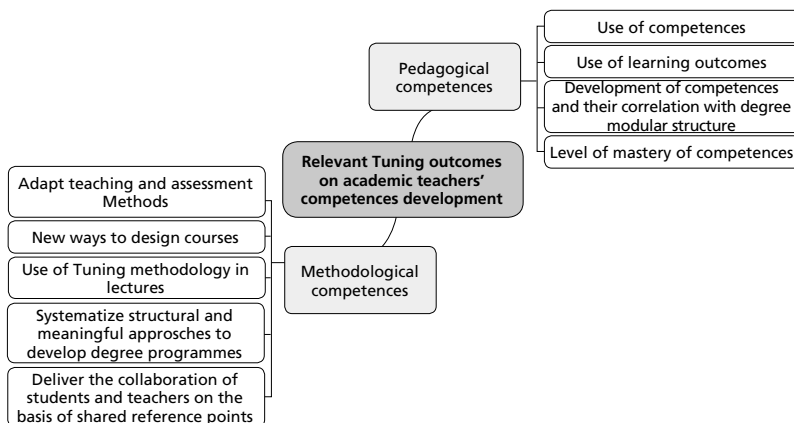


Figure 2

Relevant Tuning outcomes on academic teachers' competences development

The teaching staff involved in the Social Work group of Tuning Russia project outline as well the possibility to “*systematize structural and meaningful approaches to develop degree programmes*” and to “*deliver the collaboration of students and teachers on the basis of shared reference points.*” The “*technology of creation of basic education programmes and work plans has been reconsidered*” after comprehension and reflection during the project some of them “*started to use the Tuning methodology in the lectures*”.

²⁹ High Level Group on the Modernisation of Higher Education, “Report to the European Commission on Improving the quality of teaching and learning in Europe’s higher education institutions” (Brussels: European Commission, 2013), 32.

While institutions have almost understood and implemented the practice of course description using a learning outcomes framework, the related and required changes in terms of teaching and assessment have not necessarily followed. Such changes in paradigm require a more complex role for academic teachers and the development of new competences to allow them to design and to deliver appropriate teaching and assessment activities. These comprise: the development of subject specific competences as well as pedagogical competences and interactive methods; reflection on teaching practices; managing and sharing leadership responsibilities; organizational and communicative issues; building community partnerships for learning and international networks; and participating in continuing professional development.

If one considers a teacher-centred and a student-centred approach as a continuum in terms of the teachers' approaches, one can identify different and dynamic teacher profiles, depending on the context, the subject, and the cultural conception of higher education.³⁰ Teachers' answers to the questionnaire indicate an acknowledgement that Tuning approach aims at developing strategies to facilitate a *"change in the attitude of teachers to develop work programs [...] as well as new teaching methods and control"*. The use of competences and expected outcomes in curriculum development should not turn into a bureaucratic change: it requires re-thinking of traditional academic positions in order to provide room for the development of students in self-directed learning: *"I think that the teaching methods for the social workers should be changed. The developing of the competences required new methods of teaching that we learnt during the project"*. The clear connection between learning and teaching methods emerges in the following sentence: *"Social work bachelor and master degree educational programmes based on Tuning methodology have been developed including the design of competences and results, evaluation tools and methods of control; work plans for the academic disciplines are based on competence and the results; methodology correlates with the methods of teaching and methods of control."* Different methods and learning environments may produce very different learning.

The teaching challenge is to teach in a way that encourages students to implement a deep approach to learning - involving higher cognitive level processes.³¹ According to Biggs, "learning activities that are at too low a level to achieve the intended learning outcomes are referred to as comprising

³⁰ Lin Norton et al., "Teachers' beliefs and intentions concerning teaching in higher education," *Higher Education* 50 (2005): 537-571.

³¹ Sabine Hoidn and Kiira Kärkkäinen, "Promoting Skills for Innovation in Higher Education: A Literature Review on the Effectiveness of Problem-based Learning and of Teaching Behaviours" (OECD Education Working Papers N° 100, OECD Publishing, 2014).

a ‘surface’ approach to learning, for example memorising to give the impression of understanding. Activities that are appropriate to achieving the outcomes are referred to as a ‘deep’ approach.”³² The University should require students to progressively describe, comprehend, relate, argue, explain, analyse and solve problems close to and distant from the subject, relate to principle, hypothesise and reflect.

All the above-mentioned elements have been grouped into the academic **methodological competences** of teachers. One can observe that the pedagogical competences and the methodological competences are very related, since they concern theories, methods and tools to deliver good teaching and to improve teaching practices.

