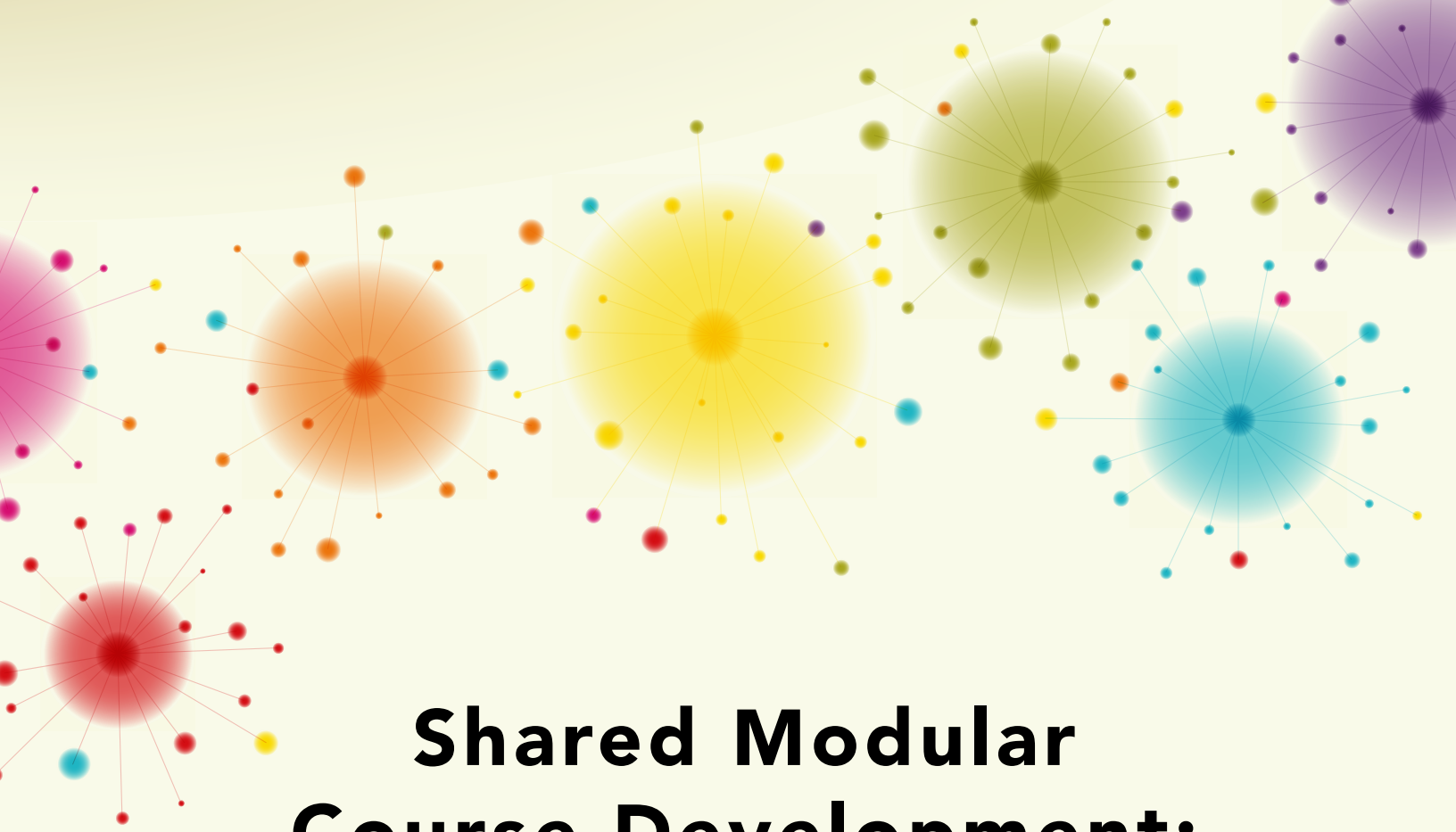

Shared Modular Course Development: A Feasibility Study

A Ministry of Training, Colleges, and Universities Productivity and Innovation Fund Initiative

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University of Windsor

Project Champion: Alan Wright Project Lead: Beverley Hamilton

Nick Baker
Joe Branget
Graham Fawcett
Michele Gnanamuttu
Phil Graniero
Erika Kustra
Peter Marval
Abby Nakhaie
Jennifer Patterson
Gregory Paziuk
Jessica Raffoul
Allyson Skene
Jennifer Stanton
Jennifer Stefanczyk
Nadia Timperio
Martin Vaughan

Carleton University

Project Lead: Joy Mighty

Gaby Etchverry
Patrick Lyons
Andrea Noriega
Laura Ravelo

Trent University

Project Lead: Elaine Scharfe

Danielle Divenanzo
Krista Forsyth
Scott Henderson
Brent Morrison
Mary-Jane Pilgrim
Gillian Tibbetts

University of Ontario Institute of Technology

Project Lead: Bill Muirhead

Christine Cairns
Jaymie Koroluk
Marj Rempel

York University

Project Lead: Susan Vail

Ramjeet Harinarain
Michael Longford
Natasha May
Celia Popovic
Karthiga Sandrasri

External Consultants

Roger Bryan, KPMG

Gordon Joughin, Queensland University

Rob Kingyens, eCornell

For more information, contact Alan Wright at awright@uwindsor.ca

University of Windsor

Contents

Executive Summary

This project evaluated the viability of shared course development (SCD) and identified the necessary baseline mechanisms, principles, policies, and procedures for future joint course development collaborations.

Although collaborative course design is still relatively new in Ontario, our institutionally-based project teams identified and researched a number of successful examples from Australia, Canada, Europe, New Zealand, the United Kingdom, and the United States.

These successful models demonstrated the transformative possibilities of blended learning, expanded course variety, maintained or enhanced the breadth of course offerings, and reduced institution-specific development costs while maintaining delivery autonomy. They also focused on enhancing student learning and produced momentum for instructional improvement and course re-design among collaborating institutions. This report concludes that there is considerable value to the development of collaborative institutional cultures in and of itself, and that collaborative capacity will become an increasingly important core competency in the more differentiated and change-oriented university sector that is emerging.

