

The Bologna Club:
**What U.S. Higher Education Can Learn from a Decade of
European Reconstruction**

Clifford Adelman, Senior Associate
Institute for Higher Education Policy

Produced with primary support of the Lumina Foundation for Education to
the Global Performance Initiative of the Institute for Higher Education Policy

May 2008

Acknowledgments, Disclaimer, Permission, and Citation

In addition to our 80 European colleagues and five translators listed in Appendix A, whose contributions and assistance were of inestimable value, this essay was considerably improved from its original draft state by virtue of thoughtful comments, corrections, and proddings of three extraordinary reviewers: Jose Gines Mora Ruiz of the Technical University of Valencia in Spain, Marijk van der Wende of the Free University of Amsterdam in The Netherlands, and Johanna Witte of the Bavarian State Institute for Higher Education Research and Planning in Germany. The reverberations of their critiques will bear further fruit in subsequent documents produced for the Global Performance Initiative of the Institute for Higher Education Policy (IHEP).

At IHEP, the author is grateful for the critical eye of Alisa F. Cunningham, vice president for research and programs, the visual sense of Tia T. Gordon, managing director of communications and marketing, and the Web smarts of Kathleen E. Wilson, e-communications associate.

This essay was made possible through the generous support of the Lumina Foundation for Education. The analysis, opinions, and conclusions expressed herein are those of the author, and do not necessarily represent the positions, opinion, or policies of either the Lumina Foundation for Education or IHEP, nor should any such representation be inferred.

As an electronic document, this essay is in the public domain, but authorization to reproduce it in printed form, in whole or in part, must be obtained from the Institute for Higher Education Policy, 1320 19th St. NW, Suite 400, Washington, DC 20036, Attention: Vice President for Research. The citation should read: Adelman, C. 2008. *The Bologna Club: What U.S. Higher Education Can Learn from a Decade of European Reconstruction*. Washington, DC: Institute for Higher Education Policy. Location reference: www.ihep.org/Research/GlobalPerformance.cfm.

CONTENTS

Acknowledgments, Disclaimer, Permission, and Citation	ii
Executive Summary	v
1. Introduction	1
1.1 Bologna: What is it? Where did it come from?	4
1.2 Background for Judging What We Are Looking At	8
1.3 Degree Cycles and Other Factors of the Bologna Landscape	12
2. The Core of Bologna, Part I: Qualification Frameworks	15
2.1 Framework for Qualifications of the European Higher Education Area	17
2.2 What Do National Qualifications Frameworks Look Like?	19
Ireland	19
Germany	23
Sweden	25
The Netherlands	26
France	28
2.3 Qualifications Frameworks: Summary and Suggestions for U.S. Higher Education	31
3. The Core of Bologna, Part II: Qualification Frameworks from the Ground-Up: the “Tuning” model and its Analogues	33
3.1 Subject-dependent Outcomes in the Tuning Model	35
3.2 Competences Across the Disciplines in the Tuning Model	37
3.3 Problems in the Language of Subject Qualifications: Tuning in Practice	39
3.4 Discipline-based Benchmarking: A Prominent Analogue to Tuning	42
Accounting	43
History	44
3.5 Project Polifonia: Qualification Frameworks in the Conservatories	46
3.6 What Can the Accountability Discussion in the U.S. Can Learn from Tuning, Benchmarking, and Their Analogues? What Might We Do Differently—and How?	48

4. The Core of Bologna, Part III: The European Credit Transfer System (ECTS)	50
4.1 Student Workload: Turning the Tables on the Assessment of What Goes into Learning	52
4.2 Connecting Workload and Learning Outcomes Through Level Labels and “Descriptors”	58
4.3 Credits and Curriculum Reform: Inevitable When the Currency is Student-Centered	61
4.4 Suggestions for a Credit Revolution in U.S. Higher Education: What Can We Learn from the Bologna Experience with ECTS?	64
5. The Core of Bologna, Part IV: A Different Kind of Visit With Degree Cycles	67
5.1 Destinations of the First Degree Cycle: Labor Market and Master’s Degree	70
5.2 Degrees and Regulated Professions: The Case of Medicine	76
5.3 The Intersection of Degree Cycles and the “Social Dimension” of Bologna: the Short-Cycle	81
5.4 Part-time Status: Another Intersection of Degree Cycles and the “Social Dimension” of Bologna	86
5.5 Recognition of Prior Learning: The Potential Movement of Adults into Degree Cycles	92
5.6 Some Suggestions from the Degree Cycle Issues for “Access and Success” in U.S. Higher Education	96
6. The Core of Bologna, Part V: The Diploma Supplement	101
6.1 Form and Content of the Diploma Supplement	103
6.2 We Can Do It Better—and So Can They	106
7. Summary: Reinforcing the Story-Lines; Picking Up the Missing Pieces	110
Appendix A: Our European Colleagues; Our Translation Assistance	114
Appendix B: 2007 Status of Core Bologna Features and Enabling Legislation in 46 Countries. Click on www.ihep.org/assets/files/countrystatus2007.pdf	
Appendix C: Institutions from Which Diploma Supplements Were Received and Examined	117

Executive Summary

Since 1999, 46 European countries have been engaged in reconstructing their higher education systems to bring about a greater degree of “convergence,” i.e. common reference points and operating procedures to create a European Higher Education Area. This voluntary undertaking, a logical extension of the process of European integration that has been deepening since 1950—as well as a cultivation of seedlings of change in higher education that were planted in the 1990s—affects 4000 institutions and 16 million students, an enterprise comparable to the size and scope of higher education in the United States.

The undertaking is known as The Bologna Process, named for the Italian city that is home to Europe’s oldest university, where the education ministers of 29 countries first agreed to the agenda and “action lines” that would bring down education borders in the same way that economic borders had been dissolved. That means harmonization, not standardization. When these national higher education systems work with the same reference points they produce a “zone of mutual trust” that permits recognition of credentials across borders and significant international mobility for their students. Everyone is singing in the same key, though not necessarily with the same tune. In terms reaching across geography and languages, let alone in terms of turning ancient higher education systems on their heads, the Bologna Process is the most far reaching and ambitious reform of higher education ever undertaken.

What has transpired since 1999 cannot be but lightly acknowledged in the United States. While still a work in progress, parts of the Bologna Process have already been imitated in Latin America, North Africa, and Australia. The core features of the Bologna Process have sufficient momentum to become the dominant global higher education model within the next two decades. We had better listen up.

This essay brings to a broad academic audience in the United States highlights of what European higher education authorities, academic leaders, faculty, and students have accomplished and learned in the course of their considerable efforts, particularly in the challenging matters of

- Student learning outcomes (set in what are called “qualification frameworks”),
- The relationship of these frameworks to credits and curriculum reform,
- The construction of new paths to student participation in higher education, and
- The reflection of all of this in the documentation of student attainment called “Diploma Supplements.”

These highlights help clarify what Bologna is and what it is not. They have been selected because they are extraordinarily relevant to challenges that face U.S. higher education, and are particularly applicable to accountability and access issues—in ways we simply have not

considered. This document urges us to learn something from beyond our own borders that just might help us rethink our higher education enterprise.

Based on what we can learn from the experience of our European colleagues, this report makes some very concrete suggestions for change across the U.S. higher education system, all of them following a student-centered story line of accountability, including

- Developing detailed and public degree qualification frameworks for state higher education systems, and, for all institutions, in students' major fields (see pp. 31–32 and 48–50);
- Revising the reference points and terms of our credit system (see p. 64–66);
- Introducing a new class of intermediate credentials (see pp. 69 and 98);
- Expanding dual-admissions “alliances” between community colleges and four-year institutions (see p. 97);
- Developing and expanding “bridge” access programs between stages of higher education (see p. 96);
- Refining our definition and treatment of part-time students (see pp. 98–99); and
- Developing a distinctive version of a diploma supplement that summarizes individual student achievement (see pp. 106–108).

Our presentation in this Executive Summary is, of necessity, highly condensed. The essay itself offers further detail and accounts of nuances that are inevitable when 46 countries are involved. An even more elaborate research monograph on the topic will be available from the Institute for Higher Education Policy in September 2008. While the essay cites a few statistics and provides some reflections on the current state of European data on higher education, the major topic of comparative international data on higher education participation and attainment will be addressed in a second report from the Institute for Higher Education Policy's Global Performance project early in 2009.

The Landscape of European Institutions and Students

Given the subject and scope of this essay, U.S. readers need some background reminders of what higher education systems and students in Europe look like.

Institutions: There are basically four kinds of “tertiary” institutions: universities, institutions of “applied sciences” (the polytechnics, *Fachhochschulen*, *hogescholen*, etc.) that resemble the hundreds of U.S. colleges in which the vast majority of enrollments are in occupationally-oriented fields, free-standing specialty institutions including medical schools and conservatories, and institutions that straddle the upper levels of secondary education and lower levels of tertiary. What we call liberal arts colleges are almost invisible. Private institutions can be found principally in Eastern Europe, are predominantly for-profit, but are still a small

proportion of the European landscape. While there are also non degree-granting trade schools comparable to those in the U.S. that offer certificates, they are not considered postsecondary (whereas we include them in the postsecondary universe).

Students and Access: The average age at which students enter higher education in Europe ranges from 19 to 23. Older beginning students are a target of expanding access under the Bologna Process “action line” called “the social dimension.” For traditional-age students coming out of upper secondary schools, the principal route to entrance is through high school leaving examinations or university entrance exams. In general, if you pass the exam, your admission to any institution of higher education is guaranteed, though not necessarily in the major program of your choice. Medicine is always a case of selection (and candidates have already studied organic chemistry and molecular biology in high school); music requires an audition; fine arts, a portfolio. Some admissions processes are centralized (e.g. Portugal), and in some cases (e.g. Czech Republic) the capacity of the system is limited, and you may be rejected on those grounds. In general, one can count the number of U.S. high school graduates who qualify to be directly admitted to most European *universities* on one’s fingers and toes (for an example, go to www.cimea.it foreign student admissions guidance).

Major Programs and Electives: With rare exceptions (e.g. Sweden), students are admitted to specific major programs, e.g. chemistry, nursing, business. While regulations differ by system, changing majors after entrance is almost as common a phenomenon in some countries as it is in the United States. And while there is no “general education” segment of a degree program, depending on major field, the portion of the program set aside for electives can be significant.

Change Prior to Bologna: Some countries’ higher education systems underwent dramatic changes in the years leading up to the advent of Bologna, e.g. Finland expanded by a third, and Poland added 300 private institutions in the 1990s with enrollments now constituting 30 percent of its system. Change was particularly dramatic in Eastern Europe, where, after the fall of the Iron Curtain in 1989, whole societies sought to find footing amidst vacuums of organization and protocols, and higher education was swept up in the ensuing dynamics.

Degree Cycle Changes Under Bologna, both Noted and Less Noted

The most visible change in European higher education to U.S. observers has been the adoption of a standard degree structure in three cycles that we identify as Bachelor’s, Master’s, and Doctoral, with countries seemingly converting all their existing programs to a three-year Bachelor’s and two-year Master’s, and U.S. graduate school admissions committees in a resulting quandary about how to judge the new three-year Bachelor’s. Actually, the conversion is neither that simple nor that uniform. First, the new European degree cycles made room for “short cycle” degrees (some of which previously existed) analogous to our Associate’s but

considered as *within* the Bachelor's. Second, not all degree programs converted to the 3+2 model, and many conversions are simply repackagings. We find 3+1 (in the UK, where this relationship is traditional), 4+2, 3 ½ + 1 ½, etc. let alone five and one-half and six year degrees in medicine. Even less noted is the fact that "three years" or "two years" refers to nominal time (i.e. the *equivalent* of X years of full-time study), not elapsed calendar time.

Less noted, still, is the emergence of the new Master's degree as the empirical standard for completion of higher education study. While access to the Master's is not guaranteed, in Switzerland the continuation rate from three-year Bachelor's to two-year Master's degrees among university students is 90 percent; in Germany, 80 percent among university students, and 40 percent of the *Fachhochschule* students. By some interpretations, the new Master's is simply a repackaging of the old, longer Bachelor's degrees, but in a global labor market, where labels count, this trend presents a major challenge to U.S. students.

While not a product of Bologna, we should note the intermediate credentials traditionally offered in a number of countries, e.g.

- The Swedish "diploma," granted, on application, roughly two-thirds of the way toward a Bachelor's degree;
- The traditional German *Vordiplom*, awarded after successful completion of second year examinations; and
- The Dutch *propaedeutic* certificate, awarded on passing all subjects and examinations in the introductory portion of a program.

So while everybody is committed to three cycles, there are a number of stops between them. In fact, on the landscape of European credentials are dozens of intermediary minor and special purpose awards, for which credit markers are used. Short-cycle degrees within the first cycle of undergraduate work, certificates, diplomas and post-baccalaureate diplomas—these are not necessarily "lesser" awards, rather formal recognitions of progress. They could be made at different stages of an otherwise unitary course of study.

What We Can Learn, Part 1: Qualification Frameworks

What does each level of degree we award (associate's, bachelor's, master's, doctoral) mean? What does it represent in terms of student learning? What does a degree in a particular field at each of those levels mean, and what does it represent in terms of student learning? These sound like common sense questions that have obvious and public answers. But obvious and public answers are not easily available, and that's what some of our recent arguments about accountability in the United States have been about. Furthermore, the U.S. arguments tend to stagnate on process issues, whereas, under Bologna, these questions are about content. The Bologna Process has been very clear about the conceptual elements with which degrees

should be described: learning outcomes, level of challenge, “competences,” and student workload. Our first guidance for answering these questions can best be found in “qualification frameworks.”

What is a Qualifications Framework?

A qualifications framework is a statement of learning outcomes and competencies a student must demonstrate in order for a degree at a specific level to be awarded. It is not a statement of objectives or goals: it is a warrantee. When an institution of higher education is governed by a qualifications framework, it must “demonstrate” that its *students* have “demonstrated.” While a qualifications framework does not dictate *how* that demonstration takes place (the nature and form of assessments employed), it does provide learning outcome constructs within which the demonstration is conducted. This is a *form* of accountability worth our serious consideration.

A second key characteristic of a qualifications framework is that the description of learning outcomes for a degree clearly indicates how that degree differs from the degree level below it and the degree level above it. The language of the frameworks accomplishes this end by a *ratcheting up* of benchmarks. This “ratchet principle” pervades all of the content challenge and performance statements of Bologna—and penetrates the credit system as well. This principle is an *engine* of accountability worth our serious consideration.

There are four strata of qualification frameworks in different stages of development in the European Higher Education Area:

1) The transnational **Framework for Qualifications of the European Higher Education Area**, to which all Bologna participants have agreed, and, of necessity, the broadest and most generic of the accountability forms. Think of our Associate’s, Bachelor’s, and Master’s degrees. Under the Framework for Qualifications there are five learning outcome constructs, each of which evidences the “ratchet principle” in their descriptions:

- The reference points of “knowledge and understanding”;
- The contexts and modes of application of knowledge and understanding;
- Fluency in the use of increasingly complex data and information;
- Breadth and depth of topics communicated, along with the range of audiences for that communication; and
- Degree of autonomy gained for subsequent learning.

As one moves up through the texts of the credential ladder, one notes the fading of occupational orientation, the emergence of social and ethical dimensions of learning, and the passage from well-defined contexts and problems to more fluid and dynamic contexts and problems. This general and parsimonious description both attracts agreement and allows for subsequent levels of elaboration and variation in both

national qualification and disciplinary frameworks. While we may not describe our Associate's, Bachelor's, and Master's degrees with the same constructs or with the same wide-angle diction, the point is that 46 countries took these as organizing principles based on learning outcomes and drew lines in cement to separate them clearly.

2) National Qualification Frameworks. In theory, one would expect each country's higher education system to take the Qualifications Framework for the European Higher Education Area and develop its own compatible version, more detailed, taking into account the peculiar varieties of institutions in that system and their historical missions and commitments, and, where applicable, including "intermediate" qualifications between the three degrees. In practice, that's not exactly the way it happened. Creating and obtaining consensus on an NQF is a time-consuming challenge, and as of 2007, it appears that only seven of the 46 Bologna countries had completed the task. The essay walks the reader through five distinct models of such frameworks, those of

- The Republic of Ireland (a comprehensive vertical framework with 10 levels from kindergarten to doctorate);
- Germany (a more parsimonious phrasing distinguished by articulating ways students must demonstrate knowledge through what are called instrumental competencies, systemic competencies, and communicative competencies);
- Sweden (which departs from others by specifying key variations at the level of the Bachelor's degree for 19 applied fields, some of which lead to licensure occupations, e.g. audiology, nursing, biomedical laboratory science);
- The Netherlands (where, though the work has not been completed, the draft qualifications statements refer to labor market positions and tasks, and the overall structure of the draft qualifications statement comes in two columns: one for universities and one for the institutions of applied science, the *hogescholen*); and
- France (which created a process and registry under which every program credential at every institution of higher education in the country is submitted for review and approval in a standard format, and basically undergoes the first stage of an accreditation review).

3) Institutional Qualifications Frameworks. This level of articulation has not really been addressed in the Bologna Process, but it is inevitable if institutional autonomy is to be respected at all (and Bologna has always held institutional autonomy as a mantra), and is also inevitable in the burgeoning system of accreditation across Europe known as Quality Assurance. In national systems in which institutions have been granted more

autonomy at a by-product of Bologna, e.g. Austria, a university such as Vienna established a template, with space for qualifications statements, to be filled in for each new program curriculum.

4) **Disciplinary/Field Qualification Frameworks.** This level of specifying expectations for student learning and competence has received the most attention, and proceeds through what is known as the “Tuning Project.” Even before the broad discussion of national qualifications frameworks began, the Tuning Project (see below), designed to help the disciplines articulate outlines and benchmarks for subject specific knowledge and generic skills and competencies expected at the summative moment of each level of study, was well underway in nine disciplines—and with 16 others joining in 2005. “Tuning” has now been taken up by 182 universities from 18 countries—and in 12 disciplines—in Latin America. Something resonates here, and it is deserving of separate treatment.

What Can We Learn?, Part II: “Tuning and Its Analogues”

“Tuning” is a methodology, including a consultation phase with recent graduates and employers, that produces “reference points” for faculty writing criterion-referenced statements of learning outcomes and competencies in the disciplines, providing a common language for (1) academic-subject specific knowledge, and (2) generic competencies or shared attributes. Among the latter, it distinguishes the instrumental (cognitive, methodological, technological, and linguistic), interpersonal, and systemic. In the description of each of these, the ratchet principle is clearly at work, i.e. it is clearly possible to develop learning outcomes statements in the disciplines that mark *levels* of mastery. The essay provides examples from business and chemistry, but also illustrates the considerable difficulties institutional faculty have in writing such statements. An evaluation of the language of Tuning pointed to statements that describe activities but not learning outcomes, statements that are “so vague as to be meaningless,” and statements of the obvious—none of which help fulfill the objectives of this undertaking. We can learn so as to do it better—and so can they.

Benchmarking

The benchmarking approach to learning outcomes at the disciplinary level is a prominent analogue to Tuning, and is a strong suit of the Quality Assurance Agency in the United Kingdom. Benchmarking statements provide Tuning-type reference points and boundaries for designing, modifying, and evaluating the presentation of a discipline by an institution or group of similar institutions. They are public disciplinary maps indicating what, precisely, graduates will “demonstrate.” The essay illustrates the cases of accounting (where the vocabulary follows the ratchet principle: it moves from “basic understanding” to “thorough understanding,” from “simple” to “complex” situations, etc.) and history (in which assessment and the judgment of student performance plays a significant role).

Project Polifonia

Conservatories of music and performing arts are more prominent on the European higher education landscape than in the United States. Illustrating the ways in which Bologna principles spread outside of its formal channels, the conservatories of Europe organized their own discipline-based qualifications guidance in Project Polifonia, and the essay pays significant attention to this undertaking because the performing arts are probably more transparent than other disciplinary areas when it comes to articulating what students should be able to demonstrate and at what level of competence, for determining how much time it takes students to prepare for that demonstration, and for translating that time into credits. We learn what “sustaining arguments and solving problems” means in music, along with the portfolio of reference points—repertoire skills, ensemble skills, improvisational skills, knowledge of performing traditions, technological developments in music, and research—to which all participants in Project Polifonia agreed. Consideration of Polifonia is an ideal lead-in to our third chapter of learning from the Bologna Process, a very different conception of credits.

What Can We Learn? Part III:

The European Credit Transfer System (ECTS), a Very Different kind of Currency

Credit systems existed in a number of countries, e.g. Scotland, Spain, Sweden, Finland and the Netherlands before Bologna, though based on different units of analysis. The European Credit Transfer System (ECTS) was in use broadly in the 1990s, but only for purposes of transfer for students from one country studying in another country under the rubrics of the ERASMUS student mobility programs. In general, ECTS was not used for purposes of credit *accumulation* until Bologna. While some of the pre-Bologna credit systems are still in use, all of them translate their metrics into ECTS.

In its original formulation under Bologna, there are three components to the assignment of ECTS credits: student workload, learning outcomes, and grades. That combination has proven to be a difficult brew, and, in practice, student workload dominates. The ECTS system begins with a very different orientation from that used in the U.S. We base our credit assignments on faculty contact hours, with the assumption that in relation to each faculty contact hour, the student engages in other types of learning activities. ECTS uses the *student* as the primary reference point, asks how many hours the student must spend to accomplish the various tasks in a course module, and converts the total to credits. If executed faithfully, this approach requires faculty to detail each learning activity in a course and estimate the number of hours the average student would require to complete that activity successfully. While European faculty tend to be more mechanical than analytical in their assignment of credits, the essay provides illustrative cases, along with reports of empirical—versus estimated—student time-on-task. The more critical issue is how to connect workload and learning outcomes so that the credit system becomes part of the qualifications framework in a persuasive and substantive manner.

The essay describes two approaches to this objective, both based on the ratchet principle:

- At the University of Uppsala in Sweden, where 20 (Swedish) credit blocks are defined by ever more challenging topics and methodologies, a principle extended to the Master's degree level.
- In the UK and Scotland, which developed 9 "credit levels," each of which carries a generic description, independent of discipline but that can be applied to all disciplines. As one moves up the credit levels, the descriptions clearly mark expansion of scope and challenge of tasks. Degree qualifications can then be set in terms of minimums at each credit level, e.g. 40 percent of credits at level 6, 65 percent of credits at levels 5 and 6.

A credit system based on student workload (and level of challenge) inevitably results in curriculum reform. Faculty rethink what is compulsory and what is optional, what is pre-requisite, what is duplicative, and what can be delivered in different modes. As the leaders of Project Polifonia point out, a student workload-based credit system forces faculty to reflect on what they demand of students, and, "as a result, it turns our attention from teaching to learning." That, in itself, is a salutary change.

What Can We Learn?, Part IV: Different Routes to Access and Participation

Our interest in the Bologna degree cycles is not to evaluate their comparability to U.S. degrees, or to explore the conditions of eligibility of European graduates for admission to different graduate programs in the United States. What should be of greater relevance to U.S. audiences are the ways in which other elements of the Bologna Process portfolio are brought into relief by the cycles, and the range of interactions between higher education and economy that the Bologna cycles open up.

Reflection on the degree cycles also brings the "social dimension" of the Bologna action portfolio onto the stage. "Social dimension" is a code not merely for increasing access to higher education for under-served populations, but for increasing participation on the paths that lead to first and second cycle degrees by creating and improving connecting routes from points outside the formal higher education system. The "social dimension" is not a reflex matter of reaching isolated rural populations, students with disabilities, children of immigrants, and working-class adults: it is a matter of *how* one establishes connecting routes into the higher education system for these populations. There are three ways these connections play out and the universe of participants on degree paths expanded:

- The growth of short-cycle degrees within the first cycle,
- The growth and treatment of the part-time student populations, and
- Procedures for the recognition of prior learning in both formal and non-formal settings.

All these developments—along with bridge programs for students crossing from occupational to academic paths or from first to second cycle programs—have a notable impact on our assessment of the time it takes to earn credentials. All of these are detailed in the essay, with particular attention to the evidence that they promote increased access and participation. The verdicts:

- Because they are offered by institutions that also award Bachelor's degrees or that are formally allied to bachelor's degree-granting institutions, the short-cycle degrees are successful at moving their students into bachelor's programs, but as other routes into higher education have contracted, there is a net wash on access rates;
- The expansion of part-time status has increased access, particularly among older beginning students and students from rural areas, but has not necessarily increased completion rates, though we witness some very creative approaches to this objective in Scotland (University of Aberdeen) and Sweden; and
- Using recognition of prior learning to expand participation in higher education is problematic, though the evidence suggests that it helps those who previously participated and those who can use their occupational base as the source for documenting learning.

What Can We Learn? Part V: The Diploma Supplement

After qualification frameworks, Tuning, credits and their levels, and pathways into and through degree cycles, what evidence of learning and attainment does the student graduate carry forward into the world, and how is that evidence communicated? After all, isn't there a graduation ceremony at which a single piece of paper on which a degree is officially recorded, stamped, and surrounded by ancient heraldic symbols presented to the student? Isn't that enough? Not in an undertaking such as the Bologna Process. Another document, both personal and public, is called for, one that functions as an assurance.

Our European colleagues had an attractive idea in the Diploma Supplement, to wit: the piece of paper called the diploma says nothing about the institution and very little about the student, yet we place an enormous trust in its symbolic power; so something else is needed. The national system needs that something else to verify its responsibility and oversight of the credential

awarded within its borders. The institution needs that something else to reinforce the legitimacy of its programs. Most of all, though, the student needs that something else to tell the story of his or her unique achievement, and enable international mobility for purposes of further study or work. It is a matter of certified and transparent evidence, conveyed in a concise and direct manner. But as one reads through examples of Diploma Supplements from a range of countries, only one of the three parties to the document, the national system, is well served. The attractive idea needs some serious revisions in practice, and this is a case in which a U.S. version of the Diploma Supplement can help clarify what is at issue. This essay outlines just such a U.S. Diploma Supplement, and hopes that our European colleagues will be more than intrigued.

Summary Reinforcement of the Story-Lines

Our primary story is about providing students with clear indications of what their paths through higher education look like, what levels of knowledge and skills will qualify them for degree awards, and what their degrees mean. These are road signs that are sorely lacking now. Student “success” does not mean merely that you have been awarded a degree, but that you have learned something substantial along the way and that the world knows what you have learned, what skills you have mastered, and that you have the momentum to meet the rising knowledge content of the global economy. This public evidence does not derive from administering a test to a sample of students to prove that an institution “adds value” to something that, at best, is indirectly taught. If your discipline, institution, and system have all established and publicly promulgated clear and discrete criteria for learning and thresholds of performance, that evidence, in itself, creates a powerful endorsement. When backed by a Diploma Supplement, you have a public warrantee.

For U.S. public policymakers, the primary message to students translates into worrying less about how many pieces of paper we pass out, how many credits qualify someone for those pieces of paper, and how long it takes a highly mobile student population to arrive in a graduation line, and more about the knowledge, the application of knowledge, the information identification and retrieval skills, and the degree of learning autonomy students acquire and take with them into economic and community life. That’s something for U.S. policy makers and academic leaders of the “get-it-over-with-and-get-it-over-with-fast” school (who then complain about what graduates don’t know or can’t do, and for whom persisting part-time students are a paradoxical anathema), should think *very* seriously about.

We also argue that the development of the road signs of qualification frameworks, revisions of the way the credit currency is established, and meaningful public documentation of learning—all of which have been demonstrated by the Bologna Process—would have a reconstructive effect on state systems and individual institutions in the United States. Some of our colleges, community colleges, and universities will say that they already engage in some of the practices

evident in the Bologna reconstruction. We certainly can point to the exemplary. But we do not engage in these exemplary practices systematically, and we do not engage in them to scale.

Our European colleagues might say that there are missing elements and missing points of elaboration in the story line. The most important of these are (a) the establishment of Quality Assurance systems both within and across nations, (b) a parallel process and reform of vocational education in Europe that extends to postsecondary levels and the intersection of its reformed credit system with that of ECTS, and (c) the goal of making the European Higher Education Area a more attractive learning destination for students from other countries (a goal known as “the external dimension”). To these the author would certainly add the complexifying features of the language landscape within which the Bologna Process has unfolded. All these issues will be taken up in a longer research monograph that expands this presentation. For the time being, the number of branches on the tree of argument is purposefully limited.

Nations outside “the Bologna Process 46” have studied and begun to adapt some of the core features of the European reconstruction. They do so not to imitate, but to improve within their own traditions. In so doing, they link themselves to an emerging paradigm where the smart money is on cooperation and conversation. Joining the conversation is not such a bad idea.

**The Bologna Club:
What U.S. Higher Education Can Learn from a Decade of European Reconstruction**

1. Introduction

The global economy changed a while ago. We all know it. U.S. corporations and organizations conduct core business and operations (and not merely marketing and sales) in other countries. Foreign corporations and organizations reciprocate in the United States. Ownership obviously knows no borders. Physical location has given way to cyber-location. Yes, physical goods (from aircraft to apricots) move from place to place; yes, retail and personal care services are local. But knowledge services know no place, and knowledge services determine what quantities of what physical goods will move from here to there, determine what qualities of human life can and will be enhanced, determine what materials and processes will be discovered, shaped, and adopted in the rhythms of life. These knowledge services, and every facet of their distribution, draw up the level of learning across populations everywhere. Culture and language ensure that the world is not flat, but in the matter of knowledge it is, and the world's knowledge content is rising.

And so the world is learning more—or appears to be learning more. It is not surprising, nor should it be disappointing. The level of learning which we judge adequate to participate in knowledge services (from creation to management) begins after students pass through the various structures known as secondary education. Crossing that border, nation states deliver—and make room for others to deliver—courses of study (in a variety of forms, structures, and processes) that culminate in the award of higher credentials. The rates at which populations enter postsecondary education (called “tertiary education” in many countries) and complete these credentials are used as proxies for learning.

But it ain't necessarily so, and nowhere in recent years have public authorities, academic leaders, faculties, and students wrestled more with the knots of credentials and learning than in the old nations of Europe, “from Cork to Vladivostok,” as they put it (stretching the continent a bit).

This report-essay brings to a broad academic, policy-making, and general audience in the United States:

- The most important core features of the reconstruction of higher education across 46 countries on the European continent known as the Bologna Process. Twenty nine of these countries have been involved since the Bologna Declaration was signed by education ministers in 1999, with others joining the effort at later dates. The original timetable called for all the provisions of the Declaration to be implemented by 2010, but subsequent experience, inevitable

inertia and resistance, new provisions, and additional partners have pushed back the realization of objectives probably by a decade. In terms reaching across geography and languages, let alone in terms of turning ancient higher education systems on their heads, the Bologna Process is the most far reaching and ambitious reform of higher education ever undertaken. It is still a work in progress, but as it has attracted both considerable attention and imitation of some of its features by former colonial countries in Latin America, Africa, and Australasia, it has sufficient momentum to become the dominant global higher education model within the next two decades.

- Highlights of what European higher education authorities, academic leaders, faculty, and students have accomplished and learned in the course of their efforts, particularly in the challenging matters of student learning outcomes (set in what are called “qualification frameworks”), the relationship of these frameworks to credits and curriculum reform, and the reflection of all of this in the documentation of student attainment called “Diploma Supplements.” These highlights help clarify what Bologna is and what it is not. They have been selected because they are extraordinarily relevant to challenges that face U.S. higher education, and this document urges us to learn something from beyond our own borders that just might help us rethink our higher education enterprise.

Based on what we can learn from the experience of our European colleagues, this report makes some very concrete suggestions for change across the U.S. higher education system, all of them following a student-centered story line of accountability, including

- Developing detailed and public degree qualification frameworks for state higher education systems, and, for all institutions, in students’ major fields;
- Revising the reference points and terms of our credit system;
- Introducing a new class of intermediate credentials;
- Expanding dual-admission “alliances” between community colleges and four-year institutions;
- Developing and expanding “bridge” access programs between stages of higher education;
- Refining our definition and treatment of part-time students; and
- Developing a distinctive version of a diploma supplement that summarizes individual student achievement.

That is a tall order for an essay of this length and style, and might have been taller had we sought a complete review and analysis of Bologna along with an account of the status of access, participation, internal and cross-border mobility, financing, and governance of higher education systems in the 46 participating countries. Those are subjects for another day—in fact, for many other days, and principally by the hands of scholars in the participating countries.

Behind this document—and for those who are interested in more detail—we provide:

- A longer, more formal research-oriented monograph, with conventional citations, covering a slightly expanded territory, and
- An information resources library of some 500 documents gathered and either reviewed, read, scanned, and/or translated in the course of this project, and organized in 25 topical bins.

The information resources library will be posted on the Institute for Higher Education Policy Web site's "Global Performance Initiative" silo at www.ihep.org/Research/GlobalPerformance.cfm in July 2008. The research monograph will follow, on the same Web site, after review by European colleagues is completed in September. Prior to that time, a shorter, more policy-oriented version of this document will be published and distributed by the Institute for Higher Education Policy and the sponsor of this project, the Lumina Foundation for Education.

Sources of Information

As noted, 46 countries are participating—to a greater or lesser extent—in the Bologna Process, some of them prior to its plenary event in 1999. There is an enormous amount of information available to the Web researcher, principally from:

- The Bologna Process committees and Follow-Up Groups,
- European University Association's *Trends* reports (there have been five of these), and the *Stocktaking* reports (sponsored by the European Commission, and now bi-annual),
- The European Students Union's, *Bologna Through Student Eyes* (bi-annual),
- Annual Bologna progress reports submitted by each participating country,

and from individual Ministries and their statistical arms, national associations (e.g. Rectors' Conferences), transnational organizations such as the European University Association, research centers (e.g. CHEPS in the Netherlands, CIPES in Portugal, CHE in Germany), transnational surveys ("Eurostudents" and "Eurobarometers"), and individual institutions of higher education themselves. While this essay will cite a few statistics and provide some reflections on the current state of European data on higher education, the major topic of comparative international data on higher education participation and attainment will be addressed in a second report from the Institute for Higher Education Policy's Global Performance project early in 2009.

In addition to a substantial selection of this Web-based information (both in English,¹ and translated from Dutch, French, German, Polish, Portuguese, Spanish, and Swedish documents), the background for this essay included

- Interviews and discussions with faculty and administrators in institutions of higher education, research institutes, ministries, and national higher education organizations in a selection of Bologna-participating countries: Austria, France, Germany, the Netherlands, Scotland (whose higher education authority is separate from that for the rest of the United Kingdom), Slovenia, and Sweden.
- E-mail interviews and document exchanges with ministries and research centers in Portugal and Poland.
- Participation in forums and seminars devoted to Bologna Process issues of the Academic Cooperation Association in Brussels, and the European Association for Institutional Research, and follow-up exchanges and assistance from attendees and presenters from Denmark, Norway, Spain, Switzerland, and the United Kingdom.

