

Learning Outcomes in Credit Transfer:

A Key Tool for Innovation in Student Mobility

Prepared for the Ontario Council on Articulation and Transfer by Nicole Fallon, Project Lead:
Learning Outcomes and Degree to Degree Transfer

Research by the Ontario Council on Articulation and Transfer

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Executive Summary

ONCAT's mandate is to enhance academic pathways and reduce barriers for students looking to transfer among Ontario's publicly funded postsecondary institutions and to play a leadership role in helping to develop credit transfer policies and practices in the province. Recognizing that student transfer needs are diverse—encompassing everything from the transfer of individual courses to receiving credit and advanced placement for completion of a previous credential—ONCAT aims to be on the forefront of working with member institutions to create tools that can be used to effect additional transfer opportunities for students.

One tool that has played a significant role in a number of educational reform initiatives around the world is learning outcomes. Learning outcomes facilitate a clear comparison of credentials at the course, year, and program levels and, as such, can play a vital role in credit transfer, by both improving existing pathways to maximize student success and by increasing the overall number of transfer opportunities. When discipline experts from various institutions, sectors, and jurisdictions come together to discuss their subject area through a learning outcomes lens, they gain greater understanding of what is expected of students in each program. The clarity and trust that results from such work enables partners to more confidently build partnerships and pathways among programs and institutions, which ultimately expedites the often lengthy and complex articulation process.

The postsecondary education system in Ontario, primarily composed of two main sectors—the colleges (24 publicly funded institutions) and the universities (21 publicly funded institutions)—has some challenges to transfer and student mobility, mostly related to the historical structure and lack of linkages between the college and university sectors. Thus, given the Ontario system as it exists today, learning outcomes are an essential tool for making a system-wide improvement in student mobility and educational opportunities. Fortunately, learning outcomes already exist as an important underlying component in both sectors. All postsecondary credentials offered by public institutions in Ontario—from certificates and apprenticeships to diplomas and degrees—are defined under the Ontario Qualifications Framework (OQF); therefore, the OQF provides a key tool in understanding the relationships of qualifications to each other in the overall range of credentials available in the province.

Learning outcomes are integral to college programs in Ontario and are used at the course and program level, as well as to express the vocational standards and essential employability skills related to each credential. Ontario universities have adopted the learning outcomes for baccalaureate degrees in the OQF under the name University Undergraduate Degree Level Expectations (UDLEs), these being the same outcomes that pertain to college-delivered bachelor's degrees. Learning outcomes statements at the course, program, and institutional level are increasingly being crafted and implemented at Ontario universities. This process is further supported by the Ontario Universities Council on Quality Assurance, which approves new and renews existing programs. Under the approval process, programs must clearly articulate what students should know and be able to do upon program completion and how the DLEs have been incorporated into the program. In other words, learning outcomes are being phased into the university sector in Ontario both from a system-wide perspective and from an institution-driven "grass roots" level.

However, due to the historically different aims of the college and university systems, learning outcomes may be expressed differently in each sector. For example, college learning outcomes tend to be more vocationally based and related to employability skills, while university outcomes have traditionally been

expressed in less vocation-related language. This makes it challenging to compare college and university credentials—as is necessary when creating pathways and bridging programs—even in cognate fields. By funding pathway creation projects that use learning outcomes as a significant tool in the process, ONCAT hopes to both hold up concrete examples of how such barriers were overcome, but also to extract from such pilot projects general best practices that can inform the methodologies of future projects.

To date ONCAT has funded more than 150 Pathway Development Projects, resulting in over 1200 pathway agreements. Many of these have employed the block transfer method of pathway creation to allow students to move from one completed credential into a higher level credential in a cognate discipline, such as from a diploma to a degree. Many successful pathways continue to be developed in this way. However, student transfer needs in Ontario are often much more diverse than this. For varied personal reasons, students often wish to transfer mid-stream—from diploma to diploma, degree to degree, diploma to degree, or degree to diploma. Fortunately, the use of learning outcomes can add flexibility to the process of comparing credentials because they help illustrate how the same or similar outcomes can be attained even by students who have followed different learning paths. Instead of relying solely on traditional models or the laborious process of course-by-course comparison, learning outcomes can help in the development of innovative, non-traditional pathways. The utility and flexibility of well-articulated learning outcomes statements make this tool applicable in all models and directions of student transfer.