Context appears to play a key role in the frequency and sustainability of successful SCD collaborations. SCD has been most successful, and its products most sustainable, in contexts where policy frameworks, infrastructure, and resources facilitate or demand collaboration, institutions share common curricular understandings and quality assurance practices, and there are mechanisms for stakeholder and employer engagement in programme and course development.

The characteristics of successful shared course development initiatives include a compelling reason for undertaking shared course development, a centralized administration involving a semi-independent body, which manages and administers collaborative efforts, faculty buy-in, institutional commitment, and alignment with programmatic needs for the institutions involved. Effective project management, design and development models also support success. Additional success factors include recognizing that incentives for undertaking SCD must cross systemic layers and that different SCD organizational models serve different purposes.

Our research suggests that the creation of a truly collaborative programming and course development environment in Ontario requires significant regulatory and cultural changes, as well as determining an appropriate approach to incentivization. Significant work in the development of procedural, curricular, and expertise infrastructure will be required.

The report recommends a preliminary developmental phase of co-ordinated inter-institutional shared course design pilot projects focused on identifying and developing necessary mechanisms and conditions for successful shared course design in Ontario. This phase will lay the groundwork for the establishment of a consortial structure to coordinate, incentivize, and support inter-institutional curricular collaborations in e-learning across the province.

I | Project Overview

Context

In Fall 2013, the Council of Ontario Universities (COU) invited representatives of Ontario universities to take part in a discussion about a possible Productivity and Innovation Fund (PIF) grant to explore how Ontario universities might collaborate on the development of technology-enhanced courses. Preliminary discussions suggested that in theory, a collaborative approach to hybrid course development (which we will call "shared course design" [SCD] in this report) might be a good fit for these challenges. Ultimately, five institutions (Carleton University, Trent University, University of Ontario Institute of Technology, University of Windsor, and York University) committed to the exploratory study.

Partner institutions believed that SCD could take advantage of the transformative possibilities of blended learning to expand course variety, maintain breadth of course offerings and delivery autonomy, and reduce costs. It could foster more ambitious discipline-specific collaborations for shared programme development, and leverage expertise at partner institutions to create a multi-institutional curricular learning community. It could also allow for broad-based participation while limiting risk, have significant impact on student learning, produce momentum for instructional improvement and course re-design across a range of institutions and disciplines, and enhance pedagogical information exchange. It was also clear, even from preliminary research, that SCD is complex, and would require considerable groundwork to be sustainable and to enhance student learning provincially. Launching an initiative of this nature requires deliberate, consultative, and systematic planning, as unexamined differences in organizational culture and e-learning use can have serious implications for project success (Hrastinski, Keller, & Lindh, 2009; Kazepov & Torris, 2009). The institutions therefore agreed to undertake a feasibility study to determine whether there was a compelling case to move forward.

Project Purpose

The goal of this project is to evaluate the viability of shared hybrid course development, and, based on the outcomes of that study, identify and propose necessary baseline mechanisms, principles, policies ,and procedures for future joint collaboration. In practice, this has also meant exploring whether there is a compelling case for shared course design in the Ontario context, and what the necessary conditions for the success of such an initiative would be. We therefore sought answers to the following questions:

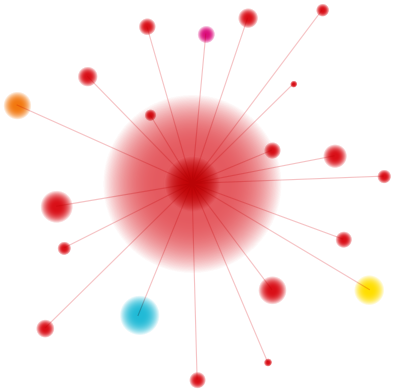
- What compelling reasons did institutions have for engaging in SCD?
- What problems have institutions solved through the use of shared course design internationally?
- What are the characteristics of successful models of shared course development internationally?
- What contextual conditions contributed to the success of these models in different jurisdictions?
- To what degree are typical outcomes of SCD consistent with institutional needs in Ontario?
- To what degree does Ontario's provincial context provide the necessary conditions for success in shared course design initiatives?
- Is there a compelling case for a shared course design initiative in Ontario, and for what purposes? What infrastructure, expertise, and capacities are needed to optimize the possibility of success?

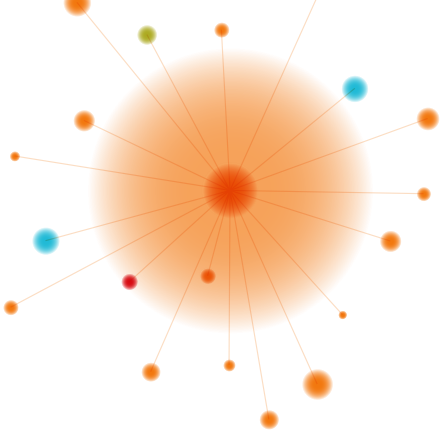
Project Deliverables

The following deliverables are included in this project:

- A feasibility study evaluating opportunities, available resources, viable organizational and business models, and barriers to success and potential risks;
- *Guide to Course Re-design in Ontario*: an e-book and website reviewing current successful approaches to re-designing first-year, large-enrolment courses for Ontario;
- A preliminary framework for assessing the viability of institutional curriculum development collaborations in Ontario;
- Based on the outcomes of the feasibility study, the development of a working plan for sustainable development including an agreed upon mandate for the partnership, initial strategic goals, approaches to funding the start-up, roles and responsibilities, governance and decision-making processes, cost and revenue sharing model, agreed upon principles of pedagogical approaches to pursue, a preliminary agreement regarding mechanisms for quality assurance and quality enhancement, preliminary technical standards, a plan for faculty engagement and professional development, and an agreement to co-develop design and service standards.