Other Bologna-participating countries should not feel slighted by the list: it is what we were able to accomplish in a condensed and intense effort between June 2007 and February 2008.

Appendix A lists the individuals (and their organizational affiliations) who so generously gave of their time, efforts, and wisdom to enlighten this undertaking. We hope our readers join us in gratitude.

1.1 Bologna: What is it, and Where Did it Come From?

In our view, the Bologna Process came about as a delayed by-product of European integration in its third phase. That integration started with economics in what we once called the Common Market (technically, the European Economic Community, or EEC, born in the merged governance of the steel and coal industries in 1950), moved to political tasks of reconciliation and development with the fall of the Berlin Wall, then back to economics with the Maastricht Treaty of 1992 and its establishment of the European Monetary Union under the eventual flag of the Euro. Though the treaty didn't have much to say about higher education, it recognized that the European economy was knowledge-based and hence fed by the system that generates and distributes knowledge. That recognition led to considerable improvements in the education systems of countries whose industries and finances were already interlocked, and to the

¹The reader should note that when documents in English are quoted, the original European English spellings are used, e.g. "specialised" (for specialized), "competences" (for competencies), "programme" (for program), etc.

importance of recognizing shared history and culture. Given the timing of efforts spinning out of this recognition in the late 1990s, a period of notable bloodshed in the Balkans, the Bologna Process explicitly acknowledged a peace-motivation in intensifying European integration through education reform. In this reading, educational cooperation and enhanced cross-border mobility of students and faculty were seen as an inoculation against spreading tensions. The existing student mobility programs (e.g. ERASMUS) could not, in themselves, be turned into a broader structure of reform, and no pan-European organization had the legal authority to impose reform.

It is important for U.S. readers to be reminded that the European Union does not cover all the countries in Europe (there are 27 countries in the EU in 2007; there were 15 at the time of the Bologna Declaration in 1999), and that the Euro is a dominant, but not universal, currency. Despite considerable variance in language and culture (which remains, as it should), Europe began to resemble a quasi-federal arrangement: a set of states with no economic borders yet a common workforce that was ironically stuck behind political borders because these countries, united in other ways, and despite agreements, did not yet fully recognize—or even understand—their neighbors’ education credentials. In order to recognize credentials across borders and thus to provide mobility for the advanced knowledge workforce, some convergence of education practices and standards was called for, and broad consensus sought at the European level. Bologna offered national systems of higher education the opportunity to join a “club” exercising similar (though not identical) forms of educational development.² Eventually, they all joined, though with varying degrees of enthusiasm. It was the only game in town, so to speak. And its members now include 4,000 institutions of higher education and 16 million students, an enterprise comparable to the size and scope of higher education in the United States.

Looking backward, one can identify a number of steps toward this convergence, each of which is named for the setting in which the meeting of the minds took place:

- **The Lisbon Recognition Convention** of 1997, at which, under the aegis of UNESCO, 29 European countries agreed to a set of principles for mutual recognition of education credentials, from grade school to graduate school, and articulated eight (8) broad levels on which these credentials should sit. A total of 39 countries have ratified the agreement as of 2007.
- **The Sorbonne Declaration** of 1998, at which the education ministers of the four largest countries in the European Union (France, Germany, Italy, and the United Kingdom) agreed to design and lead a broad and cooperative reconstruction of the basic terms of

²Under the economic theory of “convergence clubs,” Bologna is a form of technology transfer that brings nations from different platforms of educational development to a point of embracing similar paradigms.

higher education to create a common European degree structure, to remove barriers to cross-national mobility, and to take advantage of the potential of university systems across the Continent. In its rhetoric of frameworks, cycles, credits, flexibility, shared culture, and transparent “readability” of processes and standards, the Sorbonne Declaration contains all the seeds of Bologna.

- **The Bologna Declaration** itself in 1999, in which 29 countries’ ministers of education agreed to a process that would bring their higher education systems into greater harmony and transparency in matters of degree cycles, quality assurance practices, and credit mechanisms so as to realize mutual recognition of course work and degrees and hence enable their students to move more easily through the borderless economic landscape of Europe. Such actions, they reasoned, would create a European Higher Education Area that would also be attractive to students from other continents. The ministers set a goal of completing all the revisions to existing systems so that they were singing in the same key—though not necessarily with the same melodic line—by 2010. It is important to note that the Bologna Declaration was a ministerial level statement—with no legal obligations attached—and that each country’s national legislature subsequently could choose to revise the laws and regulations under which its higher education system operated so as to realize the objectives agreed to. Some of these legislative revisions did not occur until 2005 (Poland) or 2006 (Sweden); and some have yet to take place.³ The ministers agreed to meet every other year to review progress, evaluate and adjust the dimensions and boundaries of the core processes, add new emphases, and welcome new partners. These meetings have taken place in Prague (2001), Berlin (2003), Bergen (2005), and London (2007). The next meeting is scheduled for Leuven and Louvain, Belgium in 2009.
- **The Lisbon Strategy** of 2000—not part of the Bologna Process, but intersecting it. The second trip to Lisbon was like the first in that its purposes transcended higher education. Think of it as 15 countries that then constituted the European Union, in the face of declining economic clout, setting out a strategy for lifelong learning and workforce development so that their aging labor forces could be renewed and Europe become, also by 2010, “the most competitive and the most dynamic knowledge-based economy in the world.”⁴ While the lifelong learning objectives of Lisbon 2000 intersect those of

³For a spreadsheet prepared by Aditi Banerjee (former policy intern at the Institute for Higher Education Policy), including the major recent higher education legislation in each participating country, click on www.ihep.org/assets/files/countrystatus2007.pdf

⁴Using a combination of higher education attainment and such factors as corporate investment in R&D, creativity of scientific community, and internet penetration rates, the World Economic Forum’s 2004–05 “competitiveness” rankings placed the then 25 countries of the EU, collectively, on the 15th rung. The U.S. was ranked second, something you usually don’t hear about in the complaints about our slippage in the world.

the Bologna Process, the Lisbon agenda placed major emphases on innovations in economic, environmental and social development that go well beyond the role of formal education in their respective societies. In matters of education, the Lisbon Strategy focused not on higher education, rather on reducing school drop-out rates, increasing upper secondary school graduation rates, and improving literacy levels among teenagers. Sound familiar? As in the case of Bologna, the 2010 target is not likely to be met, but much is being learned along the way.

- **In Prague** (2001), and following the Lisbon 2000 example, lifelong learning was added to the major policy themes of Bologna, and students, a core stakeholder group, were solicited to participate on the committees and in the processes of reshaping higher education (we will note that student groups enthusiastically took up this invitation). Students urged the inclusion of a “social dimensions” component of the Bologna agenda, though that took time to develop. The import of Bologna had now filtered through governments, academic authorities, and faculties, so this was a process with momentum.
- **In Berlin** (2003). If the Prague meeting was largely a “let’s see where we are” discussion, the Berlin Communique was more specific with respect to expansion of the existing “action lines” of the Bologna Process. Establishing compatible qualifications frameworks for degrees at both European and national levels became a core tool. The general outlines of a Qualifications Framework for the European Higher Education Area were agreed to, and sent off to committees for elaboration. The two-cycle degree (undergraduate/graduate) of the original declaration became three (a Bachelor’s/Master’s core, plus doctoral education—in order not to lose the connection between higher education and research). With these changes, the objectives of degree recognition and mobility of students across borders were fortified. Lifelong learning, and system flexibility to accommodate it, was reenforced as a goal of the process, and more vigilant quality assurance (what we call accreditation processes, but in Europe a far more reaching practice) was highlighted.
- **In Bergen** (2005) the most significant additions to the portfolio of Bologna objectives were focused on the development and recognition of joint degrees (involving institutions from more than one country), the reinforcement of the flexibility theme, and the establishment of procedures for the assessment and recognition of prior learning (something we do in our external degree institutions such as Empire State in New York, Charter Oak in Connecticut, and Thomas Edison in New Jersey, and for which Europeans give us great credit). The Bergen meeting also witnessed the full articulation of the “social dimensions” theme of the Bologna Process, that is, enhanced attention to students from disadvantaged groups. While each country has its own definition of “disadvantaged groups,” the most common features of the European definitions include

geographically isolated (principally rural) populations, students with disabilities, children of immigrants, and children of the working class.

- **In London** (2007), the ministers took action to bolster standards in accreditation and quality assurance by endorsing the establishment of a formal “register” of Quality Assurance Agencies (now a reality), spent considerable energy on steps to promote the attractiveness of the European Higher Education Area in a global market, and pushed lagging member countries to complete their national qualification frameworks. While pressing forward on the portfolio of objectives initially targeted for completion by 2010, there was no doubt in the official communiqués following the London meeting that these developments would continue well beyond 2010, and that considerable improvement in data systems for tracking and reporting student academic histories is necessary to mark progress and change across all the reform lines of Bologna.

Along the way, associations of universities, disciplinary and professional associations, conferences of higher education administrators, student organizations, and other stakeholder groups have held hundreds of meetings and seminars and have issued even more hundreds of declarations, studies, reports, and proposals that have fed, modified, and expanded the evolution of the original Bologna design. Everybody has had something to say and contribute.

1.2 Background for Judging What We Are Looking At

Types of Institutions of Higher Education (IHEs)

No matter how each European higher education system presents itself, there are basically four kinds of public institutions in play on the field of what is known, internationally, as “tertiary” education:

- Universities, which award doctoral degrees, conduct research as a core activity, and offer programs in traditional academic fields, some occupationally-oriented fields (e.g. business), and those fields which are regulated by licensure or certification requirements (e.g. Law, Medicine, Engineering, Architecture).
- Occupationally-oriented institutions, which do not offer doctoral degrees, do not conduct research as a core activity, do not usually offer degrees in traditional academic fields, rather offer Bachelor’s and Master’s degrees in fields such as tourism and hospitality management, biotechnology, design, management information systems, social work, and some of the regulated professional fields. When a system includes these institutions as a distinct class, it is called a “binary system.” These institutions are sometimes termed “polytechnics” (Portugal), *högskolen* (Sweden), *Fachhochschulen* (Germany and Austria), *hogescholen* (the Netherlands), and Institutes of Technology

(Ireland). This essay will use the European label, “of applied sciences,” to describe these institutions. Indeed, we have hundreds of them in the U.S., colleges in which the vast majority of enrollments and degrees are in occupationally-oriented fields and in which the Master’s degree is the highest offering.

- Free-standing specialty institutions, many of which offer Master’s and doctoral degrees, and some of which offer *only* Master’s and doctoral degrees (e.g. the 18 *grands établissements* in France). There are free standing medical schools (e.g. Innsbruck in Austria), degree-granting music conservatories (e.g. the Royal Academy of Music in Stockholm), and institutes of fine arts, dance, and theater (more prominent on the European landscape than in the U.S.). Most (but not all) of the institutions specializing in the fine, performing, and applied arts are on the “south side” of the binary line, so to speak, i.e. they are classified with the polytechnics, the *hogescholen* and other “applied science” institutions (even though they are specialized).
- Institutions offering programs that can overlap the lower levels of tertiary education and the upper levels of secondary education. “Further Education” institutions in England and Scotland illustrate this phenomenon, as do the *Ciclos Superiores* in Spain. While designed for what we would call continuing education and with no admissions requirements, they award certificates and diplomas that, with assessment, allow students to transfer into universities in ways analogous to those in which our community college students move into four-year institutions.

A European national higher education system can call itself “unitary” (as opposed to “binary”), and still contain all four types of schools—and some include hybrid institutions that span upper secondary/postsecondary/university levels (found principally in the UK, though the German *Berufsakademien*, originally postsecondary vocational schools, but now with Bachelor’s degree programs offered on contract with specific employers on a cooperative education model, also illustrate this phenomenon). Some disciplines and programs are offered in more than one type of institution, depending on national system. The education of teachers for elementary and secondary schools is a prime example. What we in the U.S. would describe as liberal arts colleges, awarding only Bachelor’s degrees in arts and sciences fields, are very rare in Europe.⁵

Where private institutions have entered the tertiary domain (principally as for-profit institutions in Eastern Europe, and in Portugal, where their share of enrollments is shrinking), the typology of institutions becomes more complex. But private higher education is otherwise a minor phenomenon in Bologna territory.

⁵The three “university colleges” in the Netherlands (at Utrecht, Roosevelt Academy, and Maastricht), targeting foreign students and domestic students from international and bilingual secondary schools, represent an acknowledged revival of classic arts and sciences education. With support from the European Commission, this core group of institutions in the Netherlands is planning an expansion to a European network of similar schools.

European education also includes non degree-granting vocational trade schools comparable to those in the U.S. that offer certificates. While we classify these institutions as “postsecondary,” they are not considered “tertiary” education in Europe, and are not part of the Bologna universe.

Student Paths and Demographics

In many European systems of primary and secondary education, students need a Global Positioning Device just to figure out where they are sitting. There are lower secondary schools and upper secondary schools, and multiple types of each, with vocational pathways, general pathways, and academic pathways running through them. Connections between paths are sometimes possible, sometimes not. We would call this a tracking system, but to an outside observer, the diagrams of these tracks bear some resemblance to Jackson Pollock’s fractal paintings: ultimately there is a different kind of order in apparent chaos, but it takes concentration to determine where that order lies.

In most of the 46 Bologna countries, the principal route to entering degree-granting institutions is determined by high school leaving examinations or university entrance examinations. The best known of these to U.S. audiences are the A-levels in the United Kingdom, the *Baccalaureate* in France, and the *Abitur* in Germany (though each of the 16 German states—or *Länder*—has its own version of the *Abitur*). In general, for traditional-age students coming out of upper secondary schools, pass the exam(s) and you can enter either universities or applied science institutions. There are variations in which secondary school grade point average is weighted more heavily than the examination (e.g. Portugal, where the admissions process is centralized), or in which the examination score becomes part of the student’s grade point average, hence, where one’s choice is thus limited by performance (Germany). And there are other cases, e.g. the Czech Republic, where admission itself is limited by the capacity of the system (some 40 percent of applicants in the Czech Republic are rejected on those grounds).

Since, in most European systems, you enter a specific major program (e.g. anthropology, business, mechanical engineering), you may encounter a cap on enrollment in your preferred field. Depending on country and field, admission to that program may be determined by exam score and/or lottery (or, in the UK, by something called “tariff points,” the explanation of which is best set aside). Medicine is always a case of selection or combination of selection and lottery; music requires an audition; fine arts, a portfolio. For applied science institutions, labor market conditions and projections may also determine caps, and programs such as Tourism and Hospitality Management are usually designed and adjusted on the basis of feedback of representatives and experts from the industry in question. In all this, and contrary to conventional wisdom in the U.S., students in Europe can change majors (in some countries and universities more easily than others): Gillian Mackintosh, Deputy Academic Registrar of Aberdeen University in Scotland reports a 40 percent change of major rate among undergraduates (in the U.S., it’s about 50 percent, i.e. there is not much difference).

There are other routes into the higher education systems of Europe, and the Bologna Process has inspired countries to develop multiple paths, e.g. from vocational secondary schools to applied science institutions of higher education, and for older beginning students, through recognition of prior learning in non-formal settings and bridge programs (we will talk about these options later in the essay). This inspiration emerges from both the flexibility objectives of Bologna and its increasing emphasis on the “social dimension” of participation in higher education, i.e. increasing access.

The average age at which students enter higher education varies from 19 (UK and France) to 23 (Finland). In Germany and Austria, 18 year-old males are required to perform six to 12 months of either military or civil service, and that obviously delays entrance to higher education.⁶ It will not surprise U.S. readers that the age distribution of European students is older in the applied science institutions and among part-timers. Some demographics are universal.

Status of European Systems Prior to Bologna

Not everybody started from the same pole position to realize the initial and evolving objectives of the Bologna Process, and some countries’ higher education systems had undergone dramatic changes of their own in the 1990s, to wit:

- Finland expanded its higher education system by a *third*, creating a new sector of 11 polytechnic institutions known as AMKs. For the U.S. to engage in a similar expansion would require the creation of about 600 new bachelor’s degree-granting schools, and the addition of 3 million undergraduate students.
- Poland saw the birth of 300 private institutions of higher education between 1990 and 2001, with enrollment in this sector growing from 29 thousand to nearly 600 thousand (roughly 30 percent of total higher education enrollments) in that period. Some of these institutions were small; some were very specialized; many were located in comparatively isolated areas of the country.

Less dramatic experiments and steps toward what became Bologna ideals were underway in other countries⁷ and in professional disciplines. Most of these might have withered without the visible direction, broad stakeholder involvement, and ferment of Bologna dynamics. The 2005

⁶The average age of entry in Germany will fall after 2012, as the pre-college system moves from 13 years to 12. What otherwise might have been a decline in the entering postsecondary population due to a flattening of the baby boom curve will remain stable to 2020.

⁷Starting in 1998, Germany, for example, set up the structures and labels for what became the Bologna Bachelor’s and Master’s degrees, but left it up to individual institutions to add these to the existing system.

evaluation of the Scottish Credit and Qualifications Framework introduced in 2001 used the concept of “additionality” to highlight this phenomenon. That is, we should always be asking the extent to which Bologna added to what was already happening, and whether it matters that participants knew all the details of Bologna if they were already living analogues to those details. For national systems that were “stuck,” as Jurgen Enders of the Center for Higher Education Policy Studies in the Netherlands noted, Bologna was “an icebreaker, a discourse” that created educational realities within “an acceptable range of difference.” In this broader discourse, Bologna played a facilitative role—not the cause or origin but the platform for innovation.

Special consideration of large scale changes should be marked for countries in the former sphere of the former Soviet Union. As Pavel Zgaga of the University of Ljubljana in Slovenia remarked, “when the dictator disappears, everything becomes problematic.” That is, students and faculty moved from a position in which everything was decided for them by a central authority to one in which nothing was pre-determined. Whole societies were walking around in a daze after the dissolution of the Iron Curtain in 1989, seeking to find their footing amidst vacuums of organization and protocols. New institutions and rules had to be created, and higher education was swept up in the dynamics of this environment.

Credit systems existed in a number of countries, e.g. Scotland, Spain, Sweden, Finland and the Netherlands before Bologna, though based on different units of analysis (e.g. Spanish credits were based on faculty teaching hours, not student effort hours; Finnish credits were based on a “study week,” not hours). The European Credit Transfer System (ECTS) was in use broadly in the 1990s, but only for purposes of transfer for students from one country studying in another country under the rubrics of the ERASMUS student mobility programs. In general, ECTS was not used for purposes of credit *accumulation* until Bologna. While some of the pre-Bologna credit systems are still in use, all of them translate their metrics into ECTS.⁸ That credits are attached to courses with set subject boundaries is second nature to the U.S. system, but the classical model of European university education was not presented in course modules with taxonomies, prerequisites, credits, and sequences. With the advent of Bologna, everything is modularized, but only two-thirds of higher education institutions had adopted ECTS as an accumulation currency as of 2006, even though ECTS is one of the pillars of the European Higher Education Area.

1.3 Degree Cycles and Other Factors of the Bologna Landscape

One of the more prominent features of the Bologna Process portfolio was the agreement of participants to move from an oftentimes incomprehensible melange of degrees to a familiar and

⁸One notable exception is that of the UK, which is in process of finalizing its own credit system, and will subsequently confront articulation between that system and ECTS.

common three-degree hierarchy (Bachelor's, Master's, and Doctorate). Most of the U.S. commentary on the Bologna Process to date has been concerned with assessing these new degree-cycles, particularly for the benefit of U.S. graduate school deans and departmental admissions committees evaluating the qualifications of European university graduates for entrance to doctoral and graduate professional programs here.⁹ The interest of this essay in degree-cycles and particular degree programs is driven by other considerations. The reader will notice attention to:

- The Master's degree because it may well become the standard for classic university completion in European countries (in Switzerland, for example, 90 percent of students earning the new 3-year Bachelor's degree in 2005/06 continued to the new 2-year Master's degree), and because of an explosion of new Master's degree programs offered in English across the European landscape as a mechanism of attracting students from other countries (e.g. China and India) to European universities. Quite frankly, the author did not anticipate that the Master's degree would turn out to be as important in this analysis.¹⁰
- Degree programs in medicine as representative of professional/licensure-oriented courses of study that show some intriguing departures in traditional form, and, more significantly, evidence changes in curriculum that are revealing of what an atmosphere of reform can encourage.
- Degree programs in the performing arts, particularly music, because they offer the best illustration of how qualification frameworks can be established and directly connected to the assignment of credits. The performing arts are probably more transparent than other disciplinary areas when it comes to articulating what students should be able to demonstrate and at what level of competence, for determining how much time it takes students to prepare for that demonstration, and for translating that time into credits. The music programs of Europe organized themselves in Project Polifonia to spell out guidelines for this process, and we will visit that project—more than once—later in this essay.
- What Europeans call “short-cycle” degrees, analogous to what we call Associate's degrees, except delivered principally by institutions that also offer Bachelor's and Master's degrees, and not principally, as in the U.S., by a separate class of sub-baccalaureate institutions (community colleges). Some of these credentials have been around for a while (for example, the two-year diplomas offered by the French IUTs), others (for example, the UK's Foundation degrees) are relatively recent phenomena, and still others (the Netherlands'

⁹The online *World Education News and Reviews* regularly presents portraits of country education systems, including their adaptations to the Bologna Process, and the National Association of Foreign Student Advisors provides advice to members on the changed features of European students coming to the United States for study.

¹⁰Doctoral degrees, however, are not considered in this essay.

Associate Degrees) are in a trial phase. Under Bologna, they become part of a new landscape of connecting credentials, providing alternative routes into the higher education world.

Apart from degree-related issues, this essay pays notable attention to part-time status because it is a key mechanism of flexibility, one of the ways in which more students can participate in higher education more effectively. Increasing flexibility is one of the goals of Bologna, particularly after the visibility of lifelong learning was enhanced in 2003. Yet when one looks across the national higher education systems, part-time status is a phenomenon in and out of the shadows. It is very prominent in the United Kingdom (and historically so). Some 53 percent of Poland's public institution students are now part-time, as are 71 percent of its private institution students. The German central ministry does not track the volume of part-time students, but some universities and *Fachhochschulen* have separate provisions for part-time. Sweden has a separate track for students taking one course at a time (*kursstudenter*) who constitute about 25 percent of all undergraduates. There are differences, too, in the definition of part-time and in part-time students' financing of their higher education. At the University of Karlsruhe in Germany, for example, part-time means half-time, with the students paying tuition on a per-course basis. In Poland, part-time means less than 80 percent time but more than 60 percent, and all part-time students pay tuition (whereas full-time students do not).¹¹ In contrast, low-income and unemployed students in Scotland who are studying for first degrees and whose programs total less than 16 hours/week of classes receive fee waivers.

Other Bologna topics will be treated in the research monograph version of this essay to be released later in 2008. This essay sticks to a story-line that is most relevant to U.S. higher education, and keeps its primary focus on the student's encounter with the content of degree programs.

Indeed, our European colleagues have sought to do right by the student by reinvigorating the most basic and common role of institutions of higher education in every society and economy on this globe: the distribution of knowledge and development of skills to apply that knowledge. Some institutions also generate and exploit knowledge; some also preserve knowledge. But all of them distribute and develop—which means that content counts. Passing out degrees without content and performance means nothing. That's a clear message at every level of the Bologna Process, and it starts with what are called "qualification frameworks."

The core elements of the Bologna Process are tightly intertwined. It is very difficult to pry them out, one by one—

¹¹ Data on part-time students in Poland are drawn from Dąbrowa-Szeffler, M. and Jabłocka-Pryślopka, J. 2006. *OECD Thematic Review of Tertiary Education: Country Background Report for Poland*, p. 25.

- qualification frameworks, both pan-European and national;
- “Tuning” curriculum and performance criteria at the level of the disciplines;
- the European credit system; and
- documentation of student attainment in Diploma Supplements

—and treat them in isolation. Yet, for U.S. readers, that may be the best strategy. So we begin where we should—at a macro level.

2. The Core of Bologna, Part I: Qualification Frameworks

What does each level of degree we award (associate’s, bachelor’s, master’s, doctoral) mean? What does it represent in terms of student learning? What does a degree in a particular field at each of those levels mean, and what does it represent in terms of student learning? These sound like common sense questions that have obvious and public answers. But obvious and public answers are not easily available, and that’s what some of our recent arguments about accountability in the U.S. have been about. Furthermore, the U.S. arguments tend to stagnate on process issues, whereas, under Bologna, these questions are about content. At their meeting in Berlin in 2003, the European Education Ministers were very clear about the conceptual elements with which degrees should be described: learning outcomes, level of challenge, “competences,” and student workload. Our first guidance for answering these questions, as we will see, can best be found in the struggles of our European colleagues to create “qualification frameworks.”

There are four (4) strata of qualification frameworks in different stages of development in the European Higher Education Area¹². Only one, the most general, has been universally agreed to and promulgated; the others are in process, though the most specific of these has evidenced the greatest advance and is the level from which we will take most of our lessons for the United States.

- The transnational Framework for Qualifications of the European Higher Education Area (FQ), at the core of which lie what are known as the “Dublin Descriptors” that set out definitions for a Bachelor’s degree, a Master’s degree, and a doctoral degree so that the reader instantly sees the difference in levels of competence students earning those degrees exhibit.
- National Qualifications Frameworks (NQFs). In theory, one would expect each country’s higher education system to take the European Qualifications Framework and develop its own compatible version, more detailed, taking into account the peculiar varieties of

¹²It is important to distinguish the European Qualifications Framework (EQF), applicable to all levels of education but only among the 27 countries of the European Union, from the higher education frameworks applicable to the 46 countries of the Bologna Process described here. The labels are similar, hence sometimes confusing; the realities are very different. To avoid confusion, this essay does not deal with the EQF at all.

institutions in that system and their historical missions and commitments, and, where applicable, including “intermediate” qualifications between the three degrees. In practice, that’s not exactly the way it happened. The Republic of Ireland, Scotland, and England/Wales/Northern Ireland developed qualifications frameworks in the years just prior to Bologna, and from which other countries later took their cues. Denmark did so following Bologna, and before the promulgation of the Dublin Descriptors. Other countries did not begin to talk about the concept and its elaboration until 2002. In a few notable cases, e.g. Sweden’s Higher Education Ordinance of 2006, the national legislature stepped in and wrote the framework itself (to be sure, with a broad process of consultation). France chose to undertake a major inventory and analysis of the myriad of credentials offered in its higher education system as a prolegomena to writing a formal qualifications framework, and that process is only now nearing completion. As the Bologna ministers acknowledged at their London meeting in 2007, the higher education systems of the member states have a way to go.

- Institutional Qualifications Frameworks. This level of articulation has not really been addressed in the Bologna Process, but it is inevitable if institutional autonomy is to be respected at all (and, following in the footsteps of the *Magna Charta Universitatum* of 1988,¹³ Bologna has always held institutional autonomy as a mantra), and is also inevitable in the burgeoning system of accreditation across Europe. In national systems in which institutions have been granted more autonomy at a by-product of Bologna, e.g. Austria, a university such as Vienna reflected on the Tuning project and the papers on qualification frameworks produced by the Bologna Follow-up Groups, and established a template to be filled in for each new program curriculum. That is at least a half-step toward a degree qualifications statement.
- Disciplinary/field Qualification Frameworks. This level of specifying expectations for student learning and competence has received the most attention and effort at the institutional level. Even before the broad discussion of national qualifications frameworks began, the Tuning Project, designed to help the disciplines articulate outlines and benchmarks for subject specific knowledge and generic skills and competencies expected at the summative moment of each level of study, was well underway in nine disciplines—and with others in the queue.

At the transnational and national planes, credible qualification frameworks must describe enough levels of attainment, clearly demarcated, to account for both current and intended realities (a delicate balancing act in itself given the organizations that have a stake in reaffirming the *status quo*). The transnational framework, in this case, was designed to move everybody onto a three-cycle scaffolding, but with enough space for national systems to reflect their idiosyncrasies and to connect their formal higher education enterprise with both lower

¹³ Statement of European University Rectors, available at www.magna-charta.org

levels of formal education and non-formal providers of occupational education and training. The European attempt is worth our serious consideration in the U.S. While many states in the U.S. boast curriculum frameworks and benchmarks, they are confined to K-12, and are presented as goals more than guarantees. Statements of the knowledge and competencies students must demonstrate to earn a postsecondary credential may be found at isolated institutions, but you don't see them covering state systems. Yet our European colleagues demonstrate that this type of qualification framework would allow state systems both variations in credentialing and stronger alignments with secondary school qualifications.

2.1 The Framework for Qualifications of the European Higher Education Area

It took three years from the initial commitments of Bologna for the most general definition of European higher education credentials to emerge, and another two years to refine even these wide-angle generic markers. Known as the Dublin Descriptors (again, after the city in which the meeting of the minds took place), the refined credentials described in March 2004 were not called bachelor's, master's, and doctoral degrees, rather first cycle, second cycle, and third cycle awards. The terms are important because they respect each country's historical labels and language (e.g. the French first cycle degree is a *licence*, the Danish is a *Candidatus*, the Italian a *Laurea*). By October 2004, the experience of participating countries in reflecting on their existing credentials with an eye toward adjustments for greater harmony lead to an extension of the three cycles to a fourth: a way to include what we in the U.S. call sub-baccalaureate credentials, and what the emerging European Higher Education Area labels "short cycle (within the first cycle)."

The Dublin Descriptors for the short cycle, first cycle, and second cycle are presented in Figure 1 on the following page. Think of them as Associate's, Bachelor's, and Master's. The key phrases highlighting the differences in these levels of qualification are found in italics. There are five parallel learning outcome constructs, each of which is ratcheted up across the three award levels:

- the reference points of "knowledge and understanding";
- the contexts and modes of application of knowledge and understanding;
- fluency in the use of increasingly complex data and information;
- breadth and depth of topics communicated, along with range of audience for that communication; and
- degree of autonomy gained for subsequent learning.

The reader will also note the fading of occupational orientation as one moves up the credential ladder, the emergence of social and ethical dimensions of learning, and the passage from well-defined contexts and problems to more fluid and dynamic contexts and problems. This general and parsimonious description both attracts agreement and allows for subsequent levels of elaboration and variation in both national qualification and disciplinary frameworks. While we

Figure 1:

**General Qualifications for Credentials in the European Higher Education Area:
Short Cycle, First Cycle, and Second Cycle**

Qualifications that signify completion of the higher education *short cycle* (within the first cycle) are awarded to students who:

- have demonstrated knowledge and understanding in a field of study that builds upon general secondary education and is typically at a level supported by advanced textbooks; such knowledge provides an underpinning for a field of work or vocation, personal development, and further studies to complete the first cycle;
- can apply their knowledge and understanding in occupational contexts;
- have the ability to identify and use data to formulate responses to well-defined concrete and abstract problems;
- can communicate about their understanding, skills and activities, with peers, supervisors and clients; and
- have the learning skills to undertake further studies with some autonomy.

Qualifications that signify completion of the *first cycle* are awarded to students who:

- have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, *whilst* supported by advanced textbooks, *includes some aspects that will be informed by knowledge of the forefront of their field of study*;
- can apply their knowledge and understanding *in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study*;
- have the ability *to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues*;
- can communicate *information, ideas, problems and solutions to both specialists and non-specialist audiences*; and
- *have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.*

Qualifications that signify completion of the *second cycle* are awarded to students who:

- have demonstrated knowledge and understanding *that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context*;
- can apply their knowledge and understanding, *and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study*;
- have the ability *to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements*;
- can communicate *their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously*; and
- have the learning skills to allow them to continue to study *in a manner that may be largely self-directed or autonomous.*

may not describe our associate's, bachelor's, and master's degrees with the same constructs or with the same wide-angle diction, the point is that 46 countries took these as organizing principles based on learning outcomes and drew lines in cement to separate them clearly.

Some of the European national systems do not offer short cycle degrees within the first cycle—yet; some of these systems offer other intermediary credentials¹⁴; and in some fields, particularly the regulated professions such as medicine, the first degree granted is a second cycle award. But without this type of learning outcome framework, students themselves would not know what their credential meant in a world without borders. Indeed, in the 2007 European Students' Union survey, *Bologna Through Student Eyes*, more than half the respondents endorsed qualification frameworks as facilitating the recognition of credentials both internally and across borders, creating more transparency as to what their degrees were about, demonstrating the possibilities of learning paths and hence enhancing access to higher education. Evidently, the student-centered scaffolding is resonating with its intended constituency.

2.2 What do *National* Qualifications Frameworks Look Like?

Put on your text hiking boots! We're going to look at five cases, no two of which offer exactly the same approach, but all of which illustrate the possibilities for state system qualification frameworks in the United States. The cases involve Ireland, Germany, Sweden, the Netherlands, and France. We have some heavy reading ahead.

Ireland

The Republic of Ireland was early to the challenge of setting forth a national qualifications framework through its Qualifications Act of 1999. The framework is not confined to higher education, hence is an example of a comprehensive vertical approach, one also followed by Scotland and England/Wales/Northern Ireland. Ten (10) levels of education, ranging from elementary school to doctoral work, were given definitions in terms of broad outcomes on a grid of Knowledge, Know-How and Skill, and Competence. Figure 2 (below) presents an excerpt from this grid for three (3) of the postsecondary levels. Attached to each of the levels are distinct credentials ("award types"), each with its own "descriptor." Figure 3 (below) presents those credentials for the three postsecondary levels in question: a pre-baccalaureate certificate level (6) and two types of Bachelor's degrees (7 and 8). As the National Qualifications Authority

¹⁴For a noted example, the Swedish "diploma" is awarded at a point analogous to 3/4ths of the way to a Bachelor's degree. If students leave higher education after that point, they do not leave empty-handed, and have at least locked in sufficient attainment that allows them to return to higher education to complete the full Bachelor's degree at a later point in life.

Figure 2. Grid of Level Indicators from the Irish National Framework of Qualifications, Levels 6, 7, and 8.

	<u>Level 6</u>	<u>Level 7</u>	<u>Level 8</u>
Knowledge: breadth	Specialized knowledge of a broad area.	Specialized knowledge across a variety of areas.	An understanding of the theories, concepts, and methods pertaining to a field (or fields) of learning.
Knowledge: kind	Some theoretical concepts and abstract thinking with significant underpinning theory.	Recognition of limitations of current knowledge and familiarity with sources of new knowledge. Integration of concepts across a variety of areas.	Detailed knowledge and understanding in one or more specialized areas, some of it at the current boundaries of the field(s).
Know-How & Skill: range	Demonstrate comprehensive range of specialized skills and tools.	Demonstrate specialized technical, creative or conceptual skills and tools across an area of study.	Demonstrate mastery of a complex and specialized area of skills and tools; use and modify advanced skills and tools to conduct closely guided research, professional, or advanced technical activity.
Know-How & Skill: selectivity	Formulate responses to well-defined abstract problems.	Exercise appropriate judgment in planning, design, technical and/or supervisory functions related to products, services, operations or processes.	Exercise appropriate judgment in a number of complex planning, design, technical and/or management functions related to products, services, operations, or processes, including resourcing.