As a champion for the continual improvement of credit transfer policies and practices in Ontario, ONCAT is committed to partnering with our postsecondary members and supporting the innovative use of learning outcomes as they relate to student mobility. We have already begun this important work by establishing the Learning Outcomes Steering Committee, funding numerous key learning outcomes-focused pathway projects, and sponsoring a Learning Outcomes for Credit Transfer Colloquium planned for November 2015. ONCAT's future plans in this field—including the creation of a Learning Outcomes Toolkit and a publication resulting from the Colloquium to be shared with the wider community—will foster the generation of new and creative ways to apply the key tools of outcomes-based learning to future pathway creation projects, both across disciplines and across the province.

Learning Outcomes in Credit Transfer: A Key Tool for Innovation in Student Mobility

ONCAT's mandate is to enhance academic pathways and reduce barriers for students looking to transfer among Ontario's publicly funded postsecondary institutions. Driven by its membership, ONCAT plays a leadership role in helping to develop credit transfer policies and practices in the province. Student transfer needs are diverse, encompassing everything from the transfer of individual courses to receiving credit and advanced placement for completion of a previous credential, such as in the diploma to degree model. ONCAT aims to be on the forefront of working with member institutions to create tools that can be used to effect additional transfer opportunities for students.

One tool that has shown great promise in the past few years in many aspects of educational innovation and improvement is learning outcomes. Learning outcomes statements facilitate a clear comparison of credentials at the course, year, and program levels. As such, learning outcomes can play a vital role in both improving existing pathways to maximize student success as well as increasing the overall number of transfer opportunities by allowing the meaningful comparison of components of study from different sectors of Ontario's postsecondary landscape. ONCAT is working with its member organizations and postsecondary partners to keep abreast of the latest developments in the field of learning outcomes and to develop practical methodologies for effectively leveraging this tool for credit transfer and student mobility.

Learning Outcomes and Their Application to Higher Education

Learning outcomes are statements that clearly describe what a learner is expected to know and be able to do at the end of a period of study, which might be a unit, a course, or a credential. Learning outcomes are part of a student-centred teaching philosophy that focuses on outputs as opposed to inputs. Traditionally, courses and programs were described using information related to what materials the instructor intended to use and what topics they would cover (the inputs), often accompanied by aims, goals, or objectives that the instructor had as to what a student would get out of the course or program. The concept of learning outcomes turns this input approach on its head by instead clearly articulating what learning students will be able to demonstrate upon completion of the learning experience. Clear learning outcomes statements, if aligned constructively with assessment tasks assigned to students, can track the overall effectiveness of a unit of study by testing how well students met the learning outcomes outlined for the course or program.

Ideally, within a program, learning outcomes are meant to be constructively aligned. As such, learning outcomes of particular units correspond and contribute to the overall learning outcomes of the course as a whole; similarly, course-level learning outcomes are in harmony with learning outcomes for the program as a whole. When learning outcomes have been well-crafted and aligned, they create an environment in which learning effectiveness can be more easily assessed. Therefore, learning outcomes have a role to play in a number of key areas. These include quality assurance, accountability, the improvement of teaching and learning strategies, program alignment and comparison, and credit transfer.

International Learning Outcomes Initiatives

Learning outcomes have played a significant role in a number of educational reform initiatives around the world, a few of which will be outlined here. The Tuning Project (or “Tuning”) began in Europe in 2000, shortly after the Bologna Process was initiated to bring in line a common three-cycle system of higher education degrees (bachelor’s, master’s, doctorate), which was essential to bring about a unified European Higher Education Area (EHEA). Rather than creating a uniform European curriculum, the goal of Tuning was to provide points of comparison and convergence in the content of specific disciplines, while still respecting the autonomy of the various jurisdictions. In essence, the transferability and portability of qualifications within and among the European nations and their respective educational institutions was a driving force behind this impetus to harmonize Europe’s disparate systems and credentials.