Documents have been reviewed by policy analysts from the COU, and findings distributed to a variety of stakeholders for their consideration. While it was determined that costing models for SCD were insufficient to create detailed financial models at partner institutions, the study provides a review of research on the current challenges of financial modeling in course implementation in Canadian universities. In practice, models identified by this study can only be evaluated and refined during future pilot stages of the project.





II Project Methodology

During the first phase of the project, institutionally-based project teams sought out and researched successful examples of shared course design internationally.

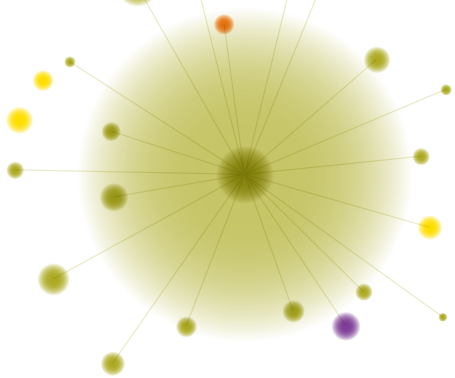
Three teams focused on specific jurisdictions:

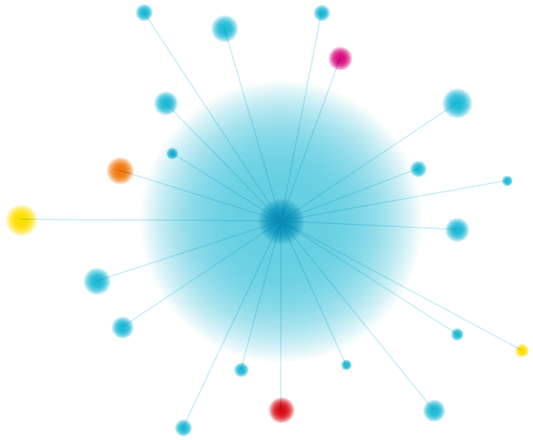
- Effective Practices, New Zealand and Australia – University of Windsor
- Effective Practices, Europe and the UK – York University
- Effective Practices, Canada and the US – Carleton University

Two additional teams focused their research on developing a better understanding of the Ontario context:

- The Ontario Landscape: Potential Partners and Competitors – Trent University
- Policies and Procedures in Ontario – University of Windsor

The University of Windsor, as lead university, coordinated the project, managed communications, and ensured completion of the deliverables. In addition to these responsibilities, each institution undertook an institutional inventory, the goals of which were to identify examples of institutional resources that might form part of a successful modular course sharing approach; and identify important contextual, procedural, pedagogical, and technical factors to include in considerations of inter-institutional readiness to collaborate. The project planning team was comprised of the lead from each University team. Throughout the course of the project the lead team set direction and acted as sounding boards for the evolving feasibility study.





III | Report Overview

Following an introduction to some key terms, this report will outline six key findings about international instances of shared course design identified by the research teams:

Finding #1: Institutions need compelling reasons to collaborate.
Finding #2: Incentives for engagement must be understood across systemic layers.
Finding #3: Successful SCD initiatives share common characteristics.
Finding #4: Different organizational models for SCD serve different purposes.
Finding #5: SCD adds value: financial modeling remains challenging.
Finding #6: Context is critical.

Each finding is explored using examples from a variety of jurisdictions. In order to elicit key dimensions of context that impact the success of shared course design, the context section provides an overview of the policy, funding, and educational contexts that frame SCD in Australia and New Zealand, the UK and Europe, the United States and Canada, and closes with an exploration of the Ontario context.

Having identified critical success factors for establishing SCD, we turn our attention to evaluating whether collaborative hybrid course design is a match for Ontario universities. This begins with an exploration of Ontario universities' current practice and success in the development of hybrid courses. Using evidence from institutional inventories completed as part of this project, we highlight opportunities and challenges for universities in terms of pursuing a collaborative approach to successfully expanding hybrid course development in the province.

Overall, our feasibility study has demonstrated that SCD offers considerable potential for the strategic development of high-quality, student-centred courses and programs, and that elsewhere it has inspired long-running industrial partnerships, expanded access to high-demand but hard-to-offer programs, rebuilt and renewed fragile programs, and transformed instruction and curriculum. It has inspired and supported international interaction and complex learning, enabled equitable access to education, and functioned as an engine for the development of extended professional and leadership networks in teaching and learning. These are a strong match for needs in the Ontario university sector. However, Ontario's organizational and policy frameworks do not yet fit with the contexts within which SCD flourishes. There is at present little incentive to collaborate, little history of inter-institutional collaboration, and little expertise or infrastructure to support collaboration: each project is another pioneer. Thriving SCD requires the establishment of incentives to

stimulate engagement, expertise to support it, mechanisms to facilitate it, tools to document and disseminate the outcomes, and institutional capacity to manage it. Our recommendations, found in Section VII, outline a phased plan to enable Ontario to take advantage of the program and capacity building potential of shared course design.

IV | Definitions

Hybrid and Shared Course Design

Institutional understandings of terms like "hybrid," "blended," "shared," and "technology-enhanced" vary considerably. Firstly, not all shared courses are technology-enhanced. There are examples of courses where students from multiple institutions can register for credit, or, in particular when two institutions are in geographical proximity and pool resources to offer a course for both institutions in a face-to-face format, as well as multi-institutional distance courses still offered by correspondence. Second, definitions of technology-enhanced courses are broad, as anything from lecture notes included in a learning management system to flipped classroom with interactive online lecture tools, intelligent-tutor modulated assignments, and multi-site teaching, might arguably be included in the category.

For our purposes, technology-enhanced courses involve the application of information and communication technologies to teaching and learning (Kirkwood & Price, 2014). Generally speaking we use the terms "hybrid" and "blended" interchangeably to mean courses, as defined by the Ministry of Training, Colleges, and Universities (MTCU) in which, "face-to-face teaching time is reduced, but not eliminated, to allow students more time for online study. This model comes in a number of formats; however the online component is typically 50%-80% of the total course delivery" (MTCU, 2013). In general our vision emphasizes the development of modular courses that can be adapted for site specific use. According to Lee (1991), a module is a self-contained, independently assessed and valued segment of knowledge, forming a contributory component of a wider program of study. The modular approach was provisionally adopted as it seemed to allow for the development of structured materials that would be easily translated into the organizational structures of universities while still allowing for a high degree of adaptability and re-purposing by individual institutions, and by individuals teaching the courses.