Figure 3. Award-Types and Their Descriptors for Levels 6, 7 and 8 of the Irish National Framework of Qualifications

<u>Award Title</u>	<u>Level</u>	<u>Examples of major differences from previous level</u>	<u>Progression and Transfer</u>
Advanced Certificate	6	[not applicable in this illustration]	Transfer to program leading to a Higher Certificate. Progression to program leading to an Ordinary Bachelor's degree or to an Honors Bachelor's degree.
Higher Certificate	6	Knowledge: kind (significant underpinning theory) Competence: learning to learn (taking initiative to identify and address learning needs)	Transfer to program leading to an Advanced Certificate. Progression to program leading to an Ordinary or Honors Bachelor's degree.
Ordinary Bachelor's degree	7	Knowledge: breadth (specialized across a variety of areas) Competence: context (using diagnostic and creative skills in a range of functions)	Progression to program leading to either an Honors Bachelor's degree, a Higher Diploma, or to a Master's degree
Honors Bachelor's degree	8	Knowledge: kind (detailed in one or more specialized areas) Know-how & Skill (adds criteria of complexity to range and selectivity)	Transfer to program leading to a Higher Diploma. Progression to programs leading to Master's degree or Post-graduate Diploma.
Higher Diploma	8	None. This is basically a second Bachelor's degree, in a different field from the first.	

of Ireland noted, spelling out the criteria of qualifications “brings coherence to the awards system,” in part, by their representation of levels of knowledge, understanding, skill, and application.

We may not agree with the definitions; we may not endorse the different types of awards; we may not agree with the “descriptors” of those awards. That’s not the point. The point is that a national system is setting forth a ladder of progression, with general outlines of what has to happen at each step for students (a) to earn a credential offered at that step, and (b) to move to the next step. The national system then turns to its institutions of education and says: “You fill in the details, modify the descriptors, and make your statements public, and we will provide the forums and technical assistance (on request) to help you do this. You then distribute knowledge and skills and develop competencies in accordance with your public statements, match your assessments to those qualification standards, support your students, and do your best to make sure that they qualify at each level.” Ultimately, benchmarks are laid down, and both institutions and system are judged by them. It will be suggested that what the Irish did at a national level we, in the U.S., can and ought to do in public systems at the state level (see Section 2.3).

None of the descriptions of outcomes or degrees refers to nominal time. None of them say that a student is expected to fulfill the conditions of an award in three years, four years, or six years.¹⁵ Their concern is with what students know, understand, and can do to qualify for a credential at a given level. What Ireland has done (and Scotland, Denmark, Germany, and the UK) and a dozen other European countries have in advanced stages of development, is set forth a student-centered scaffolding.

When the National Qualifications Authority for Ireland describes the criteria for ordinary Bachelor’s awards, honors Bachelor’s awards, and Master’s awards in more general—but still criterion referenced—terms, it doesn’t take literary exegesis to mark the differences: one moves from “well-established principles” (level 7) to “forefronts” of a field (level 8); from “understanding the limits of knowledge” (level 7) to the more activist “preparation. . .to push back [the] boundaries [of learning]” (level 8); from solving problems “within” a field of study (level 8) to solving them in “new or unfamiliar contexts”(level 9)—to see that each level intensifies challenge in a number of dimensions. One could sharpen those differences, and, indeed, that’s a major task both for sanding and polishing existing National Qualification Frameworks and for constructing new NQFs. In a way, too, one can easily imagine why, when European students

¹⁵ In fact, contrary to U.S. rumors, the closest an official Bologna document ever came to specifying a time frame for degrees was indicating that the first cycle degree, the Bachelor’s, should consume a *minimum* of three years. For Sweden’s higher education system the Bologna cycle degrees are measured in virtual time, not calendar time, e.g. the first cycle degree is expected to take more than four calendar years as a consequence of the time necessary to prepare the Bachelor’s thesis or project. Under what the Swedes call “exact time,” a degree is the equivalent of X years of study.

move from the old “legacy” degree structures to the new cycles, the Master’s degree becomes the desired end-point.

Germany

The Germans came later to the qualifications framework task, but that gave them the chance to study early comprehensive qualifications frameworks from Ireland, Scotland, England/Wales/Northern Ireland, and Denmark, and to choose, instead, a framework confined to the three Bologna tertiary degree cycles, and to produce a more parsimonious statement. Illustrating the legislative grounding required for a National Qualifications Framework in most countries, the 2005 German statement (*Qualifikationsrahmen für Deutsche Hochschulabschlüsse*) is a joint production of the national association of university Rectors, the conference of the culture ministers of the German states (the *Länder*), and the national ministry for education and research, and references its authority in the national Framework Act for Higher Education.

For each of the three principal degree cycles, the framework first indicates the length of the program in terms of credits and enrolled time, preconditions for admission, subsequent educational opportunities, and special rules for recognition of non-formal education by examination . So we know, right away, that a bachelor-level program can require 180, 210, or 240 credits (depending on field) and will last a corresponding 3, 3.5, or 4 years.

The German framework then sets out general criteria for award of each credential in two configurations:

<u>Knowledge and understanding</u>	<u>Ways of demonstrating knowledge</u> (<i>Wissenserschließungen</i>)
Breadth of Knowledge	Instrumental Competences
Depth of Knowledge	Systemic Competences
	Communicative Competences

How are these blanks filled in? Let us take two illustrations that compare bachelor-level and master-level criteria. Figure 4 consists of excerpts from longer statements.

Figure 4: Excerpts from German National Qualifications Framework Distinguishing Bachelor's and Master's Degree-level Knowledge and Competence

Depth of Knowledge:	Bachelor: Possesses a critical understanding of the most important theories, principles and methods of their field, and are capable of deepening their knowledge vertically, horizontally, and laterally.
	Master: Possesses a wide, detailed, and critical understanding of the latest developments in one or more specialties in their field.
Systemic Competences	Bachelor: Has acquired the competence to derive scientifically-grounded judgments that take social, scientific, and ethical relationships into consideration.
	Master: Has acquired the competence to make scientifically justified decisions based on incomplete information while considering social, scientific and ethical relationships that result from the application of their knowledge and decisions.

One grants that some of the differences in these criteria are subtle, and wonders how they might be rephrased for fields in the fine and performing arts, for example, but the principle of raising the bar of qualification is clear. In the German context, academic programs that have not linked themselves to the National Qualifications Framework will not be accredited by any of the six agencies approved as accreditors by the central accrediting authority (the *Akkreditierungsrat*). The German approach to national qualifications, then, explicitly binds the structure and its reference points to quality assurance.

In a 2007 collection of statements by leading German academics on the conditions of higher education under Bologna reforms, this National Qualifications Framework was judged not to enforce standardization, rather to foster creativity by inviting the development of multiple programs, new degrees, and new curricular topics.¹⁶

¹⁶Hochschulrektorenkonferenz 2007. *Fit für die Welt: die deutschen Hochschulen auf dem Weg zum Europäischen Hochschulraum*. Bonn, DE: Bundesministerium für Bildung und Forschung.

Sweden

The 2006 Swedish Ordinance (amending its core Higher Education Act of 1992) reminds us of what governments can do in a way that balances consultation and response to institutions on the one hand, and setting statutory frameworks, on the other. Appendix 2 to the 2006 Ordinance contains the critical elements of a national system of qualifications.¹⁷ The following points are notable:

First, the names of degrees count, particularly as they will be translated into other languages (and in Sweden, English is the one required language of translation). The rules read as follows:

“The name of a qualification consists of a qualification as specified in this system of qualifications, and, where relevant, a first or last element or both, indicating the area of specialisation of the qualification,” with some specializations requiring specific labels, e.g. Bachelor of Science in Occupational Therapy, Master of Science in Pharmacy, Graduate Diploma in Psychotherapy.

The institution chooses the preliminary and/or supplementary terms, in both Swedish and English, and has the option to translate the name of the qualification into other languages after consultation with the National Agency for Higher Education (HsV) “concerning the legal status that a translation of a qualification may have in other countries.”

Second, the qualifications for each degree are briefly described as “objectives” under three headings: knowledge and understanding, skills and abilities, and judgment and approach. An independent project requirement is specified, and the qualification description allows the institution to indicate “more precise requirements” within the framework.

At the undergraduate (first) level, the Swedes offer two general credentials: the University Diploma after 120 credits, and the Bachelor’s after 180; two credentials in the Arts parallel to the general credentials; and 19 professional qualifications, e.g. Bachelor of Science in Engineering, Bachelor of Science in Biomedical Laboratory Science, etc. There are some minor differences worth noting across this portfolio:

- For the Diploma, an independent project is carried out in the main “field of study, within the framework of the course requirements”; for the Bachelor’s degree, the independent project must be “worth at least 15 credits” in the main “field of study, within the framework of the course requirements.”

¹⁷All references in this discussion are to the 2006 Ordinance and its Appendix 2, available in English at www.sweden.gov.se/content/1/06/02/15/41/21a877c2.pdf

- For the general Diplomas and Bachelor's degree, the language of "knowledge and understanding" refers to "scientific basis of the field" and methods; for Diplomas and Bachelor's degrees in the Arts, the language of "knowledge and understanding" refers to the "practical and theoretical basis of the field" and "methods and processes." The same kinds of distinctions apply under "skills and abilities," e.g. the general credentials refer to problem identification and problem solving, whereas the arts credentials refer to the analysis and interpretation of "forms, techniques, and subject matter" and the creation and performance of "artistic tasks."

Where the Swedish Ordinance departs from other national qualification frameworks is in specifying key variations of these constructs at the level of the Bachelor's degree in those 19 applied fields, some of which lead to regulated occupations. For example, for a Bachelor of Science in Audiology (which we also offer in the U.S.), the Ordinance says:

Under "Knowledge and Understanding": the degree candidate "must demonstrate knowledge . . . of "current research and development work" along with "relevant legislation."

Under "Skills and Abilities": the degree candidate "must demonstrate an ability" to conduct hearing examinations and plan "habilitation and rehabilitation measures" with the patient.

Under "Judgment and Approach": the degree candidate "must demonstrate an ability to make intervention assessments based on a holistic approach. . ."

These are just a few of the criteria listed in the Ordinance for this degree (and the text for Audiology is rather sparse compared with that for Nursing). Notice, though, the repetition of the phrase, "must demonstrate." The Ordinance does not tell the institutions of higher education what kinds of assessment should carry that demonstration, but there is no question of the force of the imperative. Institutions must be able to "demonstrate" that their graduates "have demonstrated." The same form of qualification statements is then applied at the Master's level. A close reading of those statements reveals the same drama of ratcheting up criteria as we have witnessed elsewhere in the Bologna-inspired qualifications revolution.

The Netherlands

The August 2007 Dutch draft with which we are working goes to pains to write a qualifications framework that is particularly sensitive to "transfer, intake and lateral entry, and of the meaning of the qualifications for Dutch society, including the labor market." So to whom does this draft qualifications framework speak?

"Employers, human resources officers, branches of industry, aspiring students, all those desiring to reach a higher educational level, their parents or guardians, deans and student counsellors [sic], higher education institutions, and various authorities and sections thereof."

One can see in those statements that a qualifications framework does not map territories with iron borders, but, in fact, with interlocking yet open borders. It should be written so that the student sees how one moves from one level to another, and so prospective students understand how one enters from outside the framework (i.e. matters of recognition of learning in non-formal and informal settings are acknowledged).

The draft Dutch approach to a national qualifications framework is thus very different from the others described above, and in two respects:

- The qualifications statements reference labor market positions and tasks.
- The structure of qualifications statements is based on institutional-type in a binary system, that is, at each degree level, there are distinct reference points for the institutions of applied sciences (the *hogeschole*, or the HBO Sector) and universities (the WO sector). There is another way of phrasing this: the draft Dutch framework refers to different lines of “orientation,” including the confining of the new short-cycle associate’s degrees to the HBO sector (though it is clear that the HBO Associate can progress to the HBO Bachelor’s).

Figure 5. Draft of Dutch Qualifications Reference Points for Applied and Academic Degrees

	<u>Applied (HBO)</u>	<u>Academic (WO)</u>
<u>Bachelor’s level</u>		
Final qualifications are derived from	occupational profiles and/or professional competences drawn up by (or discussed with) the relevant occupational field.	the requirements of scientific disciplines, international scientific practice and—in the case of some programmes—relevant practice.
Holders of Bachelor’s degrees have obtained	the qualifications for the level of starter professional practitioner in a specific occupation or spectrum of occupations. . .	the qualifications to allow admission to at least one subsequent WO [university] course of study at the Master’s level and to the labor market
<u>Master’s level</u>		
Have obtained the qualifications	for the level of independent and/or management level professional practitioner in an occupation or spectrum of occupations . . .	to carry out independent scientific research or to resolve multi-disciplinary and inter-disciplinary issues in professional practices. . .

Figure 5 provides a closer look at the difference between applied and academic degrees in terms of objectives in the draft Dutch qualifications framework. However generalized the diction, those are very clear delineations of “orientation.” One unfortunately observes that the phrasing on the academic side is exclusively that of scientific knowledge paradigms, thus overlooking the bulk of degree program volume in the humanities, social sciences, and fine arts. One trusts that subsequent drafts of the Dutch qualifications framework will find a language to accommodate the full range of academic disciplines. There is no similar bias on the applied side: the generalized statements can easily accommodate medical technology, hospitality management, and design.

France

The French qualifications framework is more a process and registry under which each institution offering education or training (vocational schools are included along with universities) submits, for each credential program offered, a basic prospectus to a nationally chartered body¹⁸ for review and approval. Even if the credential program has been in existence for 500 years, it must be set forth anew in a standard form, and basically undergo the first stage of an accreditation review. Ultimately, the program is validated by the national ministry responsible for the field of that program (it can be the ministry of agriculture, the ministry of commerce, the ministry of health, etc. along with the ministry of education) The process is governed under the terms of a 2002 law, illustrating a different type of legislative intervention than that we described for Sweden, one designed to move the French system to the Bologna degree cycles (in local parlance, LMD, or *licence, master, doctorat*).

The form and procedures specify periods and deadlines within which the program resumes must be submitted, the protocols of review by boards of examiners, and eight (8) documents to accompany each submission:

1. Analysis of the demand for the certification at issue
2. Identification of the organizations delivering the certification
3. History of the creation of the certification
4. Targeted qualifications and qualification levels
5. Articulation with other certifications (vertical and horizontal)
6. Routes of access to the program
7. *Référential de certification*
8. Plan of action to be pursued following review

¹⁸ The *Commission Nationale de la Certification Professionnelle* (CNCP). The collection of approved programs is known as *le Répertoire national des certifications professionnelles* (RNCP), available on-line.

The only instructions that address the elements of the European Qualifications Framework and other national qualifications frameworks we have seen requires the dossier to include a description (the *Référentiel de certification*), for all candidates, of the competences, “aptitudes” and knowledge associated with the qualification and necessary in the work for which the study qualifies the student. In support of this analysis, the institution is asked to describe (presumably by survey) the experience of three recent cohorts of graduates. In this labor market oriented respect, the French reference points resemble those invoked in the Netherlands.

More important is the requirement that the applicant program detail the modes of assessment employed to determine those competences, aptitudes, and knowledge, and to provide evidence of their transparency and reliability. It is stressed in all this that the value of the certification is guaranteed independent of the modes of instruction or the ways in which the students entered the program (from earning the secondary school leaving *baccalaureate*, continuing education, or by the validation of prior experiential learning known as the VAE, etc.). There is considerable leeway in all this for the institution and its programs to present different configurations. Each institution—and its programs—are on a 4-year “contract” for the process, i.e. there is a built-in cycle of renewal.

What does the French RNCP look like in practice? For a concrete example of a prospectus to renew recognition of a first cycle (*licence*) diploma we are fortunate to have the paperwork for the degree in Geosciences and Environment from the Department of Geology at the Jean Monnet University in St-Etienne. What does the university present in this prospectus?

University of Jean Monnet (St-Etienne, France): RNCP Prospectus for *Licence* Degree in Geosciences and Environment

First, a justification for the degree program based on the demand of 20–30 students/year.

Second, a statement of program objectives in light of economic activities involving land development, geotechnical work, management of natural resources—all of which are principal labor market outlets for students receiving the credential.¹⁹

¹⁹Jean Monnet is careful to note that it is not proposing a Master’s degree in the same field. It speculates that students who earn the *licence* and wish to continue will find their way to a Master’s degree in Geosciences in other institutions, to other related Master’s degrees at Jean Monnet or to a specialized institution for teacher training (known as IUFMs in France) to prepare to become school teachers.

Third, a clear indication that the first two years of study involve concentration in the three core sciences upon which the program rests: biology, geology, and chemistry, along with mathematics and physics. It is in the third year that integration of basic knowledge in environmental applications becomes the primary subject. A small number of students come into the program with the French short-cycle (two-year) DUT (*Diplôme universitaire de technologie*) degree at this point, after examination of their records to determine the adequacy of their preparation for the *licence*.

Fourth, a broad description of the purposes of the degree and its relationship to other programs (geography and biology in particular), with appropriate references to the subjects of Geosciences (cartography, petrology, geochemistry, etc.).

Fifth, specifications, including two innovations in the program: foreign language education and a professional project. The university's prospectus places emphasis on changes in pedagogical environment, attention to students with disabilities, outreach to increase access, and faculty development for expanded roles in distance education.

Sixth, a statement of credit requirements for the *licence*: 146 obligatory, 28 optional, and 6 free. The curricular sequence is set forth by semester. Of note are 4 ECTS in the first year for computer applications, and an optional math course entitled Games, Enigmas, and Paradoxes. English is required in the 2nd, 3rd, and 6th semesters.

Accompanying the longer dossier is a brief resume, in which one finds the typical rhetoric of a qualifications framework, albeit in very condensed form. This submission makes it clear that the degree is intended to prepare students to pursue studies in the second (Master's degree) cycle, either professional or research, to continue study in a school of engineering or to prepare for school teaching. The competence goals listed are:

- Acquiring fundamental knowledge, theory, and practice in earth and environmental sciences, specifically mineralogy, petrology, cartography, geochemistry, geophysics, statistical practices, and physical geology;
- Acquiring knowledge from other disciplines necessary for scientific study: math, IT, and English;
- Being able to initiate scientific inquiry (analysis and synthesis of information, formulation and testing of hypotheses); and
- Demonstrating mastery of methods of scientific communication: written, oral, graphic.

As Mario Ahues of the University of Jean Monnet reflected on many similar program submissions, “separating knowledge from cognitive operations was difficult, but the divergence was more apparent in professional [occupationally-oriented] degrees, and the lessons from that tradition were then applied to academic degrees.”

With the example of the University of Jean Monnet, it is obvious that both the French and Swedish approaches to national qualifications frameworks drill down to the level of the discipline or program, and thus border on the discipline-focused “Tuning” project that has cut across 17 countries to date (see Section 3 below). But the French system is sweeping, works up from the discipline and makes it central, whereas the Swedish 2006 Ordinance was more selective and limited in its attention to the discipline. One could speculate that the building of a national registry of programs in France is a prologue to both some rationalization of the national credential portfolio and to a generic form of a national qualifications statement closer to the presentation of the Framework of Qualifications for the European Higher Education Area. By 2007 the French had disposed of one of their major intermediate credentials, and future analysis of the 4800 programs submitted to the CNCP to date may lead to additional consolidation. It is a slow but meticulous process.

2.3 Qualification Frameworks: Summary and Suggestions for U.S. Higher Education

Despite national variances, European qualification frameworks are the cement of mutual recognition of degrees. As they emerge at the national level, they create what Bologna participants call a “zone of mutual trust.” To a greater or lesser extent, they all follow the Framework of Qualifications for the European Higher Education Area (the Dublin Descriptors) in settling on the same learning objectives as building blocks, hence assuring that they are singing in the same key. But after that point, they go their separate ways: elaborate vertical ladders covering all levels of education (Ireland, Scotland, the UK), confining themselves to articulating lines from the Bachelor’s to the Master’s levels (Germany, Netherlands), adding credit benchmarks and intermediate credentials (Sweden), distinguishing cycles by external reference points in the labor market and research practice (the Netherlands, at least in draft), and detailed discipline program review (France). Other paths may yet emerge.

Do these various approaches render German bachelor’s degrees understandable in Ireland? Scottish honors Bachelor’s degrees comprehensible in the Netherlands? Absolutely! Does that mean they are the same degrees? No! But are they analogous? Yes. More important is that the public posting of degree requirements in terms of content and performance thresholds phrased as learning outcomes, and endorsed by national legislation, becomes a warrant statement, a reference point of quality assurance, an expansion of that “zone of mutual trust.”

To repeat: When one defines levels of learning such that each rung on the ladder adds criteria of greater challenge and complexity of context, (a) we all have a much clearer sense of how the

levels and their credentials are related, and (b) we have strong guidelines for comparison—of one system to another, of one institution to another. On the institutional level, the comparisons are more transparent when qualification frameworks in individual disciplinary majors are added. That's where the rubber hits the road, something the Tuning Project helps institutions address, and which is described in Section 3 below. In the broader context of Bologna, all these qualification frameworks imperceptibly impel national systems to talk to each other in roughly the same terms, hence enable comparisons, transparency, and mobility of students. The Irish might say that their Level 6 Higher Certificate is roughly equivalent to a Swedish "diploma," for example, thus enabling an Irish student with a Higher Certificate to transfer to the second or third year of a Swedish bachelor's program—but that depends on a national qualifications statement from Sweden.

In light of this review, what might one suggest for a large higher education system in a large federal republic called the United States to achieve our own republic of mutual trust?

Our states, which govern and finance institutions of higher education attended by 80 percent of U.S. students, should develop statewide qualification frameworks using the upward ratcheting scaffolding in stated core learning outcomes for our "short-cycle" Associate's, Bachelor's, and Master's degrees. These statements are generic and not discipline-specific, hence the language of presentation should anticipate subsequent program versions in the arts and applied technical and human service fields, along with the traditional academic fields in the humanities, sciences, social sciences, and technology. If Missouri or Nevada says that these credentials are awarded to students whose performance matches the learning outcome descriptors, you can be sure that community colleges, colleges, and universities in those state systems will make it happen. Private institutions may also choose to buy in.

Some states might use the occasion to "go comprehensive" and vertical in the Irish-Scottish-UK style, building on state standards for K–12 systems that are already in place. Some states might take the Dutch approach and reference labor market roles and tasks associated with different degree levels, and to distinguish qualification frameworks for arts and sciences programs from those of applied arts and applied science programs. There are obviously a number of options for the shape of qualifications frameworks. But if two or three states took on the task, the rest will ultimately join to create a U.S. version of a zone of mutual trust, and, in the process, link ourselves and our students to the ever-expanding world of trust emerging from the Bologna Process. This is not an easy task, and, as our European colleagues have adequately demonstrated, it doesn't happen overnight. It's a decade's work.

3. The Core of Bologna, Part 2: Qualification Frameworks from the Ground-Up: the “Tuning” Model and its Analogues

The winds of Bologna changed the atmosphere for higher education reform in Europe. They came early, scattering seeds that were picked up, planted, and nurtured outside the formal proceedings. The most notable of these is the “Tuning” project, designed by faculty not ministers, created less than a year after the Bologna Declaration was signed, and spreading until it was officially embraced as a key component of the Bologna agenda.

“Tuning” is a methodology that produces “reference points” for faculty developing statements of learning outcomes, levels of learning, and desired competences in the disciplines so that those statements are transparent and comparable. “Tuning Educational Structures in Europe” has its continuing homes at the University of Deusto in Bilbao, Spain and the University of Groningen in the Netherlands, which coordinate this university-level project. In terms of qualifications frameworks, its focus is on the institution and pan-European field, not the national or pan-European degree cycle. It seeks to assist institutions and faculty in describing “cycle degree programs at the level of subject areas.” Does that mean standardization of content, sequence, and delivery modes? Does that mean that the business program at the Warsaw School of Business will be a carbon copy of that at the University of Coimbra in Portugal? Hardly. Tuning goes to great lengths to balance academic autonomy with the tools of transparency and comparability. It’s a delicate balancing act, but the participation evidence says they’ve done it, though more successfully in some disciplines than others. The official Tuning documents²⁰ stress that criterion referenced competency statements are not “straightjackets.” They provide a “common language” for expressing what a curriculum at a specific institution aims to do, but do not prescribe the means of doing it. The Tuning notion is thus like “convergence.” Everybody winds up with the same music staves, range of time signatures, tempo commands, system of notation. Then, all programs in the same discipline sing in the same key—engineering in A-minor, history in G, business in B-flat—but don’t necessarily sing the same tune.

For example (using the Tuning statements on the content of first cycle degrees), if the Business group decided (as it did) that the basic function of a firm could best be seen as a “value-chain” and that “business graduates will mainly be involved in the economic, planning, and human resource management aspects of a business organization,” then: (1) a curriculum has to deal with the primary function of procurement, manufacturing (product and/or services), sales, and service, and supportive functions of firm infrastructure, company structure and systems (organizational behavior), and information systems, and (2) the program has to state “subject specific skills and competences” as desired learning outcome to match the assumptions. So

²⁰Tuning Educational Structures in Europe 2005. *Final Report: Pilot Project, Phase I* is the source for the discussion on pp. 29–30. It is available at www.relint.deusto.ed/TUNINGProject/doc_tuning_phase1.asp

one would get statements of learning outcomes in “core knowledge” (e.g. operations management, marketing, accounting), in supporting knowledge (economics, statistics, law, IT), and in communication skills (language, presentation, teamwork). The Tuning group in Business did not specify those outcomes statements, but did recommend their distribution for the first cycle degree: 50 percent in core knowledge, 10 percent in economics, and 5 percent each for quantitative methods, law, and IT. Notice that that recommendation does not add to 100 percent—on purpose. Yes, there is another recommendation for either a Bachelor’s thesis, internship, or “activities documenting ability to solve problems across different business subject areas” that might well eat up some of the residual percentage. But there is still flexibility for the local program.

How did the Tuning group in Business arrive at these specifications? In part—and this is a key step in the Tuning methodology—by a consultative survey involving previous graduates of business programs and employer representatives with considerable knowledge and experience in the various facets of business programs (finance, accounting, marketing, organizational behavior, etc.) along with academics from institutions both participating and not participating in the Tuning project. The objectives of such a survey (carried out in each field involved in Tuning) include gleaning current perspectives on the diversity of practice and commonality of knowledge across borders and traditions, and seeking a simple and accessible language to create a scaffolding on which the various degree programs can work in comfort and trust.

In the first two phases of the Tuning project, working groups in nine (9) subject areas²¹ across 138 institutions in 16 countries, arrived at a “common language” to describe their curricular goals. The languages differed discipline by discipline, as one would expect, but the reference points were remarkably constant. The effort has been very persuasive, not only in Bologna countries, where 16 other degree fields²² joined the Tuning model in 2005, but also, in the most noted case of Bologna model adaptations outside Europe, by the Tuning Latin America project (ALFA), that has expanded since its 2004 beginning to 182 universities from 18 countries participating and 12 subject areas (architecture, business, chemistry, civil engineering, education, geology, history, law, mathematics, medicine, nursing, and physics).²³ Something resonates here.

²¹Business, Chemistry, Earth Sciences, Education Sciences, European Studies, History, Mathematics, Nursing, and Physics.

²²Agriculture, architecture, arts, computer science, civil engineering, food studies, geodetics, geography, humanitarian studies, landscape architecture, languages, occupational therapy, political science, radiography, social work, and sport science.

²³ Benitone, P. et al. 2007. *Reflexiones y perspectivas de la Educación Superior en América Latina: Informe Final-Proyecto Tuning–América Latina 2004-2007*. Bilbao, ES: Universidad de Deusto and Groningen, NL: Universidad de Groningen.

3.1 Subject-dependent outcomes in the Tuning model

The following is the author's condensation of the subject-dependent general learning outcomes, the "reference points" that Tuning suggests for the "completion of the first cycle" degree, the Bachelor's.²⁴ The student is about to receive a degree in a specific major (accounting, anthropology, architecture, agricultural science, to pick on the As). The student should

- Demonstrate knowledge of the foundation and history of that major field;
- Demonstrate understanding of the overall structure of the discipline and the relationships both among its sub-fields and to other disciplines;
- Communicate the basic knowledge of the field (information, theories) in coherent ways and in appropriate media (oral, written, graphic, etc.);
- Place and interpret new information from the field in context;
- Demonstrate understanding and execution of the methods of critical analysis in the field;
- Execute discipline-related methods and techniques accurately; and
- Demonstrate understanding of quality criteria for evaluating discipline-related research.

There are other criteria, of course, that are more specific to scientific majors, arts majors, etc. But when you read those general statements as a set of expectations for students continuing to the second cycle, and then read a parallel set of statements for the second cycle, you see why European students come to judge attainment at the second cycle to be the true end of undergraduate study, sufficient for entering the labor market on a secure trajectory. The second cycle graduate (again, translating, elaborating, and editing):

- Within a specialized field in the discipline, demonstrates knowledge of current and leading theories, interpretations, methods, and techniques;
- Can follow critically and interpret the latest developments in theory and practice in the field;
- Demonstrates competence in the techniques of independent research, and interprets research results at an advanced level;

²⁴The source for this material is *Introduction to Tuning*, 2nd edition (2007).

- Makes an original, though limited, contribution within the canons and appropriate to the practice of a discipline, e.g. thesis, project, performance, composition, exhibit, etc.; and
- Evidences creativity within the various contexts of the discipline.

No doubt readers will immediately notice parallels to outcome statements for the Bachelor's and Master's degree qualification statements we saw in both the Qualifications Framework for the European Higher Education Area and in national qualifications frameworks from Ireland and Germany, for example. These parallels reinforce transparency and comparability in Bologna-inspired credentials.

Some disciplines participating in the Tuning project extended these reference points to continental conclusions, advocating a "Eurobachelor" degree that would be common across borders and institutions. The Tuning Project Chemistry Group, for example, developed and presented the idea to the European Chemistry Thematic Network in 2003, and it was approved by the General Assembly of the European Association for Chemistry and Molecular Sciences (EUCHEMS) that fall. The document²⁵ basically says that a chemistry department can follow any route it wishes to some common objectives for:

- Subject knowledge, e.g. "the principles of thermodynamics and their applications to chemistry," and "the nature and behavior of functional groups in organic molecules"
- Chemistry-related cognitive abilities and skills, e.g. "skills in presenting scientific material and arguments in writing and orally, to an informed audience"
- Chemistry-related practical skills, e.g. "Ability to conduct risk assessments concerning the use of chemical substances and laboratory procedures"
- Generic skills, e.g. "numeracy and calculation skills, including such aspects as error analysis, order-of-magnitude-estimates, and correct use of units"

and makes sure that its compulsory modules cover analytical, inorganic, organic, physical and biological chemistry, and that half the credits required for the degree (including physics and math) are considered the core. The EUCHEMS document also recommends that a "Eurobachelor" in Chemistry write an undergraduate thesis worth a specified 15 ECTS. Recommendations such as these follow the Tuning philosophy in that they provide reference points, although in this case the references are tighter than they might be in other disciplines. Chemistry involves a good deal of lab work, after all, hence, as the Tuning Project Chemistry

²⁵European Chemistry Thematic Network 2005. *The Chemistry 'Eurobachelor.'* Toulouse, France: Author.

Group notes, “important elements of ‘handicraft’” that require monitoring are part of the learning outcomes portfolio.

By the end of 2007, some 26 universities in 12 countries and one consortium (based at the University Autonoma de Madrid in Spain) of 46 universities in 7 countries had been certified by EUCHEMS as offering a Eurobachelor’s degree in chemistry. In a way, this process is similar to program accreditation in the U.S. by the American Chemical Society (the only traditional arts and sciences discipline to engage in formal program accreditation in the U.S.), but the emphasis of Euro-certification lies more on criterion-referenced learning outcomes for students than on faculty backgrounds and institutional facilities. That design is a direct outgrowth of the Bologna action portfolio and its expansion by Tuning.

3.2 Competences²⁶ Across the Disciplines in the Tuning Model

Accountability discussions in U.S. higher education rarely focus on what is directly taught, i.e. subject matter that reflects the training and organization of our faculties, rather on what is indirectly or obliquely taught—to which is ascribed global labels such as “critical thinking” and “problem-solving,” the meaning of which might as well be left to mystics to divine. We have something to learn from our European colleagues here as they have been far more sophisticated and concrete in the matter of generic capacities one expects will be developed in the course of higher education.

The Tuning strategy explicitly acknowledges the primacy of disciplinary knowledge, but holds that competences, that which is *indirectly* taught or “fostered,” are developed within every discipline—or should be, and that disciplinary context determines the shape and development of those competences. Tuning addresses two types of competences: (1) academic-subject specific competences, which “give identity and consistency to the particular degree programs,” and (2) generic competences, or “shared attributes which could be general to any degree.”²⁷ . Within this second type, Tuning distinguishes between instrumental, interpersonal, and systemic competences. Instrumental competences, it points out, are the most clearly defined, and, as a set, “delimited.” We understand them better than the others. They are:

- *Cognitive*, the “capacity to understand and manipulate ideas and thoughts” with analysis and synthesis

²⁶ Reminding the reader: we are using the European English “competences” instead of our “competencies,” throughout.

²⁷ *Tuning Educational Structures in Europe: Universities’ Contribution to the Bologna Process*. Bilbao, Spain: University of Deusto and Groningen, NL: University of Groningen, 2007.

- *Methodological* “capacities to manipulate the environment” with organization and planning, as in time management, “strategies of learning,” decision-making, and problem-solving
- *Technological* skills, e.g. computing, information management, operating complex equipment
- *Linguistic*, including the capacity for complex inference in reading (though Tuning does not mention that piece of the linguistic pie), oral and written communication, and fluency in a second language

Regardless of a student’s course of study, institutions of higher education seek to foster development of all these instrumental competences. Put together, a student earns a degree in chemistry or history, each of which puts forth a qualifications framework so transparent that any reader knows what makes them degrees in chemistry or history and not something else. Along the way, both those degree programs impel the student to develop cognitive, methodological, technological, and linguistic competences—to be sure, in different contexts and with different degrees of emphasis. Tuning sees research, application of knowledge in practice, initiative, and creativity, for example, as “systemic competences,” of which one could say that, depending on field, institutions of higher education offer opportunities to discover and experience.