The Tuning Process chose to employ learning outcomes (along with the related concept of competencies—the combination of knowledge, understanding, skills, and abilities possessed by a learner) to compare and harmonize the different curricula among the various institutions, regions, and nations. Subject experts first worked together to identify key competencies required for a qualification in a particular field. Learning outcomes were then used to add flexibility to the process of comparing credentials by helping to illustrate that students could attain mastery of required competencies even if they followed different learning paths.

The creation of the EHEA and the harmonization of postsecondary programs in Europe—along with a new focus on an outcomes-based model of education—spurred similar Tuning projects around the world, including in Asia, Africa, and the United States. In the US, Tuning efforts have been led by the Lumina Foundation, which introduced the process nationally in 2009. Discipline-specific learning outcomes for multiple subject areas were established through inter-institutional consultation and input from other key stakeholders. To date, Tuning in the US has been undertaken at state and national levels. In 2011 Lumina introduced the Degree Qualifications Profile (DQP) to codify what students should know and be able to do, regardless of discipline of study, to attain each of three levels of degree: the associate’s, bachelor’s, and master’s degrees.

International work has also advanced research into the valid assessment of learning outcomes in postsecondary education; i.e., verifying that the intended outcomes have actually been attained by learners. Beginning in 2006, the Organisation for Economic Co-operation and Development (OECD) launched the Assessment of Higher Education Learning Outcomes (AHELO) Feasibility Study. The purpose of the study was to determine whether it is feasible (both practically and scientifically) to assess students’ attainment of specified learning outcomes upon graduation from a bachelor’s degree. The AHELO project developed learning outcomes for both generic skills and discipline-specific skills expected of graduates (in two fields: economics and civil engineering), along with standardized tests of these skills that were intended for use across a variety of institutions, cultures, and languages. Ontario joined AHELO as a representative for Canada in the engineering strand of the project, led by the Higher Education Quality Council of Ontario (HEQCO) on behalf of the Ministry of Training, Colleges and Universities. In total, 17 countries participated. In addition to increasing international cooperation and discussion, the AHELO project demonstrated that not only is it possible to establish agreement on expected learning outcomes (even across jurisdictional and cultural boundaries) but it is also feasible to administer a standardized assessment of those learning outcomes on an international scale.

Learning Outcomes in Credit Transfer

Learning outcomes can also have significant value in the process of credit transfer, whether it is among jurisdictions or among institutions within a single jurisdiction. As outlined above, learning outcomes indicate what a learner is expected to know and be able to do at the end of a period of study, whether it be a unit, a course, or a program. Thus, at the most fundamental level, clearly crafted learning outcomes statements provide a reference point or “common language” that allows for the comparison of courses, programs, and credentials. Individual institutions or sectors within a postsecondary system may describe their programs in different ways, but when discipline experts come together to discuss their subject through the lens of learning outcomes, clarity and trust are established and disparate programs are much more easily compared.

As outlined in a recent British Columbia Council on Admissions & Transfer (BCCAT) Special Report on learning outcomes and credit transfer (2014), there are several other important ways in which learning outcomes play a role in the transfer process. At the level of the individual institution, learning outcomes provide a basis for assessing the scope and level of rigour for courses taken outside the home institution with a level of confidence that is often not possible by merely examining a course description or list of teaching materials. Learning outcomes help build trust among institutions, which can, in turn, expedite the lengthy and complex articulation process. As discipline experts learn more about each others’ programs through a learning outcomes lens, they gain greater understanding of what is expected of students in each program, thus enabling them to more confidently build partnerships and pathways among programs and institutions. Finally, as illustrated by the international initiatives described above, learning outcomes can be compared across jurisdictional boundaries and offer a way to facilitate global interconnectedness and increase international student mobility.

