Facilitating College to University Transfer in the European Higher Education Area and Beyond:

Opportunities for Ontario's Colleges of Applied Arts and Technology

REPORT

Amy D. Mitchell, Lane Trotter, Wendy Wilson, and Ryan Walmsley

ONTransfer

College University
Consortium Council

Author Note

Amy D. Mitchell, School of Language and Liberal Studies, Fanshawe College;
Lane Trotter, V.P. Academic, Fanshawe College;
Wendy Wilson, School of Language and Liberal Studies, Fanshawe College;
Ryan Walmsley, School of Language and Liberal Studies, Fanshawe College.

This research paper was made possible by a grant from the CUCC: 2012.

Correspondence concerning this article should be addressed to Amy D. Mitchell, School of Language and Liberal Studies, Fanshawe College, 1001 Fanshawe College Blvd., P.O. Box 7005, London, Ontario, N5Y 5R6. E-mail: amitchell@fanshawec.ca

Abstract

Ontario's provincial government recognizes college to university transfer as increasingly important. The challenge that Ontario faces is that its college and university systems were created as binary structures, with insufficient credit transfer opportunities for college students who wish to access universities with appropriate advanced standing. This paper discusses Fanshawe College's consequent attempt to create new pathways for its students within the European Higher Education Area, whose Bologna Process provides an integrated credit transfer system that is theoretically very open to student mobility. This unique project is intended to act as an exemplar for other Ontario colleges seeking similar solutions, and to support an articulation agreement between Fanshawe's Advanced Diploma in Architectural Technology and a Building Sciences Master's program at Victoria University of Wellington in New Zealand.

This paper discusses the significance of Fanshawe's project and of relevant international legislation that governs the European system. It describes the two key European transfer and mobility tools: the European Credit Transfer and Accumulation System (ECTS) and the Diploma Supplement. It considers challenges facing the recognition of an Ontario Advanced Diploma in Europe, especially whether this qualification could be equivalent to a European first cycle qualification (a bachelor's). It then maps the Ontario Advanced Diploma and the Provincial Standards for an Advanced Diploma in Architectural Technology to the two overarching European frameworks; this mapping supports the conclusion that the Ontario qualification can legitimately equate with a European bachelor's. Finally, it provides concrete recommendations for realizing the potential of this project.

Keywords. articulation, Bologna Process, CAAT, College of Applied Arts and Technology, credit transfer, Diploma Supplement, ECTS, EQF-LLL, European Credit Transfer and Accumulation System, first cycle, learning outcomes, Lisbon Recognition Convention, mobility, Ontario Qualifications Framework, OQF, QFEHEA, qualifications frameworks, recognition, short cycle

Contents

Introduction **1**

Significance of Fanshawe's Project **3**
Economic Significance 4
The Changing Higher Education Landscape in Europe and Ontario 7

Relevant Policies: The Lisbon Recognition Convention and the Bologna Process **10**

Bologna's "Transparency Tools": ECTS and the Diploma Supplement **15**
The First Transparency Tool: ECTS 16
ECTS and Student Workload 18
ECTS and Learning Outcomes 21
ECTS and Levels 22
ECTS Grading Conventions 23
ECTS and Course Catalogues 24
The Second Transparency Tool: The Diploma Supplement 25

Recognition and Substantial Differences **27**
First Cycle or Short Cycle? 29
Formal Rights 32

Qualifications Frameworks **34**
Mapping the OQF Advanced Diploma and the Provincial Standards to the QF-EHEA 35
Mapping the OQF Advanced Diploma and the Provincial Standards to the EQF-LLL 39

Conclusions and Recommendations **42**
Initial Strategy 43
ECTS 43
Diploma Supplement 44

References **46**

Introduction

The Architectural Technology advanced diploma program at Fanshawe College[1] in London, Ontario, currently faces a unique opportunity: the signing of a Memorandum of Understanding with Victoria University of Wellington, New Zealand (VUW) that includes an articulation agreement with a master's program allowing for direct entry with a minimal (one semester) bridging requirement. This opportunity arose after students from our Architectural Technology program worked on the construction in New Zealand, and assembly in Washington D.C., of VUW's entry into the U.S. Department of Energy's 2011 biennial Solar Decathlon (a net zero house design and construction competition). Senior leadership from VUW were so impressed with the problem solving abilities and work ethic of the Fanshawe students that they were open to the idea that such an articulation agreement would be mutually beneficial.

This kind of articulation agreement is, of course, unusual. It can be difficult for advanced diploma students to receive appropriate advanced standing if they try to access bachelor's programs, so the possibility of easy entry into a master's program is practically unheard of. VUW could see that our advanced diploma students do possess the learning outcomes necessary for success in their master's program, but obviously any additional information buttressing the quality of Fanshawe itself and of its Architectural Technology program would help to cement the agreement, and to reassure VUW that its perceptions of Fanshawe's students at the Solar Decathlon are, in fact, accurate.

[1] A publicly-funded post-secondary College of Applied Arts and Technology offering a range of diplomas, applied degrees, and post-graduate certificates, with a full-time student enrollment of 15,000.

At the same time, we learned that New Zealand has been actively seeking to engage with Europe's Bologna Process,[2] with a focus “not on ensuring compliance…but on ensuring that comparability mechanisms allow New Zealand’s tertiary education system to relate to all major international models” (New Zealand Qualifications Authority, 2008, p. 4). We therefore decided to investigate achieving European Credit Transfer and Accumulation System (ECTS) certification for Ontario's Architectural Technology advanced diploma program at our institution (as we, wrongly, initially conceptualized the project facing us) in the interests of providing further proof of the quality of the program. ECTS is one of the more concrete manifestations of the Bologna Process' emphasis on student mobility.

Fanshawe’s ensuing ECTS project was designed in three phases: first, the production of an article (this paper) that delineates the nature of the problem facing us and that recommends how Fanshawe should proceed; second, mapping of our Architectural Technology program to ECTS standards; and third, the production of a wrap-up article reflecting on the practical experience of the mapping process. Very little seems to be known about European student transfer protocols within Ontario, which is why we thought it important to report on the process after its completion. The College University Consortium Council (CUCC) of Ontario generously provided funding for the first two phases of this project, with the prescient request that we also map the provincial standards for an advanced diploma in Architectural Technology to European standards. Given how tightly the issues facing us are bound up in program standards and qualifications frameworks, we would have eventually discovered that we had to take into account the Ontario Qualifications Framework (OQF) and the provincial standards, even without the CUCC’s prompting.

[2] This is the collection of policy decisions and practical implementation procedures that gave rise in 2010 to the EHEA.

This paper describes our findings on the nature of the project itself (including our revised understanding of ECTS), and our recommendations for successfully translating Fanshawe's (and by extension Ontario's) advanced diploma in Architectural Technology into European transfer terms such that it will successfully promote our students' mobility in the European Higher Education Area (EHEA), in New Zealand, and in other Bologna-compatible higher education systems. Since New Zealand has not yet fully implemented ECTS and related Bologna Process elements at the institutional level, it proved necessary to select other program analogues to use for comparisons with us at this level. We chose the Architectural Technology programs at the Irish Institutes of Technology as suitable analogues: Ireland is widely recognized as one of the leaders of Bologna Process implementation, at all levels, and is therefore one of the best possible systems to turn to for answers on practical implementation issues.

Significance of Fanshawe's Project

There are four aspects of this project that make it significant beyond simply Fanshawe's own goals. First, the work accomplished in the course of the project will help to fill a significant gap in Ontario's (and possibly Canada's) knowledge of European transfer and mobility protocols. Despite the fact that the Bologna Process is quickly becoming the global higher education norm, it is surprisingly difficult within Ontario to acquire high-quality information about this phenomenon. Additionally, there do not appear to be any similar projects underway. Second, this project functions in part as a test of whether an advanced diploma in Ontario can indeed find a place in the shifting landscape of Bologna (preferably at the bachelor's level), which is discussed further in another section of this paper. Third, this project has larger economic significance, especially given the recent political recognition that credit transfer is an important factor in a robust, productive post-secondary system. Fourth, the central question of

this project—essentially, whether it is possible to create unusual pathways for students through the levels of post-secondary education—echoes problems and opportunities that have been raised by the changing and increasingly fluid nature of both the North American and European higher education landscapes.

Economic Significance

The third and fourth significant aspects of this project require further explanation. The economic aspect is twofold: post-secondary education is facing an imminent decline in domestic enrollments, which has to be somehow mitigated, and post-secondary transfer opportunities (including international ones) have been identified as economically important for Ontario's post-secondary system. The demographic age group that most commonly enrols in post-secondary studies in Canada will decrease after about 2013 (see Hango & de Broucker, 2007, p. 14 and p. 15, Chart 4.1); Statistics Canada predicts that Ontario may (the claim is qualified by the statement that this "projection ... [is] based on the assumption that migration will continue to benefit ... Ontario" [see p. 14]) fare significantly better than some of the other provinces (see Hango & de Broucker, 2007, p. 18, Chart 4.7), but the overall downward trend in Canada is undeniable. One of the classic responses of Canadian post-secondary institutions to this projected trend is to try to increase international student enrolments, in order to offset the decline in the domestic market. It would therefore make sense to seek greater convergence with what Adelman (2009) calls "the dominant global higher education model within the next two decades" (p. 2): the European system, which is rooted in the Bologna Process (and which is at least partly driven by ECTS).

Moreover, the European system and the Bologna Process have acquired influence in many global regions outside of the EHEA itself. In the Mediterranean region, Serbia and Turkey "had become Bologna participants by 2006," while "eight others (Algeria, Tunisia, Morocco,

Egypt, Israel, Lebanon, Syria, [and] Jordan) had participated [by that date] in a variety of education linkage programs with European states" (Adelman, 2009, p. 170). The related 2006 Catania Declaration sought to pursue, among other things, "the use of transferable credits [along European lines], and the development of comparable Quality Assurance processes" (p. 170). Morocco and Tunisia "had started on the process of conversion to Bologna degree cycles" (p. 170) by 2009. Within Africa, the francophone regions "are picking up their cues from Bologna, selecting the issues that are most relevant to their stage of development ..." (p. 171), while the lusophone countries are seeking "elements of convergence" (p. 171). Within Latin America, 18 countries have participated in "a full-blown Tuning project" (p. 170), which is a Europe-driven project for curriculum change that has strong, informal associations with the Bologna Process. The Iberoamerican Area of Higher Education and Research has prioritized investigating European convergence (see p. 171). New Zealand is in the process of acceding to Bologna, and Australia is interested in "alignment with Bologna initiatives" (cited in Adelman, 2009, p. 171), at least in part because China requested observer status at the 2007 European higher education framework meetings (Bishop, 2006, p. 6). Australia's interest is also sparked by their concern that European award- and scholarship-granting bodies may increasingly limit their funds to Bologna- or ECTS-compatible countries and/or institutions (see p. 9), a concern that others would do well to heed, since this possibility could negatively impact international enrolments for post-secondary institutions that have no relationship with Europe's methods or transfer protocols.