Of Tuning’s instrumental competences, U.S. discussions focus principally on the cognitive, and under that very loose mantra of “critical thinking.” Typical of the spreading influence of Bologna-inspired qualification frameworks at the institutional and disciplinary levels, three technical universities in the Netherlands issued guidance for these efforts²⁸ that includes a deconstruction of the cognitive in four dimensions:

- **Analytic:** “. . .the unravelling of phenomena, systems, or problems into sub-phenomena, sub-systems or sub-problems . . .The greater the number of elements involved, or the less clear it is what the elements of the resulting analysis are, the more complex the analysis
- **Synthetic:** “. . .the combining of elements into a coherent structure which serves a given purpose. The result can be an artefact, . . .a theory, interpretation or model.” The greater the number of elements involved, or the more closely knit the resulting structure, the more complex the synthesis

²⁸Meijers, A.W.M., van Overveld, C.W.A.M., and Perrenet, J.C. 2005. *Criteria for Academic Bachelor’s and Master’s Curricula*. Eindhoven, NL: Technische Universiteit Eindhoven.

- **Abstracting:** “is the bringing to a higher aggregation level of a viewpoint (statement, model, theory) through which it can be made applicable to more cases.” The higher the aggregation level, the more abstract the viewpoint
- **Concretising:** “is the application of a general viewpoint to a case or situation at hand. The more aspects of a situation are involved, the more concrete the viewpoint”

One observes, in these descriptions, that the notion of increasing complexity can be used to determine the *levels* of demonstrable competence, and, with those levels, an analogous pattern to the ratcheting up of challenge in the pan-European and national degree-cycle qualification frameworks we have previously described.

What one finds particularly attractive in this example are the very concise and prima facie valid descriptors for terms that are tossed around very casually in U.S. discussions of the outcomes of higher education. If we took on the task of writing qualification frameworks (not as goal statements, but as criteria for awards), we might not go about it in exactly the same way, and we might use different terms. But the very attempt is rare in the U.S., and not systemic at all. Without any common reference points, any detailed competency-based statements of the purpose and requirements of our myriad degrees, we pretend that some almost randomly-selected test of something called “critical thinking” given to samples of students says what we do. The rest of the world has moved way beyond that simplistic formulation. It’s hard work. But it produces new forms of curricular organization, greater self-reflection on just what it is we want students to learn, and ultimately is far-more student-centered than what we offer.

3.3 Problems in the Language of Subject Qualifications: Tuning in Practice

If a chief objective of the Bologna Process is to produce transparent degrees, recognized across borders, the learning outcomes criteria within qualifications frameworks should be operational. That is, one should instantly grasp the types of student performance or products that would be subject to assessment and judgment, producing evidence that the criteria had been met. This is a familiar task to those who write criterion-referenced curriculum designs and criterion-referenced protocols for scoring assessments, but an unfamiliar task for most faculty. It was not surprising that, after five years of Tuning, someone would ask how disciplinary qualification frameworks were being written, and offer an evaluation. The CoRe project of the Netherlands Organization for International Cooperation in Higher Education (NUFFIC) took on an evaluation of the way the Tuning methodology plays out in practice, and reported in 2007.²⁹

²⁹ de Bruin, L *et.al.* 2007. *Competences in Education and Cross-Border Recognition: Evaluation of the Usefulness of Learning Outcomes and Competences for International Recognition.* The Hague, NL: NUFFIC.

CoRe selected four disciplines (Business, Chemistry, History, and Nursing) and three or four university departments in each of those disciplines that had written local subject qualification frameworks. The evaluators sought to estimate whether the resulting curricula could be judged comparable and hence lead to recognition without problems. In all cases, departments were asked for their basic degree profiles, consisting of documents stating objectives, learning outcomes, and expected competences—no matter what form these documents took.

The CoRe evaluators then engaged in a close reading to determine the extent to which the degree profiles were transparent in terms of indicating what graduates had actually learned. For every learning outcome or competence statement they asked, first, whether the statement had face validity as a “learning outcome” or “competence” (or whether it was something else), and second, whether what was described could be assessed, i.e. was operational. The assessment criterion is particularly trenchant if an institution claims that a graduate has crossed a threshold of learning or mastered a topic. The basic question is whether the institution / department is producing information “appropriate and sufficient for the purposes of credential evaluation.” This is a quality assurance issue, and is necessary to establish that “zone of mutual trust” for the recognition of credentials across borders.

All institutions/departments solicited for participation in the CoRe project had previously participated in Tuning, so one would think they had developed degree profiles with supporting documentation. Not so, and the participating institutions were only those that had documents in place. Even that brought varied results. The degree profiles (called “competence profiles” in the reports) ranged from learning outcomes statements to program specifications. What did CoRe find?

When competence statements fail, it is usually a product of vague, generalized, and abstract presentation, and with no reference points for student assessment. For example, one observes

1) Statements that are not really competences.

- “[A graduate is able to] Discuss in an informed manner the implications of professional regulation for nursing practice.” As the evaluators observed, what is described here is an “activity” that, to boot, says nothing about what “an informed manner” means

2) Statements that (in a phrase frequently invoked by the evaluators) are “so vague as to be meaningless”:

- “Graduates are able to apply the knowledge to solve qualitative and quantitative problems of a chemical nature”

3) Statements that are less vague but still don't tell the reader precisely what graduates of a program are supposed to do:

- “Graduates are able to conduct a whole range of laboratory procedures and use of instrumentation in synthetic and analytical work”

4) Statements that, in another frequently invoked phrase, amount to “stating the obvious”:

- “On successful completion. . .students should be able to undertake appropriate further training or study of a professional or equivalent nature”

Even when a quick reading of a competence statement elicits tacit assent, a more measured reading raises critical gaps. Compare two cases from a history department:

“A detailed knowledge of the history of the Greek and Roman periods with particular emphasis on the transition periods and the areas and timing of interaction between cultures, such as the Hellenistic age. . .” and

“The complete mastery of a wide range of techniques and methodologies, such as the ability to carry out bibliographical and archive searches, a critical reading and a textual analysis, a deeper knowledge of the variety of the historically most used methodologies, use of statistical analysis and application of categories.”

The evaluators had praise for the first of these statements, though if one is focusing on a standardized portion of a disciplinary curriculum (in this respect, the classical Greco-Roman period of history would be analogous to pediatric nursing within its field or organizational sociology within its field), one would want to know what *kind* of history (economic, political, social, cultural, etc.) and what “detailed knowledge” means. The evaluators then had reservations about the second statement on the grounds that it is “rather vague about the types of techniques and methodologies that are meant. An elaboration is given, but this is presented as if these are examples. . .” But what “a complete mastery” and “a deeper knowledge” mean is more important than the list. If these learning outcomes statements are going to work as curricular guidelines, then one should be able to describe the assessment criteria for determining that the students have arrived, and as soon as one describes the assessments, then one knows how the curriculum should be structured and delivered to elicit the requisite student performance.

The CoRe evaluation might also have focused on the verbs used in Tuning competence statements, as the selection and definition of verbs in criterion-referenced performance statements is not only a fine art that faculty find challenging, but also a key to convergence at the disciplinary level. In Poland, the Ministry working group developing program requirements

defined in terms of learning outcomes at the disciplinary level uses “understanding,” “organizing,” “applying,” “searching,” “measuring,” “describing,” and “judging” in detailed descriptions of first and second cycle programs in, for example, public administration and chemistry, two rather different subjects.³⁰ These verbs do not change from first degree cycle learning outcome statements to those for the second cycle. Consistency is a guidepost, and leads to benchmarking.

3.4 Discipline-Based Benchmarking, a Prominent Analogue to Tuning

The benchmarking approach to learning outcomes at the disciplinary level is a strong suit of the Quality Assurance Agency (QAA) in the United Kingdom, and, like other European reforms we have witnessed, was under development prior to the Bologna Declaration.³¹

Benchmarking statements are not specifications for curriculum in a specific subject. Rather, they provide Tuning-type reference points and boundaries for designing, modifying, and evaluating the presentation of a discipline by an institution or group of similar institutions. The statements made in benchmarking should be publicly accessible, so that

- the faculty is reminded of what it committed itself to doing in the matter of distribution of knowledge and skills;
- students see in advance—and while in progress—what their academic journey is about, where it is leading, and what levels of performance and understanding are expected; and
- external observers with a constitutive interest in the outcome of students’ study (employers, governance authorities, public policymakers) have an important set of guidelines (though not the only set available to them) for judging the quality of education and training provided by institutions in that discipline.

Every discipline stakes its turf, tells people what it is in accessible language. The QAA started issuing benchmarking statements for a wide range of fields in 2000. We use the 2007 versions to glean some models for consideration. The following are summaries of two such benchmarking statements from the QAA: one for an applied/professional field, accounting, and a second for a traditional academic field, history.

³⁰ See www.nauka.gov.pl

³¹The most recent (2007) benchmarking statements, by subject, are available on the QAA Web site, http://www.qaa.ac.uk/academic_infrastructure/benchmark/default.asp, from which the cases in this section are drawn.

Accounting

Accounting is a case in which other guidelines might be produced by professional or regulatory organizations (in the U.S., for example, by the American Assembly of Collegiate Schools of Business or the National Association of State Boards of Accountancy). Those guidelines are independent of the benchmarks, and, as the QAA reminds, “the content of degrees is not prescribed by professional bodies.”

- The program is both theoretical and applied. If it doesn’t include theory, then it doesn’t meet “the minimum requirements of an undergraduate degree programme”
- As a “degree subject,” accounting “requires students to study how the design, operation and validation of accounting systems affects, and is affected by, individuals, organizations, markets, and society.” That means an obvious inclusion of the social science disciplines in the program. And as the practice of accounting is impossible without a modicum of knowledge in finance, “the degree structure should also require the study of the operation and design of financial systems, risk, financial structures, and financial instruments”
- So, what subject-specific knowledge and skills will accounting graduates possess? Here are a few consolidated excerpts:
 - ▶ understanding of the contexts (capital markets, firms, public sector) in which accounting operates, and the theories and evidence on the practice of accounting in those contexts. . .
 - ▶ knowledge of current and alternative technical languages and practices of accounting (examples: recognition rules, valuation bases, measurement and disclosure). . .
 - ▶ skills in recording, summarizing, and analysis of transactions, business operations; preparation of financial statements, etc.
- And what “cognitive abilities and non-subject specific skills” will accounting graduates possess? Again, a few consolidated excerpts:
 - ▶ capacity for “the critical evaluation of arguments and evidence,” and the ability to “draw reasoned conclusions” from both structured and unstructured problems arising from data;
 - ▶ “ability to locate, extract and analyse data from multiple sources,” to manipulate data with appropriate statistics (“numeracy skills”) and to use communications and information technology in these tasks; and

- ▶ the ability to communicate, in the same package, “quantitative and qualitative information, together with analysis, argument and commentary, in a form appropriate to the intended audience.”

In all cases illustrated above, the benchmarks indicate that “threshold graduates will *demonstrate*[italics mine],” i.e. while the institution chooses the form of assessments, there is no question that nobody is a graduate unless they have “demonstrated” at a level crossing the threshold. As for performance standards, the vocabulary follows the ratchet principle: it moves from “basic understanding” to “thorough understanding,” and from “simple” to “complex” situations. Benchmarking statements do not intrude on the canons and traditions of institutional judgment, but they definitely provide a scaffolding for those judgments.

History

While accounting is a regulated occupation, the study of which must produce knowledge and skills required for professional practice, history is a more problematic (in the sense of unregulated-by-external-authority/practice) discipline. The QAA history benchmark committee was very frank about its discipline as not recognizing “a specific body of required knowledge, nor a core with surrounding options.” As they say, one cannot “freeze the teaching of history in a particular model,” either.

So how does a discipline such as history (or literature, for another similar case) proceed? Partly through an appropriate historiography. What does that mean? Considering the empirical facts of the traditional presentation of the discipline, (a) observing that “students will need to devote considerable time to acquiring a knowledge of one or more social sciences,” and (b) setting a generic goal of developing “qualities of mind” that persistently take account of “historical context and evidence,” and which are regarded (properly) as transferrable.

In fact, the history benchmarks are largely generic, though with no indication of intensity of challenge or threshold measurements of attainment. Examples include self-discipline, self-direction, independence of mind, initiative, and “intellectual integrity and maturity.” The core genres of analytical ability, problem-solving, and communication competence (“structure, coherence, clarity, and fluency”) both orally and in writing, round out the generic field.

However much the history advisory committee to the UK’s Quality Assurance Agency may protest, they *do* specify six (6) requirements for the content of bachelor’s level programs in history, thus benchmarking the delivery of the *program*:

- “Time depth,” i.e. one doesn’t see continuity and change in human affairs unless the temporal breadth of one’s historical study is considerable

- “Geographical range,” i.e. history cannot promote intercultural understanding without requiring its graduates to have studied more than one society or culture
- “Contemporary sources,” i.e. the discovery, identification, and use of materials contemporary to historical periods studied. These are research skills, and they are transferrable
- “Reflexivity,” i.e., something born in historiography and methods courses: critical reflection on the nature of the historical enterprise, “its social rationale” and its “theoretical underpinnings”
- Diversity of the discipline. Think of economic, social, political, environmental and cultural history, or topics in women’s history, or quantitative methods in history. The benchmarking here says that a graduate should have been “introduced to some of these varieties of approach”
- A major independent written project such as an undergraduate thesis utilizing original sources, or an evaluation of conflicting historical interpretations of a major controversy

All aspects of this presentation—generic and content—are then wrapped up in 16 statements of learning outcomes subject to assessment, e.g.

- command of a substantial body of historical knowledge;
- the ability to develop and sustain historical arguments in a variety of forms, formulating appropriate questions and utilizing evidence;
- the ability to gather and deploy evidence and data to find, retrieve, sort and exchange new information; and
- a command of comparative perspectives, which may include the ability to compare the histories of different countries, societies, or cultures

from which departments can select in determining the competence of their students.

Assessment and the judgment of performance plays a significant role in the history benchmarks statement, and the committee is very clear that a student who has not met threshold performance criteria “is likely to have failed to progress at an earlier stage,” hence will not receive the degree.

3.5 Project Polifonia: Qualification Frameworks in the Conservatories

Music was not one of the disciplines included in the Tuning project, but independently, the conservatories of Europe organized a discipline-based qualifications framework. There are 230 free-standing higher education conservatories or departments of music within multi-purpose universities in the *Association Européenne des Conservatoires, Académies de Musique et Musikhochschulen* (AEC), all with a mission focused on students' "practical and creative development." The AEC goes to great pains to point out that while Bologna refers to the "employability" of first cycle graduates, that term covers a larger territory in music than simply working for someone else in the labor market. It is for that reason that the curriculum prepares students to function as free-lancers, as music educators, and to understand what the business of art means and how it works.

There is a significant way in which academies of fine and performing arts (not only those dedicated to music) differ from the standard higher education model: acceptance depends on demonstration of prior acquired skill, and is thus as open to older students on non-traditional paths as it is for students coming out of secondary education. The recognition of prior learning in music or theater or art, then, is part of the selection process, with the vehicles of that prior learning including non-formal learning (outside the education system, but still with a teacher, as in private music lessons) and informal learning (again, outside the education system, and, in music, for example, by participation in a band or church choir). Adult applicants to the University of Music and Performing Arts in Vienna (MDK), for example, take an oral interview to determine how much they know about music theory (which they might pick up from a course at a less-than-university-level conservatory) and to assess their "music personality," by which is meant, as Ester Tomasi-Fumics of MDK and Project Polifonia manager explained, "how they think about music."

Project Polifonia, organized by AEC, produced its version of the Dublin Descriptors for the three degree cycles, and some key differences (more emendations than "differences," really) are worth noting. For example, the knowledge application criterion of the first cycle degree (Bachelor's) reads as follows, with the departures from the generic phrasing in italics:

"can apply their skills, knowledge, and *artistic* understanding *in the field of music* in a manner that indicates a professional approach to their work or vocation, and have competences demonstrated *practically/creatively as well as* through devising and sustaining arguments and solving problems within their field of study."³²

³² The quotations in this discussion are all drawn from AEC 2007. *Summary of Tuning Findings: Higher Music Education*. Utrecht, NL.

When asked what “sustaining arguments and solving problems” means in music, the responses from both the University of Music and Performing Arts in Vienna and the Royal Academy of Music in Stockholm cited composition and historical interpretation. When asked about what the communications criterion would mean in music, it turns out to be more than writing program notes—it includes non-verbal communication as well, or, as the Lipinsky Academy of Music in Wroclaw, Poland, phrases it, projecting to an audience “. . .material and musical ideas in a wide variety of performance settings.” And problem solving in “unfamiliar environments” (a second degree cycle criterion under the Dublin Descriptors) might be judged in music performance by a student with a classical repertoire who must develop a jazz repertoire.

When we come down to the level of Tuning within the first degree cycle, the reference points offered by Project Polifonia are worthy of emulation in other disciplines where analogues can be identified. For example, by the completion of the Bachelor’s cycle, students should *demonstrate*:

- Repertoire skills: performing a representative repertoire of their principal study area, and in a variety of styles;
- Ensemble skills: interacting in ensembles of varied size and style;
- “Effective practice and rehearsal techniques”;
- “Score reading skills sufficient both for understanding the music and for fluent sight-reading”;
- “Fluency in recognising by ear, memorising and manipulating the materials of music”;
- Verbal skills in talking and writing “about their music making”;
- Improvisational skills, i.e. shaping and/or creating music “in ways which go beyond the notated score,” and understanding “of the patterns and processes which underlie improvisation”;
- Knowledge of “the common elements and organizational patterns of music . . .and their interaction”;
- Knowledge and understanding of “the main outlines of music history and the writings associated with it”;
- Knowledge of “musical styles and their associated performing traditions”;
- Understanding of “how technology serves the field of music as a while and . . .the technological developments applicable to their area of specialisation”; and
- “Some knowledge of the financial, business and legal aspects of the music profession.”

We could go on through criteria for autonomy, psychological understanding, critical self-awareness, communication and its contexts, and research—yes, research (literature, critical analysis, documentation, etc.). But even more than its disciplinary qualification framework, the case of music opens up the relationship between credits, outcomes, assessments, and standards that constitute the third major Bologna theme of this presentation. When we turn to an explication of credit issues in Part 4, we will come back to the case of music and the literature produced by AEC and Project Polifonia.

3.6 What Can the Accountability Discussion in the U.S. Learn from Tuning, Benchmarking, and Their Analogues? What Might we do Differently—and How?

When U.S. colleges, community colleges, and universities describe what students must do to earn a degree in a specific field, they list courses (required and suggested), credits, and minimum grade point average, not learning outcomes. Sometimes, departments issue a statement of the purpose of the degree in terms of the careers to which it traditionally leads or careers in which its subject may be useful. Sometimes one finds flowery mission statements extolling the vision or heritage or human benefits of the field. But rarely is there even an attempt to provide a statement of the summative knowledge, skills, and capacities expected of graduates—let alone criterion-referenced performance criteria. The author examined undergraduate degree program descriptions in accounting and history (the same two disciplines we used to illustrate QAA benchmarking) at ten flagship state universities in the U.S., and found presentations devoid of any concrete sense of even the “competencies” side of the outcomes equation. Students themselves thus have little idea of the meaning of either their learning or the credential they receive.

In the emerging Bologna-inspired world higher education order, other countries would be taking a great leap of faith in recognizing U.S. undergraduate—and even some graduate—degrees without operational outcomes statements in the disciplines. If other countries have to make that leap of faith, our own employers, governance authorities, and media translators to the general public are attempting to leap tall buildings in a single bound.

So what might we do? Nearly 20 years ago, the U.S. Department of Education issued a request for proposals addressed to the academic disciplines in higher education asking for a response to a deceptively simple question: What would you do to create a model indicator of summative undergraduate learning in your field? This is a creative thinking question, not a call for the actual construction of indicators. What the exercise demonstrated was the ability of individual disciplines to achieve a degree of consensus in the definition of different types of student learning, the priorities of those learnings at the penultimate moment of undergraduate education, and methods of producing evidence of that learning. The models were presented in the same spirit as Tuning or Benchmarking, that is, with enough flexibility to fit different institutions yet with common reference points.³³

This essay does not suggest a revisit of that creative thinking enterprise, though it certainly would inject a notable degree of self-reflection in some fields. Rather, it

³³ The results were published in Adelman, C. 1989. *Signs and Traces: Model Indicators of Undergraduate Student Learning in the Disciplines*. Washington, DC: U.S. Department of Education.

advocates a combination of field and state system in writing qualification frameworks for each degree in a specific field awarded in a state—from Associate’s degrees in medical technology through Bachelor’s degrees in anthropology to Master’s degrees in public health, and in such a way as to parallel state higher education qualification frameworks described in Section 2.3 above. That means organizing all the departments in each discipline in a state to engage in a Tuning-type project. But it also means learning from the evaluations of Tuning: paying close attention to language to ensure that what is described are knowledge, skills, and competencies—and not something else—and that the descriptions are operational, i.e. yield benchmark criteria that can be assessed.

As in Tuning, this process does not bind individual departments to a single presentation of curriculum or a single mode of assessment (we all know that the flagship state university has more resources with which to offer its engineering degrees than a regional institution, and we also know that some departments in a field have particular strength in some sub-fields based on the specialty distributions of their faculties). But it gets them singing in the same key in terms of what it is that a state economy can expect of graduates. And when these frameworks are made public, you have

- (a) a *de facto* accountability system that is stronger than anything we have in place now,**
- (b) far more persuasive than standardized tests, delivered to samples of students, of obliquely taught and indirectly developed cognitive operations or skills, and**
- (c) statements that provide considerable comparability with the order of knowledge and skills distribution in a world without borders.**

The fact of the “Tuning Latin America” project (ALFA) that has expanded since its 2004 beginning to 182 universities from 19 countries and 12 subject areas should tell us just how attractive this process is becoming in a distributive universe.³⁴

Is this all hard work? Unquestionably. Can it be achieved by a state system overnight? Hardly. The consultative process in each discipline alone would take a

³⁴Connections with the Bologna Process through joint seminars and workshops (supported by the European Commission) and ties to universities of the former colonial powers Spain, Portugal, England, and France, have been maintained throughout the ALFA project. While the countries involved do not aspire to a Latin American Higher Education Area comparable to Bologna’s EHEA, they obviously see great value in consolidating their expansion and progress through quality mechanisms such as Tuning. They have moved through a survey parallel to that undertaken by Tuning (except they included current students along with recent graduates as respondents) to identify desired competences in each subject field, and are now on the terrain of the role, calculation, and allocation of credits.

year. Is it worth the outcomes? Ask the stakeholders: students, faculty, employers, governance authorities! It certainly beats the short cut of test scores (which nobody really understands) and dubious “value added” measures (which are understood even less, and which assume that everything that happens to a student between point A and point B is due to the institution[s] in which the student was enrolled). Our European colleagues did not take the easy route, and the route they took is now being imitated.

4. The Core of Bologna, Part III: The European Credit Transfer System (ECTS), A Different Kind of Currency

In presenting qualifications frameworks and disciplinary Tuning, this essay purposefully sidestepped the third core pillar of the Bologna Process. The topic was not easy to avoid, but now we give the European Credit Transfer System its due. The Bologna approach to credits is intertwined with qualification frameworks, curricular reform, and quality assurance, and we will come back to Project Polifonia to illustrate how those connections work.

The college credit system in the United States is 100 years old, was developed as an extension of the Carnegie Unit credit formulas for secondary schools, and was designed to determine the productivity of institutions and to enable the analysis of the costs of instruction.³⁵ The U.S. credit is a temporal metric, calculated for each discrete course by reference to the theoretical or scheduled number of hours of instruction per week. It is thus based on faculty time. Public university systems were leaders in adopting and spreading the credit system as a degree qualifying metric as well, i.e. when students accumulated a set number of credits, distributed according to institutional standards for general education, major, and electives, the requirements for a credential award were said to be met.³⁶ In contrast, until recently, most European systems of higher education did not divide their curriculum into discrete course modules, and did not employ a credit accumulation system or a credit-based award criterion at all.³⁷

Starting in the late 1980s, and picking up steam across Europe in the 1990s, one notes a drive to establish a common currency of academic attainment like the Euro (I am sure some will

³⁵Shedd, J.M. 2003. “The History of the Student Credit Hour.” In Wellman, J.V. and Erlich, T. (eds.), *How the Student Credit Hour Shapes Higher Education: the Ties that Bind. New Directions for Higher Education*, no. 122. San Francisco: Jossey-Bass, pp. 5–12.

³⁶A small number of private colleges and universities still do not use the credit system, rather indicate the number of discrete “full” courses a student must pass to qualify for the degree.

³⁷ Examples of exceptions: Sweden’s system has been credit-based since the 1960s, and Scotland changed over to course modules and credits in 1985.

shudder at that analogy). But provided you know what they mean, that's what credits do: you can bank them as markers of general attainment, at least in the world of post-compulsory schooling where the issuers of this currency are so varied. European countries looked inside their post-compulsory education systems and saw a wilderness of credentials and qualifications, with very little relation between them. What they saw inside became a dense forest when they looked to their neighbors. In different ways, they all asked, "can we arrive at a set of definitions and principles about the meaning and use of credits to create a medium that allows for a ledger of accumulation, transfer, stop-out-and-return, and shared cross-border learning?" As pointed out, while some countries already had developed such a currency for internal coherence and accounting, others began to develop parallel systems, and the ERASMUS program stepped in (nudged by UNESCO and the European Union) with the original form of ECTS to enable students to spend learning time in another country without loss of learning currency.

For example, in a formal "temporary transfer agreement" between the University of Uppsala in Sweden and the University of Trento in Italy, a Swedish student going to Trento to study Alpine ecology would be credited with the course in Sweden based on a statement of learning tasks and workload in Trento for which ECTS was the symbolic representation. Uppsala and Trento could go their merry ways outside of this temporary transfer, i.e. neither university had to operate on a credit system, but for the sake of the transfer event, they did. The quality assurance that allowed the recognition of the Trento experience lay in the learning tasks of the course and an indication of the number of hours of student effort required by those tasks. Everybody signed the temporary transfer agreement—the two institutions and the student. It was a *de facto* contract.

When one transforms the basis of this transaction into a cumulative currency, one widens the application beyond isolated transfer events to degree-qualifying momentum. The Universities UK's "Scoping Group" would add that the virtue of credits lies in enabling students "to break off and start again without having to repeat learning," motivating students by recognizing "achievement along the way," and offering a structure that makes "flexible curricula" possible.³⁸ The UK Scoping Group was not alone in judging the multiple applications of the ECTS currency: tracking progress towards a credential, enabling program and institutional transfer, accounting for learning in non-formal settings through the assessment of prior learning, improving public understanding of different levels of credentials, and facilitating international recognition of learning. Everyone has bought in: ECTS is a condition of membership in the Bologna club. That said, it is still a work in progress.

³⁸Universities UK 2004. *Measuring and Recording Student Achievement: Report of the Scoping Group Chaired by Professor Robert Burgess*. London: Author.

The Bologna version of ECTS as an accumulation system ideally wrung out all the differences of existing credit systems, so that even if there was a 180 SCOCAT requirement for a first cycle degree in Scotland and a 120 *poäng* requirement for a first cycle degree in Sweden, and the SCOCAT had to be spread over four levels of course work, they both could be translated into the Euros of ECTS, so to speak, and the student with a first degree from Uppsala could move to a Master's program at Strathclyde in Glasgow without breaking stride.

In its original formulation under Bologna, there are three components to the assignment of ECTS credits: student workload, learning outcomes, and grades. That combination has proven to be a difficult brew,³⁹ and, in practice, student workload dominates. The kind of learning outcome statements offered in our presentation of qualification frameworks are, as Einar Lauritzen of the University of Uppsala in Sweden noted, “not at home in a credit system,” or, as Anna Laub of the University of Vienna put it, “credits cannot carry all messages.” The UK's Scoping Group reinforces these judgments, pointing out that “it is impractical to try to quantify the number of credits awarded as a direct measure of the learning outcomes,” and that “credit alone does not define academic standards,” i.e. you need an indication of content level and curricular context. So, as ECTS was introduced as an accumulation metric in Bologna countries, indirect routes had to be found to connect the two. One way of putting it is that the credit currency recognizes that the student has crossed a threshold of acceptable performance in a discrete subject, but the number of credits awarded is not based on a description of the learning or the quality of performance (grades), rather on the temporal workload associated with reaching that benchmark. In the language of Bologna, credits are a “notional device,” something that can be measured in a consistent manner. We simply don't have the tools to measure hundreds of stated learning outcomes the same way. As we will see, there is a tension here that has not been resolved across all Bologna systems.

4.1 Student Workload: Turning the Tables on the Assessment of What Goes into Learning

The ECTS system begins with a very different orientation from that used in the U.S. We base our credit assignments on faculty contact hours, with the assumption that in relation to each faculty contact hour, the student engages in other types of learning activities. ECTS uses the student as the primary reference point, asks how many hours the *average* student must spend to accomplish the various tasks in a course module, and converts the total to credits. If executed faithfully, this approach requires faculty to detail each learning activity in a course and *estimate* the number of hours the average student would require to complete that activity

³⁹The inclusion of a recommended standardized grading system and distribution of grades as part of ECTS protocols was, to put it politely, a tactical mistake, one that drew instant rejection from a number of countries. For this essay to spend time on the grading system proposal would divert us from our principal story-lines, but the topic of grades will be taken up in the expanded research monograph version.

successfully. The result of such an estimate might look as follows for a science course with two lectures, one laboratory, and a tutorial section each week:

Attending lectures (14 weeks)	28 hours
Background reading for lectures	28
Tutorial section	14
Laboratory preparation	14
Laboratory time	28
Laboratory reports	21
Paper writing	24
Examination preparation	16
Examinations	4
Total:	177 hours

How many ECTS credits is this workload worth? The divisors differ from country to country, but are all in the range of 25–30 hours per credit. The divisors are determined by each nation's academic calendar year (which ranges from 34 to 40 weeks across Bologna participation countries), an estimate of the total number of hours in an academic calendar year available for study (the range, again based on the number of weeks in each system's academic calendar year, has been 1500–1800), and a Bologna Process standard of 60 ECTS credits per academic calendar year. So the course above would be worth six or seven credits, depending on the system in which it was offered.

When disciplines undertaking the Tuning model get down to the level of the individual course module, they take the traditional syllabus, throw it out, and replace it with first, a list of competences and knowledge to be developed, then, against each expected learning outcome, they write out discrete learning activities, estimated student work time, and mode of assessment. An excerpt from an Organic Chemistry Practical Laboratory targeted at 2nd year bachelor's degree majors, and with 15 laboratory experiments, serves to illustrate here:⁴⁰

<u>Learning Outcomes</u>	<u>Educational Activities</u>	<u>Estimated Student Work Load (hrs.)</u>	<u>Assessment</u>
Reactivity and selectivity. Characterization of mixtures. Correct use of lab apparatus.	Experiment: free radical substitution of hydrocarbons.	8	Written report. [criteria]: quality of report.

⁴⁰Gonzalez, J. and Wagenaar, R. 2005. *Tuning Educational Structures in Europe II*. Bilbao, Spain: University of Deusto, p. 178

The point is not whether you, as a chemistry professor, would run this as one of 15 labs accompanying your Organic Chem lectures, or whether you would express the desired learning outcomes in terms of the knowledge and skills cited and their relation to the primary competence of “applying knowledge in practice” that you seek to develop in students, or whether the whole enterprise, including the writing of the lab report, takes 8 hours. You could write it another way, but Tuning, inseparable as it is from ECTS, means that you would engage in this process.

The Tuning guidance documents provide numerous examples of discrete educational activities and their estimated student “work time” set in blocks to match statements of desired learning outcomes. The following is an aggregated account of a hypothetical course in Intercultural Communication in Multicultural Societies offered in one of these documents.⁴¹ This is not a sequenced syllabus, though the lectures are numbered. Cutting across all blocks of learning outcomes (e.g. identifying the dimensions of cultural differences in approaches to space and time), here is what we see for this imagined 5 ECTS (125 work time hours) course:

Lectures	17 hours
Group discussions	2
Class discussions	4
Reading assignments	40
Class seminars on reading assignments	2.5
Writing and presentation of group projects	48
Presentations	2.5
Short papers	2
Field assignment	3
“Learning report”	4

How we judge this distribution of tasks and time for a social science topic is beside the point (I doubt, for example, that a field assignment consumes only 3 hours, and that it takes only 4 hours to write a final “learning report” paper for a class, no matter what its subject). The context of the class, along with its subject matter and desired learning outcomes, drives the initial selection of activities—and all this is determined by the instructor and the instructor’s department, not some external bureaucracy. The point is that the effect of thinking through what you are asking students to do to reach the learning objectives for the course, and how much time it takes them to do it, refines the selection of learning activities.

⁴¹Gonzalez, J. and Wagenaar, R. 2004. *Student Workload, Teaching Methods and Learning Outcomes: the Tuning Approach*. <http://tuning.uniduesto.org/tuningeu/index.php?option=content&task=view&id=179>.

Two major questions about ECTS in practice inevitably arise:

1) Do most faculty in the 46 Bologna countries engage in a careful analysis of the relation between desired learning outcomes, learning tasks, and student workload? Not at this point in time. Even if 66 percent of universities in the 46 Bologna countries use ECTS, and another 18 percent use an ECTS-compatible system, as the 2007 *Stocktaking* report sponsored by the European Commission indicates, the credit assignment water finds the easiest ways to flow downhill. And Vice Rector Eva Werner of the Fachhochschule Krems in Austria contends that the instinctive approach of faculties (departments) to assigning credits—we have X number of courses and students taking 30 credits per term, so how do we distribute the credits?—is not a wholly honest approach, but is mechanical and convenient, hence has become the default behavior, though she trusts that, over time, this default behavior will fade in favor of more rigorous reflection. Aileen Ponton of the Scottish Credit and Qualifications Framework authority would add that when an annual range of 1500–1800 hours is offered, “and certainly when that range is put in legislation, faculty and administrations propel themselves toward the margins of the range,” and follow mechanically.

For example, the senior honors courses in history at the University of Edinburgh in Scotland are weighted at 60 Scottish credits (half the credit time for that year). When asked by an external review group why these courses carried that weighting, the faculty responded that the courses were devoted “to the development of documentary analysis skills, the use of primary sources, and the close reading of texts, which are all time-consuming.”⁴² One would have to press the faculty further to determine just how they calculated “time-consuming” by student learning activity. One would like to express confidence that they could do so, for no instructor can imagine desired learning will take place if there is not enough time to engage in learning’s tasks.