The Postsecondary Education Landscape of Ontario

The postsecondary education system in Ontario is composed of two main sectors: the college system (24 publicly funded institutions) and the university system (21 publicly funded institutions). There are historical challenges to transfer and student mobility between the two sectors, mostly related to the historical structure of the overall PSE system. The Ontario colleges, established in the 1960s, were set up as centres of technical education, without linkages to the university sector. This was in contrast to models in some of the other provinces as well as the US, where community colleges offer a combination of technical and general education.

In recent years there has been a move by Ontario’s publically funded institutions, supported by government, to increase transfer, minimize cost and repetition for students, and maximize taxpayer investment in postsecondary education. Part of this initiative was the establishment first of the College-University Consortium Council (CUCC), followed by the creation of the Ontario Council on Articulation and Transfer (ONCAT) in 2011. As outlined in its mandate, ONCAT is committed to working with its members to reduce barriers for students looking to transfer among the province’s 45 publicly funded postsecondary institutions. It has been suggested (BCCAT Special Report, 2014) that one way to facilitate transfer in the Ontario system is to 1) align programs to common program standards, and 2) create laddered pathways whereby students can study at different institutions but work toward a credential in a concerted way (similar to the model in the US as well as BC). It has already been demonstrated that learning outcomes are vital to both program alignment and the development of pathways. Thus, given

the Ontario system as it exists today, learning outcomes are an essential tool for making a system-wide improvement in student mobility and educational opportunities.

Qualifications Frameworks and the Role of Learning Outcomes

All postsecondary credentials offered by public institutions in Ontario—from certificates and apprenticeships to diplomas and degrees—have already been defined under the Ontario Qualifications Framework (OQF). The OQF presents the various credentials as points along a continuum of qualifications. The main features of each credential are outlined, as are the knowledge and skills that can be expected of those holding each type of qualification. The OQF acts as the overarching framework for the province, under which other frameworks and credential standards fit. As such, the articulation of the expectations of graduates of each qualification in the OQF has already provided a key tool in understanding the relationships of qualifications to each other in the overall range of credentials available in the province.

Expectations at the level of specific programs are articulated differently, depending on which sector they fall into. In the college system, all established programs at the certificate, diploma, advanced diploma, and graduate certificate levels are consistent with the College Credentials Framework which is identified in the OQF. Where a program standard exists that is produced by the Ministry of Training, Colleges and Universities, the college program must meet all the requirements of the program standard.¹ For example, a Biotechnology Technician diploma program at one Ontario college follows the same program standard as a Biotechnology Technician program at another Ontario college. For most programs these standards consist of a general education requirement, a vocational standard specific to the program, and a set of essential employability skills (EES). The general education requirement for learning beyond the vocational field and the EES are common to most programs of study. The vocational standard and EES are expressed in terms of learning outcomes. Learning outcomes focus on the terminal performance of the essential knowledge, skill, and attitude, and not on what the learning is or where and how learning occurs. Learning outcomes are also used at a program level and course level; hence, learning outcomes are integral to college programs in Ontario.

Currently, 12 of the Ontario colleges also offer over 90 four-year bachelor's degree programs. These degrees are quality assured by the Postsecondary Education Quality Assessment Board (PEQAB) according to the Baccalaureate/Bachelor's Degree Honours level (Section 11) of the OQF, specifically meeting the learning outcomes of the degree-level standard. After its initial quality assurance approval by PEQAB, each degree program is re-assessed for renewal on a five to seven year basis by a panel of independent subject matter experts according to this OQF standard and the procedures approved by the Council of Ministers of Education. Part of the PEQAB procedures includes a rigorous assessment to ensure that the degree-level learning outcomes are being achieved.

The public universities in Ontario have also adopted the learning outcomes for baccalaureate degrees in the Ontario Qualifications Framework under the name Undergraduate Degree Level Expectations (UDLEs). In other words, the degree-level learning outcomes expressed in the UDLEs are exactly the same as those defined in the OQF, which are applied to college-delivered degrees. The UDLEs state, in general terms, what holders of degrees at each level from bachelor's to doctoral should know and be able to do. In an ideal situation there would be complete alignment of outcomes from the course and

¹ *Currently there are 145 English programs and 90 French programs with Program Standards articulated.*

program level all the way to the Degree Level Expectations, with each set of outcomes encompassed within the levels above in a nested fashion.