In addition to supporting international student enrolments, integration with the European system would promote the kind of credit transfer and international mobility that the Higher Education Strategy Associates' 2012 report "Changing Times, Changing Places: The Global Evolution of the Bachelor's Degree and the Implications for Ontario" emphasizes, and that the Drummond (2012) report identifies as economically necessary. The Higher Education Strategy

Associates (2012) call directly for “a common definition of a credit [in Ontario, which] would almost certainly have beneficial aspects on credit transfer” (p. 15), and recommend participation in a Tuning project to “start talking about agreed upon outcomes at the disciplinary level” (p. 15) (it should be remembered that this kind of project has very close Bologna Process ties). Similarly, but even more strongly, the Drummond (2012) report (which was commissioned by the Government of Ontario to investigate how to bring Ontario’s finances under control, and whose recommendations are clearly economically motivated and often very dire) addresses the issue of international mobility and credit transfer at the post-secondary level. This report calls for the creation of a “comprehensive, enforceable credit recognition system between and among universities and colleges” (Drummond, 2012, p. 7) and explicitly specifies that the transfer system must be “two-way” (p. 7); the nature of this proposed credit transfer and recognition system resembles the European ECTS in its open-ended nature. The report also states that “post-secondary institutions need to ... increase study abroad and international experiences” (pp. 7-8), which will be increasingly difficult to accomplish throughout much of the world without at least some passing familiarity with the Bologna system. Furthermore, the fact that a prominent Canadian economist is calling for these post-secondary reforms in one of the most serious documents of this type in Ontario’s recent history means that these reforms are not only crucial for students, but are also *economically* crucial for the post-secondary sector. These recommendations, placed alongside the rapidly growing global reach of Bologna and the need for Ontario’s post-secondary institutions to increase international student enrolments, strongly mandate more interest in the European transfer and mobility protocols and in the Bologna Process than Ontario has shown thus far.

The Changing Higher Education Landscape in Europe and Ontario

The final significant aspect of this project that requires some discussion is the changing higher education landscape in both Ontario and Europe. Over the last 50 years, governments have come to see higher education as a tool for economic development and competitiveness (Crespo & Dridi, 2007; Marginson, 2002, 2004; Middlehurst, 2004; Slaughter & Leslie, 1997; Slaughter & Rhoades, 2004). This phenomenon, alongside simultaneous investment in labour force development (especially in the 1960s-1970s) (Keeling, 2006; Prokou, 2008), led some European governments to create alternate, non-university educational structures to support their economic objectives (Ertl, 2005; Huisman & Van Der Wende, 2004; Lampinen, 2001; Pratt, 1997; Prokou, 2008), especially when they encountered resistance on the part of the universities. The increasing massification of higher education and the pressures this placed on budgets further drove the reforms (Crespo & Dridi, 2007; Dennison & Schuetze, 2004; Kivinen & Rinne, 1996; Shanahan & Jones, 2007). The creation of these new higher education structures—often in the form of polytechnics or the equivalent—in turn led to the phenomenon known as academic drift, or the tendency for degree-granting powers to slowly creep into non-university higher education institutions. Three prominent examples of this kind of shifting educational landscape are the United Kingdom, Germany, and Finland.

In the UK in the early 1960s, the government did not think the universities were responsive to its request for applied education that supported economic development and skills training. In response, the government created a binary system that consisted of the current universities and new polytechnics, which would be created from existing colleges and vocational schools that would themselves be merged together. Under the binary model, both the universities and the polytechnics would be separate but equal. According to Pratt (1997), the government’s rationale for this decision included the fact that "Britain could not stand up to foreign competition by downgrading the non-university professional and technical sector" (p. 8).

The polytechnics in the UK then slowly evolved from initially offering certificates and diplomas, to offering bachelor's and later master's degrees. The polytechnics were very successful and supported the UK government's labour market competitiveness agenda, so in 1992 legislation was introduced that turned the polytechnics into enterprise universities (Middlehurst, 2004) to further expand their role within the British economy.

At roughly the same time, the federal government in West Germany also wanted to ensure their economic competitiveness. In West Germany's case, a further reason for change came from the students enrolled in colleges and vocational schools whose education was not recognised as being part of the higher education system, but was instead classified as "further education." In the 1970s, the federal government passed legislation to create a national framework for *fachhochschulen* (the rough equivalents of polytechnics), in order to support Germany's economic growth and to formally recognise the education of students from the non-university sector (Ertl, 2005; Pritchard, 2006; Kehm & Teichler, 2006). Although not as large as the university sector, the *fachhochschulen* have grown at a much faster pace than any other type of post-secondary institution in Germany (Ertl, 2005). Under Bologna the role of the *fachhochschulen* was aligned with the new 3-cycle degree model (see the section below on Bologna's education reforms) and legislation was changed to authorise them to award both bachelor's and master's degrees.

Finland did not restructure its education system until 1991. In the late 1980s and early 1990s, Finland experienced a severe recession caused by the break-up of the Soviet Union (Organization for Economic Co-operation and Development [OECD], 2003) that resulted in the Finnish government cutting expenditures by almost 20% (Kivinen & Rinne, 1996). In order to diversify and move to a knowledge-based economy, in 1991 the government created a small number of experimental polytechnics (Lampinen, 2001). The polytechnics were designed to be linked to industry; they were formed out of the non-university colleges and vocational schools

and given baccalaureate degree granting status. The structure of the Finnish polytechnics was based on both the German *fachhochschulen* and the British polytechnics (although while Finland was launching its new polytechnics, the UK decided to turn theirs into universities). The polytechnics were deemed to be a success, and in the early 2000s the status of the polytechnics shifted from experimental to permanent institutions. In addition, at this same time legislation was passed to allow the polytechnics to offer a post-graduate degree (OECD, 2003). Under Bologna, the Finnish polytechnics have been designated as Universities of Applied Sciences and, as in Germany, can offer both bachelor's and master's degrees.

There are parallels to shifting European higher education landscape in Ontario's own higher education system. At the same time that the UK polytechnics were being established, the Ontario Colleges of Applied Arts and Technology (CAATs) were created (in 1965) to support economic competitiveness and training for the labour market. The CAATs expanded quickly so that by the early 1970s there were 19 in existence (Jones, 1991, 1997). The passage in 2000 of the *Post-Secondary Education Choice and Excellence Act* allowed the CAATs to grant a limited number of applied degrees. The scope of degree granting of the CAATs was clarified with the passage of the revised *Ontario Colleges of Applied Arts and Technology Act* (2002), which created two classes of colleges: the existing CAATs and the new Institutes of Technology and Advanced Learning (ITALs). The only difference between the two types of institutions is that the ITALs are authorized to offer a higher number of applied degree programs as a percentage of their total programming profile (15% vs. 5%), which for the first time created differentiation within the colleges (Jones, 2004).

The major European difference from Ontario's situation is the Bologna-driven roadmap for structural convergence across disparate higher education systems, in order to (among other objectives) "ease student mobility within Europe" (Kehm & Teichler, 2006, p. 270). Ontario does not have an integrated system allowing for transfer between the colleges and the universities; it

is trying to partially remedy this problem through funding for articulation projects, but this only makes changes on the periphery, not to the core relationship between the colleges and universities.[3] More importantly, perhaps, is that the fact that Ontario does not have a common credit structure in place between its publicly funded colleges and universities. It is clear that during the same time frame as Bologna, Ontario's reforms to its higher education systems have been much more modest than those undertaken in the EU or in other jurisdictions, such as Australia or New Zealand. The landscape in Ontario is slowly changing, though, and there are emerging economic and government pressures to drive this change.

What is clear from the situation in both Europe and Ontario is that new, historically unusual higher education pathways will be increasingly in demand as the traditional line between universities and all other higher education institutions continues to blur. Yet the traditional prejudices remain. What Fanshawe is attempting is thus a useful test case for any programs or non-university institutions that would similarly like to create unusual pathways for their students, and our project can offer insight into the extent to which the new fluidity and academic drift will allow these pathways.

Relevant Policies: The Lisbon Recognition Convention and the Bologna Process

Although the Bologna Process is the European policy that is most associated with transfer opportunities, and is in fact the one most closely allied with ECTS, it is preceded by the Lisbon Recognition Convention of 1997, which sought to enshrine students' rights to "fair recognition of their foreign qualifications" (Bergan & Hunt, 2009, p. 8) across borders, and which

[3] Ontario is taking steps to address this issue more comprehensively; the "Policy Statement for Ontario's Credit Transfer System" (available at http://www.tcu.gov.on.ca/eng/eopg/publications/CreditTransferE.pdf) lays out a vision for much more integrated credit transfer. These goals are not yet realized, however.

set the stage for the Bologna Process and later mobility developments (the Lisbon convention is also known as the Council of Europe (1997)/UNESCO Convention on the Recognition of Qualifications concerning Higher Education in the European Region [ETS No. 165]) (see p. 8). The “European Region” (p. 8) of this convention covers not only Europe, but also “North America, [and] parts of Central Asia and Israel” (p. 8) and is “associated” with Australia and New Zealand, who are “parties” to it (p. 8).

In addition to being the “first international legal instrument” that enshrines a student’s “right to a fair assessment of foreign qualifications” (Rauhvargers, 2006, p. 24) in both higher education and labor markets, the Lisbon Recognition Convention introduces the crucial concept of “substantial difference” (p. 24) which is the only legitimate grounds on which to deny recognition of a student’s foreign qualifications. We will return to the concept of “substantial difference” (p. 4) and how it is defined, since this issue obviously bears on the question of whether our advanced diploma students could be accepted into other levels of higher education in other national systems; however, the concept of substantial difference was meant to nudge countries away from “seeking full ‘equivalence’ of [a] foreign qualification to the host country’s [own]” (p. 4) to “determining whether applicants’ learning achievements are such that they are likely to succeed” (Rauhvargers & Bergan, 2006, p. 16) in the program they are seeking admission to, or in the labor market they would like to enter. It is important to note that the “Lisbon agreement is the only legal document attached to Bologna at all” (Adelman, 2009, p. 11, footnote 5). This fact probably explains why Lisbon’s focus on fair assessment of qualifications forms the legal, logical, and ethical foundation of student mobility practices in Europe, even if there is not always a direct line of influence.

The 1999 Bologna Declaration (also called the Bologna Accord and later sliding into the more familiar terminology “Bologna Process”) set the ground rules for a European project aiming to “make ... higher education across Europe more transparent, compatible, and

comparable" (Slantcheva-Durst, 2010, p. 111; see also Kehm & Teichler, 2006, p. 270). It is "considered to be self-sustaining, with several actors providing the driving force" (Divis, 2006, p. 63), namely the European Commission, which has "an ambition to make [it] ... part of its economic strategy" (p. 63), and the Council of Europe, "with its various networks and perspectives on higher education" (p. 63). The Bologna Process' focus was initially "very much on the 'Bologna area' itself" (p. 64) until the 2003 Berlin Communiqué, in which "the outer world was rediscovered" (p. 64). As Adelman (2009) observes, it is becoming the internationally dominant model, for "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" (p. 2) (even though "it is still a work in progress," p. 2). The Bologna Process led to the creation of the EHEA in 2010, of an overarching qualifications framework (the Qualifications Framework for the European Higher Education Area; QF-EHEA) to "help in interpreting [students'] qualifications between different national frameworks" (Rauhvargers, 2006, p. 41), and of mobility protocols that include ECTS. The Process is regularly reviewed and updated, especially by the Bologna Follow-Up Group (BFUG).