In a review of collaborative distance education models, Thach and Murphy (1994) identify a range of types of collaborative course and program design, including courses designed by inter-institutional instructional teams, class-to-class collaborations, and institution-to-institution collaborations to offer complete programs. There is no agreed-upon definition of "sharable" courses, but there is an important distinction between sharing courses and shared course design. The former might include, for example, models where each institution develops a course, and then shares it with one or more partners in exchange for other courses, or models where existing courses are generally made available through some kind of clearinghouse for re-use and re-purposing at other

institutions. Shared course design, on the other hand, is an undertaking to collaboratively design courses to meet specific needs at multiple institutions, with the intention of developing courses and potentially meeting other strategic goals such as capacity building, professional development, academic network development, teaching and learning innovation, expertise and resource leveraging, institutional alliance building, or culture change. There is a spectrum here: shared course design might involve a design team from multiple universities working in collaboration, but design teams from various institutions might work on separate courses according to a joint strategic plan, or jointly agreed upon standards, with multi-institutional review and planning.

Parsing the dimensions of "sharability" of courses quickly emerged as one of the critical challenges of this project, and a precise, functional definition of the term remains one of the important areas of negotiation for those who will be involved in future collaborative course design projects in Ontario. Our goal is to examine how institutions might most practically, efficiently, and feasibly use common but adaptable modular course materials in hybrid courses at multiple institutions. Our institutional inventory process was in part an exploration of what courses institutions had already designed that might be "sharable." This process elicited a number of factors that must be considered in determining whether existing courses are "sharable," for example:

- Is the instructor willing to share the course, and what institutional agreements govern that sharing?
- What institutional agreements govern the choice of course material, and, if course material selection is essentially the purview of instructors, are instructors willing to use the materials?
- Are the course materials designed to a technical standard and in a format compatible with the institutions wanting to share it?
- Is the course of value to other institutions?
- Is there demand for the course among students?
- Is the course designed to quality and accessibility standards acceptable to other institutions?
- Are the course's resources (materials, texts, applications, online tools, etc.) available at other institutions?
- Is the course structure consistent with the timelines and institutional requirements of other institutions?
- Is the course a "fit" for the students and culture of the institutions seeking to share?
- Is there institutional support for sharing the course (on both sides)?
- Do the institutions' collective agreements allow for sharing of courses?

In practice, however, many of the deciding factors above apply to both sharing courses and shared course design: because of these dimensions, in some cases joint development of courses may be a better solution than creating courses independently with the hope of trading. At a minimum, courses are ultimately more likely to be shared if designed with a degree of mutual awareness and standard design agreements in place.

V | Findings

In order to arrive at a clear understanding of factors affecting the success of SCD initiatives, project teams researched numerous cases (both successful and unsuccessful) of SCD internationally. These initiatives are more common in some jurisdictions than others, a variability impacted by contextual factors that will be explored later in this section. This section describes:

- the motives and kinds of problems solved through SCD;
- common characteristics of successful SCD;
- common organizational and business models for SCD; and
- contextual factors that impact the success and sustainability of SCD.

Descriptions of the projects reviewed for this analysis can be found in Appendix A.

Finding #1: Institutions need compelling reasons to collaborate

Collaboration is hard: the people and institutions who successfully undertake shared course design generally have compelling reasons to collaborate – needs and goals that are difficult to achieve within their own institutions. Examples reviewed were prompted by the following motivations:

The people and institutions who successfully undertake shared course design generally have compelling reasons to collaborate – needs and goals that are difficult to achieve within their own institutions.

- To create a programme of study or a course that no single institution is able to successfully mount
- To enhance access to post-secondary education
- To expand enrolment through course re-purposing for new programmes
- To solidify sustainability of fragile programmes
- To enhance student learning
- To meet industry needs
- To improve pedagogical and curricular practice through knowledge exchange and professional development
- To enhance collaborative capacity
- For professional growth
- To enhance revenue or improve productivity

A more detailed exploration of each motivator follows. Please note that in the interests of brevity we are using abbreviations throughout the report to refer to specific initiatives reviewed. A key to these abbreviations and initiative descriptions can be found in Appendix A.

SCD: Motivators

a) To create a **programme of study or a course that no single institution is able to successfully mount**
- SCD can **ensure a sufficient pool of expertise to mount a programme.**
  Examples: MedTech; BCA; PhD Eds
- SCD can provide **access to a broader range of specialized courses than partner institutions (often smaller ones) could provide independently**. One common area where this is emerging is in language study, where the model allows students access to courses in less commonly taught languages through resource sharing.
  Examples: ACS; LCTL; ECA; FAVOR; AEC
- SCD can **support the establishment of interdisciplinary initiatives** requiring expertise which is distributed across several institutions, or where those interested in the particular interdisciplinary area are distributed across several institutions.
  Examples: USG; BCA

b) To enhance access to post-secondary education
- SCD can **address regional inequities and resource shortages.**
  Examples: BCCampus; eCampus Alberta
- SCD can **address global inequities in access to education.**
  Example: TESSA
- There are further examples where the explicit goal of the project is to **promote engagement with post-secondary education.**
  Example: OPEN-er

c) To expand enrolment through course re-purposing for new programmes
- SCD can be used to **identify courses** within university or college systems, **and repackage and re-purpose them for the creation of new programmes.**
  Examples: KCTCS (other examples include the California, Texas, and Pennsylvania State University systems, and UMass Online (Fischman, 2013; Garcia & Albert, 2011)).

d) To make fragile programmes sustainable
- SCD can be **employed to sustain courses and programmes deemed to be valuable and important but with faltering enrolments** at multiple institutions. This may involve sharing course design and joint course implementation as well as involve creating better courses that increase enrolment.
  Examples: ECA; LCTL (our review of North American SCD turned up a number of examples of this kind of "co-offered" course on an informal level)

e) To enhance student learning
- SCD can be prompted by a **profound commitment to student-centred approaches to learning** and to overcoming structural barriers to those approaches. In some cases this has been **the primary impetus** for the initiative.
  Examples: USG; MedTech

Enhancement of learning can also focus on opportunities for **virtual international and inter-regional exchange**

Examples: SUNY-COIL; Cornell/Queen's joint MBA; SVU; e-LERU

f) **To meet industry needs**

- SCD can emerge from **industry demand for graduates with specific skill sets, which universities are unable to provide individually.**

  Examples: KCTCS; MEA; BCA; MTEC
- SCD can emerge from **strategic approaches to identifying and meeting industry and employer demand**, by repackaging existing courses and adding a small number of new courses.