But by 2007, it was evident that too many institutions were either robotic or sloppy in implementing the ECTS system. A widely-distributed “User’s Guide” to implementing the ECTS system in an institutional context⁴³ was thoroughly outdated, and in mid-2007 the European University Association and the European Student’s Union agreed to produce a current document, in consultation with the Bologna Follow-Up Group and other stakeholders. This is another work-in-progress, one beginning with some contention over estimates (even in ranges such as 1500–1800) of total annual workload hours for the average student and conversion formulas such as 30 hours=1 ECTS credit. Formulas, it is said, make it too easy for faculties to assign credits to course modules without thinking about precise learning activities or outcomes.

⁴² University of Edinburgh. Faculty of Arts Quality Assurance Report 2001–02, Appendix 5, p.1.

⁴³ European Commission Directorate-General for Education and Culture 2004. *ECTS Users’ Guide: European Credit Transfer and Accumulation System and the Diploma Supplement*. Brussels: Author.

A March 2007 “Flash Eurobarometer” survey of faculty in 31 countries⁴⁴ found that 80 percent supported the use of ECTS in all programs. One can be somewhat cynical about that response: if the process is easy and just about everyone is doing it, then it is difficult not to join the club.

2) Does anyone ever ask for empirical evidence of how much time students actually spend on the various learning activities in a course? Yes, but the practice is not widespread, and the results of student surveys are highly variable.

Juliana Kristl, Pro-Rector at the University of Ljubljana in Slovenia, observes that there are no real rules on what proportion of credits are truly workload based. So the procedure at Ljubljana is for a team of faculty and third and fourth year students to make the initial estimates of workload, and assign the credits. The results are then evaluated on an annual basis by the same group that made the original decision. By evaluation is meant soliciting student testimony as to how much time they actually spent doing X, M and Q. Prof. Kristl teaches a course in pharmacy technology with 150 students, and another in nanotechnology with 25 students. When students were asked for a workload accounting, the difference between the two courses was less than a 0.5 Standard Deviation Unit, i.e. there was a great deal of consistency.

But elsewhere in Slovenia, there have been contrary estimates. A research project on actual student workload in a smaller (than Ljubljana) unnamed university was conducted,⁴⁵ with weekly reports from students over the course of a complete academic year (2005–06) in selected courses, including those delivered on-line. The findings start with the fact that students estimated their workload at 13.6 hours per credit versus the 25–30 hour reference band for ECTS. The range was 9.2 hours to 26.9, a very high degree of variance. Workload in e-learning courses did not differ from that in conventional classroom instruction, which is a bit surprising. There are a lot of common sense explanations for the variances, and the report offers the following:

- Students spent less effort on compulsory courses (13.1 hours/credit) than they did on electives (17.3 hours/credit).
- Part-time students spent 30 percent less time per credit than did full-time students. Part-timers explained that they concentrated more in the limited time available to them for study.

⁴⁴ European Commission 2007. *Perceptions of Higher Education Reforms: Survey among teaching professionals in higher education institutions, in the 27 Member States, and Croatia, Iceland, Norway and Turkey*. Brussels: Author.

⁴⁵Stepišnik, J.K., Kolar, O., Širca, N.T., and Lesjak, D. 2007. *Student Workload—Student or Teacher Responsibility: Case Study in Higher Education, Slovenia*. Paper delivered at the 20th International Congress for Effectiveness and Improvement. Portorož, Slovenia.

- Employed students spent only 10 percent less time on their studies than the unemployed. And students with less than five years of work experience spent less time on study than those with five or more years of work experience.
- On average, older students (26 and up) spent three hours more per credit point than younger students.

To be sure, this study was conducted at a single institution in one country, and the specific courses at issue were not identified, even by field. But it suggests that monitoring empirical workload can provide insights for curricular and delivery revisions, along with targeted support services to sub-populations. In the U.S., this study suggests adding a more nuanced set of questions and reporting categories on student uses of time to the National Survey of Student Engagement (NSSE).

Similar observations on student workloads were reported for the UK on the basis of a Web survey of 15,000 first and second year students in 2006, and a parallel survey in 2007, with the results reinforcing.⁴⁶ Those surveyed reported an academic workload of 25/26 hours per week, but differences by field, and by corresponding division between formal class work and “private study,” were considerable. The survey did not offer students the chance to respond by type of learning activity, so when medicine, dentistry, and veterinary medicine students reported the highest number of formal instruction hours (followed by engineering, subjects allied to medicine, and the physical sciences), that most likely indicates combinations of laboratories, clinics, and other intense learning situations outside lecture halls. Students in this survey also reported the proportion of scheduled hours of formal instruction they did *not* attend: an average of about 10 percent, highest in business (14 percent) and lowest in education (4 percent). Men tend to skip class more than women (surprise?), and women tend to spend about 1.5 hours more a week in “private study” than men. If you put it all together, medical/dental/veterinary studies are a full-time job. Business and communication are distinctly part-time jobs.

On the surface, student workload in courses delivered on-line would seem difficult to calculate, but in practice, an institution with both on-line and classroom-based versions of the same courses can adopt a different approach. As Raphaël Costambeys-Kempczynski, Director of the University of Paris III’s *Télé 3* unit notes, the ECTS calculation for the on-line version is simply whatever the classroom-based course has determined, *but* “the translation of credits is really not so much a matter of time as it is what students have to know.” Whereas Paris III’s classroom students undergo continuous formative assessment, *Télé 3*’s on-line students are subject to end-of-year examinations. That certainly is one way of connecting credits to learning outcomes, but the Bologna platform has spawned others.

⁴⁶ Bekhradnia, B., Whitnall, C., and Sastry, Y. 2006. *The Academic Experiences of Students in English Universities*. Oxford, UK: Higher Education Policy Institute. And Sastry, T. and Bekhradnia, B. 2007. [same title, same publisher, next survey]

4.2 Connecting Workload and Learning Outcomes Through Level Labels and “Descriptors”

The Tuning Project always made it clear that ECTS mean nothing more than volume of study when they stand alone. One might ask whether, standing alone, credits can represent different volumes of learning. The performing arts can illustrate the issue more easily than other disciplines. One might say that it takes four hours for a conservatory pianist to master Beethoven’s “Für Elise,” two days for a Bach Two-Part Invention, and four months for the Rachmaninoff 2nd Concerto (including preliminary rehearsals with an orchestra)—and most of that is independent study known as “practice.” Are these measures proxies for challenge and level of learning? Can one find similar hierarchies of temporal investment in other disciplines? Surely there must be parallels in engineering lab assignments. Surely there are parallels in history between reading the text book, synthesizing the equivalent of a text book from a set of secondary sources, and digging out primary sources and writing a narrative based on them. Given the complexities of these different pathways, given different modes of student work in the disciplines, our European colleagues have gone about the task of linking workload to learning outcomes with alternative proxies.

The first—and easier—grid for infusing credits with more meaning involves identifying levels of study. In Bologna terms, these are “level descriptors.” The Tuning Project’s recommendations for these levels are:

- Basic/Introductory level
- Intermediate level (intended to deepen basic knowledge)
- Advanced level (“strengthening expertise” is the way the Tuning Project puts it)
- Specialized (sub-fields that open up at an advanced level)

So if one were to summarize a graduate’s record, one might say he or she earned 26 percent of their credits at the introductory level, 35 percent at the intermediate level, 29 percent at advanced, and 9 percent in specialized fields. To be sure, one institution’s intermediate level course is another institution’s advanced course, but so be it. The objective of Tuning’s recommendations on ECTS is simply to get people recording and reading in the same conceptual language, not to produce the same text.

At one point, the Tuning reports suggested a distribution scheme for coding courses that combined the level labels (Basic, Intermediate . . .etc.) with a simple taxonomy of course functions within a degree program as Core, Related (supporting course for the core), and Minor (optional or subsidiary). So, in the Tuning example, a code of 5-I-R would say that the course is

Intermediate, Related, and carries 5 credits.⁴⁷ Basically, one is dealing with descriptors that help further define and communicate what has been studied (though not discrete learning outcomes).

While this suggested coding scheme does not seem to have been adopted (at least in the evidence examined for this essay), one finds analogues in program designs based on blocks of credits linked to learning outcome levels. At the University of Uppsala in Sweden, the Rector's office offers guidance for developing a *de facto* credit-level using selected cases in the disciplines.⁴⁸ Learning outcomes for the core 60 (Swedish) credits in the political science program are divided in 20 credit blocks. The first 20 credits will result in the student's ability, for example, to:

- describe and contrast the political systems of Sweden and other countries;
- discuss the process of political influence within state structures;
- discuss the broad international context for 20th century Swedish state security policy;
- discuss the political problems of developing and new democracies;

and, in the course of which, participate as both a discussant and presenter in seminars and write short essays.

The second 20 credit block ups the ante, with expectations for student demonstration of knowledge of various research methods and design; and at the third 20 credit block adds independent study of comparative politics, political theory, etc. as reflected in the student's formulation of problems to investigate, along with demonstrable understanding of blending textual and quantitative research methods.

We assume that course numbering systems used in the U.S. carry at least an analogue of this "level" taxonomy, but as practiced across U.S. institutions of higher education, that system is not standardized even in language (let alone metrics) and is hardly transparent. The public higher education system in Florida has demonstrated that a common course numbering system is an efficient tool of transfer and enrollment management, and may even reflect common levels of learning across its universities and community colleges (though without a Tuning-type process, one would never know for sure). But Florida is a rare case. And in Europe, there were no cases of common course identifiers.

⁴⁷ González, J. And Wagenaar, R. (eds.) 2003. *Tuning Educational Structures in Europe: Final Report-Phase 1*. Bilbao, Spain: Univ. of Deusto and Groningen, NL: Univ. of Groningen, p. 47.

⁴⁸Uppsala Universitet 2006. *Mål uttryckta som förväntade studieresultat – en vägledning*. Uppsala: Office of the Rector.

A more intriguing approach linking credits to learning outcomes is reflected in the UK and Scottish placement of credits within *levels of challenge*. That link—between the measure of estimated student time-on-tasks and level of demand inherent in those tasks—creates a “credit level,” defined as “an indicator of the relative demand, complexity and depth of learning and of learner autonomy.”⁴⁹ There are nine (9) credit levels in these systems, each of which carries a generic description, independent of discipline but that can be applied to all disciplines—much in the same manner as qualification frameworks. Figure 6 sets forth the credit level “descriptors” for levels 3 - 6 of that 9 level continuum in the UK and Scotland. Note that a “credit level” applies to courses only, and is not the same marker as a degree level (e.g. diploma, Bachelor’s)

Figure 6: Selected Credit-Level Descriptors in the UK and Scotland

Level 3—apply knowledge and skills in a range of complex activities demonstrating comprehension of relevant theories; access and analyse information independently and make reasoned judgements, selecting from a considerable choice of procedures, in familiar and unfamiliar contexts; and direct own activities, with some responsibility for the output of others.

Level 4—develop a rigorous approach to the acquisition of a broad knowledge base; employ a range of specialised skills; evaluate information using it to plan and develop investigative strategies and to determine solutions to a variety of unpredictable problems; and operate in a range of varied and specific contexts, taking responsibility for the nature and quality of outputs.

Level 5—generate ideas through the analysis of concepts at an abstract level, with a command of specialised skills and the formulation of responses to well defined and abstract problems; analyse and evaluate information; exercise significant judgement across a broad range of functions; and accept responsibility for determining and achieving personal and/or group outcomes.

Level 6—critically review, consolidate and extend a systematic and coherent body of knowledge, utilizing specialised skills across an area of study; critically evaluate new concepts and evidence from a range of sources; transfer and apply diagnostic and creative skills and exercise significant judgement in a range of situations; and accept accountability for determining and achieving personal and/or group outcomes.

As in the case of qualification frameworks for both the European Higher Education Area and individual countries, these levels follow a ratcheting up of complexity. While the phrasings

⁴⁹ Joint Credit Bodies for England, Wales, and Northern Ireland [EWNI], 2001. *Credit and HE Qualifications*. London: Author.

might have been more felicitous, consider the first and last statements in each of those level descriptors (edited a bit to make the point):

Knowledge and application

Level 3: Applying [in such a way as to] demonstrate comprehension of theory . . .

Level 4: Developing a distinctive approach to acquisition of knowledge . . .

Level 5: Generating ideas . . .formulating responses to well defined and abstract problems

Level 6: Reviewing, consolidating, and extending . . .knowledge

Accountability

Level 3: Directing one's own course, with *some* [italics mine] responsibility for the contributions of others

Level 4: Taking responsibility for the nature and quality of product, performances, and other evidence of learning. . .

Level 5: Accepting responsibility for defining and achieving personal and group creations

Level 6: Accepting accountability for defining and achieving. . .

In the matter of knowledge and application, there is a continuous expansion of territory and tasks. As for the semantic line between “responsibility” and “accountability” one might say (these descriptors are too elliptical in the matter) that the former is a self-reflexive obligation whereas the latter references an external authority. If so, then again there is an expansion of scope as one moves up the “credit levels.” Once these levels are established and everyone knows what they mean, degree qualifications can be set in terms of minimums at each level, e.g. 40 percent of credits at level 6, 65 percent of credits at levels 5 and 6. In the U.S., that strategy would preclude students stuffing their credit portfolios with Level 3 courses simply to reach 120 or 128 credit thresholds for a Bachelor’s degree. The challenge of content means more than time-on-task if we want transfer of credit to work (in the United States) and cross-border mobility to work in Europe.

4.3 Credits and Curriculum Reform: Inevitable When the Currency is Student-Centered

What credits based on student workload do (at least if faculty reflect deeply as opposed to mechanically) is to spur changes to the shape and delivery of curriculum. One might rethink what is compulsory and what is optional; what is pre-requisite; what is duplicative; what can be delivered in different modes. The credit system was intended to go hand-in-hand with explicitly stated learning outcomes of course modules, internships, and dissertation work, on the one hand, and program curricula, on the other. When faculty have to think about this relationship, particularly given the basis of ECTS in student workload, curricular reforms and adjustments are inevitable, indeed, desirable.

There is a remarkably common-sense essay from Finland that leads us to appreciate this relationship.⁵⁰ There is no question, the authors admit, that the time a student needs for in-depth learning is dependent on the student's ability, motivation, and prior education and knowledge, but also on the difficulty of the course and the quality of teaching—to which I would also add (and they include these factors separately) the delivery system (distance learning, for example, is more time-consuming, with its searches, technical problems, software tangles, and communication with the instructor and other students) and the course organization (student team organization is obviously more time dependent, owing to the social dynamics of small groups). But they advise those moving into the ECTS universe to work on time estimates first and credits later lest “credit collection and maneuvering [become] a superficial game where learning is not the . . . primary goal.”

While some in the Bologna countries do not like to use the calculation, if one takes the average estimated annual student learning time of 1600 hours, then backs off and considers a three-year Bachelor's degree, one cannot avoid asking what range and level of learning can be achieved in 4800 hours by the average student. The question is a prologue to curriculum design. Take each course your program regards as core, as supportive, etc., and each task within those courses, estimate the time necessary to execute those tasks with maximum learning, and add it up. If you come up with substantially more than 4800 hours, go back and reevaluate the necessity of every piece. If you come up with substantially less than 4800 hours, then think about what else you need.

Such considerations bring us back to Project Polifonia, and the work of Evert Bisschop Boele, who wrote the *Handbook for the Implementation and Use of Credit Points in Higher Music Education*.⁵¹ Boele explains what the European University Association's *Trends V* (2007) and other reports hinted at indirectly: that redoing credits helps you re-do the curriculum. Why? Because, as Boele contends, “it . . . makes clear that curriculum change needs to be about replacing old subjects by new, not just about adding subjects to a curriculum.” If one thinks about it carefully, a student workload-based credit system forces faculty to reflect on what they demand of students, and, “as a result, it turns our attention from teaching to learning,” and results in a *de facto* “agreement between the institution, teacher and student.”

If faculty think all their conservatory students need a new course in 12-tone composition and that the learning in this course holds a high priority, they may have to drop or compress another

⁵⁰ Karjalainen, A., Alha, K., and Jutila, S. 2006. *Give Me Time To Think: Determining Student Workload in Higher Education*. University of Oulu, Finland.

⁵¹ Association Européen des Conservatoires, Académies de Musique et Musikhochschulen 2006. Available at <http://www.aecinfo.org/content.aspx?id=1716>.

requirement or move another topic out of the classroom and onto the Internet.⁵² As Boele observed on another occasion,⁵³ under the student work-load default, if you ask students and teachers separately how much time students engage in academic work, you will get wildly different answers. You then might wind up asking some very basic questions about the curriculum and its delivery in your field, questions that “have always been there” but which a new credit system forces into the open. An issue in music as to whether fewer class lessons means more practicing can find its analogues in virtually all other disciplines.⁵⁴ Faculty at the Royal Academy of Music in Stockholm reflected that the consequence of thinking about student workload was an outright re-write of course plans to consider how much of the core conservatory subjects (ear, composition, etc.) are already included in the development of instrumental performance, hence the extent to which separate course modules were redundant. As Harald Jorgensen of the Norwegian Academy of Music has pointed out, the introduction of credit systems in Europe has had just such “a disciplinary effect” on faculty, forcing them to adjust demands, to talk with colleagues about what is required of students and at what levels of importance, and to think carefully about delivery, student interactions, and learning activities.

What does *not* translate from the performing arts (dance and theater, as well as music) to many other disciplines is Boele’s notion of “individual contact time,” that is, the adjustment of gross faculty contact time by the number of students with whom that time is shared.⁵⁵ That kind of formula is rather awkward, even though, as Boele notes, it is “simple and objective.” In the U.S. system, it would result in heavier weighting for music performance courses with individual supervision, as well as for seminars, tutorials, and small laboratory sections in other disciplines. The more specialized the course, particularly at upper division levels, the greater the weighting.

Thinking through credits, of course, is not the only stimulant to curricular change. The dynamics of other Bologna reforms, particularly in matters of degree cycles, increased flexibility of entry and cross-over paths, and incentives for mobility and joint degrees play equally significant roles. In Section 5 below, where degree cycle and path issues are addressed, we offer up the case of medicine to illustrate.

⁵²The University of Paris III has moved a considerable number of foreign language courses onto its Télé 3 network, partly as a concession to student time management.

⁵³The AEC Annual Meeting in Vilnius, Lithuania, 2002.

⁵⁴There are obvious analogues in the arts: in theater, it means preparing for rehearsals and rehearsals themselves; in the visual arts it means drafting, sketching, and preliminary composition, whether in a studio or at home.

⁵⁵In music programs, this application of contact time differs by instrument, i.e. for some instruments, instruction is more likely to be delivered through ensembles.

4.4 Suggestions for a Credit Revolution in U.S. Higher Education: What We Can Learn from the Bologna Experience with ECTS

The U.S. credit currency, based principally on faculty contact hours (along with varying assumptions about student study-time per faculty contact hour), is a metric designed for funding and resource allocation, not as a proxy for learning. Its engine lies in the office of the Vice President for Finance, not the office of the Vice President for Academic Affairs. The student is incidental. Even in the matter of time, the same faculty load serves considerable differences in student work load. Something is wrong here. If we care about accountability for student learning, perhaps we need a redesign. Perhaps the Bologna experience might help us.

Before one redesigns a credit system, one needs some definitions, principles, and guidelines. The mechanical implementation of ECTS doesn't really do it. Credit should define levels of student work (time volume and intellectual demand) that render courses in different disciplines comparable. In a way, the U.S. system tries to do that now by giving an extra credit for science labs or language labs or by heavier credit weighting of externships. But we do so in a rather arbitrary fashion, and wind up awarding the same number of credits for course work of widely varying intellectual demand. We give three credits for a course in Econometrics and three for Introduction to Sports, and brush such dissonances under the rug. This observation is not new. As the federal study group that wrote the last "commission report" on American Higher Education in 1984⁵⁶ observed,

"Credits . . . do not indicate the academic worth of course content. In too many instances, quality control in the assignment of credits to courses is problematic. For example, in some colleges students can earn the same number of credits for taking a course in family food management or automobile ownership as for taking a course in the history of the American city or neuropsychology." (p. 13)

For all its concerns with accountability, the more recent report of the Spellings Commission of the Future of Higher Education didn't deal with this core quality assurance issue—and that's what it is. If we want credits to be meaningful and indisputable in the context of transfer or for recognition of prior learning, we need consensus on student workload formulas and level descriptors together. It's not perfect, but it's a start.

A credit system established this way recognizes a wide range of course work types, along with learning in non-formal settings . For example, someone can come to a community college or university from industry seeking credit in Web site design, but with no experience in programming the graphics that are part of the design, whereas students in your Web site

⁵⁶Study Group on the Conditions of Excellence in American Higher Education 1984. *Involvement in Learning: Realizing the Potential of American Higher Education*. Washington, DC: U.S. Department of Education.

design course not only face a pre-requisite of demonstrable fluency in Java 2, but actual utilization of those programming skills in course team projects. Both students may receive the same number of credits, but at different levels. I would also argue that constructing credit qualifications as a function of both time and challenge will mitigate a lot of the arguments over transferability of credit. That is, even before considering student performance as reflected in a grade, an institution that has established clear criteria for credits and level of a particular subject is in a stronger position to judge whether it will accept another institution's credits in that subject at that level—or at another level. U.S. credits, as currently determined and granted, provide no such clarity. Increasingly—though not uniformly—European credits do. It's a lot easier for Bologna participants to translate an IT certification earned outside the formal higher education sector to credits: they can defend their decision with estimates of student work load, determination of complexity and depth of knowledge, and range of application of that knowledge in the IT environment.

To re-do the credit system in the United States along the lines of ECTS, with student workload as the primary reference point, would be an undertaking of considerable magnitude. Every academic department in every institution on a credit system would be required to work through calculations of estimated workload for the average student in every course offering, a daunting task. After all, how many faculty in the U.S. have ever picked up the readings they assign and actually read them, taking notes, with a clock at their side, and adjusting their reading time as experts to what they imagine the average student's time would total? How many of them have written up a laboratory exercise with a clock at their side, going through the same adjustment of expert to novice time? Within an individual course, information retrieval, reading, writing, presenting, practicing, field observation, laboratory set-up, etc. all can be clocked. Consensus on the number of hours estimated to study for a final exam or prepare an art exhibit or conduct field observations or execute laboratory assignments would have to be reached. Registrars' records and computer systems would require reprogramming and conversion algorithms. Credit-based tuition and fee formulas would require reconceptualization and adjustment. If everybody started down this path tomorrow, we wouldn't finish for a decade. And then it would be necessary for the new credit system to come on stream on a date certain. Memories of Y2K!

But that's exactly what the Europeans committed to doing under Bologna. Some of them have done it; others are in process; and still others will join. The reason? It is a student-centered accounting system that imperceptibly impels faculty to reflect on what they are teaching, what students are supposed to be learning and how, and, as a consequence, make adjustments to both curriculum and its delivery that are long overdue.

This essay acknowledges that we are *not* going to change our core credit/finance accounting system link. We are not going to alter our system in such a way as to require recalculation of credits on student records going back a half century or more. Yet there is no question we can

make some critical adjustments that will make more sense to future students and, in the process, demonstrate that U.S. higher education is committed to an honest assessment of the distribution of knowledge and skills, to quality assurance, and to transparency. How?

A) Once again, state public systems have to take the lead. Private institutions can buy in at their discretion, individually or in consortia.

B) The credit system has to be supplemented by an indication of the level of cognitive and skill demand of each course. This indication requires. . .

B1) A state system qualifications framework (as advocated in Section 2.3 above), and

B2) The development of “credit-level” descriptors analogous to those described in Section 4.2 above

C) No matter how an institution numbers its courses, each course would carry a public marker of “credit-level,” and this marker indicated on students’ transcripts;

D) Qualification frameworks at the level of field or discipline then would set minimum distributions of credits required at each level in order to earn a degree, e.g. 40 percent at level 4, 60 percent at levels 3 and 4, etc.

E) For purposes of student advisement, faculty should be asked to present an analysis of student work load in terms of the learning tasks and assignments for each course. U.S. faculty may regard this analysis to be tedious. It is, but it isn’t trite. While this undertaking *may* result in curricular modifications, its purpose is to render faculty more responsible academic advisors. They would be able to hold students back from overload with courses whose time demands for real learning exceed the number of hours in a waking week, or, conversely, pointing out how to fill discretionary time with more efficient learning. They might even instruct policymakers of the “get-it-over-with-and-get-it-over-with-fast” school who also express concern with the quality of student learning that when time is tight, superficial learning is the outcome.

Will this approach work if one state system does it and others do not? If the first state sticks by its guns, everyone else will follow because the first state will give its students incredible global mobility, both pre- and post- graduation. That state system’s credits will be recognized in at least 46 other countries. That state will also have opened up more flexible paths for adults returning to higher education in the recognition of prior learning in non-formal settings. It is all worth considerable thought.

5. The Core of Bologna, Part IV: A Different Kind of Visit to Degree Cycles

The most widely-known core feature of the Bologna Process in the U.S. is the conversion of a wilderness of credentials previously offered across the European continent into a uniform three-cycle structure parallel to the bachelor's, master's, and doctoral.⁵⁷ In fact, those are the default labels for the three cycles for purposes of international education commerce. This degree cycle revolution in Europe is a done deal. There is no turning back. Sooner rather than later, just about everyone will be on the new system—with some minor variations, to be sure. When national systems gave their institutions the option of converting to the Bologna cycles or delaying change, as was the case in Portugal, programs that changed over sooner saw increased volume of student applications, a confirmation of the classic signaling hypothesis, i.e. with visibility, students see the new cycles as more advantageous than the old.⁵⁸

Our interest in the degree cycles is not to evaluate their comparability to U.S. degrees, or to explore the conditions of eligibility of European graduates for admission to different graduate programs in the United States. What should be of greater relevance to U.S. audiences are the ways in which other elements of the Bologna Process portfolio are brought into relief by the cycles, and the range of interactions between higher education and economy that the Bologna cycles open up. Specifically, this essay contends—and it is not the first to do so—that, even though the intention of Bologna policy was to move students into the labor market more quickly through a shorter first cycle degree, the Bologna Master's degree is increasingly recognized *by students* as the terminal degree of tertiary education, with the Bachelor's degree one—though the most important—of intermediate steps *en route* to the Master's. The two degrees link graduates to different occupational clusters, one more technical and supportive, the other more research-oriented and managerial. However stratified those paths appear, there is nothing dissonant about them in post-industrial economies.

Reflection on the degree cycles also brings the “social dimension” of the Bologna action portfolio onto the stage. “Social dimension” is a heuristic not merely for increasing access to tertiary-level education for under-served populations, but for increasing participation on the paths that lead to first and second cycle degrees by creating and improving connecting routes from points outside the formal tertiary system. The “social dimension” is not a reflex matter of

⁵⁷Initially—in both the Sorbonne Declaration (1998) and Bologna Declaration (1999)—only two cycles were mentioned, equivalent to undergraduate and graduate. For a detailed account and analysis of the evolution of these cycles see Witte, J. K. 2006. *Change of Degrees and Degrees of Change: Comparing Adaptations of European Higher Education Systems in the Context of the Bologna Process*. Doctoral dissertation, University of Twente, NL.

⁵⁸Cardoso, A.R., Portela, M., Sá, C, and Alexandre, F. 2007. *Demand for Higher Education Programs: the Impact of the Bologna Process*. Braga, PT: Núcleo de Investigação em Políticas Económicas, Uniersidade do Minho.

reaching isolated rural populations, students with disabilities, children of immigrants, and working-class adults: it is a matter of *how* one establishes connecting routes into the tertiary system for these populations. In Sections 5.3, 5.4, and 5.5 below, we will illustrate three ways these connections play out and the universe of participants on degree paths expanded: the growth of short-cycle degrees within the first cycle, the growth and treatment of the part-time student population in Bologna countries, and procedures for the recognition of prior learning in both formal and non-formal settings. All these developments—along with bridge programs for students crossing from occupational to academic paths or from first to second cycle programs—have a notable impact on our assessment of the time it takes to earn credentials. When European programs speak of two-year short cycle diplomas, three or four year Bachelor's degrees, and one or two year Master's degrees, they refer to nominal time, not elapsed time. We will come back to this.

The task of building qualification frameworks in the disciplines, connecting them to credits, and validating that connection should be a challenge prior to or concurrent with converting existing degree programs to the three cycles of the European Higher Education Area. That is not exactly the way it happened, though, and that's part of what *Trends V* means when it observes that "implementation of the three cycles seems to have become a task which is considered as a goal in itself, rather than a means to achieve other objectives [including student mobility and cross-border recognition of credentials]."⁵⁹ And there is no question (it is observed in the European Students Union 2007 *Bologna With Student Eyes* as well) that some of the transitions from old to new structures have been "cosmetic and superficial."

There are three complexifying features of the three-cycle framework that should be acknowledged before we move on:

1) Intermediate credentials are offered in a growing number of countries. We have previously mentioned the Swedish "diploma," granted, on application, roughly two-thirds of the way toward a Bachelor's degree. The traditional German *Vordiplom*, awarded after successful completion of second year examinations, is another, as is the Dutch *propaedeutic* certificate, awarded on passing all subjects and examinations in the introductory portion of a program. So while everybody is committed to three cycles, one notes a number of stops between them, most of which pre-date Bologna. In fact, on the landscape of European credentials are dozens of intermediary minor and special purpose awards, for which credit markers are used.⁶⁰ Short-cycle degrees within the first cycle of

⁵⁹Crosier, D., Purser, L. and Smidt, H. 2007. *Trends V: Universities Shaping the European Higher Education Area*. Brussels: the European University Association.

⁶⁰The Scottish Credit and Qualifications Framework, for example, lists 8 credentials between undergraduate entry and the Master's degree, for each of which is indicated minimum credits required at 12 degree qualifying levels. The University of Strathclyde's "awards framework" lists 11 credentials, including two types of Bachelor's, three types of Master's, two postbaccalaureate, one bridge credential, and three sub-baccalaureate awards.

undergraduate work, certificates, diplomas—these are not necessarily “lesser” awards, rather formal recognitions of progress. They could be made at different stages of an otherwise unitary course of study. In typical U.S. practice, one could present, for example, a General Education diploma, a certificate of grounding in a major field, a diploma for a 30 credit “minor,” etc.

2) While the Bologna Declaration did not specify the normative number of years necessary to complete each degree cycle (all it required was a *minimum* of three years for a Bachelor’s degree), the formula of 3+2 (three year Bachelor’s, two-year Master’s) has become the norm in Bologna practice, yet one that evidences considerable variation by field of study and type of institution, particularly in binary systems. All Scottish Bachelor’s degrees remain four-year (while those of England/Wales/Northern Ireland were three-year degrees long before Bologna) and so are those in Spain. Engineering degrees in the nine German technical universities, such as Karlsruhe, are three-year first degrees with a majority of graduates continuing to the Master’s level, whereas engineering degrees in the majority of German *Fachhochschulen* are three and one-half year first degrees, including an industry internship. Medicine remains a five and one-half year (Scotland, Sweden) and six year (everywhere else) program that awards a Master’s as its first degree, though notable variations have appeared in Switzerland, the Netherlands, and Poland (see Section 5.2 below). However more transparent and comparable degree awards have become across the Bologna countries, thus facilitating mobility (e.g. from a university in Spain to the labor market in Italy, or with a Bachelor’s degree from the same university in Spain to a Master’s degree program in Denmark), the Bologna degree cycle reform was not reductionistic. The Master’s level offers further variations, with the UK holding and defending its traditional one year Masters, interestingly enough, on the grounds of student workload.⁶¹

3) The paths between degrees and degree-levels have been regularized, but still are conditioned by field and institutional type. According to the national self-reports in the 2007 Bologna *Stocktaking* report of the European Commission, access to Master’s degree programs for Bachelor’s degree recipients is guaranteed in 37 of the participating national systems. Very few students take the equivalent of a GRE, GMAT, or LSAT for graduate school admissions purposes. This access is part of what *should* emerge from that “zone of mutual trust” with qualification frameworks that basically guarantee that the Bachelor’s candidate has attained the criteria set forth in the framework statement. Nonetheless, binary systems such as those in the Netherlands and Germany have created “bridge

⁶¹The testimony of Imperial College, London to the Education and Skills of the British House of Commons in 2007 indicated a range of 2280 to 2350 hours of student workload at the Master’s level in engineering and natural sciences, based on a 48-week study year, against the 1500–1800 hour averages used in other Bologna countries. See <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmmeduski/205/205we01.htm> for all written evidence submitted to the House of Commons on Bologna-related matters and ordered printed, April 16, 2007.

programs” for Bachelor’s recipients from the *hogescholen* and *Fachhochschulen* who move into research-oriented Master’s programs. Bridge programs also turn up in the contexts of access and part-time study (Section 5.4 below) and recognition of prior learning (Section 5.5), but in the context of the Bachelor’s/Master’s cycle they are essentially post-baccalaureate, “pre-Master’s” programs that have been described as “an extensive form of selection.”⁶²

Before examining the divide between labor market and Master’s degree destinations of Bologna Bachelor’s recipients, a few short reflections on three-year Bachelor’s degrees and the sometimes uneasy attention they have received from graduate school deans in the U.S. First, we never had a problem with UK Bachelor’s degrees, which have stood with a three-year marker for most of recorded memory. Why should an Italian or Austrian three-year degree now induce unease? Second, for the most part, European students enter higher education with the equivalent of *at least* one year of U.S. higher education already under their belts (Sijbolt Noorda, president of the Netherlands Association of Universities, says one and one-half for entering university students). If the reader goes to the Web site of CIMEA, the Italian information site for degree equivalencies,⁶³ clicks on admissions guidance for foreign students, and looks at the recognition and admissions statements for students holding U.S. high school diplomas, one finds those diplomas acceptable *only if* the student has also (a) completed two years of college *or* (b) holds college sophomore standing and has completed “4 Advanced Placements (APs) in as many subjects related to the Italian programme of their choice” *or* (c) holds an International Baccalaureate diploma with a course of study that included Italian language. All applicants must also pass an Italian language examination similar to our TOEFL. One can count the number of high school graduates in the United States who meet those qualifications on one’s fingers and toes. And what holds for Rome generally holds elsewhere.⁶⁴

5.1 Destinations of the First Degree Cycle: Labor Market and Master’s Degree

To some extent, the rationalization of degree cycles under Bologna was influenced by economic considerations: moving more university students into the European work force more

⁶²van Os, W. 2007. “Selection to the Master’s Phase at the Binary Divide: a Dutch Case Study.” *Tertiary Education and Management*, vol. 13, no. 2, pp. 127–140.

⁶³Virtually all European countries have a designated National Academic Recognition Information Center (a NARIC). The NARICs are linked for continuous updates of mobility requirements and statements of academic equivalencies, and have an increased volume of responsibilities under both the mobility and access themes of the Bologna Process.