Adelman (2009) traces the impetus behind Bologna to two factors: the development of both the European Monetary Union and the euro, and the 1991-1995 war in the Balkans. He argues convincingly that, although the European Monetary Union treaty "didn't have much to say about higher education, it recognized that the European economy was knowledge-based and hence fed by improvements in the education systems of countries whose industries and finances were already interlocked ..." (p. 6). European countries found themselves "with no economic borders yet a common workforce that was ironically stuck behind political borders because these countries, unified in other ways, and despite agreements did not yet fully recognize—or even understand—their neighbors' education credentials" (p. 7). The Bologna

Process sought to clarify this confusion, while at the same time "explicitly acknowledg[ing] a peace-motivation in intensifying European integration through education reform" (p. 6) with a view to preventing more violence along the lines of the war in the Balkans. While there was no direct legal motivation to sign on with Bologna, it "offered national systems of higher education the opportunity to join a 'club' exercising similar (although not identical) forms of educational development[, and] eventually, they all joined …. It was the only game in town, so to speak" (p. 7).

We will later return to the QF-EHEA and its rival qualifications framework (the European Qualifications Framework for Lifelong Learning, or EQF-LLL, which was created with the aim of expanding Bologna's reach to non-university-based learning), but there is one significant (if not entirely intended) effect of the Bologna Process that should be mentioned now: the impact it had on the nature and length of post-secondary programs in Europe, including most notably the new bachelor's degree. Rendering countries' education systems comprehensible to each other required some kind of standardization of those systems, and the model chosen as the ideal is the bachelor's-master's-doctorate (referred to by Bologna as first, second, and third cycle qualifications) that is familiar to North Americans (see Adelman, 2009, p. 22). Additionally, the length of the bachelor's degree under the Bologna Process seems to have changed to 3 years. Although it is true that

> no official Bologna Process document stipulates such a pattern, in a number of European countries the Bologna reforms are being implemented as a transition to a "3+2" system, meaning a first-cycle (bachelor's) degree worth 180 ECTS (three years of studies) and a second-cycle (master's) degree worth 120 ECTS (two years of studies).
>
> (Rauhvargers, 2006, p. 44)

This change may have occurred because it "resonates with an earlier policy orientation of the European Community, which asserted that employers would recognize the completion of 'a post-secondary course of at least three years' duration' as an 'establishment of higher education,'" (Slantcheva-Durst, 2010, p. 121); because it is designed to push students quickly

into the labor market and respond quickly to that market (Adelman, 2009, p. 121; Higher Education Strategy Associates, 2012, p. 5); and frankly because it results in cost savings (see Adelman, 2009, p. 121). Variations obviously exist (see p. 121), but, despite what some European scholars still claim, it seems at this point undeniable that the Bologna bachelor's degree is now at the very least overwhelmingly *perceived* as being a 3-year degree (see Adelman, 2009, p. 124; Bell & Watkins, 2007, p. 18; Bergan, 2006, p. 176; Higher Education Strategy Associates, 2012, p. 4; Roper, 2007, p. 55).[4]

This change to a 3-year bachelor's is highly controversial, but the very source of this controversy is actually hopeful from the perspective of this project, especially in regards to seeking direct entry for advanced diploma (3 years of study) graduates into master's degrees. Stephen Adam (2006b) cautions that the new reduced timeframe (reduced from, in some cases, as much as 5 years—see Adelman, 2009, p. 123) for the bachelor's degree means that "Bologna degrees [could] erroneously become associated with reduced standards[,] and the worth of our degrees [could be] questioned" (p. 189). Take, for example, the historic fight between European and American bachelor's degrees. Europe has a long history of rejecting American bachelor's degrees on the grounds that "the first two years of study, during which time most US students study a programme of distributed requirements covering several subjects, comprise secondary-level studies," and that the American secondary school system is "inferior" (Hunt, 2006, p. 130). The reduction of the Bologna bachelor's to 3 years could even out the playing field (see Rauhvargers, 2006, p. 44), or it could lead American post-secondary institutions to "adopt the view that the new [Bologna] bachelor's degree cannot be viewed as

[4] It would be a mistake, however, to follow Roper's (2007) lead and assume that "the Bologna Process envisions a common curriculum in which as much as 80% of courses would be the same throughout all European universities" (pp. 54-55); with the exception of a few regulated professions, there is no expectation that even similar courses within the same higher education system will be exactly identical (see Adelman, 2009, p. 78).

equivalent to a four-year bachelor's degree" (Thompson, 2006, p. 165).[5] Complicating the issue further is the tendency of European students to view the Bologna master's "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" (Adelman, 2009, p. 121). All of this is potentially bad news for Europe, but, to put it bluntly, a demotion of their bachelor's degree to 3 years with a concomitant loss of status could also equal a promotion of Ontario's 3-year advanced diploma onto roughly equal footing; provided, that is, that an approximate equivalence can be demonstrated between Ontario's advanced diploma requirements and outcomes, and those of Bologna bachelor's degrees.

Bologna's "Transparency Tools": ECTS and the Diploma Supplement

At the inception of this project, we understood the European Credit Transfer and Accumulation System (ECTS) as *the* transfer and mobility system; in other words, we thought that it might be possible to become "ECTS certified," or something along those lines, and that achieving this certification would usher us into the European transfer and mobility region. It frankly did not help matters that the section of the 2009 *ECTS Users' Guide* titled "ECTS and the EHEA (Bologna Process)," the first section of the document, asserts that "ECTS is the credit system for higher education used in the European Higher Education Area, involving all countries involved in the Bologna Process" (European Communities, 2009, p. 9). While there are discussions throughout the document of how ECTS operates in terms of qualifications frameworks, in our opinion the *ECTS Users' Guide* tends to overstate the importance of ECTS,

[5] It is unclear how this problem will ultimately be resolved, but signs are slowly emerging that favor the eventual and general acceptance of the "Bologna bachelor's" as a legitimate entry degree for American graduate programs (West, 2010, p. 29).

and may unintentionally lead to the kind of interpretive error we originally made: to assume that it is the one European transfer and mobility system, complete in and of itself. One of the first signs that this understanding was mistaken was the discovery that there isn't any central authority that could confer certified status. The second discovery that radically altered our understanding of ECTS was the realization that prominent scholars who work on European higher education policy routinely refer to ECTS as a transparency tool that is designed to facilitate credit transfer and accumulation (see Adam, 2006b, p. 184; Rauhvargers, 2006, p. 41), and that is supposed to work in tandem with the other prominent transparency tool, the "Diploma Supplement." These two tools are the concrete foundations of European transfer and mobility, and are designed to make the otherwise arduous process of investigating students' foreign credentials much easier. As tools, however, they do not operate in a vacuum, and are not in and of themselves the totality of the process.

The First Transparency Tool: ECTS

One of the first problems facing a widespread post-secondary credit transfer system—in other words, a system in which credits are genuinely mobile—is to find an objective measure in which to ground it. Standardized testing is obviously not an appropriate choice at the post-secondary level. North American credit systems tend to base themselves on contact hours (i.e., the number of hours of instruction that students receive); ECTS has chosen to ground itself in student workload hours, which encompass both contact hours and the hours students spend working on their own to achieve course objectives ("ECTS credits are based on the workload students need in order to achieve expected learning outcomes" [European Communities, 2009, p. 11]). These ECTS credits are in turn supposed to be tied to learning outcomes, which "describe what a learner is expected to know, understand and be able to do after successful completion of a process of learning," and the learning outcomes themselves should be

referenced to “level descriptors in national and European qualifications frameworks” (p. 11). Student workload hours are thus the basis of ECTS credits, but are contextualized by learning outcomes and the post-secondary level at which those learning outcomes are achieved. The focus on student workload hours, if perhaps odd from a non-European perspective, does drive home the eminently reasonable point that “a programme of learning must be feasible within the given time frame” for students (Gonzalez & Wagenaar, 2006, p. 100). However, the inclusion of levels and learning outcomes creates a somewhat incoherent credit product (and scholars have complained about the unwieldy nature of these credits [see Adelman, 2009, p. 75]). The system is, nevertheless, far and away the most dominant credit transfer system in Bologna compatible countries within Europe, and is picking up steam in interested countries outside of Europe.

It should be noted that a cruder version of ECTS (originally just the European Credit Transfer System) predates Bologna: it “was in use broadly in the 1990s, but only for purposes of transfer for students from one country to another under the rubrics of the ERASMUS student mobility programs” (Adelman, 2009, p. 21); it operated in the context of a contract between institutions participating in student exchanges (p. 74); and it was not originally tied to anything other than student workload hours. It was not “used for the process of credit *accumulation* until the 2003 Bologna ministers’ meeting in Berlin” (p. 21), and did not introduce learning outcomes and levels until 2004, when it also became the “European Credit Transfer and Accumulation System” (Rauhvargers, 2006, p. 42) (although the ECTS acronym remained the same). The new ECTS, with its learning outcomes and levels, has also explicitly taken on ambitions in the direction of curriculum reform, not just student mobility: “It aims to facilitate planning, delivery, evaluation, recognition and validation of qualifications and units of learning ...” (European Communities, 2009, p. 11). However, it does not seem to be used for reform purposes very often.

ECTS and Student Workload

Initially, what seems to be the most problematic aspect of ECTS in terms of implementation in Fanshawe's program is the focus on student workload,[6] both inside and outside the classroom. The *ECTS Users' Guide* lays out a prohibitively complicated and resource-intensive process for determining ECTS credits based on workload (European Communities, 2009). First, there are standard numbers of credits for traditional units of academic study: "60 credits are allocated to the workload of a full-time academic year, 30 ECTS credits are normally allocated to a semester and 20 ECTS credits to a trimester" (p. 17). A general total is also proffered: "Qualifications which have formal programs lasting three full-time academic years are allocated 180 ECTS credits" (p. 17). The *Guide* then seems to presume that academic programs will be built (or overhauled) from the ground up: first, stakeholders (including students and industry representatives, alongside faculty and administration) determine the profile of the program; next, "the academic staff design the curriculum by defining the learning outcomes and allocating credits to the programme components" (p. 17). The *Guide* recommends two ways of allocating credits: when faculty define program components, they can also "estimate the workload typically needed for a student to complete these activities" (p. 17), with multiple faculty members submitting proposals that are then analyzed and synthesized; or, "the higher education institution or the faculty may decide from the start to standardise the size of educational components, giving each one the same credit value" (p. 17), which tends to produce a modularized approach with module components designed to fit the credits allocated to them. All of this amounts to a daunting task whose outcomes do not necessarily justify the

[6] Because the precise architecture of courses is not standardized across the Ontario college system (i.e., the provincial standards direct the creation of courses, but do not specify the exact breakdown of assignments, week-by-week content, etc.), it is not possible to provide ECTS credits for an advanced diploma in Architectural Technology that will fit all Ontario college programs. Once Fanshawe's numbers are determined, however, they can serve as rough guidelines for the other versions of this program throughout the province.

vast amounts of resources (in terms of time as well as money) that would need to be used in order to properly allocate credits. In fact, a 2006 Scottish pilot project on credit ratings for college programs found that “most colleges [involved in the pilot] had ... underestimated the time it would take to carry out the project overall ...” (HM Inspectorate of Education, 2006, p. 6), and cautioned against undertaking a similar project without a great deal of external support (see p. 6). And this is a higher education system that is obviously very familiar with European mobility issues. For outsiders, the project doesn’t seem feasible.