  Example: KCTCS

g) **To improve pedagogical and curricular practice through knowledge exchange and professional development**

- SCD can be used when instructors are seeking to extend and explore technology-enhanced pedagogies.

  Examples: FAVOR; Kultur360
- This is often secondary goal of SCD initiatives.

  Examples: ASELL; BCCampus; SUNY-COIL; USG; e-LERU; SVU

h) **To enhance collaborative capacity**

- Few SCD identified increased collaboration as their primary goal, but in some cases **collaboration is one of the aims.**

  Examples: BCCampus; SUNY-COIL
- SCD sometimes **creates an awareness of the value of collaboration**, so that the growth of inter-institutional communities of practice becomes a motivator for sustaining or expanding the initiative.

  Examples: SVU; ASELL; e-LERU

i) **For professional growth**

- Faculty-led SCD initiatives may be **motivated by desire for professional growth and exploration of innovative approaches.**

  Examples: USG; Kultur360; LCTL
- Other SCD initiatives **factor desire for professional growth into the faculty engagement process.**

  Examples: eCornell faculty are typically motivated by the identified the desire to be part of a community of practice, democratize education, enhance personal brand, supplement income, and try new teaching models (e.g., flipped classrooms) (Kingyens, 2014)

  Examples: BCCampus; SUNY-COIL; ASELL; KCTCS

j) **To enhance revenue or improve productivity**

- SCD can **develop or revive programmes which single institutions would not have been able to produce on their own, leading to increased enrolment**. However, in some cases (e.g., MEA) programme development has been enormously costly: the "value" of programmes may not be the cost/revenue comparison.

  Examples: MEA (revived); BCA (new)

- SCD can **produce strategic advantages** by offering students within the collective programmes advantages that cannot be offered by other non-collaborating institutions.
  Examples: AEC; Cornell-Queen's MBA; see also Hanna (2003)
- SCD can offer similar programmes at multiple institutions the opportunity to collectively identify common courses to develop on an exchange basis: **each institution gets multiple courses for the cost of producing one**.
  Examples: AEC; Edu-GI
- Turnkey developers and major publishing house players are seeking to establish market share in this rapidly evolving market, but rarely work with multiple institutions as the collaboration involved frequently proves too complex.
  Example: 2U, an online course and programme developer, recently announced that it would be withdrawing from the Semester Online project, which was intended to develop and deliver courses online for a consortium of 10 universities in the United States. Although exact reasons have not been provided, logistical challenges, low enrolment, and the withdrawal of several of the partner institutions have been noted as factors.
- **Saving money was not an identified motive among the programmes and courses identified**. Research from the Ontario context is consistent with this pattern of motivation: according to a 2012 BCCampus survey, fewer than a third of institutions surveyed identified cost savings as motive for engaging in e-learning (Belshaw cited in Contact North 2013a). Shared course and programme design may also offer savings to students who may be able to reduce travel and better manage the balance of their work and study commitments, but this was not one of the identified motivators.
- Although institutions generally do not identify cost savings as a primary goal for SCD, many faculty members and sessionals believe that universities' goal in developing more technology-enhanced learning is to reduce the necessary labour pool for course instruction, to unbundle instructional roles to achieve cost-savings, and to alter intellectual property rights so that universities have rights to the distribution of course materials (CAUT, 2007). Cast as managerial pressure for deprofessionalization, commercialization, and privatization, these perceived motivators can clearly be viewed as a disincentive to faculty engagement (Feenberg & Friesen, 2012).

Finding #2: Incentives for engagement must be understood across systemic layers

One important insight gained from our research has been that, as with all change in complex systems, different groups may perceive a proposed change in different ways: an incentive in one layer may be a disincentive in another. This can have unexpected effects on engagement and sustainability unless carefully considered. Table 1 provides an overview of the interplay of layered interests and disincentives for SCD, based on the case studies, review of the teams' institutional inventories, and discussions.

With all change in complex systems, different groups may perceive a proposed change in different ways: an incentive in one layer may be a disincentive in another.

Table 1. Multi-layer Incentives and Disincentives for SCD

Stakeholder Group	Incentives/Hopes	Disincentives/Concerns
Students	Currency of format; greater scheduling flexibility; more emphasis on active learning; consistency of materials; access to greater range of courses; potential access to high demand professors from multiple institutions; greater mobility of skills and course access	Fear of more of a "canned" learning experience; concerns about "convenience" approaches to technology adoptions; resistance to change; ability to manage technology-enhanced learning; accessibility concerns
Sessionals and part-time instructors	Employment opportunities; professional experience; development of marketable skills	Concern about loss of job opportunities or reduction in hours; concerns with intellectual property and academic freedom; concern about potential for exploitation
Faculty members	Democratizing education; expanding "personal brand"; experimentation and pedagogical innovation; supplemental income; collaboration with disciplinary colleagues; establishment of productive communities of practice with colleagues, industry, and other stakeholders; more flexibility in teaching modes and scheduling; opportunity to teach more within one's specialization; creating great courses	Concerns about workload issues (time, courses taught by sessionals or with other limited faculty involvement), intellectual property rights, and academic freedom; fatigue; lack of appeal of other people's materials; technology learning curve; resistance to new pedagogical models; hassle; loss of work and positions
Programmes	Addressing programme fragility; plugging expertise holes; increasing offerings and offering quality in cost-effective way; industry partnerships; extending reputation; first year "showstopper" and flipped classroom course development at more manageable prices; new programme development; income; reduction in course development costs; scheduling flexibility	Dealing with complex labour issues; fear of conflict; faculty focusing "outwards" without departmental compensation; greater complexity of programme approval and review; dependence on others for course renewal; differences in programme emphasis; fear of losing students to other programmes; loss of autonomy; upfront development expenditures
Faculties	Reducing costs in traditionally expensive programmes; expanding interdisciplinary programming; programme enhancement; programme sustainability; first-year experience enhancement; capacity building; reduction in course development costs; scheduling flexibility; income	Initial investment/risk; dealing with complex labour issues; fairness of compensation/trade; greater complexity of programme approval and review; dependence on others for programme sustainability and renewal; fear of losing students to other programmes; hassle