⁶⁴A notable variation, illustrated at the University of Karlsruhe in Germany, involves one-year bridge programs taught in English while students’ German language skills are being developed to the point of independence. By the second year at the Karlsruhe, the foreign English-speaking student is wholly immersed in the German language instructional environment.

efficiently. The European Students Union's *Bologna Through Student Eyes* for 2007 contends that, in its design to create a smooth transition from higher education to the labor market, the Bologna Bachelor's degree is a novel phenomenon in Europe. Not wholly true, and in practice, the new cycles created new pathways and connecting bridges between labor market oriented and research oriented (academic) programs, so that the student is presented with complex choice sets. As was pointed out in a report early in Bologna history,⁶⁵ the success of a labor market oriented Bachelor's degree is dependent on acceptance by employers, and if the *state*, as an employer, balks at hiring those with the new Bachelor's degrees (not only in occupational fields such as social work or school teaching, but also in traditional academic disciplines in the humanities and social sciences), the structure falls. The authors observe that Germany was more cautious than some other countries in the matter of conversion (Norway, for example, converted all of its programs to the Bologna cycles by 2003) precisely for these reasons—worried that the new cycles would not render internationally intelligible its old *Diplom* and *Magister* degrees, would not reduce its typically long time-to-degree (six to seven years) and high drop-out rates,⁶⁶ indirectly suggesting that the new world threatened traditional relationships with employers.

The assessment of flow into the labor market, though, depends on what one means by “employers.” As a comparative analysis of the introduction of the Bachelor's/Master's core noted at the mid-point of Bologna history,⁶⁷ “personnel-recruiting is a conservative business, and the tendency is to prefer graduates with the known traditional degrees or Master's.” But that attitude, as Chancellor Dietmar Ertmann of Karlsruhe University reflected, lives in the human resource divisions of corporations, whereas the research divisions have closer relationships with universities and are more attuned to academic change. In the matter of hiring, he noted, the German corporations began to wake up when the engineering associations issued statements endorsing the full three-year Bachelor's plus two-year Master's as the normative degree structure.⁶⁸ What was endorsed in this case was largely a repackaging of the

⁶⁵ Klemperer, A., van der Wende, M., and Witte, J. 2002. *The Introduction of Bachelor and Master Programmes in German Higher Education Institutions*. Enschede, NL: CHEPS and Gütersloh, DE: CHE.

⁶⁶ A perceptive German study of pre-Bologna cohorts distinguished between drop outs (26 percent), transfers (13 percent) and returns (10 percent), with notable differences by sector (university versus *Fachhochschule*), discipline, and program. Heublein, U., Schmelzer, R., and Sommer, D. 2005. *Studienabbruchstudie 2005*. Hannover, DE: Hochschul-Informations-System.

⁶⁷ Alesi, B., Bürger, S., Kehm, B.M., and Teichler, U. 2005. *Bachelor and Master Courses in Selected Countries Compared with Germany*. Bonn, DE: Bundesministerium für Bildung und Forschung.

⁶⁸ One might also note that in Germany there were 48,000 “engineering” jobs (15,000 in engineering services, and 12,500 in metal processing, mining and vehicle production) that could not be filled in 2006, and that the Germans were importing university-trained engineers, e.g. 1,500 from Poland alone (though the “best” Polish engineers were already working in Norway and the UK). Füller, C. 2007. “*Die Mär von der Bildungsoffensive*.” Berlin, DE: taz Development Media GmbH & Co., KG.

old 5-year research-oriented engineering degree. In fact, as the 2007 *Bologna Through Student Eyes* observes, there has been considerable repackaging of the old longer first degrees into the Bachelor/Master cycle.

Institutions “of applied science”—the polytechnics, the *hogescholen*, the university colleges, the *Fachhochschulen*—were always, by mission, labor market oriented. As Prorektor Dieter Höpfel of the Hochschule Karlsruhe observed of his own institution, most technical students have post-degree jobs before they finish their Bachelor’s degree. The economy (at least through 2007) was strong enough so that they had no incentive to continue to the second cycle. At one point, the Hochschule Karlsruhe administration assumed 20 percent would continue to the second cycle and another 20 percent would return from the labor market to pursue a Master’s at a later point. But this assumption has been fragmented by economic conditions. Other external prods can influence this trend, e.g. the European Civil Engineering Society ruled that a *Fachhochschule* Bachelor’s was a technician’s degree, hence giving a potential boost to Master’s enrollments by *Fachhochschule* graduates who would otherwise not be content with the label of “technician,” and the lower pay-scales that accompany that label.

Estimates of direct labor market entry following receipt of the new Bologna Bachelor’s vary widely, and data are hard to come by. Serge Riffard, a Vice President of the Jean Monnet University in St-Etienne, France, projects that half of the *licence* recipients in traditional academic fields at Jean Monnet will continue to second cycle programs, but that virtually none of those who earn “professional” (“applied science”) degrees will do so. In the French system, those who earn a 2-year (short-cycle) technical DUT degree from an *Institute Universitaire de Technologie* (IUT) can transfer into a university Bachelor’s program in the third year, earn a “professional” *licence*, and move into the same labor market stream as those who started their professional *licence* program in the university, OR, if they are already employed, can earn a different credential in that third year called a *licence professionnelle* that confirms their existing labor market status. In either case, they reinforce Riffard’s assessment of what will happen to occupationally-oriented graduates of the IUT allied with Jean Monnet (at least outside the regulated professions such as law, medicine, architecture, etc.).

Systematic data may be hard to come by, but occasionally they break through the clouds. In 2004, the Hochschule Informations System (HIS) in Germany conducted a survey of those who earned Bachelor’s degrees in 2002–03, and broke out its analysis both by sector in the binary German system (university versus *Fachhochschulen*) and by field.⁶⁹ The analysis was concerned principally with the election of second cycle study and with mapping the movement of students (a) from one sector to the other, and (b) from one institution to another. Overall (not

⁶⁹Minks, K-H. And Briedis, K. 2005. *Der Bachelor als Sprungbrett?* Hannover, DE: Hochschule Informations System. The survey was conducted at a comparatively early point in the transition of degree structures in Germany to the Bologna model, so the population of respondents was limited.

shown in Table 1 below) the HIS survey found not merely that 80 percent of university Bachelor's graduates continued their study in second cycle programs (both Master's and, since it was very much alive at the time, the old professional *Diplom*), versus 40 percent of the *Fachhochschule* Bachelor's recipients, but also that 55 percent of the university Bachelor's who continued to the second cycle (versus 35 percent of the *Fachhochschule* graduates) had made up their minds to do so from the moment they set foot in higher education. Table 1 sets forth the core results of the survey in a way that raises a complex of issues about student choice in a time of system reconstruction.

Table 1. Second Cycle Destinations of 2002–03 German Bachelor's Degree Recipients, by Sector and Selected Bachelor's Fields⁷⁰

	Master's in FH	Master's in Univ.	Diplom in FH	Diplom in Univ
<u>From Fachhochschulen (FH)</u>				
Business	81%	8%	3%	8%
IT	76	18	3	3
Engineering	67	27	7	-
All	72	19	3	5
<u>From Universities</u>				
Business	8	84	-	8
Social Sciences.	-	91	1	8
Engineering	4	47	-	50
Humanities	2	83	2	13
Agriculture/Forestry	1	93	1	6
All	2	78	1	20

Note: Rows may not add to 100.0 percent due to rounding.

It is not surprising that the continuation rate to the Master's level of those who earned the new Bologna Bachelor's was high at a time when German institutions were still awarding substantial numbers of the old long first degrees, the *Diplom*, and the 3+2 cycle was not the default. When asked why they continued to the Master's level, two out of three respondents (with no difference by FH or university background) were not confident that the new Bachelor's degree would be sufficient to see them through to whatever path in life they chose. The author of this essay believes that behavioral economics will ultimately rule, that is, the *perception* that a second cycle degree will measurably enhance life chances—just as the old longer first cycle degrees had done—will result in an increasing percentage of European students seeking those degrees,

⁷⁰From Minks and Briedis 2005, page 85.

hence putting stress on the capacities of higher education systems to accommodate them.⁷¹ As this trend accelerates, global labor markets will force U.S. students to follow suit.

Table 1 also shows that penetration of the universities by *Fachhochschule* graduates, though modest, was notable in engineering, while when university graduates continued to the second cycle, they stayed in universities. And among university engineering graduates in this transitional period, *half* were continuing for the professional *Diplom* and not the Master's. Not shown in Table 1 are HIS survey results showing the tendency of those continuing to the second cycle to stay in the same institution from which they earned their Bachelor's degrees (about 70 percent do so), and that graduates in business and engineering were more likely than others to continue in a foreign institution, principally in the Anglo-Saxon world.

As the Bologna Process has taken hold, one observes distinct lines of three types of Master's programs—to which one adds a language grid—in the new European landscape: traditional academic programs, occupationally-oriented programs, and interdisciplinary programs. The language grid adds programs of all three types offered in English (the Netherlands Association of Universities estimates that 60 percent of Dutch Master's programs are taught in English). While the French are contemplating doing away with their traditional distinction between “professional” (occupationally-oriented) and “research” (academic) Master's degrees, when one reads program curricular statements on both sides of the binary line in other countries, there is no question that one is looking at distinct degrees.

For example, the two year (four semester) Master's curriculum in Medical and Pharmaceutical Biotechnology at the *Fachhochschule* Krems in Austria basically says: you are going to learn business, marketing, and the regulatory environment first, along with statistical methods and quality project management. In the second semester you get to bioprocess technologies (such as fermentation, bioseparation, and recombinant protein production) and their management with process controls, production design, and equipment testing. The third semester brings in allied health standards such as pathophysiology, therapeutic strategies, regenerative medicine, and lots of lab work. In the fourth semester, you have a combination of project and internship. All of this is presented in very compact modules sequenced like a pyramid, and with laboratories replicating industry environments and industry management. This is not a research-oriented degree and does not pretend to be. When one examines the Bachelor's level program in the same field at Krems, one marks an appropriate laboratory-oriented medical science curriculum, followed by bioprocess production systems, a touch of business, some statistics and IT applications, and a co-op. Without a lot more theoretical work, it is not

⁷¹Martin Unger of the Institute for Higher Studies in Vienna contends that while the Austrian system is resigned to mass participation in first cycle degree programs, standardized examinations and e-learning components of degrees result in a high drop-out rate that allows the system to limit second cycle entrants, hence reduces pressure on capacity.

sufficient to proceed to an academic Master's in, let us say, biochemistry, but it certainly flows into the consecutive Master's program at Krems

Despite rhetorical commitments, access to the Master's level is not guaranteed in all Bologna countries, and regulations vary. As the European Students Union trenchantly observes, simply being considered for admission without prejudice (the rhetoric) does not mean access. While ESU cites a variety of financial considerations that put pressure on potential/actual Master's students, e.g. lower levels of state support and/or higher fees, there is also the matter of students changing fields from one degree cycle to the next or changing type of institution from "applied science" to academic or vice versa. There are capacity issues in some universities and fields, so it depends whether you continue in the same field at the same school (as the Krems illustration indicates, no problem!) or whether you are changing schools and/or fields (problem!). Hence the birth of "bridging courses." Anke Loux-Schuringa of the Office of Academic Affairs at the University of Amsterdam asks us to consider, for example, the Bachelor's degree recipient in law entering a Master's program in linguistics. The proportion of entering Master's students requiring bridge course work in such situations, she notes, has been in the 5 to 10 percent range, "but that proportion is growing as the age profile of entering Master's students [a direct product of Bologna] grows younger." Master's access, with or without bridge programs, is obviously a complex matter determined by peculiarities of national systems, and yet another indication that Bologna behavior may be similar in form but definitely not standardized in details.

For example, some Portuguese universities established bridge programs for students caught in the transition from pre-Bologna to post-Bologna cycles. At the University of Coimbra, the administration was very careful to provide formulas for students who had not yet completed degrees under the old system and were moving into the new. The student's credits are calculated, and if the student had earned fewer than required under the new system, the gaps must be filled first. A second plane of choices at Coimbra emerges with options for changing major. Yes, you can do this in the first cycle, but have to find an approved way to integrate your existing course work with a new education plan. And a third plane addresses transition to the second cycle: if the student picks a new discipline, the choice must be approved. If it is not approved or the student is not accepted in the new discipline Master's for other reasons, the student can continue but only in the same field as the one in which the Bachelor's was received. Alternatively, Coimbra offers a bridge program as a way of integrating courses from the first cycle into the student's coming experience in the second, since there was no automatic transition from work in the old frame to that in the new frame. But Coimbra insists that the bridge course work must be in fields at least related to the student's first cycle program.⁷²

⁷²Faculdade de Ciências e Tecnologia da Universidade de Coimbra, 2006. *Processo de Bolonha: Regime de transição na FCTUC*. Coimbra, PT: Author.

Field variations sprout all over the evolving Bologna cycle system. In engineering, the Master's may have been a by-product of repackaging at Karlsruhe University while at the University of Aberdeen in Scotland it is a super-honors program for high achieving students identified at entry to the first cycle Bachelor's degree. When asked why music students (other than those in music education) would seek to continue at the Master's level, Johannes Johansson, Rektor at the Royal Academy of Music in Stockholm, pointed out that the Master's offers research opportunities "that open new contexts for performance, putting the student in a more liquid environment." In the arts, then, Johansson added, a Master's program "can put the student in the position of leading and producing a market, and not merely following it." In other fields one might say that the Master's degree has been turned into the equivalent of an upper division specialization or an outright second major. But fields leading to regulated or "chartered" professions evidence different profiles on the degree cycle landscape, some touched less by change in structure than by the atmosphere of reform generated by Bologna.

Medicine serves as our illustrative case.

5.2 Degrees and The Regulated Professions: The Case of Medicine

The timing of medical education in European systems is very different from that in the United States. With the exception of experimental options (noted below), students enter medical programs directly from secondary school in the same manner as they would enter any other degree program. Are they prepared, with the same core science backgrounds required of pre-meds in the U.S.? In fact, yes. Medical degree programs are capped in terms of enrollments, hence admission is highly selective, and, as Sijbolt Noorda, president of the Netherlands Association of Universities emphasizes, one does not begin to qualify without the full pre-med science curriculum, including organic chemistry and molecular biology—taken in secondary school.

From the perspective of the European Medical Association, medicine is a special case in the context of Bologna because:⁷³

- It has a fairly fixed length of study (as practiced, five and one-half to six years); and while it is a first degree, it is a Master of Science degree;
- It is subject to regulated medical curricula at the national level following its status as a nationally regulated profession;

⁷³ European Medical Association 2005. *The Implementation of the Bologna Process in Medical Education*. Brussels, BE; Author.

- Its professional profile is strict, and, as such, cannot be linked easily to other degree programs (public health may be an exception);
- There are a limited number of places in university programs, and even more limited after the first year of study, i.e. you can't transfer in; and
- It is responsible to both ministries of education and ministries of health (which run the teaching hospitals and, in most countries, issue the professional recognition of the medical diploma).

Two-cycle medical degrees, however, are beginning to emerge, along with other variations on the professional paradigm. One might think that, reflecting the traditional basic science/clinical science organization of medical curricula, two cycles are natural. But the clinical is increasingly mixed with basic science in the presentation of the medical curriculum, subjects such as pathology are stretched out over more than three years in different contexts and cannot easily be divided up, and, according to the dominant view in the profession, there are no real labor market entry advantages for a Bachelor in medical science.

The Medical University of Innsbruck is typical of those medical programs declining to adopt Bologna cycles. As Vice Rector Manfred Dierich explained, "We decided in 2002 not to break up our new program because clinical training was integrated from the first year, and intensifies with each subsequent year." The Innsbruck faculty judged a Bachelor's in medicine to be meaningless; and their organization and curriculum still prepares students for the Austrian probationary license at six years (Board specialty examinations come as much as six years after that). While rejecting the Bachelor's degree, the Innsbruck faculty replaced the old gross medical specialization blocks with modules taught by teams from the various specializations. For example, the coronary and circulation system module involves contribution by faculty in internal medicine, pharmacy, and biochemistry. Such team approaches may be old hat in U.S. medical education, but the assessment of the World Federation for Medical Education suggests that was not the case for most of European medical education prior to Bologna.⁷⁴

As noted, some variations in the degree cycle presentation in medicine have emerged in practice. The first genre of variation draws on the U.S. model. The Medical University of Warsaw in Poland offers both a six-year traditional program and a four-year program, delivered in English, for non-Polish citizens. The four-year program is like ours in that it is open only to those who already hold a Bachelor's degree and who have completed a pre-med curriculum (but this one allows for biochemistry, genetics, anatomy and other courses that would usually be

⁷⁴ Quality Assurance Task Force, World Federation for Medical Education 2007. *Global Standards for Quality Improvement in Medical Education: European Specifications*. University of Copenhagen, DK.

taken only by a biological sciences major). When one compares the first year curriculum of the two programs, though, there are significant differences. The four-year program includes basic sciences (e.g. biophysics, cell physiology), special topics (e.g. medical parasitology), and medical ethics—none of which are in the six-year program—in the first year. The six-year program places a heavier emphasis on anatomy, and includes histology and medical informatics—neither of which is in the four-year program. Both programs include training in Polish and medical Latin, and both require a summer internship as a nurse’s assistant.

In the Netherlands one finds three different presentations of medicine. In the first (five out of the eight medical programs in the country), the student earns a Bachelor of Science after three years, a Master of Science along with the traditional “Artsdiploma” (allowing registration as an MD) after six, and a medical specialist certificate and registration after three to six more years, depending on specialty. In the second, there is a single credential, the Artsdiploma, after six years, and the residency/specialist term the same as in the first. One can ask whether the B.S. students have relevant options other than the medical M.S. If the first cycle is largely didactic and basic science oriented, and clinical settings don’t really dominate until the second cycle, then there are options, though few students are likely to take them. Indeed, the Netherlands Association of Universities estimates that 85 percent of those completing the first cycle in medicine continue to and through the second cycle.

The third Dutch medical model can be found at the University of Utrecht: a “graduate entry” medical program in a manner similar to Warsaw’s four-year post-graduate degree. This approach, while modeled on that in the United States, also took its cues from the Bologna two-cycle paradigm. In addition to a 180 ECTS Bachelor’s degree, the Utrecht Master’s in medicine is a 240 ECTS second cycle degree with a change-in-field. However, the change in field is slight: a Bachelor’s degree in biomedical science or a related field is required, i.e. you can’t get in with a psychology major and the pre-med course package.

The more noteworthy variation in the presentation of medical education can be found in Switzerland, and is noteworthy because it illustrates how the atmosphere of Bologna reforms can seep into unlikely quarters.⁷⁵ The traditional program ran 11 years through residency, and required a dissertation in year 6, after which the degree of Dr. med. was awarded. Admission is by a general learned abilities examination like the MCATs (*Eignungstest für das Medizinstudium*) if there are more applicants than spaces, and for the academic year 2006–07 there were 2500 applicants for about 950 spaces. The 10-year completion rate is 60 percent, with another 12 percent earning a degree in a different discipline.

⁷⁵de Weert, E., et. al. 2007. *The Extent and Impact of Higher Education Curricular Reform Across Europe, Part Three: Five Case Studies on Curriculum Reform*. Enschede, NL: CHEPS. The account in the text is drawn from this study. See http://ec.europa.eu/education/doc/reports/doc/curricular3_en.pdf

How does the Bologna-adjusted program work and why?:

Bachelor's program	Basic medical science and clinical work integrated Bachelor's awarded at Year 3
Master's program	Dominated by clinical electives in years 5 and 6. No "dissertation." No Dr. med. awards. Master's of medicine in Year 6.
Entry to profession, at end year 6	<i>Staatsexamen</i> , i.e. like the Medical Boards in the U.S., provides entry to professional practice
"Residency": an additional 5 years	Specialist exam at the end of the period

What does this change allow? It's still a six year program for future practitioners. While it is anticipated that 90 percent of those who earn the Bachelor's would continue toward the professional qualification via the Master's and clinical electives, the new curriculum offers a number of options for combining the Bachelor's in medical science with (a) either a second Bachelor's in fields ranging from economics to information technology and thus for assuming key roles in the health care system with high knowledge content of the core enterprise; or (b) a Master's degree in an allied medical field such as public health, nursing, or biomedical science. The reform also anticipates that the Bachelor's in medical science will qualify a student to move immediately into the labor market in the pharmaceutical industry (a significant presence in the Swiss economy).

Now, if that's all the Swiss reform was about, it could be seen as a creative provision of alternative but allied paths in the traditional route to professional and supportive careers in the health sciences. But this structural reform merged with other strains of change in European medical education had been underway since the mid-1990s. One of these was the dilution of the lecture as the dominant form of pedagogy under the recognition that lectures do not prepare students to be autonomous learners, and autonomy drives the lifelong learning required by the medical profession. So one saw growth in student group work on clinical tasks, instruction in physician/patient relationships and behavior conducted directly in hospitals, "private tutorials" which can be better described as shadowing, i.e. the student following a physician in daily tasks, skills labs, and problem oriented tutorials for groups of 8-10 students (think of a typical script for an episode of "House"—minus all the personal relationships among physicians, that is).

A second strain of change—and one not unfamiliar to U.S. medical education—stems from a governing notion of health, as opposed to disease, as the determinant of medical practice. Health involves more than the physical: it also encompasses the psychological and the social. With this more comprehensive ideal, the physician becomes more than a scientific professional: the physician is also a communicator, a manager, an active listener who respects the patient's

language and interpretation of his or her physical state. What that meant in curriculum change was more emphasis on the development of soft skills and supportive knowledge from related fields. That, in turn, fit neatly into the structural reconstruction of the medical degree program as a 3 + 3 (or, more accurately, a 3 + 2 +1) program.

How much can we attribute these changes to Bologna? Until 2004, the curricular and instructional improvements in Swiss medical education were scattered and ad hoc. In that year, the professional medical school and medical associations promulgated a “Swiss Catalogue of Learning Objectives for Undergraduate Medical Training,”⁷⁶ something that looks a lot like the result of a “Tuning” process, and in 2006 the basic law governing the medical professions was revised, canonizing the Catalogue and the Bologna degree cycles applied to medicine. Coincidence? No. Bologna gave existing tentative movements toward reform an octane boost—and not only in Switzerland.

In Scotland, for example, we can look at the rewriting of the medical curriculum between 1998-2004 along problem-based lines. That sounded just fine until students at the University of Edinburgh were asked for their opinions in 2004, and said they were not getting sufficient knowledge of anatomy and pathology, which aren’t exactly peripheral subjects in the medical curriculum.⁷⁷ Evidently, some students slowed down, and may have wearied of the program. So the 2007–08 regulations for candidates for the Bachelor of Medicine or the Bachelor of Surgery at the University of Aberdeen offer candidates who have not completed degree requirements within six calendar years of matriculation intermediary credentials depending on the number and level of credits earned, most notably, a Bachelor of Medical Science that obviously does not qualify someone to practice medicine. This degree, along with a lesser certificate or diploma, is another example of a credential buffer: the student is not a complete drop out; if they leave the system, they leave with a credential (echoes of the Swedish “Diploma” and the German *Vordiplom*).⁷⁸

Medicine is used in this essay to illustrate relationships between the Bologna environment and the education programs of regulated professions. But more than law or architecture, for example, the medical curriculum in Europe was in flux in the period leading up to and including Bologna’s first decade. The balancing of degree cycles with curricular change, and the intersecting vectors of other Bologna dynamics and “action lines,” e.g. increased flexibility, mobility and joint degrees, moves European medical education into a period of even greater change. It is another story worth close watching.

⁷⁶Bloch, R. and Bürqi, H. *Swiss Catalogue of Learning Objectives for Undergraduate Medical Training*. Bern, CH: Institute for Medical Education.

⁷⁷University of Edinburgh, 2004. *Teaching Programme Review: Medicine*. Edinburgh: Scotland: Author.

⁷⁸University of Aberdeen 2007. *Calendar 2007/2008*. Aberdeen, Scotland: Author.

5.3 Intersection of Degree Cycles and the “Social Dimension” of Bologna: The Short-Cycle

The ideal of expanding participation in higher education of underserved population groups was quietly present in the initial Bologna vision, but became more prominent and demanding of attention as reforms spread. Depending on which underserved population group is at issue on the European landscape (isolated rural, students with disabilities, children of immigrants, adult working class, etc.), a number of mechanisms to increase access—familiar to us in the United States, and perhaps simply taken for granted—are available. We too often forget that if the U.S. higher education system did not offer community college Associate’s degrees and part-time status, our “walking through the door” access rates would be miserable. These two structural features of a mass higher education system were not common across the 46 Bologna countries prior to the 1990s. But both are now evidencing considerable expansion, and with that expansion, at least the maintenance of access rates.

The initial two-cycle vision of European degrees in the Sorbonne Declaration and the Bologna Declaration first became three with the inclusion of doctoral degrees, but then became four to recognize those tertiary credentials of less than three years that enabled students to move into the latter phase of first cycle degrees. These are known, generically, as short-cycle degrees. U.S. readers can think of them in terms of our Associate’s degree. There are some major differences, however. First, a true short-cycle degree is considered *part* of the first cycle, and not a terminal degree with no continuing connections. Secondly, to reinforce those connections, along with the position of the short-cycle as *within* the first cycle, European institutions responsible for short-cycle education are either those that offer Bachelor’s degrees themselves (usually the “applied science” institutions such as the *hogescholen* in the Netherlands) or are formally allied to Bachelor’s degree-granting institutions (e.g. the IUTs that are formally part of the universities in France).

There are some variations in all this, and in order to sort them clearly, U.S. readers should know a little bit about the International Standard Classification of Education (ISCED) taxonomy.⁷⁹ The ISCED classification system sets education programs in six (6) levels, each with sub-categories. The highest level, 6, is labeled “second stage of tertiary education,” leads to “advanced research qualifications” such as the Ph.D., and is not of concern to us here. Instead, we work backwards from ISCED Level 5, and Figure 7 sets forth a condensed account of the relevant levels.

⁷⁹ UNESCO 2006. *International Standard Classification of Education: ISCED 1997*. Reprint. The ISCED system is currently under revision, in part to take account of both the new qualification frameworks and changes in institutional program offerings.

The reason we need the ISCED descriptions as reference is that in some national systems, short-cycle degrees are offered in institutions that straddle levels 4 and 5, while in others, these credentials are found wholly in Level 4, and in still others, wholly at Level 5B. So when the European Commission reports that 15 Bologna countries offer short cycle degrees,⁸⁰ these credentials are not offered in the same way.

Figure 7: Basic Descriptors for ISCED Levels 4 and 5

Level 5A	Tertiary programs “that are largely theoretically based” and provide “sufficient qualifications” for moving on to “advanced research programs” and professions “with high skills requirements.” These programs are a minimum of three years of “full-time equivalent duration,” and assume the completion of secondary education. Master’s degree programs are included here along with Bachelor’s, though the new version of ISCED will probably change this classification.
Level 5B	Shorter Tertiary programs than those covered in 5A, and that “focus on occupationally specific skills geared for entry into the labour market, although some theoretical foundations may be covered.” Level 5B programs are of two to three years duration, and do not provide access to advanced research.
Level 4A	Non-Tertiary postsecondary programs that prepare students to enter Level 5 programs. We might describe them as bridge programs for secondary school graduates who “did not follow a curriculum which would allow [direct] entry to Level 5.” The “typical full-time equivalent duration” of Level 4A programs is “between 6 months and 2 years.”
Level 4B	Non-Tertiary postsecondary programs that do <i>not</i> prepare students for level 5. These are vocational courses designed “for direct labour market entry,” with more specialized content and more complex applications “than those offered at the upper-secondary level.”

For example, in Portugal, the CET (*Cursos de Especialização Tecnológica*) programs are postsecondary ISCED Level 4A, and stand between secondary school and either the polytechnics or universities. They award the *Diploma de Especialização Tecnológica* (DET) that carries between 60 and 90 ECTS, an amount that can place the recipient into the second

⁸⁰Eurydice Network 2006. *Focus on the Structure of Higher Education in Europe, 2004–05: National Trends in the Bologna Process*. Brussels: the European Commission.

year of an ISCED 5A or 5B Bachelor's program (more likely the latter). For a CET program to be approved requires justification for its offering, specifications for *numerus clausus* admissions, curricular coverage, expected learning outcomes, an inventory of necessary equipment and space, and evaluation plan. Entry requirements for an institution are thus a form of quality assurance. The CET is comparatively new, and under a 2006 law on short cycle degrees, is seen in national policy more as part of the lifelong learning objectives of the Lisbon Strategy than as a component of Bologna Process reforms. The traditional age cohorts in Portugal have been shrinking and will continue to do so, and it is hoped that the CET will bring in adults from the workforce.⁸¹

While the Foundation degree in England/Wales/Northern Ireland is a recent innovation, it has a sufficient history to illustrate the possibilities of new approaches to the short-cycle. The degree debuted in 2001, and by 2007 it was estimated that 60,000 students were enrolled in its programs, 64 percent age 21 or older when they first entered.⁸² The two-year degree was designed with employers to integrate academic and work-based learning, but has turned into what we, in the United States, would call a transfer degree—not a “General Studies” transfer degree, rather one devoted to a “foundation” in a field. There are 23 fields, ranging from bioscience to business to performing arts to those closer to A.A.S. fields in the U.S. such as hospitality and tourism, and transport and logistics. All course modules are “validated” (reviewed and approved) by a university, and delivered either by the validating university or (in a majority of cases) by what is known in the UK as a College of Further Education.⁸³ When the Foundation degree came in to the UK, half the students were taught in higher education institutions, and a majority of those taught in Colleges of Further Education were dual-enrolled in an HE institution, thus basically in a franchise arrangement.⁸⁴

More to our interest, what happens to students in the Foundation degree programs? They must be doing something right in the UK with this short-cycle degree: roughly half of those who entered a full-time two-year program and those who entered a part-time three-year program

⁸¹Kaiser, F. et al. 2007 *Issues in Higher Education Policy: an Update of Higher Education Policy Issues in 2006 in 10 Western Countries*. Enschede, NL: CHEPS, University of Twente.

⁸²Higher Education Funding Council for England (HEFCE) 2007. *Foundation degrees: key statistics 2001–22 to 2006–07*. http://www.hefce.ac.uk/pubs/hefce/2007/07_03/default.htm

⁸³This is not the place to elaborate on the history of the further education sector, but “FE,” as it is known, covers a wide range of institutions maintained principally by local—and not national—education authorities. We would characterize them as open door schools of adult and continuing education, delivering academic courses at the upper secondary school level, occupational curricula for the crafts sector, technician training, fine and commercial arts and design programs, etc. For purposes of understanding short-cycle degrees, the FEs are “bridge” institutions.

⁸⁴Perry, G. 2006. “Policy-Participation Trajectories in English Higher Education.” *Higher Education Quarterly*, vol. 60, no. 4, pp. 392–412.

earned credentials on time, and roughly another 30 percent were still enrolled.⁸⁵ Of those who earned a Foundation degree in 2003–04, over half (54 percent) continued in a 1st cycle honors program the following year, and of that group, 71 percent earned the honors degree.⁸⁶ To be sure, these achievements are facilitated by the fact that, for the vast majority of Foundation students, the same institution delivers both foundation and honors programs and awards both degrees. This arrangement is a close relative of the French sequence of a DUT delivered by an IUT which, in turn is affiliated with a university that receives the IUT students into its *licence* or *licence professionnelle* programs.

Though its creation was not a consequence of the Bologna Process, and though a comparatively small portion of UK students are involved, we can still ask whether the Foundation degree approach serves the social dimension agenda of Bologna? All the data from the Higher Education Funding Council for England tell us is that “the proportion of entrants from *low participation neighborhoods* [italics mine] was higher than generally found in undergraduate programmes.” The Foundation Degree also serves as a “second chance” function for adults. For those adults, the target is the first year of university programs, and articulation agreements are well-defined for this purpose. For traditional-age students on the more traditional pathways, the target is entrance to the second year (in England) or even the third year (in Scotland) of the Honors Bachelor’s degree, whether that degree is offered by the same institution or another (in which case, we describe the movement as “transfer”).⁸⁷ However noble these objectives, the HEFCE reports that, with the rise of the Foundation degree, enrollments in other transitional credential programs at the ISCED 4 and 5B levels have declined, so the result is a net wash for access.⁸⁸

The Bologna Process has had an inconsistent impact on the emergence and refinement of short-cycle degrees. While the Netherlands introduced 57 explicitly named Associate’s degree programs, offered through 20 *hogescholen* and two private institutions, short-cycle degrees (in

⁸⁵Comparable data for beginning two-year college students of all ages in the United States show a 15 percent Associate’s degree completion rate in three years, with 25 percent still enrolled at that point. For traditional-age beginners (20 and younger) those rates are slightly higher, and for older students, slightly lower. Source: National Center for Education Statistics: Beginning Postsecondary Students Longitudinal Study, 1995/06–2001, Data Analysis System On-Line.

⁸⁶U.S. figures for traditional-age beginning students only are comparable to those for Foundation degree students (who tend to be older). Within the 8.5 year postsecondary history of 1992 secondary school graduates who entered two-year institutions and earned an Associate’s degree within four years, 56 percent transferred to a four-year college, and, of the transfers, 79 percent earned a Bachelor’s degree by December, 2000. Source: National Center for Education Statistics: NELS:88/2000 Postsecondary Transcript File (NCES 2003–402).

⁸⁷Perry, G. 2006. “The Collegiate and Transfer Functions of Further Education Colleges in the United Kingdom.” *Focus: Journal of Research and Scholarly Output*. Vol. 1, pp. 3–18.

⁸⁸Higher Education Funding Council for England (HEFCE) 2007, op. cit.

the sense of short-cycle within the first cycle as described in Bologna communiques) in Austria have disappeared. The previous Austrian non-degree postsecondary cycles, used principally for teacher education and social work, have been transferred into the new degree structure, and are now full first cycle credentials with a higher degree of theoretical content. As Gottfried Bacher of the Austrian Federal Ministry of Science and Research emphasized, the more vocational programs at the ISCED 4 level (e.g. from the so-called “2 year *Kollege*” in Austria) are walled off from the tertiary system.

The Netherlands experiment illustrates the intersecting roles of business/industry associations, national legislation, and ministries of education in the story of Bologna degree cycles. A previous class of short-cycle degrees (one to three years) existed in such fields as business and tourism, but could not lead to the *hogeschool* Bachelor’s degree programs (old style). When the *hogescholen* began planning for the two cycles under Bologna, the Ministry judged these short-cycle credentials insufficient to lead to the new Bachelor’s either, so they were phased out. The shape of the new short-cycle degree, however, was driven by small and medium sized firms which made the case to both the Dutch parliament and the Dutch Ministry of Education, Culture, and Science for a credential that was between vocational education and the Bachelor’s degree, and that could serve objectives of upskilling of the workforce.