The quality of Ontario university degree programs is ensured by the Ontario Universities Council on Quality Assurance also known as the Quality Council. In pursuit of its goal of ensuring the value of Ontario degrees and moving towards the ideal outcomes model, the Quality Council applies the Quality Assurance Framework (QAF), developed in 2010. Under the QAF, all new university programs seeking approval and existing programs up for renewal must clearly articulate i) what students should know and be able to do upon program completion and ii) how the DLEs have been incorporated into the program. In other words, learning outcomes are being phased into the university sector in Ontario both from a system-wide perspective (via the program approval process) and from an institution-driven “grass roots” level.

The “Common Language” of Learning Outcomes: Challenges and Opportunities

Learning outcomes are a fundamental part of Ontario colleges’ program standards and are increasingly being implemented across the province’s universities. However, college learning outcomes, by their nature, are more vocationally based and related to employability skills, while university outcomes have traditionally been expressed in less vocation-related language. This makes it challenging to compare college and university credentials—as is necessary when creating pathways and bridging programs—even in cognate fields. Even comparing learning outcomes for two related university programs can be complicated, as the language used to express similar outcomes may differ significantly between the two institutions. This could lead, for example, to outcomes from two courses or programs sounding different when they do in fact have significant similarities. As will be outlined further in the next section, one way to tackle this “language” issue is to tackle it from the ground up. By funding pathway creation projects that use learning outcomes as a significant tool in the process, ONCAT hopes to both hold up concrete examples of how such barriers were overcome, but also to extract from such pilot projects general best practices that can inform the methodologies of future projects.

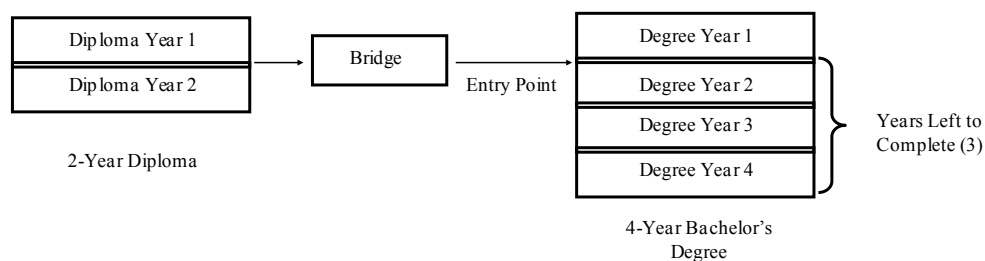


Figure 1: Standard Diploma to Degree Pathway with Bridge (2+3 Model)

Since its inception in 2011, ONCAT has funded more than 150 Pathway Development Projects, resulting in over 1200 pathway agreements. In the beginning, many of the pathways that were developed involved moving from one completed credential into a higher level credential in a cognate discipline, such as diploma to degree pathways. These projects often followed a similar methodology (Figure 1). For example, the Program Standards of a diploma would be examined and assessed against the requirements of the cognate bachelor’s degree. The number of transfer credits to be given would be determined, along with an entry point into the degree program; any gaps existing between the diploma and the entry point to the degree would be filled in with a specially created bridging program. This type of pathway

is often referred to as a “block transfer” model. Such a methodology could involve the use of learning outcomes; the learning outcomes that are part of the diploma program standard would certainly be used in developing the details of the block transfer, as would any learning outcomes associated with the degree program.

Many successful pathways have been and continue to be developed in this way. However, as was discussed above (under International Learning Outcomes Initiatives), learning outcomes can be used to add flexibility to the process of comparing credentials because they help illustrate how the same or similar outcomes can be attained even by students who have followed different learning paths (Figure 2). If we accept that this is the case (that similar learning can be attained by different means) and that learning outcomes help articulate the end results of a “unit” of learning, then further possibilities for pathway creation open up. Instead of the block transfer model or the laborious “course-by-course comparison” model, learning outcomes can help in the development of innovative, non-traditional pathways.