Stakeholder Group	Incentives/Hopes	Disincentives/Concerns
Institutions	Alliance building; programme improvement; repositioning vis à vis SMAs; capacity building; resource sharing; innovation and expertise leverage; visibility (national, international) reduction in course development costs; income	Loss of autonomy, loss of market share; positioning vis à vis other institutions; "slippery slope" to common online programming model; competitive emphasis; initial investment/risk
Province	Economies of scale; industry engagement; centrally coordinated and incentivized programme development (i.e., strategic development); increased sector integration, capacity leveraging; visibility (national, international); reduction in course development costs; income	Investment risk; development speed; funding models; integration with other initiatives; costs; conflict with labour unions; conflict with student groups; negative publicity if seen as strictly cost-savings without quality enhancement

Given the complexity of universities, and the high degree of faculty autonomy, projects which succeed, meet their goals, and produce sustained engagement, tend to meet needs on multiple levels (individual, programmatic, institutional, industrial, governmental), and tend to be planned and implemented with that in mind.

Finding #3: Successful SCD initiatives share common characteristics

Review of successful SCD initiatives identified a consistent set of common characteristics, outlined below.

Curricular Characteristics

- A compelling reason for shared course development
- A consistent pedagogical vision, most commonly responsive, learner-centred pedagogies intended to create improved learning opportunities
- Program-level design/alignment
- Intentional design for adaptive module use

Managerial Characteristics

- Good project management, design, and development models
- Effective management and implementation of technology
- Team building and explicitly articulated guidelines and methods for collaboration
- Stable funding and sustainability planning

Institutional/Systemic Characteristics

- Institutional commitment
- Institutional technological readiness
- Inter-institutional collaborative readiness
- Centralized administration
- Intentional and proactive approaches to intellectual property agreements
- Well-established credit-sharing arrangements

Curricular Characteristics

A compelling reason for shared course development

Successful collaborative projects emerged as solutions to specific problems, rather than out of a general desire to work together or to be more efficient. In many cases, collaboration met very specific needs for the participating institutions such as a shortage of qualified faculty to teach specified courses (BCA; ECA; ASELL) or industry demand and low enrollment (MEA).

A consistent pedagogical vision; most commonly responsive, learner-centred pedagogies intended to create improved learning opportunities

Many of the successful initiatives emphasize learner-centred pedagogy: they focused on the active engagement of students, providing them with a richer choice in specialization/curriculum, and clearly defined learning and graduate outcomes. A number of projects also cited student engagement in material development and ongoing feedback as critical elements of project success (SEP).

Programme level design/alignment

Most successful initiatives are built as part of a set of courses or a programme, rather than just as isolated courses. These may be just a component of the programme (e.g., third- and fourth-year courses for MEA; labs only for ASELL), specialized courses within a programme (ECA), or a programme as a whole (BCA). Alignment with cross-institutional programme needs seems critical to both the motivation to collaborate and the success in doing so.

Intentional design for adaptive module use

Courses should be designed with the awareness that institutional uptake is more likely if modules can be adapted for local contexts (ASELL; e-LERU; and see also Burgi, 2009).

Managerial Characteristics

Good project management, design, and development models

Successful projects engaged in extensive planning with stakeholders at all levels to determine project roles and responsibilities, administrative organization, and pedagogy and peer-review practices.

The need for clearly defined project roles, which can include organizing/oversight committees, administrative support staff, project development teams, and/or institutional teaching complements were common themes in the Australian and New Zealand literature (Merrit et al., 2011; Tyler-Smith & Kent, 2008). Tyler-Smith and Kent (2008) recommend that each participating institution should deploy a project team including a project leader, course tutor/facilitator, online learning specialist, Learning Management System (LMS) administrator and/or IT representative, enrolments/registry representative, library representative, programme leader, as well as a designated "First Point of Contact" person. The BCCampus model acknowledges that each project is unique: BCCampus provides support for the development of flexible business, programme, or service models, and follows the projects through to completion to ensure that all collaborators comply with these agreements. The eCornell model has evolved over time to improve efficiency and course development timelines, using what they describe as a "sprint" model which involves a series of two-week dedicated course development cycles: a typical course involves 4-6 sprints. Each course sprint produce about 4-6 hours of finished content. This model has reduced development times: whereas previously they produced 3-5 courses a year, using this model they are producing approximately 20 per year. The eCornell model involves six roles: subject matter expert, project manager, instructional designer, video producer, multi-media designer, and quality assurance coordinator.

Both individuals and institutions need compelling reasons to overcome their individualistic and competitive traditions.

These integrated design models allow for a greater degree of consistency and for the development of expertise over multiple projects. These examples suggest that coordinating bodies who can learn from experience may be an advantage in fostering effective SCD: either way, it is critical that teams explicitly and carefully negotiate and set clear timelines and expectations, and establish clear mechanisms for coordination and communication (Wang et al., 2005).