However, determining student workload hours and divvying up ECTS credits are not issues that, in practice, need pose any substantial problems. The *ECTS Users’ Guide* notwithstanding, the thorough approach that the Scottish system took seems to be unusual. As Adelman (2009) observes, most Bologna countries do not “engage in a careful analysis of the relation between learning outcomes, learning tasks, and student workload ... [for] the credit assignment water finds the easiest ways to flow downhill” (p. 79). It should also be remembered that ECTS is a transparency tool, and that, contrary to what the *Users’ Guide* at times implies, ECTS credits will not be simply and automatically accepted by other higher education institutions at their full value (see Gehmlich, 2006, p. 84). There are other factors that operate alongside this transparency tool, and that do not fall under its umbrella. Furthermore, recognition specialists have noted a cultural shift away from seeking strict equivalence between qualifications and programs (see Rauhvargers & Bergan, 2006, p. 16; Malfroy, 2009, p. 58). This means that increased variation in ECTS credits is now more widely tolerated than it may have been even 5 years ago: “A difference in ECTS credits alone, for example a difference of 30 or even 60 credits, will no longer be considered as substantial” (Malfroy, 2009, p. 58). Even wide variations are no longer automatically serious impediments to student mobility (unless

other negative factors are also present). Recognition experts from the NARIC network[7] ran a number of case studies on student mobility in 2009 and found that, generally speaking, "features such as length, number of credits, or number of contact hours are irrelevant unless other issues, such as level, quality or core requirements are affected" (Hunt, 2009a, p. 147); in other words, recognition experts are inclined to respond positively to a student's request to access a higher education program with pre-existing foreign credentials, even if that student's original program does not match the length and credit norms in the system to which s/he is seeking access.

What all of this means for our project is that it is probably enough to estimate and describe student workload *for Fanshawe's current program*, without tinkering with the mechanics of the program itself. This estimate can then be converted to credits, and even if those credits fall outside the expected ranges, or deviate from the credit allocations of program analogues in Europe, there should not be a serious problem with having our students' qualifications recognized. Whether this is true remains to be seen, but the literature at least looks hopeful. Additionally, as part of the mapping process in the second phase of our project, we will canvass program analogues in the Irish Institutes of Technology to gauge, among other things, what the expected rough credit ranges are for an Architectural Technology program, and how other institutions have assigned those credits. In any case, estimating student workload will be easier for our Architectural Technology program than almost any other program in the college, since many of the courses employ AutoCad, which conveniently logs the active hours

[7] The ENIC and NARIC networks are European-based (although the United States, Australia, and Canada have ENIC centres [see Hunt, 2006, p. 119]), and specialize in offering advice on the recognition of foreign credentials. Some countries treat the centres' decisions on applicants' cases as binding (see Rauhvargers, 2006, p. 29), while other countries may only seek their advice, and still others primarily situate recognition decisions within higher education institutions. Theoretically, though, "each centre should be the first place that anyone would turn to for information on the higher education qualifications of the country in question or on the recognition of foreign qualifications in that country" (Rauhvargers & Bergan, 2006, p. 8).

that students spend using it. We will therefore approach the workload estimation with a view to estimating how it currently pans out, and without trying to revise the entire program, despite the assertions in the *ECTS Users' Guide* (2009) to the contrary.

ECTS and Learning Outcomes

Determining the learning outcomes that accompany Fanshawe's ECTS credits should not be difficult because our course syllabi already specify "Vocational Learning Outcomes," and do so in more specific detail than it seems is usual in Europe. As recently as 2009, European recognition specialists "admitted that learning outcomes [are] still a vague concept that is far from being implemented everywhere ..." (Beaudin, 2009, p. 49), even though "learning outcomes [are] *the* recognition tool" (Malfroy, 2009, p. 54). The Ontario college system already extensively employs learning outcomes—often very specific ones—which means that, in this area at least, we have a significant advantage over our European counterparts. As Adam (2006b) puts it, "the focus of credential evaluation is shifting towards more precise output-focused learning outcomes (what a successful student can do) ..." (p. 191), and we are very good at explaining what our students can do. As an example, here are the Vocational Learning Outcomes from the Winter 2012 iteration of Fanshawe's course ARCH-1001:

1. Manually prepare sketches and design drawings in plan, section, elevation, and/or axonometric view of various aspects of Part 9: Small Building (residential and/or institutional) projects.
2. Explain basic space planning principles and apply functional space programming to Part 9: Small Building (residential and/or institutional) projects.
3. Explain basic scale and proportion criteria and apply to Part 9: Small Building (residential and/or institutional) projects.
4. Explain and apply basic design principles to various Part 9: Small Building (residential and/or institutional) projects.
5. Explain and apply basic manual presentation drawing techniques to various Part 9: Small Building (residential and/or institutional) projects.

These learning outcomes are all specific, measurable, and based in verbs, which is what well-designed learning outcomes should be like (see Adam, 2006a, p. 7; Adelman, 2009, p. 68; Moon, 2004, p. 14).

Occasionally, some of our learning outcomes need to be revised for greater specificity, and greater focus on what exactly a student can do. One example is the vocational learning outcomes from the Fall 2011 iteration of our course ARCH-3002:

1. Understand and apply the regulatory zoning and building constraints to the project.
2. Identify and organize the main building functions.
3. Study and determine building volumetric/massing relationship.
4. Understand basic concepts of structural steel framing characteristics.
5. Understand basic concepts of curtain wall systems.
6. Apply design principles to the creation of a preliminary design for the project.
7. Synthesize the preliminary design components and prepare a set of final presentation drawings.
8. Verbally present the final design project to the course professor and/or class.

"Understand" is a bit vague in this context—one demonstrates understanding by doing something else, and it is this something else that should be the focus of the learning outcome. We will therefore need to survey all the vocational learning outcomes contained in our Architectural Technology program, and fix any similar examples of vagueness. On the whole, though, our learning outcomes seem to stack up favorably with those that have been created on an ad hoc basis in Europe (in other words, learning outcomes generated by structured programs such as the Tuning project are robust, but others likely are not). We will also test this hypothesis with both Irish analogues to our program, and with New Zealand's program.

ECTS and Levels

Next, there is the issue of levels and ECTS credits. Levels are determined in the context of larger overarching, national and/or regional qualifications frameworks, and are referenced to these frameworks. Ontario has a qualifications framework (the OQF), which can serve as a

partial guide for determining the levels of courses and learning outcomes—and ultimately credits—providing it does not differ materially from European qualifications frameworks. This is an issue discussed later in this paper, and will also be revisited in the application and mapping phase of our project: at that time, we will carefully map the OQF and the provincial standards for an advanced diploma in Architectural Technology to an established national qualifications framework in Europe (Ireland's), and to the two competing, overarching European frameworks.[8]

ECTS Grading Conventions

The one aspect of ECTS that may create a minor problem for our project is the relatively new phenomenon of ECTS grading. Initially, the ECTS grading system was intended to act as an interface grade scale to "facilitate the understanding and comparison of grades given according to different national systems" (Directorate-General for Education and Culture, 2004, p. 13). This intermediary device translated local grades into a 5-step, norm-referenced distribution based on a student's performance relative to that of other students within a particular class. This system, however, punished classes with high averages, privileged classes with poor averages, could not accurately rank classes with a small number of students, and could not accurately rank students in pass/fail situations or in national systems with a low number of passing ranks. Furthermore, it entirely ignored whether students met or failed stated learning outcomes in its assignment of distribution-based grades (Karran, 2004).

It is no surprise then that the initial version of ECTS grading was not widely understood, and that in the rare cases it was used, it was implemented crudely (Karran, 2004; Reichert & Tauch, 2003). This created only a "veneer of validity" that had little to do with the actual grade claims of the host institution (Sullivan, 2002, p. 73). In most cases, this lack of stringency

[8] The two over-arching qualification frameworks are the Qualifications Framework of the European Higher Education Area (QF-EHEA) and the European Qualifications Framework for Life Long Learning (EQF-LLL)

resulted in a “decreased, rather than an increased understanding of student performance” (Warfvinge, 2007, p. 3). Accordingly, the ECTS Grading Scale was retired in 2009. Its successor is the ECTS Grading Table; instead of mandating that institutions match grades to a standardized distribution scale, it only requires them to determine and state the percentage of students that are awarded each “local” grade (European Communities, 2009, p. 49). This new approach avoids the inaccuracies inherent in the previous system, while still requiring institutions to be transparent about their grading practices and culture (p. 41). It offers a reasonable compromise: a receiving institution has enough information to perform an informed conversion of credits, but the Grading Table does not mandate standardization. The Grading Table can be populated per class or program, and is preferably calculated over a 2-year period to ensure greater accuracy. The current ECTS guide highly recommends that degree program tables be included in every diploma supplement, along a clear indication of which grade level constitutes a passing mark for that program (European Commission, 2007, p. 3). We will have to investigate whether it is feasible to track our students' grades and use them in this fashion.

ECTS and Course Catalogues

As a final ECTS note, the *ECTS Users’ Guide* also exhorts institutions to publish a complete course catalogue (complete in terms of ECTS credits, as well as in more traditional information) on their websites (see European Communities, 2009, p. 27). Fanshawe College as a whole is not seeking European integration at this time, so a full-blown ECTS course catalogue does not seem entirely applicable to our situation (and, indeed, is absent entirely, incomplete, and/or difficult to locate on many European institutions’ websites). Instead, Architectural Technology should make sure its course syllabi and a general program outline are posted in a publicly accessible manner, with ECTS credit values appended.

The Second Transparency Tool: The Diploma Supplement

Whereas ECTS explains how a program works, and what a student has covered, the diploma supplement is intended to answer quality assurance questions about both the institution and the program.[9] As Divis (2006) points out,

> international recognition of qualifications is impossible without knowledge about the quality of the particular programme and the institution behind the qualification ... To assess a qualification fairly ... requires a profound knowledge of the higher education system from which the qualification in question originates. (p. 65)

We all want to know that, if we grant a student credit for academic work s/he completed elsewhere, the work occurred in a sufficiently rigorous context. A traditional transcript does not offer any useful information about the quality and orientation (research, occupational applications, teaching, etc.) of the sending institution. The diploma supplement is a document designed to offer these kinds of answers, and thus to reassure higher education systems and institutions that an incoming credit is, in fact, worthy of acceptance.

The level of quality assurance called for in the literature does differ. Some would like "a system ... involving both *internal* institutional processes and benchmarking and *external* audits and/or accreditation, with an emphasis on the former" (Adelman, 2009, p. 104), while for others simple institutional accreditation is enough (Bergan, 2009c).[10] The fact that Fanshawe is a publicly-funded post-secondary institution in Ontario is likely sufficient to meet the accreditation

[9] It is important to realize that a diploma supplement is specific to a particular program at a particular institution, although each one contains general information about the institution's higher education system that regions often offer as detailed boilerplate to all of their institutions. Thus, while there can be generic templates, there cannot be one diploma supplement that accompanies all students in a higher education system. Fanshawe's eventual diploma supplement can therefore act as a guide for other interested colleges, which will have to then slightly adapt it to their own programs.

[10] There is a fear that institutional ranking lists may eventually be considered in the quality assurance context, despite the fact that this approach seems contrary to good-faith recognition (see Bergan, 2009a, p. 166). It is, however, too early to know if this will become a feature of the quality assurance and recognition landscape.

requirement, and should be clearly advertised as such in a diploma supplement. But there are other quality assurance and recognition questions involved in this document.

In addition to reassuring the receiving system that the sending institution is of sufficient quality, the diploma supplement provides contextual information about the sending institution's educational structure, the nature of qualifications within its regional or national system, and the "function of the [particular] qualification (for further studies and for work purposes)" (Rauhvargers, 2009, p. 113). This aspect of the diploma supplement will require a discussion of the OQF and of the provincial standards for Architectural Technology. The diploma supplement is open-ended enough that there is room to reference these structures to their European counterparts, which seems a useful step for explaining exactly how our system operates to those outside of it. One of the challenges that we will face will be overcoming the fact that our advanced diploma program is not a bachelor's degree; if, however, the provincial standards of this program and the OQF standards for advanced diplomas could legitimately be read as roughly equivalent to the first cycle (bachelor's) level in Europe, this information will increase the likelihood of recognition for the purpose of, say, direct entry into a master's program, and therefore should also be emphasized in the diploma supplement.