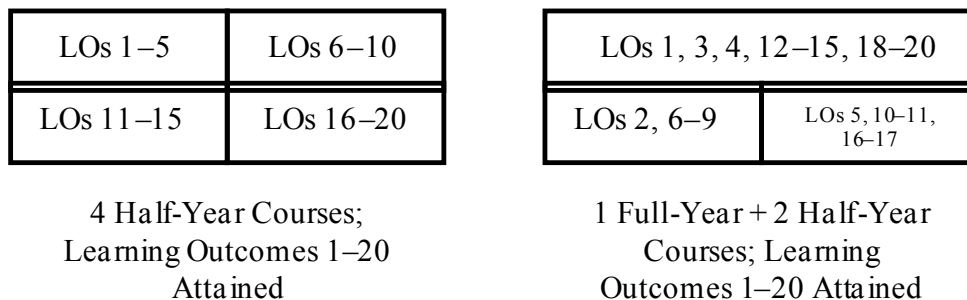
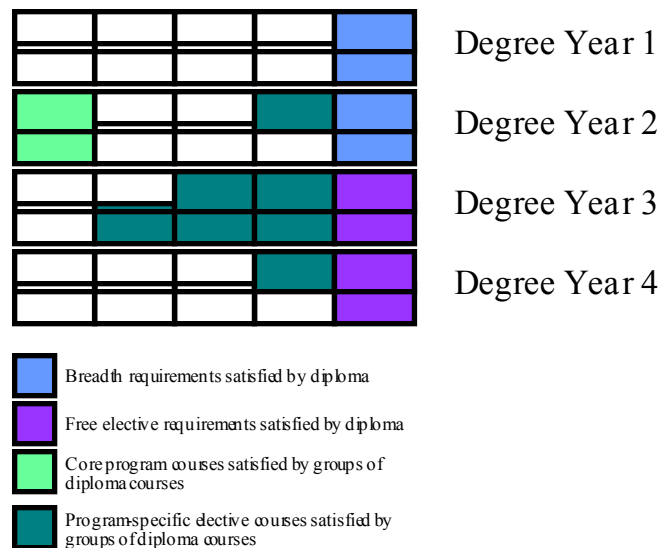


Figure 2: Achieving Learning Outcomes by Different Learning Paths

For example, a student may wish to enter an undergraduate degree after completing a diploma that is somewhat, but not directly, related to the desired degree program, such as a student with a Forestry and Wildlife Management diploma who wishes to pursue a bachelor’s degree in Biology. At first glance, it might appear that a smaller amount of transfer credit could be granted to the student than if they had entered via a more conventional pathway such as Biotechnology Technician/Technologist diploma to Biology degree. There may be an added complication if the receiving degree institution determines that it is in the best interests of the transfer student to have them take fundamental first-year degree courses at their institution, thus precluding direct entry of the student into an upper year of the degree program via a block transfer arrangement. However, by approaching the assessment of the student’s completed credential using a learning outcomes approach (in a way somewhat reminiscent of Prior Learning Assessment and Recognition or PLAR), the receiving institution may still be able to offer a significant amount of credit towards the degree, based on the courses completed in the diploma.² A close examination of the course descriptions and learning outcomes of the diploma courses may demonstrate that a reasonable number of the degree requirements can be fulfilled by individual diploma courses or, in some cases, groups of courses. For example, a group of diploma courses on forestry management, wildlife management, and forest ecology taken together could be deemed sufficiently equivalent to a third-year Biology program elective course. In the hypothetical case below (Figure 3), the incoming student still has to complete four key first-year, full-course equivalents at the receiving institution, but this circumstance is made up for by the fact that their previous credential is deemed to

² This example of a non-traditional determination of Diploma-to-Degree transfer credits using learning outcomes is derived from a paper presented at the 2015 ONCAT Student Pathways Conference by J. Foote of Algoma University.

fulfill a reasonable number of breadth, elective, and core program requirements, including numerous upper year courses.