Effective management and implementation of technology

Working out the relationship between subject experts, instructional designers and technical support is a critical component of any online or hybrid project. In the case of SCD, this can be exacerbated by working with multiple teams, at multiple institutions, with multiple systems. Some projects, like BCA, keep their technology to a minimum to resolve such challenges and to ensure accessibility for all students (Heller, 2008). Other projects, like ACS, require an upfront investment in common infrastructure as the price of entry (Selingo, 2012). In all cases, establishing technical standards in advance and identifying levels of core expertise, both technically and in terms of instructional design standards, is critical. The adoption of a common LMS and common authentication systems improve the supportability of shared-course implementation but high degrees of infrastructural harmonization are often difficult to achieve (Fischman, 2013; Burgi, 2009).

Team building and explicitly articulated guidelines and methods for collaboration

Meaningful and productive collaboration can be very difficult, and most instructors have little experience in managing pedagogical collaborations. Some organizations provide specifically articulated guidelines and methods for collaboration (SUNY-COIL; BCCampus). Successful teams and initiatives frequently involve explicit, proactive approaches to team development. Many recommend that partners must meet in person (regularly if possible) as a part of the development process (SUNY-COIL; MEA).

Faculty buy-in

In most cases, the collaborative projects reviewed were faculty-driven, or incentivized faculty buy-in initiatives. In some cases, course and programme development topics are centrally identified, but involvement is incentivized through grants, professional opportunities, and even "making the faculty member look good" through strong production values (Kingyens, 2014). In general, programmes that foster shared course design tend to work with "a coalition of the willing." Some models (BCCampus in particular) had strong success at leveraging existing and extensive collaborative professional networks and partnerships.

Conversely, a disconnect between the corporate and academic cultures has been identified as a key factor in the failure of the UK e-University (Bacsich, 2005). The percentage of faculty who engage with SCD at a given institutions remains quite low, even in contexts where considerable infrastructure and resources have been invested to support such initiatives (Burgi, 2009; Kerr, 2011). Burgi (2009) identifies lack of time, insufficient training in e-learning, poor institutional coordination, and insufficient recognition for faculty efforts in this area as reasons for limited uptake. Both individuals and institutions need compelling reasons to overcome their individualistic and competitive traditions.

Stable funding and sustainability planning

Stable funding and a solid business model are critical to the longevity of shared course initiatives (MEA;

BCA). In many cases, start up or one-time course development funds are available, but ongoing funds for the coordination of multi-institutional projects, or indeed for the day-to-day costs of consortium management, may not be (ASELL). There are several examples of sustainable initiatives that are largely self-supporting, such as eCornell (which is an independent, for-profit but not profit driven subsidiary of Cornell), or initiatives that function on the basis of course trading (Edu-GI; AEC). Oblinger (2012) also notes a growing trend of for-profit/non-profit university partnerships. In the European context, there are numerous examples of large-scale projects that ended once initial development funds (some of them considerable) had been exhausted (Burgi, 2009). Fischman (2013) notes that funding models that disperse large envelopes of funding on a project basis may in the long-term be less effective than investment in core infrastructure and expertise.

While sustainable funding is important, the question of sustainability is more than financial, as it also involves the establishment of solid, stable networks beyond the work of the original initiators, and planning for course revisions and upkeep over the long term. Leaders of projects in the Swiss Virtual Campus initiative, which produced 112 shared courses between 1996 and 2008, identified lack of financial support and retirement of key people, rather than lack of course adoption, as top risk factors for the demise of online and hybrid courses (Lepori & Probst, 2008). Marshall (2012) documented the challenges posed by the loss of specific highly capable individuals upon whom institutions depended in e-learning initiatives.

Institutional/Systemic Characteristics

Institutional commitment

Burgi (2009) identifies balancing grass-roots approaches with top-down strategic planning as critical to sustainable SCD, particularly in interdisciplinary areas. Successful initiatives tend to balance faculty-driven approaches with institutional commitment and even coordinated identification of strategic priorities. In some cases (ASELL; eCornell) institutions provide the initial investments required to initiate collaboration. In others, institutions enter into contractual agreements regarding faculty-driven initiatives, focused on issues from workload to intellectual property rights to credit recognition. Challenges identified in collaborative projects are often related to institutional differences or issues that were not worked out in advance, such as course scheduling (ECW; AEC), access to materials available at one institution's library but not another (USG), and changes in institutional practice that put an existing initiative at odds with those practices (AEC).

Institutional technological readiness

As universities have invested in e-learning technologies, it has become increasingly clear that reliable and cost-effective e-learning requires a well-integrated infrastructure. Project teams must be able to:

> design and develop resources and tools, provide a reliable and robust infrastructure to deploy those resources and tools, support staff and students using them, and finally place their efforts within a strategically driven environment of continuous improvement. While individual staff may be enthusiastic and skilled, the ability of an institution to support and develop this wider set of capabilities is key to the ongoing sustainability of their work. (Marshall, 2010, p. 145)

Innovative early adopters are important to institutional growth in e-learning, but they are not sufficient: institutions must have mechanisms for moving from the ad hoc to the operational (Marshall, 2012), a challenge equally salient to SCD, and further complicated by interactions among institutions with potential

varying degrees of readiness. Marshall's eLearning Maturity Model provides a useful tool for institutions to assess capability to deploy and support e-learning across five dimensions: delivery, planning, definition, management, and optimization (Marshall, 2010). Twigg (2000) identifies a wide ranging set of conditions that are consistently employed by the National Council for Academic Transformation (NCAT) as preconditions for involvement in their technology-enhanced learning initiatives. These included a desire to reduce costs and increase academic productivity; a mature information technology infrastructure; established ways to assess and provide for learner readiness to engage in technology-enhanced courses; and recognition that large-scale course design involves a partnership among faculty, information technology staff, and administrators in planning and execution. It is important to note that technological readiness also includes instructors' levels of expertise in the use of various technologies and their pedagogical implications: differences in expectations and experience among team members can seriously impact the collaborative process. A number of projects identified different levels of technological readiness, variously defined but consistent with the dimensions above, as a challenge: systematic approaches to comparing institutional technological infrastructure and making informed decisions based on those comparisons is critical. A full copy of Marshall's e-learning Maturity Model can be found in Appendix B.