The kind of material covered by the diploma supplement partly explains why ECTS credits will not always be fully accepted by other institutions. Scholars commonly compare ECTS to a kind of unofficial currency system, paralleling the euro in the economic sphere. As Gehmlich (2006) argues, "the purchasing power of the euro is not only different outside the founding member states but also within them. The absolute, nominal value stays the same but the relative one, the market value, normally differs ..." (p. 86). The "market value" of ECTS credits differs depending on the context in which they are deployed, and part of that context is the perceived quality of the original qualification and of the sending institution relative to the receiving institution; the "conversion of achievements at institutional, national and international

levels ... [leads to] fluctuations of value" (p. 90). The diploma supplement, providing it is legitimately persuasive, helps to ensure that students receive the greatest "bang" for their ECTS "buck."

There is a master template for diploma supplements,[11] but with plenty of room for including any information that helps to both contextualize the sending institution's program and legitimate the sending institution itself. This information need only be drafted once for Fanshawe's students, and then periodically updated as the program and the college evolve.

Recognition and Substantial Differences

In order to understand both the role that qualifications frameworks play alongside ECTS credits and diploma supplements, and what our most serious recognition obstacle may be, we need to consider the larger context for recognition decisions. Employing ECTS credits and issuing diploma supplements certainly increase the chances of a student achieving whatever kind of recognition s/he seeks in Europe or elsewhere (e.g., entering a bachelor's program with advanced standing, entering a master's program, etc.), but by no means guarantee this outcome.

While the Bologna Process sets the most common parameters, as it were, of recognition decisions, the Lisbon Recognition Convention ultimately underpins these decisions, and is less interested in strict adherence to Bologna than in "a fair assessment of [applicants'] qualifications within a reasonable time limit, according to transparent, coherent and reliable procedures and without discrimination" (Blomqvist, 2009, p. 5). Bologna is certainly a "reliable procedure" for

[11] The Education, Audiovisual and Cultural Agency (EACEA) of the European Commission provides additional information on the diploma supplement (DS) and the diploma supplement Labels at: http://eacea.ec.europa.eu/llp/support_measures_and_network/documents/2011/diploma_supplement_label_application_form_2012.pdf. An approved DS can be found at: http://www.hs-harz.de/fileadmin/uploads/group_uploads/Bologna/sample_English_DiplomaSupplement.pdf

making recognition decisions, but Lisbon is the ultimate authority in this area. Lisbon is also the legal document that contains the concept of “substantial differences,” which are legitimate reasons to deny recognition (see Bergan, 2009c, p. 16). Although the existence of a substantial difference “entails no obligation not to recognise the foreign qualification” (Malfroy, 2009, p. 58), in practice it will obviously drastically increase the chances of partial or no recognition.

Unfortunately, there is no master list of what counts as a substantial difference. Roughly speaking, the concept of substantial differences “clearly indicates that minor differences between qualifications do not provide sufficient reason for non-recognition,” since “an assumption of no differences between qualifications would very often make recognition impossible” (Bergan, 2009c, p. 17). The ideal situation is one in which “the real test of whether a difference is ‘substantial’ ... lies in the function of the qualification and the purpose for which recognition is sought[,] more than in the formal characteristics of the qualification, such as length of study or the architecture of a given study programme” (p. 20). In practice, scholars debate the existence of “‘two [recognition] cultures,’ one of which emphasises the identification of pragmatic solutions within a given legal framework and seeks to apply a measure of ‘common sense,’ while the other emphasises the authority of legal provisions and seeks to apply a relatively rigid interpretation of these provisions” (p. 24). If a student happens to apply for admittance to a legalistically-inclined system or institution, that student will likely be unsuccessful. But even the more supposedly commonsensical culture has yet to clearly agree on the exact nature of substantial differences, and will apply the concept differently. As we mentioned earlier, factors such as variant student workloads are not often regarded as substantial differences, but the overall nature of an advanced diploma does present recognition challenges.

It may be useful to consider these issues in the light of the four options for which Ontario graduates of Architectural Technology advanced diploma programs could seek admission to the EHEA or Bologna-compatible systems:

1. Temporary exchanges
2. Admittance to a bachelor's-level program with significant advanced standing
3. Admittance to a master's-level program
4. Admittance to the labor force

Options 1 and 4 are easy to dispense with: while a temporary exchange is not likely to pose any significant problems for recognition (the expression of a program in ECTS terms will help to grease the wheels of the exchange, but the temporary exchange itself is highly probable even without ECTS, as any number of such exchanges between North America and Europe demonstrate right now), admittance to the labor force is almost guaranteed to be met with total denial of recognition. A combination of labor market protectionism (see Hunt, 2009b, pp. 63-64) and "legal licensure requirements" (Hunt, 2009a, p. 147) usually prevents recognition for regulated professions, such as architectural technology. But Options 2 and 3 are not as clear, and how they are treated will be at least partially dependent on how Europe interprets Ontario's advanced diploma—whether they see it (or can be convinced to see it) as on par with first cycle (bachelor's) degrees in their qualifications frameworks, or whether they see it as a sub-bachelor's qualification (which they term a short cycle qualification). Recognition will also turn on whether our students' formal rights (the progression to higher levels of study laid out for them in their relevant home qualifications framework, or lack thereof) are deemed an instance of substantial difference.

First Cycle or Short Cycle?

We have already discussed the Bologna Process' advocacy of a 3-cycle higher education system (the first cycle is the bachelor's level, the second the master's level, and the

third the doctoral level), with a fairly widespread reduction of bachelor's programs to 3 years' duration. This reduction seems to increase the chances of having Ontario's 3-year advanced diploma also recognized as a first cycle award. However, there is a chance that it will instead be deemed what the Europeans term a short cycle qualification, or one that is at a lower level than the bachelor's.

It should be noted that short cycle is a Bologna term that does not encompass all sub-bachelor's higher education: apprenticeship-based trades and lower-level vocational training do not seem to fall under this umbrella, and are not well integrated into the current Bologna system. There is even a different credit system for this kind of learning—ECVET, or the European credit system for vocational education and training—that does not base its credits on a careful measurement of student workload but rather on credit points decided on by "competent authorities or organisations" (Fietz, Reglin, & Le Mouillour, 2007, p. 18), whose necessity has been questioned (see Gehmlich, 2006, p. 83), and that in any case does not seem to be well understood (see Adelman, 2009, p. 89). The profiles of programs that fall into this category, however, do not resemble Ontario's advanced diploma, so ECVET can be set safely aside.

Short cycle awards "and programs began to emerge in the 1960s and 1970s, and gradually multiplied across Europe in response to increasing demand for higher education and a growing need for highly skilled manpower" (Slantcheva-Durst, 2010, p. 112). Some of these programs eventually drifted into universities or other degree-granting post-secondary institutions, while remaining partially "analogous to what [Americans] call Associate's degrees" (Adelman, 2009, p. 23), which are offered in the U.S. by community colleges. In 2003, Bologna took notice of sub-bachelor's post-secondary education, and incorporated this level of qualification into its framework (Slantcheva-Durst, 2010, p. 112): Bologna conceptualizes short cycle programs as "part of the first cycle, and not necessarily a terminal degree with no continuing connections," which means that these programs often "lead to occupationally-

oriented Bachelor's degrees in the same fields, and with no arguments about articulation and transfer because both degree programs are [often] offered by the same institutions" (Adelman, 2009, p. 204). The QF-EHEA, the qualifications framework emanating from Bologna, states that short cycle programs typically receive "120 ECTS credits" (Bologna Working Group on Qualifications Frameworks [BWGQF], 2005, p. 193); in other words, they last for about 2 years.

On the one hand, Ontario advanced diploma programs in Architectural Technology last for *3 years*, not 2, which argues against casually categorizing this program as a short cycle qualification. On the other hand, according to UNESCO's 2011 ISCED,[12] the fact that in Ontario completed advanced diplomas do not give seamless access to the bachelor's level suggests that this program is indeed a short cycle qualification, since short cycle awards in the ISCED classification scheme are "[typically] ... practically based, occupationally specific[,] and prepare students to enter the labor market .... [although they] may also provide a pathway to other tertiary education programs" (UNESCO, 2011, p. 44). They also tend to be "less theoretically oriented" than bachelor's programs (p. 44). If it turns out that the Ontario advanced diploma in Architectural Technology is indeed less theoretically oriented than similar occupationally-oriented bachelor's degrees in Europe, the likelihood of the program being classified as short cycle increases. Close comparisons with Irish analogues that offer bachelor's degrees for their Architectural Technology programs will help to resolve this issue.

In order to have Fanshawe's advanced diploma in Architectural Technology recognized as a first cycle qualification, then, three things need to occur: our specific program, the accompanying provincial standards for it, and the definition of an advanced diploma in the OQF all need to map onto the first cycle of corresponding European frameworks; the provincial standards for our program must prove to be sufficiently "theoretically oriented," and our

[12] The UNESCO International Standard Classification of Education. Although it has many strong similarities to Bologna, the two do not completely mirror each other.

program's length (3 years) and learning outcomes must prove sufficiently persuasive; and we need to overcome the recognition issue known as “formal rights.”

Formal Rights

We are not the first (and we certainly will not be the last) party to attempt to leapfrog over traditional barriers and achieve access to an unusually advanced level of higher education program (typically, the master’s level), given the level of the qualifications starting point. With Bologna’s shift to evaluating learning outcomes and de-emphasizing what Hunt (2009a) terms “bean-counting” issues (p. 64), students both inside and outside the EHEA have spotted an opportunity to create pathways that are unavailable to them in their home systems. However, the lack of comparable home pathways is sometimes deemed a substantial difference in the context of accessing the master’s level. These pathways, or lack thereof, in the applicant’s home system are known as the applicant’s formal rights.

Recognition experts from the ENIC/NARIC networks ran two iterations of the same case study on this issue. The scenario is a student from South Africa holding a Bachelor of Arts in Historical Studies who attempts to gain entry to a master’s program in a similar field inside the EHEA (see Wegewijs, 2009, p. 69). Within the South African system, this bachelor, despite being a bachelor’s degree, does not confer direct entry into a master’s program; another preparatory year is necessary. The recognition experts were asked how they would respond to this situation. In one version of the case study, 52.9% of respondents said that they would decide “Access to the master’s programme if the learning outcomes [of the Bachelor of Arts in South Africa] meet the requirements of the host country,” while 38.6% said that they would decide “No access to [the] master’s programme (since the qualification does not give access in the home country)” (p. 72). In the other version of the case study, 53.3% of respondents decided to disallow access on the basis of home country’s denial of this access within its own

system (Wegewijs & de Bruin, 2009, p. 82). In neither case did many of the respondents think that denial was anything like an example of best practices, but their responses mirrored their countries' current practices. Wegewijs (2009) suspects denial of recognition on the grounds of formal rights will "be phased out gradually, as more and more countries are likely to give more weight to learning outcomes ..." (p. 75). For now, though, this is a significant issue. Holders of an advanced diploma in Ontario do not have formal rights to direct entry at the master's level (or even at the bachelor's level), and this lack of formal rights may be a substantial impediment to entering a master's program in the EHEA. If, however, all the other relevant evidence (which needs to be meticulously itemized in a diploma supplement) overwhelmingly suggests that the Ontario advanced diploma program in Architectural Technology is, indeed, a first cycle qualification, it seems there is still a chance of gaining master's entry. This chance is not as high as it hopefully will be in the future, but at least the door is still partly open right now.