Types of transfer credit granted for previously completed diploma

Figure 3: Non-Traditional Determination of Diploma-to-Degree Transfer Credits Using Learning Outcomes

However, student transfer needs in Ontario are often much more diverse than simply moving from one completed credential into another, higher-level credential. For diverse personal reasons, students often wish to transfer mid-stream—from diploma to diploma, degree to degree, diploma to degree, or degree to diploma. Fortunately, the utility and flexibility of well-articulated learning outcomes make this tool applicable in all models and directions of student mobility.

ONCAT’s Learning Outcomes Initiative: Partners, Approaches, and Goals

ONCAT’s goal is to keep abreast of the latest research on learning outcomes in general, while supporting work that focuses specifically on the practical application of learning outcomes to issues of student mobility. As such, ONCAT is pursuing a multi-pronged approach. In 2014 ONCAT established the Learning Outcomes Steering Committee to leverage existing expertise on learning outcomes in the province. The Committee, comprised of representatives from ONCAT’s member institutions, government, and other postsecondary sector agencies, advises and oversees the work of several learning outcomes-focused sub-groups, whose specific projects will provide practical, on-the-ground information on how learning outcomes can facilitate credential comparisons and pathway creation. ONCAT has also recently signed a Memorandum of Understanding with HEQCO, in order to facilitate the sharing of resources in the field of learning outcomes and avoid any overlap or duplication of work.

The learning outcomes sub-groups include the College-University Pathways for Games (CUPG), a project team that is developing an online software tool to profile Game Education programs in Ontario using learning outcomes. The hope is that the detailed program profiles generated by the tool will inform future partnerships and pathways in the Games discipline in the province. The Envirotech and Biotech

groups are using learning outcomes to create and refine pathways from these diplomas into a range of cognate degree programs. Finally, the Outcomes and Context Framework for Transferability Project is using existing and developing new learning outcomes statements and context descriptions to facilitate transfer between engineering and technology programs.

ONCAT's learning outcomes strategy is to move from the specific to the general. By drawing from the practical experiences of the learning outcomes-focused projects, the Steering Committee hopes to compile best practices and produce a Learning Outcomes Pathways Toolkit. The Toolkit will be geared towards future pathways project groups, with the aim of providing such groups everything they need to get their project up and running with a learning outcomes approach. Sample contents may include key definitions, online resources, an essential bibliography, and illustrative examples of "learning outcomes in action," namely, the examples of successful, ONCAT-funded projects that employed a learning outcomes strategy as part of their methodology. ONCAT also aims to foster important discussion among thought leaders in the field of learning outcomes, particularly as they relate to credit transfer and student mobility. With this in mind, ONCAT is currently planning a Learning Outcomes Colloquium, scheduled for fall 2015, the end product of which will be a publication of the Colloquium Proceedings, including a collection of papers, an extensive annotated bibliography, and recommendations regarding next steps for leveraging learning outcomes as a key tool for credit transfer.

Because of their wide applicability to many aspects of postsecondary education—quality assurance, accountability, the improvement of teaching and learning strategies, program alignment and comparison, and credit transfer—learning outcomes represent a diverse field of study and application. ONCAT, as a champion for the continual improvement of credit transfer policies and practices in Ontario, is committed to partnering with our postsecondary members and supporting the innovative use of learning outcomes as they relate to student mobility. ONCAT has already begun this important work with the establishment of the Learning Outcomes Steering Committee and the funding of numerous key learning outcomes-focused pathway projects. ONCAT's future plans in this field—the Learning Outcomes Toolkit and Learning Outcomes Colloquium—will foster the generation of new and innovative ways to apply the key tools of outcomes-based learning to future pathway creation projects, both across disciplines and across the province.

Links

Bologna Process (European Higher Education Area), <http://www.ehea.info/>
Colleges Ontario, <http://www.collegesontario.org/>
Council of Ontario Universities, <http://www.cou.on.ca/>
Higher Education Quality Council of Ontario, <http://www.heqco.ca>
Lumina Foundation, <http://www.luminafoundation.org>
Ontario College Quality Assurance Service, <http://ocqas.org/>
Ontario Universities Council on Quality Assurance, <http://oucqa.ca/>
Postsecondary Education Quality Assessment Board, <http://www.peqab.ca/>
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