3. Developing a new culture of sharing

Furthermore, the project provided an opportunity to “*study the experience of colleagues from Spain, Italy, Russia*” and to “*start to use the Tuning methodology in lectures*”. Tuning Russia created a space for shared exchanges involving teachers from different institutions, with the scope to construct a learning community for individual and collective spaces. Such spaces aim at developing reflection on teaching practices, towards the construction of meta-profiles, i.e., identifying referential elements that reflect upon and analyse possible diverse degree profiles, for designing and delivering degree programmes.

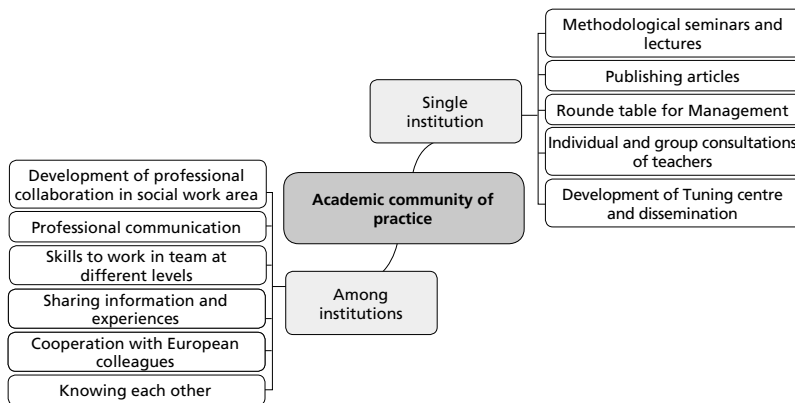


Figure 3
Academic community of practice

³² John Biggs, *Teaching for Quality Learning at University* (Buckingham: Open University Press, 2003), 29.

Some teachers outlined as a positive effect the “*development of professional collaboration in (the) social work subject area, conducting joint seminars, conferences*” as well as that “*cooperation among universities has been broader, (there) have been several conferences, we are writing articles, (and) cooperate with each other on a regular basis*”. Tuning Subject Area Groups comprise teachers from different universities, also cooperation among different Russian and European institutions constituted an important factor and an opportunity for the “*exchange of experience, business connections, the experience of work in team of different universities from Russia and European Union*”.

The development of a sharing culture offered people a chance to “*know each other; continue to cooperate; share information and experience*” and learn from each other in relation to previous experience in curriculum planning and teaching. Moreover, some institutions created methodological seminars within their departments and organised lectures for advanced qualification courses at the University. These two types of activity proved to be a good way to disseminate the methodology and also to create a culture of reflection on the various Tuning concepts. In one case “*Tuning methodology was introduced for teachers at advanced qualified courses and for postgraduate students at special seminars.*”

An interesting point was the creation of Tuning centres. They have been set up in order to go beyond the project implementation at an institutional level. “*I gave a few lectures about Tuning in the Tuning Centre that was created in the University. The methodology provoked interest*”. Tuning centres in Russia constitute local supporting desks and documentation centres with specific resources, in which teachers may collectively support each other by providing mutual counselling.

This type of work supports the development of teachers’ knowledge, including pedagogical thinking and concepts in order to develop reflection as a key vehicle for the construction of more permanent teacher awareness and effective and meaningful teaching practices.

Teachers are “*agents of change for a better higher education offer(ing)*”. They are considered to be responsible for creating the best conditions for students to learn and to be in dialogue with the economic, social and global context. Considering the **teacher’s social role**, the bottom-up and cooperative approach promoted by Tuning has been appreciated by participants and the Social Work Group teachers still maintain contacts and exchanges with each other.

The above-mentioned reflections indicate a shared feeling that the implementation of the Tuning approach in each academic institution is at the same time an opportunity to develop a higher education **community of**

practice.³³ Effective changes in university practices, once shared and reflected upon within a wider network are likely to produce significant interactions and to produce resources that should have the potential to affect academic practice inspired by competence-based curricula. In turn, such interactions are likely to foster research practices that would favour monitoring and reflection upon curriculum development and related changes in terms of planning, teaching and learning practices, assessment and evaluation.

IV. Discussion and Conclusions

The participants in the Tuning Russia project have highlighted many strengths and lessons learnt. The opportunity to share experience and beliefs with colleagues from different institution and from other European Countries increased the value of the project. Workshops and discussions concerning teaching and learning methods have **operationalized concepts in higher education practice** promoting the development of innovation and excellence. Therefore, they have been very much appreciated by academic teachers. In particular, during the workgroups, attention has been focused on interaction in higher education teaching (such as asking questions, supporting students in providing good ideas, offering help to students or showing concern for student progress, etc..) and the effectiveness of using tools like case studies, role plays, individual or team projects.

Although appropriate assessment and feedback (helpful comments on students' work, quality of feedback on students' progress, appropriate assessment tasks) is one of the six principles for effective higher education teaching according to Ramsden,³⁴ due to lack of time and attention being given to other priorities, they have not been sufficiently developed. The issue of evaluation and assessment should probably play a more significant role in the future development of the project, by creating new **interactive opportunities for teachers to focus on reflection on evaluation practice**, to share problems and to find common solutions, and to find and build together a repository of assessment methods.