Thus, our students should be able to participate in temporary exchanges without any difficulties, and should also have relatively easy entry to bachelor's degree programs in the EHEA (although the amount of advanced standing they receive may be dependent on whether the receiving country thinks Ontario's advanced diploma is a short cycle qualification, and therefore on how much credit they are willing to recognize from short cycle qualifications). Entry to the labor market should be considered closed. Entry to a master's program is theoretically possible, but difficult due to the problem of formal rights; well documented arguments in favor of entry, presented in the form of a comprehensive diploma supplement, may help to overcome this problem. While it is possible to convince VUW in New Zealand, on its own, to allow for Fanshawe graduates' easy entry into VUW's master's program, even this would likely become easier if we present as strong an argument as possible that Ontario's advanced diploma is essentially a first cycle qualification.

Qualifications Frameworks

The final piece in the recognition puzzle is the role played by qualifications frameworks. They provide the levels that contextualize ECTS credits, they define qualifications, and the overarching versions of them function as “an articulation mechanism between national frameworks” (Gonzalez & Wagenaar, 2006, p. 93). There are two such overarching frameworks currently active in the EHEA: The QF-EHEA, which is descended from the Bologna Process, and the EQF-LLL, which is descended from the Copenhagen Process,[13] and which is intended to be both more comprehensive than the QF-EHEA (see Bergan, 2009b, p. 134) and more responsive to short cycle and other sub-bachelor's qualifications. The fact that there are two of these overarching frameworks is a problem; as Maguire (2010) has noted, "The two meta-frameworks co-exist ... [and] there remains the challenge of explaining this fact and the relationship between them to stakeholders ... if the two frameworks are not to cause further confusion" (p. 2). In our experience, the EQF-LLL is less usefully detailed than its QF-EHEA counterpart, and, despite its claims to the contrary, does not neatly map onto the QF-EHEA. Nonetheless, since both frameworks are in play, we must situate the Ontario advanced diploma and the Ontario provincial standards for Architectural Technology in relation to both of them, and document the findings in the diploma supplement. Furthermore, ECTS credits must be clearly linked to widely understood levels, so we will eventually need to map Fanshawe’s individual courses onto both QF-EHEA and EQF-LLL levels, as well as onto the OQF.

The logical starting point for mapping outcomes onto both of these overarching frameworks is to investigate how countries have mapped their national qualifications frameworks (NQFs) to the QF-EHEA and the EQF-LLL. The match between NQFs and the QF-

[13] The Copenhagen Process, begun in 2002, was intended to encompass vocational and lifelong learning, alongside the more traditional higher education focus in the Bologna Process (see Maguire, 2010, p. 2).

EHEA should theoretically be more flexible than that between NQFs and the EQF-LLL, since "within the Bologna Process, ministers have committed to developing frameworks for higher education, whereas the requirement with regard to the EQF-LLL is that countries reference their qualifications against the overarching framework" (Bergan, 2009b, p. 127), although doing so is not technically a legal obligation (Trampusch, 2009). However, as the United Kingdom has complained in reference to the EQF-LLL (which, it should be remembered, seems to require a more rigorous referencing process), "There is no agreed methodology for referencing national frameworks or systems to the EQF" (Qualifications and Curriculum Development Agency, 2010, p. 70). Malta has been lauded as a "very positive example" of accomplishing both referencing processes (Maguire, 2010, p. 2), but even then it is only one example among many.

The lack of a widely accepted methodology for performing this referencing leaves us in the position of defining our own approach. Given that the qualifications frameworks are inherently textual objects, with carefully chosen descriptors and vocabulary, the literary analysis technique of comparative close reading seems appropriate. We have therefore paid close attention to fluctuations in tone, emphasis, and word choice in the related qualifications frameworks (including the OQF), and based our decisions on these textual features.

Mapping the OQF Advanced Diploma and the Provincial Standards to the QF-EHEA

Key vocabulary and emphasis shifts in the QF-EHEA between the short cycle and first cycle levels include the following:

- a movement from stating at the short cycle that students "can apply their knowledge and understanding in occupational contexts" (BWGQF, 2005, p. 193) to claiming at the first cycle that students will "have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study" (p. 194);
- a movement from the short cycle ability to "formulate responses to well-defined concrete and abstract problems" (p. 193) to the first cycle ability to "gather and interpret relevant data" (p. 194);

- a movement from the short cycle specification that students "can communicate about their understanding, skills and activities, with peers, supervisors and clients" (p. 193) to the first cycle specification that students can communicate relevant information "to both specialist and non-specialist audiences" (p. 195);
- an intensification of students' learning autonomy at the first cycle—at the short cycle, students can "undertake further studies with some autonomy" (p. 193), but at the first cycle they can do so with "a high degree of autonomy" (p. 195);
- an introduction at the first cycle of the claim that students' knowledge "includes some aspects that will be informed by knowledge at the forefront of their field of study" (p. 194);
- the introduction at the first cycle of "reflection on relevant social, scientific or ethical issues." (p. 194)

The OQF's descriptors for an advanced diploma, in contrast to a shorter, regular diploma, emphasize an intensification in students' abilities to navigate and respond productively to risk, uncertainty, and complexity. Students are able to perform a variety of activities, "most of which would be complex or non-routine in an occupational setting"; they are able to apply their skills "across a wide and often unpredictable variety of contexts"; they are able to "anticipate" problems, as well as solve them; and finally, they are able to communicate in ways that "fulfil ... the purpose and meet ... the needs of the audience," without any restriction on what the constitution of that audience might be (Ontario Ministry of Training, Colleges and Universities [OMTCU], 2009). These emphases mirror the QF-EHEA's first cycle emphases on "devising and sustaining arguments and solving problems" (BWGQF, 2010, p. 193) and on communicating with "both specialist and non-specialist audiences" (p. 195). Additionally, the Ontario advanced diploma is the first point in the OQF at which ethical and social concerns are introduced, just as these concerns are introduced at the first cycle: students will have exposure to "at least one discipline outside the main field of study ... to increase awareness of the society and culture in which they live and work" (OMTCU, 2009, “Depth and Breadth of Knowledge”, para. b). Finally, the holder of an advanced diploma will be able "to manage their own

professional development" (OMTCU, 2009, “Professional Capacity/Autonomy”, para. b), which maps much more closely onto the first cycle characteristic of pursuing further study with "a high degree of autonomy" (BWGQF, 2010, p. 195) than onto the short cycle characteristic of pursuing such study "with some autonomy" (p. 195). All of the characteristics of an Ontario advanced diploma that we have discussed here are introduced at this level of qualification, and are not present in lower levels. Since these characteristics also closely match the distinguishing characteristics of the QF-EHEA first cycle (and not the short cycle), it is reasonable to conclude that our advanced diploma is, in fact, a first cycle qualification. The fact that its length is equivalent to the new Bologna bachelor's (3 years in both cases) only strengthens this association.

Similar analysis of the provincial standards supports this finding. It should be noted that the provincial standards are extremely lengthy and detailed, and could function quite well as a de facto course catalogue for the corresponding program, at least as far as listing learning outcomes goes. This amount of detail means that there are descriptors that span several different levels in overarching qualifications frameworks. The existence of *some* descriptors at a lower level than the final classification of a program is not, however, a problem. The *ECTS Users' Guide* notes that national variations in credit profiles for programs are acceptable (see European Communities, 2009, p. 16), and some of the components of those profiles will necessarily be at a lower level than that of the eventual award. In any case, the descriptors which form the basis of the QF-EHEA (the "Dublin descriptors") "do not represent minimum or threshold requirements" (p. 15), which means the QF-EHEA first cycle descriptors represent the *apex* of the students' abilities, with the implication that students will also learn lower level skills. The cumulative nature of ascending levels in the QF-EHEA further supports this interpretation.

Two of the key developments at the first cycle level in the QF-EHEA that are also found in the provincial standards are the ability to "gather and interpret relevant data" and to "be

informed by knowledge of the forefront of [the] field of study" (BWGQF, 2010, p. 194). Collecting and interpreting data is emphasized numerous times in the provincial standards: "collect, organize and interpret graphical information" (OMTCU, 2008, p. 8); "identify relevant data sources and develop appropriate strategies for data collection" (p. 9); "collect, collate, and organize data from drawings and specifications" (p. 10). Furthermore, students are also expected to be and remain familiar with the forefront of knowledge in their field: "keep up-to-date with available and emerging environmentally friendly building materials and systems" (p. 18); "keep up-to-date with Canada Green Building Council Standards such as the Leadership in Energy and Environmental Design (LEED)" (p. 18); "use and evaluate current and *emerging* [emphasis added] technology to support building projects" (p. 19).

The provincial standards also further emphasize the point that this program, at this level, engages in first cycle abilities that are "demonstrated through devising and sustaining arguments and solving problems in their field of study" (BWGQF, 2010, p. 194), rather than the short cycle emphasis on simply applying knowledge. A few examples of first cycle problem solving and argumentation in the provincial standards include the following descriptors: "assist in the preparation of tender documents by calling for tenders, and receiving, analyzing, and recommending contract award" (OMTCU, 2008, p. 10); "analyze alternative solutions to technical problems" (p. 11); "contribute to the analysis, planning, and preparation of site planning documents" (p. 14). All of these descriptors exceed the short cycle ability to simply "apply ... knowledge in occupational contexts" (BWGQF, 2010, p. 193), just as the first cycle emphasis on problem solving and analysis exceeds this ability.

Finally, like the OQF advanced diploma, the provincial standards emphasize the ethical orientation and professional autonomy that we find in the first cycle. Students will "comply with the legal and ethical requirements of an architectural technologist" (OMTCU, 2008, p. 15), including the abilities to "demonstrate respect for diversity and equality in the workplace" and to

"promote the potential of technology for the betterment of society" (p. 15). Students will also "be self-directed and show initiative" (p. 21), which, combined with the requirements to remain constantly up-to-date, maps onto the first cycle's emphasis of pursuing further knowledge "with a high degree of autonomy" (BWGQF, 2010, p. 195), rather than simply the short cycle's emphasis on doing so "with some autonomy" (p. 193).

The obvious conclusion, in reference to the QF-EHEA, is that both the Ontario advanced diploma and the specific program standards for an advanced diploma in architectural technology map onto the first cycle, not the short cycle. In fact, the provincial standards even *exceed* the first cycle in some respects: the QF-EHEA does not introduce the capacity to demonstrate "originality in developing and/or applying ideas" or to work within "a research context" until the second cycle (BWGQF, 2010, p. 195), the master's level. The provincial standards emphasize participating in "building products research" (OMTCU, 2008, p. 9), for which there is no provision below the second cycle in the QF-EHEA.