The Ministry conducted a feasibility study, and designed experiments. The Dutch Parliament did not think experiments were sufficient, hence the full pilot programs at ISCED 5B. The primary selection criteria for the pilot institutions was the capacity for attracting new student groups to higher education (adults, employees, students coming out of the vocational secondary school track), i.e. expanding access under the social dimension objectives of Bologna. According to Floor Boselie of the Dutch Ministry, the data so far say that this objective is being met in the first 11 programs established (there are now 57 programs).

A final decision as to whether the Associate’s degree will take its place in the Dutch portfolio of credentials will be made in 2010, based on an evaluation focused on the following questions:

- Do the degrees, taken as a whole set, lead to an increase in the number of students in higher education?
- What types of students are choosing Associate’s programs?
- Has the number of Bachelor’s students [in the HBO sector] increased as a result of the Associate’s programs?
- Are there really jobs that can be performed by students earning these degrees [a validation of the relevance of the Associate’s program to the labor market]?

The Associate's degree is comparatively unknown and invisible in the Netherlands at present, notes Marlies Leegwater of the Dutch Ministry, adding that the term itself is rather foreign. So if the evaluation is positive and the degree is formalized across the HBO sector in 2010, a public awareness campaign will be necessary.

For U.S. readers—and our higher education governance authorities—the most important feature of the European short-cycle degrees that were born, expanded, or modified since the advent of the Bologna Process is their position in relation to Bachelor's degrees in their respective national systems. To us, they argue not so much about expanding access (because our Associate's degree programs already do that), but in favor of expanding the “alliance”-type programs one sees in some state systems, e.g. Maryland, in which the student is admitted to both the community college and a four-year institution simultaneously, stays in the community college environment until a set credit threshold has been reached and “gateway” course requirements met (all the time with access to the facilities and services of the four-year school), then moves over, thus by-passing the traditional transfer process. In these arrangements, if the student did not earn an Associate's degree in the community college, it is awarded retroactively at, for example, the 66th credit in the four-year institution. Not a bad idea for access of a different kind!

5.4 Part-time Status: Another Intersection of Degree Cycles and the “Social Dimension” of Bologna

U.S. higher education offers a quilted and ambivalent approach to the part-time status of undergraduate students (we more or less expect our *graduate students* to be part-time, as do other countries). We have federal financial aid regulations that do not provide eligibility for credits that do not count toward a degree (e.g. institutional credits earned in remedial courses). We have students who register for a full-time load, and within two or three weeks, drop enough courses to render them part-time, and we don't seem troubled by that behavior. We have students simultaneously enrolled, part-time, in two institutions, whose credits would add up to a full-time load, but who are classified as part-time. We can't live without part-time students, particularly in community colleges. Our open door institutions are even open for incidental drop-ins. “One-course, good-bye!” and we still count you as a degree candidate. We run summer terms (with over half of traditional-age undergraduates participating⁸⁹) in which credit loads are, in comparison to academic year terms, part-time. All this does not make for easy enrollment management or data reporting, but it does enhance “walking through the door” access, and may even enhance persistence for students with family and job responsibilities who are committed to completing credentials, no matter how long it takes. The growth of part-time

⁸⁹ Adelman, C. 2006. *The Toolbox Revisited: Paths to Degree Completion from High School Through College*. Washington, DC: U.S. Department of Education., p. 189.

enrollments in the Bologna Process countries reflects a very self-conscious access mechanism, e.g. the Swiss ordinance and guidelines for implementing Bologna included a special note on part-time status as contributing to “equal opportunity,” i.e. to the social dimensions objectives of Bologna.⁹⁰

Prior to Bologna, part-time status existed in a number of European countries, though it was hardly the norm. Part-time undergraduate students are traditional in the UK, constitute 40 percent of enrollments, and saw their numbers increase at a 50 percent rate between 1996 and 2006 (versus a 20 percent increase for full-time students).⁹¹ As the Bologna Process has matured and its social dimensions gained more visible and policy momentum, part-time status has expanded, though not always in a coherent manner. Modularization of courses has made part-time status easier, to be sure. But some of the increase has also been driven by changes in the finance of higher education. While the data are sketchy, it appears that part-time students became more than a visible proportion of student populations wherever tuition was introduced into previously free systems. Gerard Madill of Universities Scotland adds the more complicated issue of the proportion of part-time students being inversely driven by costs. Given government subsidies in Scotland, he noted, universities are motivated to keep the number of full-time students high. Part-time students are charged less, and their stipends—and government support for their departments—differ by subject.

The part-time student population quickly became part of the enrollment topography in Eastern Europe in the 1990s, including more than half of students in Poland, for example. Part-timers now constitute a substantial portion of the Slovenian student population, governed by a special set of rules, the most important of which is that part-timers pay tuition/fees and full-timers don't (an irony one also observes in Poland). Pavel Zgaga of the University of Ljubljana described three groups of Slovenian part-timers:

- Adult learners as continuing education students, not seeking a degree.
- Both traditional-age and older students who are working and either studying six or seven years for a degree or upgrading skills and knowledge.
- A traditional-age group who would like to study full-time but did not perform well on the secondary school exit examination, and are usually found in law, nursing, and police academy fields.

⁹⁰ Swiss University Conference (SUK / CUS) 2006. *Bologna Directives and Explanatory Notes*. 2nd edition. Berne, CH: Author.

⁹¹Ramsden, B. 2007. *Patterns of Higher Education Institutions in the UK: Seventh Report*. London: Universities UK

There is no question that these groups would not be enrolled if part-time status were unavailable.

From an administrative perspective, Juliana Kristl, Pro-Rector at the University of Ljubljana notes that when it comes to enrollment management you know the number of students in each program because the Ministry defines the number, both full-time and part-time, with the former's tuition subsidized by the government. And for that reason (though we would object on the grounds of fairness) special facilities, e.g. lab space, are allocated first to students paid for by the government. Depending on program, the proportion of part-timers in Slovenia can exceed 50 percent.

Too, the definition of a part-time student differs from country to country. A pan-European definition is beyond theoretical reach because the ECTS system has an insufficient history to allow for a uniform calculation. The part-time student in Sweden is a one-course per term student, however many credits that involves. In Poland, part-time means more than 60 percent but less than 80 percent. In the UK, the empirical average for part-time students is in the range of 40 to 60 percent of the full-time load.⁹² There is a somewhat less empirical definition floating around Bologna circles, though: the European University Association's *Trends V* interprets the student enrolled full-time but working to be a "de facto part-time" student, and Martin Unger of the Institute of Higher Studies in Vienna, and a student of the social dimensions of Bologna, observes that if you set the definition of part-time against working hours, and asked what proportion of students worked at least 30 hours/week, then 65 percent are part-time; at 35 hours a week, 40 percent are part-time. But these are estimates. Nobody really tracks part-time status in light of employment status except the Eurostudent survey, and that undertaking uses samples. Part-time brings in the social dimension in a significant way, as it includes students with children, students who care for aging parents (an increasing proportion), and the disabled (in Austria, as Unger points out, this category includes students with any chronic condition such as allergies, eating disorders, and depression). All these groups need a longer time to complete their studies.

. . .as do students in dedicated distance education units of universities, such as *Télé 3* of the University of Paris III, where all students, by definition, are part-time. As the director of *Télé 3*, Raphaël Costambeys-Kempczynski, informs us, *Télé 3* students must provide evidence of other time commitments, e.g. a payslip, to prove that part-time distance learning is "the only access they have to a university education." Once they are admitted, he adds, "they can take as long as they need to complete" their degree programs, as long as they need to demonstrate knowledge and competence, whereas on-campus students at Paris III are learning against the

⁹²Boorman, S., Brown, N., Payne, P., and Ramsden, B. 2006. *Part-time Students and Part-Time Study in Higher Education in the UK: Strand 2*. London: Nigel Brown Associates, Universities UK.

clock. Bologna has unfolded in a boom era of distance learning which, while expanding access, also comes against a background of qualification frameworks that set the quality of study time and its results—more than the amount of study time—in bold relief. This intersection has not received as much attention in the Bologna follow-up work as it warrants.

Some European systems and universities evidence creative treatments of part-time students. For example, the University of Aberdeen's (Scotland) regulations for Honors Degrees allow part-time students with the conditions that (a) their enrollment is continuous, and (b) their time-to-degree cannot "exceed twice the period of study permitted for completion of that Honours programme."⁹³ In other words, if you want to pursue a four-year first degree on a part-time basis, fine!; but you have a maximum of eight years to finish. You have a maximum allowed enrollment of 2/3rds load, i.e. 80 of 120 (Scottish) credits, in any one academic year, so you can pace yourself with different part-time intensities and still make it to the tape on part-time time. This is not a bad idea. In a U.S. context it fits with the empirical realities of student attendance, and can make for better learning and higher completion rates. We'll come back to this in our recommendations.

The Swedish *kursstudenter* is another approach: a separate class of students who, on entrance, agree to take one course per semester, but can shift over to full-time status (*programstudenter*) at a later point in their academic careers. Since 1997–98, the proportion of *kursstudenter* has grown to 40 percent of *entrants* in Swedish higher education, principally due to the movement of slightly older (22 and up) women coming into the system through special preparation programs associated with community adult education. But the proportion of the one-course students in the total undergraduate population is 25 percent, indicating that a significant number either became *programstudenter* or left school.⁹⁴

If part-time status improves access and thus contributes to the "social dimension" objectives of Bologna, one naturally asks after the degree completion rates of part-time versus full-time students. The Swedes are rather meticulous about tracking such phenomena, and take their completion pulses for the first degree at seven years. Table 2 offers what they found in 2005 for students who started in 1997/98. Statistics Sweden would note that even if one extended the measurement period to 9 or 11 years, the proportion of *kursstudenter* students completing credentials does not rise much. In other words, while enhancing access, the strategy has little impact on graduation rates.

⁹³University of Aberdeen, *Calendar 2007/2008*. Aberdeen, Scotland: Author, p.10.

⁹⁴Statistics Sweden 2006. *Universitet och högskolor: Genomströmning och resultat I högskolans grundutbildning t.o.m. 2003/04. [Higher education: throughput and results in undergraduate education up to 2003–04 inclusive]*. Stockholm: Author

Table 2: Seven-Year Bachelor’s Degree Completion Rates in Swedish Institutions of Higher Education for Students Who Entered in 1997–98, by Enrollment Intensity

	<u>All</u>	<u>Program</u>	<u>Kursstudenter</u>
Completed all requirements and passed all examinations:	44%	54%	10%
Had not completed all requirements and examinations, but earned at least 120 credits:	20	24	9
80–119 credits:	8	9	6
40–79 credits:	7	5	12
20–39 credits:	6	3	17
1–19 credits:	9	3	29
0 credits:	5	1	18

Note: Columns may not add to 100.0% due to rounding.

In a contrasting case at a single large institution where part-time can mean more than one course per term, administrators at the University of Strathclyde in Scotland contend that completion rates for part-time students were higher than those for full-time students, and they are backed up by broader surveys of the Scottish Funding Council.⁹⁵ The completion rates are higher, it was explained, because part-time students are more committed. This outcome holds in law and business but not education because school teachers are overwhelmed by the combination of job and study. The Scottish layered award structure (certificate, diploma, degree) in blocks, it was held, helps completion rates. And if the last step is a work-based project, you get a Master’s degree. Most part-time students can build such a program into their day-to-day work commitments.

A more complex portrait of the part-time provision and student population has been offered in the UK (where part-time is a traditional status) in a wide inquiry into part-time education commissioned by Universities UK.⁹⁶ The UK study is a model for other Bologna Process countries in that it picks facets of the part-time experience likely to receive greater attention as the degree-cycle flexibility aspects of the Bologna reconstruction unfold, and indirectly offers guidelines for a census of who should be counted. It is based on interviews with a sample of 26 higher education institutions (including the nearly 100 percent part-time Open University) in

⁹⁵Scottish Funding Council 2007. *Learning for All: Report on Measures of Success*. Edinburgh: Author.

⁹⁶Boorman, Brown, Payne, and Ramsden, *op cit*.

England, Wales, and Scotland. The analysis also incorporates a survey of 2600 part-time students conducted in another “strand” of the project.⁹⁷

Part-time education takes a number of forms in the UK (and sometimes it is called “low intensity”) in addition to standard fractional enrollments in degree programs, in which half-time status is necessary for grants-in-aid. It includes students who are

1. Repeating individual course modules;
2. Enrolled in parallel/cognate curricula at offered at alternative times and locations than the default delivery schedule and map;
3. Enrolled in programs for which there is no full-time variation, e.g. some professional programs and continuing education; and
4. In the three-year part-time schedule of the Foundation degree.

These are all alternative access routes, assist rural populations in particular, and obviously appeal to older beginning students. For institutions that offer part-time provisions, the altruistic motivation is to maintain the “second chance” option, with the less altruistic motivation being maximizing income and retention. In terms of field, the heaviest UK part-time enrollments are in nursing and other allied health fields, along with social work. When the focus is on first degree enrolments and post-graduate, business studies lead, and computer-related fields notch noticeable volumes. When former full-timers were asked, students said they became part-time because they could not devote sufficient time to studying (62 percent), had badly estimated how much time was necessary (71 percent), and had problems with time management and study skills (65 percent). This is all honest common-sense, and indirectly argues that part-time is not merely an access path but a persistence path as well. Other Bologna countries—and the U.S.—take note!: the “social dimension” is not merely about expanding opportunities for walking-through-the-door; it is just as much about finding paths to completion.

Even so, the UK study concludes, as a consequence of “different types of provision within part-time study . . . it is not possible to produce indicators that can be readily compared with those for full-time study in terms of progression and completion.” In fact, one must segment the part-time student population by qualification level, geodemography, method of delivery, and field in order to understand what is going on. When one focuses only on first degree and “other undergraduate,” the UK study shows that 51 percent of all part-time students are in non-vocational sub-degree certificate programs, i.e. at ISCED Level 4, or straddling Level 4 and 5B. In the United States, that population would most likely be found in community college remedial programs.

⁹⁷ Callender, C., Wilkinson, D., and Mackinon, K. 2006. *Part-Time Students and Part-Time Study in Higher Education in the UK Strand 3*. London: Nigel Brown Associates, Universities UK

5.5 Recognition of Prior Learning: The Potential Movement of Adults into Degree Cycles

The formal Recognition of Prior Learning (also known as the Validation of Prior Learning, and Assessment of Prior Experiential Learning, henceforth abbreviated RPL) is more associated with the lifelong learning and workforce development objectives of the Lisbon Strategy than with the Bologna Process, but it came into Bologna in the communique of education ministers following their 2003 meeting in Berlin. So, as the European Students Union observed in *Bologna With Student Eyes 2007*, the topic is a latecomer in the Bologna portfolio. While some countries (e.g. Sweden and France) had prior well-developed systems for recognition, others were stumbling toward policies and procedures for connecting adults in the workforce with lesser levels of education to higher education. “This is a young issue,” agreed Eva Werner of the Fachhochschule Krems in Austria, adding that the basic question to those who want to enter higher education through RPL is “What’s in your rucksack?” But, as Gottfried Bacher of the Austrian Ministry of Science and Research noted, there are no hard rules yet on documenting [what’s in your rucksack], and Austria is more typical of Bologna countries in this matter.⁹⁸

There are a number of ways that U.S. higher education recognizes knowledge and skills acquired outside the walls of the academy. Credit-by-examination is the most obvious, with the College-Level Examination Program (CLEP) so entrenched that its use has become a verb among students, e.g. “I CLEPPED out of General Psych.” Departmental challenge examinations, particularly in languages other than English (and for heritage speakers) have become more common. The DANTES testing program of the U.S. armed forces is also used for credit purposes, as is a special set of over 70 course examinations (from technical writing to abnormal psychology to marketing research) developed by Thomas Edison State College in New Jersey and known as the TECEP program. All these acceleration mechanisms—along with Advanced Placement—feed into the credit dossiers of students already enrolled in degree programs.

Closer to the challenge of RPL faced by European higher education systems are U.S. institutions that *specialize* in the recurrent adult market, offering combinations of formal course work (much of it now online) and portfolio-type assessment. The most prominent and long-standing of these among public institutions include Thomas Edison, Empire State in New York, and Charter Oak in Connecticut. We could spend many pages on what these institutions do and how they do it, but what we need to highlight are the noble objectives but currently uneasy fit between RPL and the Bologna reconstructions in Europe.

⁹⁸The European Commission-sponsored 2007 *Stocktaking* report shows 17 of the 46 Bologna Process countries with national guidelines for assessment of prior learning as the grounds of access and either credit awards or course exemptions in higher education.

As Prof. Stephen Adam, the principal European Commission Bologna promoter in the UK, has asserted, a “formidable array of recognition tools, techniques and processes” has been developed since the Bologna Declaration.⁹⁹ But the array is underutilized by institutions of higher education, and where it is utilized, one doesn’t see that “convergence” of practice that Bologna seeks. In some countries, e.g. France and Ireland, one can earn a full credential through a portfolio or dossier assessment process. In others, one earns credits, but the number of credits allowed through various assessments of prior learning may be capped, e.g. in Italy, at 60 (out of 180–240 required for the first cycle *Laurea*). In still others, as Ruud Duvekot of the Hogeschool Amsterdam and a leading advocate of RPL would have us emphasize, one finds a mixture of currencies dominated by exemptions. At the Hogeschool Amsterdam, he points out, each program has a library of examinations (probably analogous to the TECEP examination portfolio) that are utilized, with the examination committee for each program recommending combinations of exemptions, “study points,” and credits.

In still other countries, there is an age threshold for RPL eligibility, e.g. 23 in Portugal, where, in 2007, 58,000 adults were facing external juries and individualized profile batteries of exams as part of the validation process.¹⁰⁰ In a very ambitious expansion of the processes of RPL and their incorporation into a national certification system known as *Reconhecimento, Validação e Certificação de Competências* (RVCC), Portugal seems to be dropping the age threshold to 18 as it seeks to put a million working adults through an RPL process by 2010.¹⁰¹ National policy is concerned principally with occupationally-oriented certifications and plans to have 150 qualifications in 32 occupations in place by 2010. Personnel at “Centers for New Opportunity” conduct interviews to assess strengths and experience and help the future certification candidate construct an individual planning portfolio which is referenced to “competency keys,” and prescribes formal learning tasks and other tasks students can perform on their own in preparation for a juried review.¹⁰² However elaborate, the connection to tertiary education is ambiguous.

Ever vigilant on such matters, *Bologna Through Student Eyes 2007* cites the complicating issue of fees. Both assessment and the jury process are not free. The whole area is murky, the

⁹⁹ Adam, S. 2007. *New Challenges in Recognition: the Recognition of Prior Learning*. From official Bologna seminar co-organized by Latvia and the Council of Europe.

¹⁰⁰ Commission of the European Communities 2007. *Delivering Lifelong Learning for Knowledge, Creativity and Innovation*. Brussels: Author.

¹⁰¹ Ministério do Trabalho e da Solidariedade Social. 2006. *Propostas de Reforma para a Formação Profissional*. Lisbon, PT: Author.

¹⁰² Agência Nacional para a Qualificação, IP. 2007 *Carta de Qualidade dos Centros Novas Oportunidades*. Lisbon, PT: Author.

European Students Union observes, because some institutions charge fees “as they see fit,” Italy charges by credit, and France, Ireland, the Netherlands, and Switzerland according to type of institution, course of study, and student status. None of this is very transparent. If the Bologna ministers at their 2007 London meeting thought that some member countries were lagging in national qualification frameworks, even more have a long way to go in the matter of RPL.

Why exams? Why juries? Why portfolios? Asking students to learn again in a formal setting what they have already learned in non-formal settings, writes Adam, “is unfair to students, wastes resources and is symptomatic of inefficient education systems.” For part-time students in short-cycle or first cycle degrees, granting credit for demonstrable learning that took place outside the formal education sectors enhances momentum and keeps them in the system. It is doubtful, though, whether RPL can draw new blood to higher education in the form of mature workers (as observed, the Portuguese plan is more concerned with making its workforce more attractive to employers by officially validating and stamping their skills). But if anyone will find out soon, it will be the French.

The French VAE

Probably the most visible and developed of the European systems of RPL is that of the French *Validation des Acquis de l'Experience* (VAE). While the VAE had some history prior to the Bologna Declaration and the Lisbon Strategy, the French saw three significant problems (and these problems are not unique to France) in assessing non-formal and informal learning as paths to degrees.¹⁰³ First, that the first credential earned (secondary school or postsecondary) with training in a specific occupation colors subsequent interpretation of an individual's competencies. Second, that the system of “continuing education” has not proven itself a “second chance” system, as it emphasizes short-term activities that don't amount to much and certainly not enough to provide momentum toward recognition in a credential. And third, that employers are not very competent at defining work-based competencies for recognition of work-based learning, nor are individuals very articulate about them.¹⁰⁴ This is a brutal assessment.

Perhaps in response, and extending the French Revolution, a 2002 post-Lisbon, post-Bologna law elevated the VAE to a “right.” It changed the traditional avenues to certification through

¹⁰³Non-formal learning involves course work taken outside the universe of recognized education providers; whereas informal learning involves unstructured situations, including self-instruction, “learning circles,” community volunteer work, etc.

¹⁰⁴Ministry of the Economy, Finance and Employment 2007. *The Validation of Experience Skills in France*. Paris: Author.

training programs by creating the National Repertory of Professional Certifications (referenced in the presentation of the French national qualifications framework in Section 2.2 above) that cross-cuts the authority and territories of a number of ministries and includes diplomas issued by the Ministry of National Education, the Ministry of Employment, the Ministry of Youth and Sports, and the Ministry of Agriculture (remember that, in France, the government—and not individual institutions—awards credentials). Of course, one cannot just walk in and file a *dossier* for evaluation. The application requires that one has spent at least three years in acquiring occupational experience (under VAE's previous laws and regulations, the threshold was five years). After that, the process involves a consulting interview at a regional center, submission and acceptance of a dossier, the assembly of a jury (including those from the occupation at issue) appropriate to the dossier, presentation of the dossier to that jury, and decision by the jury for issuing a diploma or certificate. The most difficult step in this sequence is that of assembling a jury to match the dossier, and that's where the biggest drop in the pipeline occurs, e.g. in 2005, from 27,000 admitted dossiers to 20,500 presented dossiers.

Did anything change? The number of institutions of higher education operating VAE programs in France increased from 52 in 2002 to 84 in 2005. Nearly 80 percent of the applicants for RPL in 2005 were employed, of whom 48 percent were in managerial roles and 35 percent in intermediate-level positions, i.e. those who take advantage of the VAE opening are most likely those with enough previous education to reach such positions in the labor market. Two-thirds of the affected population were between 30 and 45 years old, and 22 percent over the age of 45, i.e. VAE is not a country of the young. Credentials were awarded to 43 percent of the applicants.

Did the French find all this satisfactory? Not according to a 2005 national report on the present and future application of the VAE.¹⁰⁵ The health sector of the economy was particularly supportive of expansion and deepening, estimating that barely 10 percent of the “medico-social” sector of the workforce had access to a formal diploma in the French system, and cited occupations such as pediatric assistants, infirmary anesthetists, hospital pharmacy personnel, and medical laboratory techs for whom opportunities for VAE could lead to degrees, certificates, or titles. “The reservoir of demand is considerable,” asserted Prof. Albert-Claude Benhamou of the VAE mission at Université René Descartes (Paris V) —100,000 per year—but, as the Ministry of Labor pointed out in mid-2005, over the previous 18 months, only 6,000 candidates had moved through the VAE process to an award, and advocated a goal of 75,000 for the three-year period beginning at that point.¹⁰⁶

¹⁰⁵Ministère Éducation Nationale Enseignement Supérieur et Recherche 2005. *La Validation des Acquis de l'Expérience en Actes: Rapport de Mission*. Paris, FR: Author.

¹⁰⁶Ministère Éducation Nationale Enseignement Supérieur et Recherche 2005. *La Validation des Acquis de l'Expérience en Actes*. Annexes. Tome 3: *La VAE dans le Professions de Santé*. Paris, FR: Author.

It will be difficult to meet that target without employer push. A *Eurobarometer* survey in 2003¹⁰⁷ revealed an adult European population seeing value in lifelong learning, but “demotivated” in terms of formal participation, with reasons ranging from not liking school, not good at studying, judging that there is nothing out there to learn that would be interesting or useful, and being too old for the task. Obstacles lie principally in lack of time, including family and job commitments, and the prospect of having to give up leisure time. As for paying for further education and training over 40 percent said “no way!,” no matter what the learning objective.

What all this suggests is that using RPL to expand participation in higher education, i.e. as one of the paths of flexibility in Bologna’s “social dimension” action line, is problematic. It also suggests some promise in integrating the procedure with the degree cycles, but almost exclusively for those who had previously participated in tertiary education and who can use their occupational base as the source of evidence of learning, e.g. as Ruud Duvekot illustrates, presenting the marketing plan you developed for your employer as part of a business dossier for a first cycle degree. It is no surprise that universities are more resistant to the process than the “applied science” institutions, that questions about the variable quality of juries have been raised, and, where reviews of a dossier are used for granting credits, that there are questions about how one determines equivalencies of the student workload metric of ECTS.

5.6 Some Suggestions from the Degree Cycle Issues for “Access and Success” in U.S. Higher Education

What we learn from looking outside the United States at the intersection between degree cycles and increasing access, participation, and ultimate attainment in the Bologna Process universe we *could* learn from looking within, but for some strange reason, don’t.

The first lesson is that Master’s degrees will become the preferred exit point for “undergraduate” education in virtually all fields, academic and occupationally-oriented, across the Bologna universe. The drivers are (a) student perception of potential chances and stability in subsequent employment, and (b) that in the repackaging of the old long degrees to a 3 + 2 sequence, the new combination is seen by students as the same as the old single degree. But labels count in a world without borders. If European students come to present themselves in a global labor market with Master’s degrees, our students will be impelled to join them. We have been focusing so hard on Bachelor’s degree completion—and Bachelor’s degrees for historically low-participating populations (minority and low-income)—that we fail to anticipate its extension.

¹⁰⁷ European Centre for the Development of Vocational Training (CEDEFOP) 2003. *Lifelong Learning: Citizens’ Views*. Luxembourg: Office of Official Publications of the European Community.

Our rhetoric of college “access and success” has to ratchet up its ante to the Master’s level, and percolate down to the level of Gear Up, Know How to Go and other information, encouragement, and preparation programs in the middle and secondary school years. U.S. students, no less than others, must not only “think college!” and “think 1st cycle!”, but also “think 2nd cycle!” That means, too, that every discipline—from chemistry to history to nursing to communication—has to rethink its undergraduate presentation as if there were an inevitable extension, as if the award of the Bachelor’s degree were not a censoring event.

Disciplines with foresight, creativity, and aggressive marketing smarts will also create bridge programs for students changing fields from the first cycle to the second. That means intense one-term periods in which students entering a Master’s program from a different field at the Bachelor’s level fill in the critical undergraduate core of the Master’s field so that they have the momentum to succeed. In this manner, too, we will join the “convergence club” trajectory. In 20 years, it will be the only game on the planet. And as far as our own “social dimension” is concerned, we might think seriously about extending the principle of Pell Grants to both post-baccalaureate “bridges” and the Master’s level.

The second lesson is about our short-cycle degree, the Associate’s. The Bologna Process includes short-cycles as *part of* the first cycle, and the effects have been both to expand the universe of short-cycle offerings and to sharpen the routes from existing short-cycle degree programs to the Bachelor’s. Virtually all of the European short-cycle programs are occupationally-oriented, i.e. like our A.A.S. (Associate of Applied Science) degrees, but conceived as within the first cycle, they lead to occupationally-oriented Bachelor’s degrees in the same fields, and with no arguments about articulation and transfer because both degree programs are offered by the same institutions. It is no wonder that completion and continuation rates for the Foundation degrees in the UK, for example, are as high as we have shown.

We in the United States have an analogous opportunity, one that includes not only the A.A.S. degrees, but also extends to our Associate of Arts and Associate of Science degree programs. It means a radical expansion of the “Alliance Agreement” models one finds in the Maryland system, for example (and there are other programs like it), under which entering students are admitted to both the community college and the Bachelor’s degree granting institution simultaneously, are coached through both a period of habilitation to higher education, all the “gateway” courses, and at least the foundation courses of a major while they are in the community college (having access to all the facilities and services of the four-year college during this period), then moving over to the Bachelor’s degree-granting institution at whatever

the Alliance Agreement has established as a minimum credit and performance threshold (including award of the Associate's degree). If the student in an A.A.S. program at the community college, e.g. Medical Technology, moves into the same or a cognate field in the four-year college, there then should be no articulation or credit transfer problems.¹⁰⁸ And if degree qualifications frameworks are established as suggested in Section 2.3 above, there will be even less reason to quarrel about credit transfer. There are occupational fields in which community colleges are awarding A.A.S. degrees, of course, in which criteria for Bachelor's degrees could not be written, e.g. HVAC (heating, ventilating, and air conditioning). These are cases in which the highest credential offered should be a certificate, not a degree. There is nothing wrong with that, nor with the corresponding reform of our short-cycle credentials that these distinctions clearly imply. We would obtain greater transparency, and clarify our accountability lines in the process.

And while we would not recommend as elaborate a ladder of intermediate credentials as one finds in the Scottish Qualifications, U.S. higher education might think very seriously about establishing a qualifying diploma at a point in undergraduate study at which all Bachelor's degree requirements except upper division course work and final comprehensive exams, theses, or capstone projects have been completed. Such a credential, like the Swedish diploma, would lock in attainment at approximately two-thirds of the way toward the Bachelor's. Students who, for one reason or another, leave the system after that point would not leave empty handed, and could more easily move back into the concluding portion of their degree programs at a later point in life without arguments over the age of their credits.

The third set of suggestions for U.S. higher education concerns our treatment of part-time undergraduate students. In this territory, what we learn from the Europeans is like looking through a mirror darkly. What we see is an unhappy paradox. To repeat: on the one hand, the U.S. higher education system could not achieve the degree of walking-through-the-door access we have achieved if we did not have long-standing provisions for part-time study, and under the "social dimension" clauses of Bologna, some (but not all) European systems are expanding part-time provision for similar reasons. On the other hand, our public policies do not work to enhance the potential success of part-time students, and we are brought to this realization when we observe countries in Europe where full-time students are not charged tuition but part-time students pay. Technically, U.S. students are eligible for federal grants with as little as one additive credit of enrollment (though it's not likely you will meet somebody who has a Pell grant

¹⁰⁸The author would also argue that, at the same time, the matching Bachelor's degree should be retitled as a "Bachelor of Applied Science" or a "Bachelor of Applied Arts" (depending on field) because that is what it is. There nothing wrong with or "lesser" about that label: it is an honest and transparent reflection of reality.

at that level), but they are not eligible for federal loans at any level of effort that is less than “half time” (the definition of which is highly variable). At state and institutional levels, U.S. part-time students face fees for discrete campus services (e.g. student activities, health, counseling, laboratory, technology) that they do not use and that, in some systems (e.g. the California community colleges) easily exceed the price tag of tuition.

Federal financial aid policy in the U.S. should seriously consider allowing non-additive credits (for remedial work) to count toward a realistic intent-to-continue threshold of more than six credits in the student’s first year but not in subsequent years, i.e. provide a clear carrot to students for getting through remediation early. This is one mode of treating some of our part-time students better than we do now.

We might be even more creative, and develop a U.S. version of the Swedish *kursstudenter* or the University of Aberdeen’s allowance for part-time status under which students agree to enter and remain part-time as a set level (e.g. 8 to 10 credits per term) *but continuously enrolled*, in exchange for which they get a tuition discount or fee waivers. This proposition is obviously for individual institutions or state systems to consider, but think of what it does: it creates a predictable cohort that renders enrollment management and academic planning so much easier than the chaos of nomadic and discontinuous enrollment behavior we witness now.

At the institutional level, both public and not-for-profit private colleges should be willing to take on more students in part-time status, with realistic assessment of their ability to carry full-time loads in light of other life responsibilities (our for-profit institutions already do this in volume). If students hold full-time jobs or are responsible for the care of either infants or parents, institutions should refuse to register them as full-time because their chances of successful performance are constricted. There is nothing wrong with this situation: that’s the way life is. We are not doing these students any favors by deluding them into thinking they can handle 80-hour weeks without stress. And if we want more learning and higher degree completion rates, this is a serious advisement option.

Most of all, our public policies and rhetoric must back off from the “get it over with and get it over with fast” punitive tones and actions (e.g. charging higher tuition for students who take longer than X years to complete a degree) one finds in too many state legislatures. Part-time students become second class citizens under these blind assaults. By definition, they will not complete degrees on the same time frame as full-time students, but we risk their not completing *at all* if our policies have no respect for the reasons they are part-time and no respect for their persistence.

We have said it before in this essay: no institution or system of higher education committed to student success can responsibly overload students with credit obligations that they cannot possibly fulfill; no advisement can responsibly push people from part-time to full-time status without sacrificing learning. Ask what is more important to students and their families: the fact of completing a degree or how long it took to do so. Ask what is more important to an economy and society: the piece of paper or the quality of demonstrable knowledge and skills the graduate brings into the labor market and the social order. The answer to both questions is, in contemporary parlance, a no-brainer.

Lastly, we took up Recognition of Prior Learning within the context of both expanding access and connecting the validation of learning acquired in both non-formal and informal settings to credentialing. The European experience of RPL evidences both success and potential to the extent to which it is occupationally-oriented and workplace-based. It is much easier—and less contentious—for a jury to reach consensus on requisite knowledge, skill, and the mode and quality of their demonstration, easier—and less contentious—to create a dossier of qualifying evidence if the exercise of an occupation is the source and reference point. The more transparent the workplace connection, the easier, in fact, to assemble a jury for assessment of that dossier.

In a U.S. postsecondary context, this feature of RPL falls clearly in the workforce development mission of community colleges more than anywhere else. One hesitates to add missions to the community college portfolio, but workforce development is not an addition. What we can suggest to community colleges is the development of (a) standardized RPL processes that treat issues of dossier preparation, jury selection and review, and award of credits, exemptions, and (as in the French VAE) entire credentials, and (b) centers devoted to these activities and to outreach to adult workers in targeted local occupational clusters. Such an effort would enhance our own “social dimensions” objectives in expanding access as well as connecting this walking-through-the-door mode of access to our short-cycle degree programs.