The reflection by academic teachers upon the initial implementation of the Tuning approach in Russia points to the opportunity to explore how to

³³ Etienne Wenger, Richard McDermott, and William Snyder, *Cultivating communities of practice* (Boston: Harvard Business School Press, 2002).

³⁴ Paul Ramsden, *Learning to teach in higher education*, 2nd ed. (London: Routledge, 2003).

establish and to improve communities of practice in the field of competence-based higher education curriculum development. Within this framework Buckley and Giannakopoulos³⁵ offer a model and a theoretical framework to assist in the development and improvement of new and existing communities of practices within a higher education institution. The challenge for Tuning Russia would be to foster such communities *both within and across academic institutions*. Buckley and Giannakopoulos consider that multiple inputs should be taken into consideration when thinking of a higher education community of practices. They explore inputs coming from management, academics, advisers and professional associations. A potential Tuning Russia follow-up research process could take inspiration from the questionnaire drafted by Buckley and Giannakopoulos which takes into account three main types of data: active community of practice members; reasons for preventing a member from participating in a community of practice; and willingness to participate in a community of practice. Collected data is discussed in terms of the relations among domains, communities and practices. In the case of South Africa, where the model has been applied, they point to the fact that *management* needs to play an active role in the development of communities of practice in order for them to be successful. Such an active role is spelled out in terms of creating awareness among the academic community, educating, encouraging and providing financial and technical support to the community. The key challenges identified by these authors in the case of South Africa seem highly relevant in the case of Tuning Russia. They involve:

- providing a focus on topics important to the academic community, which in the case of Tuning Russia would mean communication of the initial results of the Tuning process in ways that make it relevant to all involved stakeholders;
- finding experienced moderators to coordinate the academic communities, as well as supporting an active core group: an opportunity for Tuning Russia to share and enhance experiences across the Tuning Centres;
- ensuring that academics have time and are encouraged to participate;
- offering opportunities and resources for building personal relationships among academic community members;

³⁵ Sheryl Buckley and Paul Giannakopoulos, "Technology and tools supporting CoPs," in *Knowledge management innovations for interdisciplinary education: organizational applications*, ed. Sheryl Buckley and Maria Jakovljevic (USA: IGI Global Publisher, 2012).

- building on the core values of the university, making it explicit how changes triggered by the Tuning process relate to each academic institution value framework;
- getting academic leaders involved; and
- creating forums for thinking together and sharing information.

An essential aspect developed during the project and to be enhanced and improved in the near future is the individual and collective continuous reflection on the Tuning concepts and tools. Schön³⁶ distinguishes between reflection-in-action and reflection-on-action; both are important and must be integrated for the development of awareness of the methodology and on the ways to apply it. Reflection-in-action refers to the process that allows people to reshape what they are working on, while they are working on it. It is an on-going experimentation that helps one find a viable solution. Reflection-on-action refers to “lessons learnt,” in which afterwards every person evaluates his/her own process: “we reflect on action, thinking back on what we have done in order to discover how our knowing-in-action may have contributed to an unexpected outcome”.³⁷

The challenge for academic teachers is to **reflect on their teaching practices, re-think and re-designing them from a student-centred perspective**. A permanent individual reflection supported by collective reflection within the community allows teachers to significantly improve their understanding of students’ needs, as well as to apply the Tuning concepts in specific contexts adapting the methodology and, therefore, to innovate their teaching towards standards of excellence.

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³⁶ Donald Schön, *The reflective practitioner* (London: Temple Smith, 1983).

³⁷ Donald Schön, “Teaching artistry through reflection-in-action”, in *Educating the reflective practitioner* (San Francisco, CA: Jossey-Bass Publishers, 1987), 22-40.

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Editor's Acknowledgments

The Editor would like to express his appreciation to the Editorial Board and the Panel of Advisory Editors for their advice and help in producing Volume One. Particular thanks are due to the Managing Editor who oversaw all issues in relation to production of both print and electronic copy and was a constant source of help and encouragement. Finally, I would like to offer my sincere thanks to those listed below who gave of their time and expertise to assist with the reviewing process.

Tim Birtwistle
José L. Contreras V
Fernando Cornet
Luigi F. Donà dalle Rose
Arlene Gilpin
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May 2014

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VERSION 1ST MAY 2014

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University of Deusto
Publications Service
Attn: Managing Editor, Tuning Journal for Higher Education
Avenida de las Universidades, 24
48007 Bilbao
SPAIN

Competence-based learning: a global perspective

Tuning Journal Volume 1, Issue No. 2, May 2014

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