Mapping the OQF Advanced Diploma and the Provincial Standards to the EQF-LLL

The EQF-LLL is more problematic because it is less usefully detailed than the QF-EHEA. Communication skills and ethical awareness are not covered, for example, and the differences between levels are not as concrete. Furthermore, there isn't the neat, continuous through-line that is present in the QF-EHEA. For example, the first descriptor at Level 5 is "comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge" (European Commission, 2008, p. 2), whereas in Level 6 it is "advanced knowledge of a field of work or study, involving a critical understanding of theories and principles" (p. 2). (According to the EQF-LLL, Level 5 is a short cycle award, and Level 6 is a first cycle award [see p. 2].) There is no meaningful difference between "comprehensive, specialised, factual and theoretical knowledge" when it is assigned to

the lower level, and "advanced knowledge" when it is assigned to the higher level. Similarly, it is difficult to see how one could possess "comprehensive ... theoretical knowledge" (Level 5) without also "involving a critical understanding of theories" (Level 6; p. 2). The descriptors in the EQF-LLL suffer from many of the deficits that plague poorly written learning outcomes that seem specific, yet are not.

Mapping onto the EQF-LLL therefore becomes more a matter of searching for vocabulary matches than taking into account the variations in emphasis between its levels, and using those variations to guide mapping decisions. Fortunately, however, there are only three classes of descriptors. The "Knowledge" descriptor for Level 5 (short cycle) is the previously mentioned "comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge" (European Commission, 2008, p. 2) whereas the corresponding Level 6 (first cycle) descriptor is "advanced knowledge of a field of work or study, involving a critical understanding of theories and principles" (p. 2). The OQF advanced diploma is amenable to either of these levels because of the lack of clear semantic difference between them (it should be noted that the OQF advanced diploma mentions an awareness of the limits of students' knowledge, which would seem to place it at Level 5, but this limitation is preserved through higher OQF qualifications as well). The advanced problem solving capacities that we identified in relation to the QF-EHEA first cycle likely position our advanced diploma in Level 6 for the EQF-LLL, however.

The "Skills" descriptor at Level 5 discusses "a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems" (European Commission, 2008, p. 2); the corresponding descriptor for Level 6 is "advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study" (p. 2). Here the mapping is easier: the OQF advanced diploma clearly emphasizes working with "complex or non-routine" situations (OMTCU, 2009),

which, taken with its advanced problem solving, clearly corresponds to the Level 6 ability to "solve complex and unpredictable problems" (European Commission, 2008, p. 2). The provincial standards further cement this association with descriptors that require mastery of the field, and innovation within it: "assist in the preparation of building products research" (OMTCU, 2008, p. 9); "analyze alternative solutions to technical problems" (p. 11); "design building sub-systems, including building envelopes, to suit user requirements and to accommodate effects of climate, region, topography, and orientation" (p. 13); "assess buildings and their interiors, and make recommendations for their repurposing and renovation" (p. 16); "select, recommend, and evaluate sustainable design strategies" (p. 18).

The EQF-LLL introduces managerial capabilities for its "Competence" descriptors, an area of practice about which the QF-EHEA is silent. Level 5 covers two descriptors: "exercise management and supervision in contexts of work or study activities where there is unpredictable change" (European Commission, 2008, p. 2), and "review and develop performance of self and others" (p. 2). The corresponding Level 6 descriptors inject slightly more emphasis on responsibility: "manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts" (p. 2), and "take responsibility for managing professional development of individuals and groups" (p. 2). The OQF advanced diploma emphasizes "*significant* [emphasis added] judgment in ... planning, design and technical leadership" (OMTCU, 2009); the intensifier "significant" surely places this descriptor in the more responsibility-heavy realm of Level 6 than in the more general Level 5. The provincial standards further support this reading with the indication in the "Preamble" that

> [g]raduates are prepared to assume responsibility for their work and may work independently as a self-employed architectural technician or interdependently as a part of an architectural or multidisciplinary building team. Also, graduates are prepared to contribute to the management of building projects. (p. 4)

Finally, as with the QF-EHEA, the provincial standards map partially onto the master's level (Level 7), although not for the same reasons. Despite the EQF-LLL's confident assertion

that "the [QF-EHEA] descriptor for the first cycle ... corresponds to the learning outcomes for EQF level 6" (European Commission, 2008, p. 2), the EQF-LLL has taken the first cycle stipulation about knowledge at the "forefront" of its field (BWGQF, 2010, p. 194) and moved this key word to Level 7, the second cycle: "highly specialised knowledge, some of which is at the forefront of ... a field of work or study" (European Commission, 2008, p. 2). As we have discussed, the provincial standards clearly emphasize work at the forefront of the field. Additionally, the provincial standards' emphasis on graduates' competency to work in a "multidisciplinary" context (OMTCU, 2008, p. 4) maps onto the Level 7 "critical awareness of ... the interface between different fields" (European Commission, 2008, p. 2).

Thus, although there is not the depth of material to work with in the EQF-LLL that is present in the QF-EHEA, both the OQF advanced diploma descriptors and the provincial standards map solidly onto the first cycle/Level 6. There is an enormous opportunity here not just for Fanshawe College's one program, but for all advanced diploma programs in Ontario.

Conclusions and Recommendations

The significance of this project extends well beyond Fanshawe College itself. The initial, research phase of the project has already identified transfer and mobility opportunities at an advanced level (bachelor's or master's) that other Ontario colleges could similarly benefit from. Increased credit transfer and student mobility have been identified as key economic strategies for Ontario, and entering the EHEA and Bologna-compatible systems in a methodical way, with all of the protocols in place, clearly supports these strategies. Furthermore, this project's attempt to bypass traditional higher education pathways by seeking entry (for advanced diploma graduates) into master's programs and/or significant advanced standing in bachelor's programs echoes the challenges and opportunities presented by the increasingly fluid nature of higher education both here and in the EHEA; our project can therefore suggest ways to leverage this

changing landscape for the benefit of Ontario's college students. Finally, our project fills a current gap in higher education knowledge within Ontario, and the mapping stage of our project (beginning after this initial research paper is finished, and ending before September 1, 2012) will be able to offer practical implementation strategies and tips for maximizing student mobility potential.

Based upon our research findings, we recommend that Fanshawe proceed with the mapping project as follows.

Initial Strategy

- Canvass the Irish analogues to Fanshawe's program regarding practical implementation issues. Information gathered will include determining ECTS credits at the course level, revising learning outcomes so that they receive maximal recognition within the EHEA, determining levels for learning outcomes and courses, referencing the Irish National Framework to the two overarching European frameworks (a process that is analogous to mapping our OQF to these frameworks), and allocating sufficient resources for mapping and implementation.
- Determine whether there is a significant difference in the theoretical orientation between Ontario's advanced diploma in Architectural Technology and the Irish programs; if there is, and if Ontario's is less theoretical, we may have a problem in terms of ISCED classifications of levels (although not necessarily in terms of EQF-LLL and QF-EHEA classifications).
- Perform a close, line-by-line mapping of the provincial standards, in their entirety, to the two overarching European frameworks and to the national frameworks of Ireland and New Zealand (to increase the chances of mobility success in Europe and New Zealand).

ECTS

- Determine rough estimates of current student workload for Architectural Technology courses at Fanshawe in order to allocate the proper amount of ECTS credits to each.
- Avoid revision of our program in order to produce the "correct" ECTS credit number, since this issue is rapidly declining in importance in terms of recognition issues.
- Review all learning outcomes for courses, ensuring that they are as specific and robust as possible, and compatible with analogous Irish learning outcomes (which are already accepted and understood in the EHEA).

- Assign levels to both courses and ECTS credits based upon the line-by-line mapping of the provincial standards.
- Express ECTS credit levels in regards to the European overarching frameworks and the OQF.
- Initiate the process of openly posting Architectural Technology syllabi (known as "Course Information Sheets") to Fanshawe's website.
- Determine whether it is feasible to obtain grade distributions in order to properly implement ECTS grading procedures.

Diploma Supplement

- Create detailed boilerplate for a diploma supplement that can be issued to any of Fanshawe's interested Architectural Technology advanced diploma graduates who would like to transfer to the EHEA or to other Bologna-compatible higher education systems. The boilerplate must attempt to overcome recognition barriers that we have identified. It can also function as a detailed guide for other Ontario colleges that may decide to issue diploma supplements.
- Emphasize the advanced diploma-to-master's agreement in progress for Fanshawe and VUW in New Zealand, and the fact that the OQF advanced diploma and the provincial standards map clearly onto the first cycle, not the short cycle.
- Emphasize the comparability in the length of an Ontario advanced diploma program to the new Bologna bachelor's (both are 3 years).
- Emphasize the theoretical and problem-solving aspects of an Ontario advanced diploma in Architectural Technology.
- Explain clearly that Fanshawe College is an accredited, provincially recognized institution.

There are two significant threats to the kind of recognition that we would like to receive—institutional inertia and our students' formal rights—but a sufficiently detailed and nuanced diploma supplement should help to mitigate these obstacles. Thus, although direct entry to the second cycle in the EHEA (or to master's programs in Bologna-compatible systems) is a significantly more difficult proposition than achieving significant advanced standing in a first cycle (bachelor's) program, it by no means outside the realm of possibility. According to the relevant qualifications frameworks, the Ontario advanced diploma program in Architectural Technology stands firmly at the level of first cycle programs in the EHEA, and should be

accepted as such; the most serious hurdle will be providing overwhelmingly convincing evidence in favor of this argument, but carefully implemented ECTS conventions, close allegiance to the practices of EHEA institutions, and a thoughtfully constructed diploma supplement will maximize our chances of successful recognition.

Finally, this project is not only an important test case for Ontario colleges and other analogous institutions of higher education, but also for the EHEA. We have formulated our approach based on the face that Bologna presents to the world; if our endeavor is successful, it means that practice at the ground level does indeed mirror the information at the higher policy and theory levels. If, however, our aims are ultimately frustrated, this information will be troubling but useful to those who are invested in promoting Bologna's external dimension.

References

Adam, S. (2006a). An introduction to learning outcomes: A consideration of the nature, function and position of learning outcomes in the creation of the European Higher Education Area. In E. Froment, J. Kohler, L. Purser, & L. Wilson (Eds.), *EUA Bologna handbook—Making Bologna work*. (B.2.3-1). Berlin, Germany: Raabe Verlag.

Adam, S. (2006b). Improving the recognition system of degrees and periods of studies: Conclusions and suggestions. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna process: Policy development and the road to good practice* (pp. 183-198). Strasbourg, France: Council of Europe.

Adelman, C. (2009). The Bologna Process for U.S. eyes: Re-learning higher education in the age of convergence. Washington, DC: Institute for Higher Education Policy.

Beaudin, Y. Y. (2009). Substantial differences: Diploma in medical radiation technology. In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 45-50). Strasbourg, France: Council of Europe.

Bell, J. E., & Watkins, R. A. (2007). Just for credential evaluators: Dealing with the new credentials. *International Educator Magazine, Bologna Process Supplement,* 18-19.

Bergan, S. (2006). Recognition 2010: Opportunities from which we cannot run away. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna process: Policy development and the road to good practice* (pp. 169-182). Strasbourg, France: Council of Europe.

Bergan, S. (2009a). An agenda for further development. In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 159-168). Strasbourg, France: Council of Europe.

Bergan, S. (2009b). Qualifications frameworks: An instrument to resolve substantial differences? In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 123-140). Strasbourg, France: Council of Europe.

Bergan, S. (2009c). Substantial differences: Exploring a concept. In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 15-32). Strasbourg, France: Council of Europe.

Bergan, S., & Hunt, E. S. (2009). Introduction. In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 7-14). Strasbourg, France: Council of Europe.

Bishop, J. (2006). *The Bologna Process and Australia: Next steps.* Canberra, Australia: Ministry of Education, Science and Training.