Across all these features of Bologna degree cycles is a clear mandate to demonstrate to current and prospective students the multiple paths and choices available to them. The links between degree paths in some national systems “are sometimes not very transparent” and information outreach to secondary school students is not easy, reflects Mario Ahues of the Jean Monnet University in St-Etienne, France, because “teenagers really can’t follow the complex connections.” But one of the better avenues for outreach is through on-line cases for a My Space generation. Doubt it? Log on to the Scottish Credit and Qualifications Framework, www.scf.org.uk, click on “Learners,” and read through the portraits of students currently

enrolled in colleges and universities, students seeking reskilling, and students returning to education. No, as Aileen Ponton of the SCQF advises, the on-line portraits “will not solve problems in access and participation” by themselves, but the experience of walking through them should inspire state higher education offices in this country to duplication.

6. The Core of Bologna, Part V: the Diploma Supplement

After qualification frameworks, Tuning, credits and their levels, and pathways into and through degree cycles, what evidence of learning and attainment does the student graduate carry forward into the world, and how is that evidence communicated? After all, isn't there a graduation ceremony at which a single piece of paper on which a degree is officially recorded, stamped, and surrounded by ancient heraldic symbols presented to the student? Isn't that enough?

Not in an undertaking such as the Bologna Process. Another document, both personal and public, is called for, one that functions as an assurance.

The document known as the Diploma Supplement had its origins prior to Bologna. From a UNESCO idea first broached in 1979, it came to serious life in a joint project of the European Commission, Council of Europe, and UNESCO. Its shape was refined and prepared for and officially ensconced in the European education landscape in the Lisbon Recognition Convention of 1997, and subsequently took its place in the core of the Bologna Process.

The Diploma Supplement basically addresses the following illustrative issue:

- You earned your first cycle degree in business administration from a university in Romania;
- You apply for a job with a bank in Germany; or you apply for admission to a Master's program in international finance in England;
- Neither the bank in Germany nor the university in England has any guidance or reference points to judge the nature and quality of your first cycle degree; hence
- Both your labor market and educational mobility is severely restricted.

You might present a schematic of the educational system of Romania to assist the judgment of others, but that map says nothing about your university, your program, or your personal attainments. Your diploma may be understood in Romania, but nowhere else.

When multiplied by millions of degree recipients in dozens of countries, this situation stifles the flow of knowledge, expertise, and skills necessary across a continent without borders, and leads to economic stagnation and cultural isolation. The Lisbon Recognition Convention addressed this core dissonance in Europe. It committed its signatories to a process by which each country would facilitate the recognition of credentials from other countries. The existing (since 1984) National Academic Recognition Information Centers (NARICs) simply offered advice and information on foreign education systems to students and their families, university advisers, and faculty in their own countries in matters of studying or teaching abroad. However valuable this information and advice, it does not reach the level of recognition policy.

In higher education, the process to which the Lisbon Recognition Convention committed its signatories requires a considerable amount of information presented in a standardized format, and the Diploma Supplement naturally became the vehicle. Commitment to a process, of course, doesn't mean all that much, but under Bologna, the Diploma Supplement acquired engines and momentum. The Supplement does not *guarantee* recognition for a specific degree awarded by a particular program in country X, but it sets up the conditions for recognition

Setting aside the form and content of Diploma Supplements for a moment, one naturally asks after the extent to which this communication instrument has been adopted, and in what forms. Table 3, based on the Bologna *Stocktaking* report for 2007, shows the status, mode, and basic conditions of Diploma Supplements, with the national system as the unit of analysis. Basically,

Table 3: State and Stage of Diploma Supplements in Bologna Process Countries¹⁰⁹

<u>Stage of Implementation*</u>	<u>Number of National Systems</u>
Every graduating student receives one in standard format, in a widely spoken European language, automatically, and free	25
As above, but only on student request	7
As above, but only in selected programs, and only on student request	15
Nothing started yet	1

*Other variations include language (with the “widely spoken” proviso issued on request) and confining the population to students in programs offering the two-cycle degree framework.

¹⁰⁹The table adds to 48 countries (not the 46 usually referenced for the Bologna Process) reflecting the two countries in which there is more than one higher education authority: the United Kingdom (Scotland and EWNI) and Belgium (Flemish Community and French Community).

half the Bologna country participants require institutions to issue the document to all graduates. When the institution is the unit of analysis, a slightly different portrait of penetration emerges. The European University Association's *Trends V* report (also 2007), indicates 48 percent of responding institutions claiming that every student receives a Diploma Supplement, 11 percent indicating they issue one only to students who request it, and 38 percent saying only that they plan to use it. The bottom line: there is still a large proportion of universities in Bologna countries that are not providing this documentation for students.

Given the purpose of Diploma Supplements and given the variations in implementation, one naturally asks who knows about it. *Bologna Through Student Eyes 2007* offers a sobering assessment. The national student unions contributing to this bi-annual report estimated general awareness of the existence and nature of Diploma Supplements at 30 percent among students, 10 percent among employers, and 12 percent of the general public. More telling are the estimates of minimal awareness of 30 percent of employers and half the general public. To be sure, these are second party perceptions of whether these groups would evidence at least a threshold awareness of the Diploma Supplement, but these estimates are depressing, and illustrate a broader problem in communication by Bologna Process participants.

6.1 Form and Content of the Diploma Supplement

What information does a Diploma Supplement convey and what does it look like? As in other Bologna Process guidances, what is suggested is a form, not particulars, i.e. both national systems and individual institutions have some leeway in both contents and shape of the information provided.¹¹⁰ In addition to the student's personal identifying information and a concluding certification of the Supplement by the institution awarding the degree, the "Outline Structure for the Diploma Supplement"¹¹¹ specifies:

1) Information about the credential awarded

- Name of the credential, and, if applicable, any nationally recognized title that comes with it, both in the original language.
- The major field of study.

¹¹⁰In France, for example, there is a mediating agency, the AMUE, that provides the French translation of the standard Diploma Supplement form and makes "suggestions" to universities through a software program, APOGEE, that generates both the form and computational applications.

¹¹¹ http://www.ec.europa.eu/education/policies/rec_qual/recognition/ds_en.pdf

- Name of the institution awarding the credential, its status (e.g. private, state), its type (e.g. *Fachhochschule*, university, *Grande École*), and the authority that has accredited the institution.
- If the course of study was delivered under contract by an institution other than that which awarded the credential, the same identifying information for that school.
- Language(s) of instruction and examination.

2) Information on the level of the credential

- Given the range of tertiary awards in different European countries, the precise level of the credential in the national structure of education (for which an appended schematic is attached). This information would immediately distinguish intermediate level, short-cycle, and different types of 1st cycle awards.
- Requirements for entry to the program in which the credential is granted. This is often a simple statement identifying secondary school diplomas or university entrance examinations, but, under the Bologna objectives of increasing the potential pathways into tertiary programs, may involve a list of options including prior levels of study, validation of experiential learning, etc. At the Master's level, the "access requirements" certainly reference a Bachelor's degree, but may also specify the field(s) of study for that degree. The requirements statement is *not* individualized for the student.
- The official length / duration of the program. Institutions can choose to express this feature of the credential in terms of normative elapsed time (e.g. three calendar years), normative equivalent time (e.g. the "equivalent" of three years of full-time study), and/or student workload in ECTS terms.

3) Information on "the contents [of the course of study] and results gained," a heading that does not really reflect what goes into the Diploma Supplement at this point. The bulk of information here can be provided by a separate appended transcript of records, a document we would certainly use in the U.S., with all courses taken, credits, grades, and a guidance for interpreting the grading system.¹¹² But on 15 of a sample of 29 Diploma Supplements

¹¹² It is worth noting that transcripts of records did not exist for most European countries prior to Bologna. As one might expect, there are considerable variations in grading systems across the countries involved in the Bologna Process, including very unique scales (e.g. "10 - 20 marks," 4 -10, 3-1, 0-13). U.S. transcripts are also accompanied by guidances for interpreting grades, but these usually apply to letter symbols such as X, Z, Q, and M.

from 22 institutions in 11 countries reviewed for this essay, the transcribed data were inserted in this section. Such placement does not contribute to the coherence of a section that also includes information on:

- Modes of study, including enrollment intensity (full-time or part-time) and distance learning.
- Requirements for the degree, including internships, theses, final projects.
- Indications of superior performance (we would call these “compressed signals”) such as honors, *cum laude*, etc.
- A discipline-level qualifications framework statement, something that should be prominent and universal on Diploma Supplements, but is rarely found.

4) A statement of the purpose and function of the credential.

- Does the credential represent preparation for the labor force (and, if so, for what types of positions)? preparation for further study (and, if so, at what levels)?
- Does the credential also confer status in a regulated profession, licensure, title?

5) Additional information. What is specified in the guidance for Diploma Supplements is more information about the credential and the institution. “Additional information” about the *student’s* experience turns up only in a reference to any period of study in another institution or country, though two of the 29 Diploma Supplements examined included the title of the student’s thesis or final project.¹¹³

While a Diploma Supplement accompanies a credential awarded to a student, it is far more a statement about the institution awarding the diploma and the national system in which that institution sits than it is about the student (and the single piece of paper on which the degree is inscribed says no more than student X earned degree Y in subject Z). One grants that, for an employer, information about the institution and the system is necessary, but it is secondary to information about the candidate for the job. The transcript portion of the Supplement, whether included in the text or appended, can tell the employer—or the university in another country that is considering the student for admission to the next degree cycle—something about the content of the degree program and the student’s performance within that content, provided that the transcript is instantly transparent. But the transcript does not necessarily carry other information about the distinctive aspects and tones of students’ qualifying activities, either

¹¹³ In biological engineering (Portugal), and economics (Czech Republic).

curricular (e.g. a description of the student's final project or thesis), cognate (e.g. passing a certification examination or earning a license outside of the student's formal program), or co-curricular (e.g. documented projects carried out by the student that directly utilized the knowledge and skills developed in the major program, no matter where those projects were located).¹¹⁴

Our European colleagues had an attractive idea in the Diploma Supplement, to wit: the piece of paper called the diploma says nothing about the institution and very little about the student, yet we place an enormous trust in its symbolic power; so something else is needed. The national system needs that something else to verify its responsibility and oversight of the credential awarded within its borders. The institution needs that something else to reinforce the legitimacy of its programs. Most of all, though, the student needs that something else to tell the story of his or her unique achievement, and enable international mobility for purposes of further study or work. It is a matter of certified and transparent evidence, conveyed in a concise and direct manner. But as one reads through examples of Diploma Supplements from a range of countries, only one of the three parties to the document, the national system, is well served. The attractive idea needs some serious revisions in practice, and this is a case in which a U.S. version of the Diploma Supplement can help clarify what is at issue. The learning will be reciprocal, and perhaps will demonstrate that the smart money in this world is on cooperation.

6.2 We Can Do It Better—And So Can They.

It is odd, in a way, that a comprehensive reform of higher education designed to be student-centered in matters of flexibility and access, credits, and qualifications relies on a document communicating the student's award that is not really about the student. As a first principle for rethinking what a Diploma Supplement can do, then, this essay suggests starting with the student as the principal actor, subject, and ultimate beneficiary of the document.

It was Lars Schewe and Annerose Gulbins, the German students union (FZS) representatives, who offered the distinction between a Diploma Supplement and a Transcript of Records to their Rectors at a series of conferences on the Diploma Supplement in the winter of 2005.¹¹⁵ The former, they contended, has a clarifying function: its purpose is to render the nature of the

¹¹⁴ The author's authority in judging the form and content of transcripts derives from editing two U.S. national longitudinal study postsecondary transcript data bases, and building a third from ground up, reading through and designing the coding system for over 17,000 transcripts from over 3,000 U.S. institutions. For a full account of what these tasks involve, see Adelman, C. 2004. *Principal Indicators of Student Academic Histories in Postsecondary Education, 1972–2000*. Washington, DC: U.S. Department of Education.

¹¹⁵ Chávlová, E. and Spindler, J. (eds.) 2005. *Diploma Supplement: Funktion - Inhalte - Umsetzung*. Bonn, DE: HRK Service-Stelle Bologna, pp. 129–134.

credential comprehensible and legible (*lesbar*), whereas the latter presents details that should be viewed separately. True. The transcript is an appendix to the core document—or should be. A transcript will be read by graduate program admissions committees, but not by employers. For general purposes, it gets in the way of communicating both program criteria and highlights of student learning.

Taking this advice, along with some compelling features of European intent, how might a U.S. version of a Diploma Supplement fulfill the function of this warrantee in a parsimonious manner while certifying the full color of the student’s achievement? However much some may resist the notion, we also need to put institutions of higher education on public record in terms of their standards for degree qualifications as suggested in sections 2.3 and 3.6 above, and to hold them to consistency in these critical matters. As borders diminish even more as factors in labor markets, as the scope of human betterment (let alone survival) expands from the neighborhood and village to the planet, our students will need all the help they can get in joining others in both work and the unavoidable confrontation with global conditions, and they will need convincing evidence to join. It all comes together—system, institution, major program, and student—on a document such as this. We suggest a “legible” U.S. Diploma Supplement that contains:

1) Standard boilerplate on the name of the credential, field of study, institution and its type and status (in the U.S., using the Carnegie classification system), institutional accreditation information, and program accreditation (if applicable).

2) A statement of the utilitarian purpose of the degree granted in the field in which it was granted, e.g. as preparation for the next level of study, as preparation for work in specific occupational fields or industries or public service areas. For some odd reason, we rarely make public statements about the purposes of our degrees, certainly not across our system.

3) Not-so-standard boilerplate indicating (a) all other institutions attended by the student from which credits were accepted and applied toward the credential (including study abroad), and (b) the percent of the student’s credits that were earned at the institution awarding the degree. While this information can be determined from the transcript, it is better aggregated and highlighted on the Diploma Supplement.

4) A statement of the way in which the student came to the institution, e.g. from high school, by transfer, through assessment of prior learning, through a special bridge program, etc.

5) If the state or institution has developed and implemented a qualifications framework for the degree level in question, reference it and put the framework in an appendix. Otherwise, skip this entry.

6) Specifications of program requirements in the major field. There are a number of ways to represent these requirements, e.g. catalogue statements of objectives in the major, a Tuning-type disciplinary qualifications framework statement (preferred), a listing of credit distributions by sub-field/cognate fields in the major, etc. If internships and/or theses and/or comprehensive examinations are required, this is where to indicate those facts.

7) Markers of student achievement, curricular and co-curricular. This is a substitute for the European Diploma Supplement's "additional information" section and is the most individualized section of the suggested U.S. version. What do we include?

7.1) Any compressed signals of superior academic performance, e.g. Phi Beta Kappa, graduation with honors, number of times on Dean's List.

7.2) Title and short description of student's thesis or final degree-qualifying project, if applicable.

7.3) Any external certification examinations passed or licenses granted to the student. While the institution is not the awarding body in these cases, the institution certifies that it has recognized and recorded them.

7.4) A maximum of two noteworthy and documented services performed by the student to either the institution, its surrounding community, and/or its extended commitments.

7.5) Student research, creative, or service participation, if applicable. Field, title of project, and faculty sponsor. The key to validation for this entry is the faculty sponsor.

7.6) Documented proficiency in languages other than English. Indicate language(s) and method of documentation.

Other features of student experience while enrolled at the institution become parts of a resume, not officially documented by the institution. Among the diploma supplements examined for this

essay, one included a list of 42 discrete activities that could be included under our proposed “markers” section of the Diploma Supplement. But this list included club memberships, student government, athletic teams, and committees, and with validating authorities ranging from the president of the institution to the president of the student union to the manager of the sports club. To be effective and credible, the student markers section of a Diploma Supplement should be limited, based on unobtrusive institutional records of the student’s activities, concentrated on achievements related to the degree awarded, and verifiable and validated by the senior signator of the document. Otherwise, they are properly part of a curriculum vitae. One approach to quality control of the markers section is illustrated at the University of Vienna in Austria, where distinct templates of Diploma Supplements for existing fields were written centrally then reviewed and refined by program heads (analogous to our department chairs). Diploma Supplements for Bologna-era new curricula then follow these models. Another approach is illustrated by a determination of the faculty senate at the University of Porto in Portugal requiring annual review of Diploma Supplement practices and indicating that modifications to the format and its elements could be undertaken only on approval of the faculty senate.¹¹⁶

As for our advocacy of parsimony in presentation: from the perspective of institutional management, *Trends V* judges the Diploma Supplement to be “a costly exercise in administrative terms,” and more costly if employers don’t use it. As was pointed out, though, in that elaborate series of development seminars on the Diploma Supplement carried out by the German Rectors’ Conference in 2005,¹¹⁷ once the technical aspects of the information system and software have been designed and templates established, costs decline dramatically. But if the Diploma Supplement is—as we propose for both the United States and Bologna countries—more about the student than the institution and requires authentication by a college authority, then its construction would be a labor intensive task.

Is a U.S. Diploma Supplement, at least one adopted by one or more state systems, worth the effort? Just as the Tuning project spread to Latin America, the Diploma Supplement has been taken up in Australia. The Australians began studying the Diploma Supplement phenomenon in 2002, and initiated a trial in 2005. Based on the learning from that trial¹¹⁸ the Australian Department of Education, Science, and Training drafted three potential templates,¹¹⁹ and has

¹¹⁶ Decisão do Senado relativa ao Suplemento ao Diploma da Universidade do Porto. n.d. Porto, PT: Author.

¹¹⁷ Chávlová, E. and Spindler, J. (eds.) 2005, *op cit.*

¹¹⁸ Australian Education International, July 2006. *Diploma Supplement: Outcomes of DEST Activities*. Canberra City, AU: Author.

¹¹⁹ Available at <http://aei.dest.gov.au/AEI/GovernmentActivities/DiplomaSupplement/default.htm>

now commissioned a project involving 14 universities to produce a final format and content specifications, with recommendations for linking data systems and establishing data security, closing gaps in records, handling of double-degrees, and estimates of workload and costs.¹²⁰ Estimated time from first inquiries to implementation: 8 years. In academic time, that's a hands' breadth, and Australia will not be the last national system outside Europe to take the Diploma Supplement very seriously. There must be a reason, and perhaps we ought to listen.

7: A Summary Reinforcement of the Story-Lines; Picking Up the Missing Pieces

As noted at the outset, this essay is the first of three products from Institute for Higher Education Policy's exploration of the meaning of the Bologna Process from a U.S. perspective. It purposefully chose a story-line derived from the terms of debate on accountability issues in U.S. higher education, and asked what we could learn from the considerable efforts of our European colleagues that would help us clarify and refine that debate—even provide some creative resolutions. To hold to that perspective, a number of features allied to Bologna had to be set aside or mentioned in passing. Among these are its “external dimension” goals (making the European Higher Education Area an attractive learning destination for students from other countries), the parallel process of European reform of vocational education—extending to postsecondary levels—and the intersection of its separate credit system with that of ECTS, student learning agreements, and the EUROPASS (an individualized electronic portfolio in which the Diploma Supplement becomes one of five records of lifelong learning). These will be taken up in a longer research monograph that expands this presentation.

The most important of the missing elements, though, is that of Quality Assurance, a system that includes but extends beyond accreditation. The argument here is that the execution of qualification frameworks, ECTS, Diploma Supplements and, ultimately, the mutual recognition of credentials, would not be possible without an enforcement mechanism at the level of institutional and program behavior. Simply joining the club does not produce the end points of reform: one needs the evidence of both external review and internal monitoring. True. That said, the Quality Assurance territory is fraught with linguistic problems, particularly in the matter of its core English vocabulary—of “standards,” “guidelines,” “quality,” and “assurance”—which does not translate easily across the language landscape of Bologna. As Patricia Pol of the University of Paris XII (and the principal Bologna “promoter” in France) reflected, “it's a *concept* issue: ‘standards’ doesn't mean anything in French, whereas ‘norms’ does, but ‘norms’ is a different concept.” To branch off into this linguistic and conceptual thicket, and into accounts and analyses of accreditation options and the establishment of a European registry of approved accreditation agencies carries us away from the student. The topic will be addressed in the longer treatment.

¹²⁰See <http://www.une.edu.au/chemp/projects/dipsup/index.php>

What were the story-lines of this essay, and what, in brief, does it suggest our higher education community think seriously about?

The primary story is about providing students with clear indications of what their paths through higher education look like, what levels of knowledge and skills will qualify them for degree awards, and what their degrees mean. These are road signs that are sorely lacking now. Student “success” does not mean merely that you have been awarded a degree, but that you have learned something substantial along the way and that the world knows what you have learned, what skills you have mastered, and that you have the momentum to meet the rising knowledge content of the global economy. This public evidence does not derive from administering a test to a sample of students to prove that an institution “adds value” to something that, at best, is indirectly taught. As Milena Bevc of the Institute for Economic Research in Ljubljana, Slovenia encapsulated it, “knowledge distribution is not measured by a PISA test.” If your discipline, institution, and system have all established and publicly promulgated clear and discrete criteria for learning and thresholds of performance, that evidence, in itself, creates a powerful endorsement. When backed by a Diploma Supplement, you have a public warrantee.

For U.S. public policymakers, the primary message to students translates into worrying less about how many pieces of paper we pass out, how many credits qualify someone for those pieces of paper, and how long it takes a highly mobile student population to arrive in a graduation line, and more about the knowledge, the application of knowledge, the information identification and retrieval skills, and the degree of learning autonomy students acquire and take with them into economic and community life. That’s something for U.S. policy makers and academic leaders of the “get-it-over-with-and-get-it-over-with-fast” school (who then complain about what graduates don’t know or can’t do, and for whom persisting part-time students are a paradoxical anathema), should think *very* seriously about.

For systems and institutions, the same process yields the “zone of mutual trust” that advances cooperative undertakings, curriculum reform, and smoother and more flexible routes of mobility for students—whether entering the system, transferring, or moving to the next degree level. It might also bolster that zone if we re-labeled some of our degrees. Just as we use the “Bachelor of Fine Arts” to mark awards in the visual and performing disciplines, there is nothing wrong with calling occupationally-oriented degrees “Bachelor of Applied Arts” or “Bachelor of Applied Science.” It’s a matter of honesty: that’s what those degrees represent. Just as there is nothing lesser about serving students pursuing creative arts and, though them, maintaining the cultural institutions in our society, there is nothing lesser about serving student constituencies oriented toward occupational fields or regional labor markets in which those fields are important. Most of our four-year institutions award both types of credentials along with the default Bachelor of Arts and Bachelor of Science.

For systems and institutions, too, learning from Bologna means expanded consciousness about “access”: reflected in the way part-time students are treated, and in different ways of looking for “under-served” populations, e.g. isolated rural populations and low participation neighborhoods.

Along similar lines, we argue that the development of these road signs in qualification frameworks, revisions of the way the credit currency is established, and meaningful public documentation of learning—all of which have been demonstrated by the Bologna Process—would have a reconstructive effect on state systems and individual institutions in the United States. Some of our colleges and universities will say that they already have degree qualification statements that read like those developed in Europe, some will say that they differentiate levels of credits by the degree of challenge in courses, some will point to their bridge programs linking Associate’s and Bachelor’s degrees or linking Bachelor’s and Master’s programs, some will say that they engage in efficient processes of recognition of prior learning. We certainly can point to points of exemplary practice. But we do not engage in these exemplary practices systematically, and we do not engage in them to scale.

The author trusts that U.S. readers recognize what hard work and sustained effort going to scale with systemic reform involves, but hopes they can be inspired to do so by European colleagues and European students who have been at it for a decade. Those colleagues and students have formulated, tested, stumbled, reformulated, refined, expanded. They have discovered discontinuities and dissonances, and have sought to repair them. They have learned what they do well, and what they can do better. They know where they are leading, and where they are lagging. And they have done all this across 23 major languages and 46 major traditions with all their idiosyncrasies, moving from differentiation to agreement. Yes, they need better data systems to track the impacts of their reforms (the United States, in contrast, has unparalleled data systems and an unmatched institutional research workforce, but no reforms to track), and that’s a subject for another day. In the meantime, nations outside “the Bologna Process 46” have studied and begun to adapt some of the core features of the European reconstruction. They do so not to imitate, but to improve within their own traditions. In so doing, they link themselves to an emerging paradigm where the smart money is on cooperation and conversation. The “convergence club” grows every year. Joining is not such a bad idea.

Appendix A: Our European Colleagues; Our Translation Assistance

The following individuals gave generously of their time and expertise in direct interviews, presence and questionings in group discussions, e-mail interviews and exchanges, guidance, and/or provision of documents and information that expanded the author's understanding and appreciation of the many dimensions of both national higher education systems and the unfolding of the Bologna Process in their respective countries. It is hoped that this essay has done justice to their wisdom and confidence.

Mario Ahues, University Jean Monnet, St Etienne, France

Alberto Amaral, Centro de Investigação de Políticas do Ensino Superior (CIPES), Matosinhos, Portugal

Birgit Anderheiden, University of Karlsruhe, Germany

Gottfried Bacher, Austrian Federal Ministry of Science and Research, Vienna, Austria

Milena Bevc, Institute for Economic Research, Ljubljana, Slovenia

Piotr Bielecki, Warsaw School of Economics, Warsaw, Poland

Tijn Borghuis, Eindhoven University of Technology, Eindhoven, the Netherlands

Floor Boselie, Ministry of Education, Culture, and Science, the Hague, the Netherlands

Arne Brentjens, Universiteit van Amsterdam, Amsterdam, the Netherlands

Raphaël Costambeys-Kempczynski, University of Paris III, France

David Crosier, European University Association, Brussels, Belgium

Alan Davidson, Robert Gordon University, Aberdeen, Scotland

Harry F. deBoer, Center for Higher Education Policy Studies (CHEPS), University of Twente, Enschede, the Netherlands

Manfred P. Dierich, Medical University of Innsbruck, Innsbruck, Austria

Ruud Duvekot, Hogeschool van Amsterdam, Amsterdam, the Netherlands

Frans Dijkstra, Ministry of Education, Culture, and Science, the Hague, the Netherlands

Jürgen Enders, Center for Higher Education Policy Studies (CHEPS), University of Twente, Enschede, the Netherlands

Gunnar Enequist, Högskoleverket (HsV), Stockholm, Sweden

Dietmar Ertmann, University of Karlsruhe, Karlsruhe, Germany

Ewa Foss, Statistics Sweden, Stockholm, Sweden

Jose Gines Mora Ruiz, Technical University of Valencia, Spain

George Gordon, University of Strathclyde, Scotland

Martina Heidegger, Medical University of Innsbruck, Innsbruck, Austria

Andrea Herdegen, Federal Ministry for Education and Research, Bonn, Germany

J. Peter Hoekstra, University van Amsterdam, Amsterdam, the Netherlands

Jan-Olov Höög, Karolinska Institutet, Stockholm, Sweden

Dieter Höpfel, Hochschule Karlsruhe, Karlsruhe, Germany

Elisabeth Hovdhaugen, NIFU STEP, Oslo, Norway

Anne Hughes, University of Strathclyde, Glasgow, Scotland
Johannes Johansson, Royal Academy of Music, Stockholm, Sweden
Lonnie Johnson, Fulbright Commission, Vienna, Austria
Heinz Kasparovsky, Austrian Federal Ministry of Science and Research, Vienna, Austria
Rowena Kochanowska, University of Strathclyde, Glasgow, Scotland
Anke Kohl, University of Twente, Enschede, the Netherlands
Juliana Kristl, University of Ljubljana, Ljubljana, Slovenia
Michael Kurth, University of Karlsruhe, Karlsruhe, Germany
Einar Lauritzen, Uppsala University, Uppsala, Sweden
Ray Land, University of Strathclyde, Glasgow, Scotland
Anna Flavia Laub, Universität Wien, Vienna, Austria
Marlies van der Linden Leegwater, Ministry of Education, Culture, and Science, the Hague, the Netherlands
Josef Leidenfrost, Austrian Federal Ministry of Science and Research, Vienna, Austria
Joachim Lembach, Hochschule Karlsruhe, Karlsruhe, Germany
Karin Järplid Linde, Högskoleverket (HsV), Stockholm, Sweden
Anneke Luijten-Lub, University of Twente, Enschede, the Netherlands
Annika Lundmark, Uppsala Universitet, Uppsala, Sweden
Torbjörn Lundqvist, Högskoleverket (HsV), Stockholm, Sweden
Claire Macheras, Université Paris III, Paris, France
Gillian Mackintosh, Aberdeen University, Aberdeen, Scotland
Gerard Madill, Universities Scotland, Edinburgh, Scotland
Margarida Mano, Universidade de Coimbra, Coimbra, Portugal
Ewa Markowska, Department of Organization of Higher Education Institutions, Ministry of Science and Higher Education, Warsaw, Poland
Struan McCall, University van Amsterdam, Amsterdam, the Netherlands
Sijbolt Noorda, Netherlands Association of Universities (VSNU), the Hague, Netherlands
Dominic Orr, Hochschule-Information-System, Hannover, Germany
Juan-F. Perellon, Direction Général de l'Enseignement Supérieur, Lausanne, Switzerland
Patricia Pol, Université Paris XII, France
Aileen Ponton, Scottish Credit and Qualification Framework, Glasgow, Scotland
Martin Prchal, Association Européenne des Conservatoires, Académies de Musique et Musikhochschulen, Utrecht, the Netherlands
Maike Reimer, Bavarian [State] Institute for Higher Education Research and Planning, Munich, Germany
Serge Riffard, University Jean Monnet, St Etienne, France
Gun Román, University College of Dance, Stockholm, Sweden
Margareta Sandewall, Higher Education Unit, International Programme Office for Education and Training, Stockholm, Sweden
Anke Loux-Schuringa, Universiteit van Amsterdam, Amsterdam, the Netherlands

Maivor Sjölund, Uppsala Universitet, Uppsala, Sweden
 Andrée Sursock, European University Association, Brussels, Belgium
 Lesley Sutherland, Scottish Funding Council, Edinburgh, Scotland
 Harald Titz, Austrian Federal Ministry of Science and Research, Vienna, Austria
 Ester Tomasi-Fumics, University of Music and Performing Arts, Vienna, Austria
 Martin Unger, Institute for Advanced Studies, Vienna, Austria
 Anne van de Graaf, Universiteit van Amsterdam, Amsterdam, the Netherlands
 Leonard van der Hout, Hogeschool van Amsterdam, Amsterdam, the Netherlands
 Paul M.M. van Oijen, Ministry of Education, Science, and Culture, the Hague, the Netherlands
 Marijk van der Wende, Free University of Amsterdam, Amsterdam, the Netherlands
 Amélia Veiga, Centro de Investigação de Políticas do Ensino Superior, Matosinhos, Portugal
 J.J. (Hans) Vossensteyn, Center for Higher Education Policy Studies (CHEPS), University of
 Twente, Enschede, the Netherlands
 Barbara Weitgruber, Austrian Federal Ministry of Science and Research, Vienna, Austria
 Eva Werner, Fachhochschule Krems, Krems, Austria
 Johanna Witte, Bavarian [State] Institute for Higher Education Research and Planning, Munich,
 Germany
 Pavel Zgaga, University of Ljubljana, Ljubljana, Slovenia

Our Translation Assistance

Dutch	Albertus van den Bogaard	Frederick, MD
German	Alice Wuermli	American Univ. School of International Service, Washington, DC
Polish	Klaudia Youell	American Univ. School of International Service, Washington, DC
Portuguese	Daniela Beserra	Montgomery College (MD)
Spanish	Melissa del Rios	Institute for Higher Education Policy, Washington, DC
Swedish	Annika Kjellgren	Consultant, the World Bank, Washington, DC

Appendix C

Institutions/Systems from Which Diploma Supplements Were Examined

<u>Institution</u>	<u>Country</u>	<u>Language(s) of Supplement</u>	<u>Level/Degree</u>	<u>Field</u>
Fachhochschule Krems	Austria	German English	Magister (FH)	Export-Oriented Management
University of Vienna	Austria	German English	<i>Bakkalaurea der Philosophie</i>	Journalism and Communication
University of Vienna	Austria	German English	<i>Magister der Naturwissenschaften</i>	Sports Science
Suhr's Seminarium	Denmark	English	Bachelor	Nutrition and Health
Danmarks Paedagogiske Universitet	Denmark	English	Master of Arts	Education
Univ. of Southern Denmark	Denmark	Danish English	M.A.	International Business and Modern Langs.
Ingeniørhøjskolen e Odense Teknikum	Denmark	English	Engineering Diploma	Civil Engineering
ICN Ecole de Management*	France	French	Grade Master	Management
[G.W.] Leibniz Universität*	Germany	English	Master of Sci	Mechanical engineering
Hochschule Karlsruhe	Germany	English	<i>Diplom</i>	Computer Science
Otto-Friedrich Univ. of Bamberg	Germany	German English	<i>Diplom</i>	Sociology
Rijksuniversiteit Groningen	Netherlands	English	Bachelor's	Communication and Information Studies

<u>Institution</u>	<u>Country</u>	<u>Language(s) of Supplement</u>	<u>Level/Degree</u>	<u>Field</u>
Rijksuniversiteit Groningen	Netherlands	English	Master of Arts	English Language and Culture
Instituto Politécnico de Setubal	Portugal	Portuguese	<i>Licenciatura</i>	Communication
Universidade da Beira Interior	Portugal	Portuguese	<i>Licenciatura</i>	Management
Instituto Politécnico do Porto	Portugal	English	<i>Licenciatura</i>	Theater
Universidade do Minho	Portugal	English	<i>Licenciatura</i>	Biological Engineering
Academy of Economic Studies	Romania	Romanian English	Bachelor	International Business
Universitatea din Craiova*	Romania	Romanian English	Master	Physics
Univerza v Ljubljani	Slovenia	English	Doktor Medicine	Medicine
Univerza v Mariboru	Slovenia	Slovenian English	Master	Electrical engineering
Danshögskolan	Sweden	Swedish English	University Diploma	Dance Education
Université de Lausanne	Switzerland	French English	Bachelor of Sci	Biology
Université de Lausanne	Switzerland	French	<i>Licence en sciences économiques</i>	Actuarial Science

<u>Institution</u>	<u>Country</u>	<u>Language(s) of Supplement</u>	<u>Level/Degree</u>	<u>Field</u>
Université de Lausanne	Switzerland	French	<i>Licence</i>	Psychology
Université de Lausanne	Switzerland	French	<i>Licence</i>	Geography and History of Religion
Université de Lausanne	Switzerland	French English	Bachelor of Theology	Theology
Université de Lausanne	Switzerland	French English	Bachelor of Science	Geosciences and Environment
University of Nottingham	United Kingdom	English	Honors Bachelor	Environmental Biol.

System

Belgium (Flemish Community)	English	Generic (all levels, all fields)
Poland	English	Generic (all levels, all fields)
Spain*	Spanish	Generic (all levels, all fields)

*Provided on the Web site of the European Commission as examples.