Blomqvist, C. (2009). Preface. In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 5-6). Strasbourg, France: Council of Europe.

Bologna Working Group on Qualifications Frameworks [BWGQF]. (2005). *A framework for qualifications of the European Higher Education Area*. Copenhagen, Denmark: Ministry of Science, Technology and Innovation.

Council of Europe. (1997). *Convention on the Recognition of Qualifications concerning Higher Education in the European Region* [Lisbon, 11.IV]. Retrieved from http://conventions.coe.int/Treaty/en/Treaties/Html/165.htm

Crespo, M., & Dridi, H. (2007). Intensification of university-industry relationships and its impact on academic research. *Higher Education, 54*(1), 61-84.

Dennison, D., & Schuetze, H. (2004). Extending access, choice, and the reign of the market: Higher education reforms in British Columbia, 1989-2004. *Canadian Journal for Higher Education, 34*(3), 13-38.

Directorate-General for Education and Culture. (2004). *ECTS users' guide: European Transfer and Accumulation System and the Diploma Supplement.* Brussels, Belguim: European Commission. Retrieved from http://ec.europa.eu/education/lifelong-learning-policy/doc/ects/guide_en.pdf

Divis, J. (2006). International recognition and quality assurance: Two priorities of the Bologna Process. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 63-72). Strasbourg, France: Council of Europe.

Drummond, D. (2012). *Public services for Ontarians: A path to sustainability and excellence*. Toronto, Ontario, Canada: Commission on the Reform of Ontario's Public Services.

Ertl, H. (2005). Higher education in Germany: A case of 'uneven' expansion. *Higher Education Quarterly, 59*(3), 205-229.

European Commission. (2007). *Outline structure for the diploma supplement.* Luxembourg, Grand Duchy of Luxembourg: Office for the Official Publications of the European Communities.

European Commission. (2008). *The European Qualifications Framework for Lifelong Learning [EQF-LLL].* Retrieved from http://ec.europa.eu/education/pub/pdf/general/eqf/leaflet_en.pdf

European Communities. (2009). *ECTS users' guide*. Luxembourg, Grand Duchy of Luxembourg: Office for the Official Publications of the European Communities. Retrieved from http://ec.europa.eu/education/lifelong-learning-policy/doc/ects/guide_en.pdf

Fietz, G., Reglin, T., & Le Mouillour, I. (2007). *Study on the implementation and development of an ECVET system for initial vocational education and training.* Bonn, Germany: BIBB on behalf of the European Commission. Retrieved from http://ec.europa.eu/education/pdf/doc144_en.pdf

Gehmlich, V. (2006). Recognition of credits: Achievements and challenges. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 81-90). Strasbourg, France: Council of Europe.

Gonzalez, J., & Wagenaar, R. (2006). Developments along subject lines and their impact on recognition. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 91-102). Strasbourg, France: Council of Europe.

Hango, D., & de Broucker, P. (2007). *Postsecondary enrolment trends to 2031: Three scenarios*. Ottawa, Ontario: Statistics Canada.

Higher Education Strategy Associates. (2012). *Changing times, Changing places: The global evolution of the bachelor's degree and the implications for Ontario*. Toronto, Ontario: Higher Education Quality Council of Ontario. Retrieved from http://www.heqco.ca/SiteCollectionDocuments/Changing%20Times%20ENG.pdf

HM Inspectorate of Education. (2006). *SCQF College credit rating: Evaluation of pilot project.* Aberdeen, Scotland: HM Inspectorate of Education. Retrieved from http://www.educationscotland.gov.uk/inspectionandreview/Images/CollegeCreditRating_tcm4-712699.pdf

Huisman, J., & Van Der Wende, M. (2004). The EU and Bologna: Are supra- and international initiatives threatening domestic agendas?. *European Journal of Education, 39*(3), 349-357.

Hunt, E.S. (2006). The Bologna Process and recognition issues outside the European Higher Education Area. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 115-138). Strasbourg, France: Council of Europe.

Hunt, E.S. (2009a). Applying the Lisbon recognition principles to the question of substantial difference: What have we learned? In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 141-158). Strasbourg, France: Council of Europe.

Hunt, E.S. (2009b). A study of substantial differences: professional teaching qualifications. In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 59-66). Strasbourg, France: Council of Europe.

Jones, G. A. (1991). Modest modification and structural stability: Higher education in Ontario. *Higher Education, 21*(4), 573-587.

Jones, G. A. (1997). Higher education in Ontario. In J. A. Jones (Ed.), *Higher education in Canada: Different systems, different perspectives* (pp. 137-159). New York, NY: Garland Publishing.

Jones, G. A. (2004). Ontario higher education reform, 1995-2003: From modest modifications to policy reform. *The Canadian Journal of Higher Education, 34*(3), 39-54.

Karran, T. (2004). Achieving Bologna convergence: Is ECTS failing to make the grade? *Higher Education in Europe, 29*(3), 411-421.

Keeling, R. (2006). The Bologna Process and the Lisbon research agenda: The European Commission's expanding role in higher education discourse. *European Journal of Education, 41*(2). Retrieved from http://www.utwente.nl/mb/cheps/summer_school/literature/keeling%20eje.pdf

Kehm, B., & Teichler, U. (2006). Which direction for bachelor and master programmes? A stocktaking of the Bologna process. *Tertiary Education and Management, 12*(4), 269-282.

Kivinen, O., & Rinne, R. (1996). Higher education, mobility and inequality: The Finnish case. *European Journal of Education, 31*(3), 289-310.

Lampinen, O. (2001). The use of experimentation in educational reform: The case of the Finnish polytechnic experiment 1992-1999. *Tertiary Education and Management, 7*(4) 311-321.

Maguire, B. (2010). *Issues arising from qualifications frameworks in Europe.* Dublin, Ireland: Irish Bologna Expert Conference. Retrieved from http://www.eqf-ref.eu/index.php?option=com_content&view=article&id=61:issues-arising-from-qualifications-frameworks-in-europe&catid=1:news&Itemid=2

Malfroy, Erwin. (2009). Recruitment to health professions: The case of a master of arts in psychological sciences. In S. Bergan & E. S. Hunt (Eds.), *Developing attitudes to recognition: Substantial differences in an age of globalisation* (pp. 51-58). Strasbourg, France: Council of Europe.

Marginson, S. (2002). Nation-building universities in a global environment: The case of Australia. *Higher Education, 43*(3), 409-428.

Marginson, S. (2004). National and global competition in higher education. *The Australian Educational Researcher, 31*(2), 1-28.

Middlehurst, R. (2004). Changing internal governance: A discussion of leadership roles and management structures in UK universities. *Higher Education Quarterly, 58*(4), 258-279.

Moon, J. (2004). Linking levels, learning outcomes, and assessment criteria. Edinburgh, Scotland: Bologna Conference on Learning Outcomes. Retrieved from http://www.aic.lv/bolona/Bologna/Bol_semin/Edinburgh/J_Moon_backgrP.pdf

New Zealand Qualifications Authority. (2008). *New Zealand and the Bologna Process.* Wellington, New Zealand: Ministry of Education.

Ontario Colleges of Applied Arts and Technology Act, 2002, c. 33, Sched. 25, s. 3.

Ontario Ministry of Training, Colleges and Universities. (2008). *Architectural Technology Program Standard.* Toronto, Ontario, Canada: Author. Retrieved from http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/techno/ArchitecturalTechnology.pdf

Ontario Ministry of Training, Colleges and Universities. (2009). Advanced diploma. In *Ontario Qualifications Framework (OQF)*. Toronto, Ontario, Canada: Author. Retrieved from http://www.tcu.gov.on.ca/pepg/programs/oqf/certificate8.html

Organisation for Economic Cooperation and Development [OECD]. (2003). *Polytechnic education in Finland: Review of national polices for education*. Paris, France: Author.

Post-Secondary Education Choice and Excellence Act, 2000, c. 12, ss. 1-15.

Pratt, J. (1997). *The polytechnic experiment: 1965-1992*. London, England: The Society for Research into Higher Education.

Pritchard, R. (2006). Trends in the restructuring of German universities. *Comparative Education Review, 50*(1), 90-112.

Prokou, E. (2008). The emphasis on employability and the changing role of the university in Europe. *Higher Education in Europe, 33*(4), 387-394.

Qualifications and Curriculum Development Agency. (2010). *Report: Referencing the Qualifications Frameworks of the United Kingdom to the European Qualifications Frameworks*. London, England: Author. Retrieved from http://ec.europa.eu/education/lifelong-learning-policy/doc/eqf/ukreport_en.pdf

Rauhvargers, A. (2006). Recognition between Bologna and the European Higher Education Area: Status and overview. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 19-50). Strasbourg, France: Council of Europe.

Rauhvargers, A. (2009). The renewed approach to the Diploma Supplement in the context of the developments of recent years. In A. Rauhvargers & S. Bergan (Eds.), *New challenges in recognition* (pp. 113-120). Strasbourg, France: Council of Europe.

Rauhvargers, A. & Bergan, S. (2006). A word from the editors. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 7-18). Strasbourg, France: Council of Europe.

Reichert, S., & Tauch, C. (2003). *Trends 2003: Progress towards the European Higher Education Area*. Brussels, Belgium: EUA, 2003. Retrieved from http://www.eua.be/eua/jsp/en/upload/Trends2003final.1065011164859.pdf

Roper, S. (2007). European education reform and its impact on curriculum and admissions: Implications of the Bologna Process on United States education. *Journal of Political Science Education, 3,* 51-60.

Shanahan, T., & Jones, G. (2007). Shifting roles and approaches: Government coordination of post-secondary education in Canada, 1995-2006. *Higher Education Research and Development*, *26*(1), 31-43.

Slantcheva-Durst, S. (2010). Chapter 1: Redefining short-cycle higher education across Europe: The challenges of Bologna. *Community College Review, 38,* 111-132.

Slaughter, S., & Leslie, L. (1997). *Academic capitalism: Politics, policies, and the entrepreneurial university*. Baltimore, MD: John Hopkins University Press.

Slaughter, S., & Rhoades, G. (2004). *Academic capitalism and the new economy: Markets, state and higher education*. Baltimore, MD: John Hopkins University Press.

Sullivan, K. (2002). Credit and grade transfer within the European Union's SOCRATES Programme: Unity in diversity or head in the sand? *Assessment and Evaluation in Higher Education, 27*(1), 65–74.

Thompson, T. (2006). The United States as a stakeholder in the Bologna Process. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 161-168). Strasbourg, France: Council of Europe.

Trampusch, C. (2009). Europeanization and institutional change in vocational education and training in Austria and Germany. *Governance: An International Journal of Policy, Administration and Institutions, 22*(3), 369-395.

UNESCO. (2011). *36C: Revision of the International Standard Classification of Education (ISCED).* Paris, France: Author.

Warfvinge, P. (2008). A generic method for distribution and transfer of ECTS and other norm-referenced grades within student cohorts. *European Journal of Engineering Education, 33*(4), 453–462.

Wegewijs, B. (2009). Survey on substantial differences: An example of practice in Europe. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 79-98). Strasbourg, France: Council of Europe.

Wegewjis, B., & de Bruin, L. (2009). Substantial differences in an EU context: Conclusions from a project. In A. Rauhvargers & S. Bergan (Eds.), *Recognition in the Bologna Process: Policy development and the road to good practice* (pp. 79-96). Strasbourg, France: Council of Europe.

West, C. (2010). Ripple effects: The Bologna Process, ten years on. *International Educator, 19*(6), 25-32.