Successful initiatives tend to balance faculty-driven approaches with institutional commitment and even coordinated identification of strategic priorities.

Inter-institutional collaborative readiness

Norris-Tirrell and Clay (2010) identify the following as critical factors in assessing stakeholders' readiness to collaborate: a legitimate and pressing need to collaborate, sufficient stakeholder engagement to create momentum and effect change, skilled and committed leadership, competence for collaboration, and the reasonable probability of consequential change (Appendix B). The "fit" among institutions is also critical: an institution that is highly collaborative must take into account the relative skills of other institutions in assessing the risk of going forward. The University of Greenwich (Greenwich, 2005) provides a detailed process for the assessment of potential inter-institutional collaborations, and identifies types and models of collaboration as well as threshold criteria and a matrix to guide decision-making (Appendix B). Considerations include common language and similar educational cultures, institutional status, resource availability, prior experience in collaboration (both with Greenwich and with similar institutions), "fit" with Greenwich student base, intensity of intended collaboration, and degree of control over programme. Bacsisch (2005) identifies institutional similarity as a factor in the establishment of "high binding energy" in collaborations, a characteristic associated with less risk of collaborative failure.

Centralized administration

Many successful models involve a centralized, semi-independent body, which manages and administers collaborative efforts. This offers many benefits, including a shared and growing body of expertise to support new projects, efficiency in branding/promotion, a consistent and already constructed corporate structure, easier cross-enrolment, and greater potential for negotiating public/private partnerships. As the representative from BCCampus put it, it is also important to have a neutral third party involved in the projects in order to ensure that all institutions are abiding by the agreed upon terms and conditions.

Intentional and proactive approaches to intellectual property agreements

Laws and agreements regarding intellectual property rights and course materials vary across jurisdictions, and

Intellectual property agreements are a core challenge at the institutional level and must be addressed as an element of initial planning.

even institutions. In many successful Canadian examples, instructors retain ownership of the courses, but the contract stipulates that if public funds are used to support a collaborative effort, the product of the collaboration should be made available to the community, for example by use of a Creative Commons License (BCCampus; Burgi, 2009). Intellectual property agreements are a core challenge at the institutional level and must be addressed as an element of initial planning. Burgi (2009) recommends that SCD initiatives work with experts in intellectual property rights to ensure fair, equitable, and sustainable agreements are in place, particularly if the projects involve multiple jurisdictions.

Well-established credit-sharing arrangements

Credit arrangements have proven crucial in shared course programmes with cross-institutional enrolment where students may study at any of a programmes partner institution but receive credits or accreditation from their home institution (see Burgi, 2009; Butcher et al., 2012; Tyler-Smith & Kent, 2008; Tynan, Dunne, & Smyth, 2007; Hajek, Nettelbeck, & Woods, 2013). In the BCCampus and eCampus Alberta models, these agreements form part of required memorandums of understanding among partner institutions. Contact North has identified credit-sharing arrangements as one of the five fundamental challenges for online learning in Ontario; the issues are much the same for any shared course initiative (Contact North, n.d.-a).

Intentional and proactive approaches to quality assurance

An intentional approach to establishing quality assurance standards is critical to multi-institutional engagement in SCD. If institutions are to work together, they must have agreements regarding the interactions, quality, standards, and assessment practices. This can be a divisive subject for prospective collaborators (Burgi, 2008, 2009).

Some projects, such as e-LERU, produce their own quality manuals as elements of their ongoing processes. The *Quality Matters* programme (http://www.qualitymatters.org/higher-education-program), another such guide, provides benchmarks for peer review of online and blended courses, applying eight standards: Course Overview and Introduction, Learning Objectives (Competencies), Assessment and Measurement, Instructional Materials, Learner Interaction and Engagement, Course Technology, and Learner Support Accessibility. ASELL employs a peer-review approach.

It is clear from this review that effective projects do not appear serendipitously. They are the product of sustained, thoughtful, experienced leadership at multiple levels. They require a coordinated approach and the ability to negotiate university systems at many levels. In seeking to establish models for effective collaboration in Ontario, the multiple considerations and intersections described here must be taken into account as critical decision-making and planning criteria.

It is clear from this review that effective projects do not appear serendipitously. They are the product of sustained, thoughtful, experienced leadership at multiple levels. They require a coordinated approach and the ability to negotiate university systems at many levels.

Finding #4: Different organizational models for SCD serve different purposes

In addition to examining conditions for success, the research teams identified a number of distinct organizational approaches for shared course design, each with its own benefits, risks, and "fit" with particular projects and goals. One distinction was between models suited to single-instance initiatives, where a team from multiple institutions came together to build a specific programme; and models providing collaboration-promoting infrastructure, where through incentivizes, infrastructure development, and various kinds of expertise provision, organizations identify and support subject experts so that they can successfully undertake collaborative projects.

Models for Single-Instance Initiatives

In **equal partnership models** a small number of institutions or individuals work together to meet a mutually agreed upon goal such as the development of a specific programme or courses to fill programmatic holes. Each university is an equal decision maker in the project, though they may have different roles in course and material development.

This is a fairly common model for one-time projects, particularly in systems with limited collaborative infrastructure. Many programmes of this nature cite enhanced collaboration opportunities and professional validation as benefits of undertaking these initiatives, as well as the obvious outcomes of developing a specific course or programme. While the individuals involved may develop significant expertise through these initiatives, knowledge transfer may be limited and expertise lost if people drop out of the project. Some project reviews identified challenges related to lack of institution-level engagement or support.

In these projects, administrative challenges (including credit recognition, access to library resources, quality assurance, funding of programme administration, workload issues) have to be solved as special cases, rather than as elements of an overall plan. As the funding for these projects tended to draw on grants, government funding, private foundations, and non-profit organizations, long-term sustainability can prove challenging. There are, however, sustained cases of course exchange, where similar departments in multiple universities each agree to develop and offer at least one course, in return for which their students can take all others developed by other institutions. In the successful cases studied, inter-institutional teams vetted and approved the proposed courses to be developed for exchange, and students at each university received credit from their own university for taking the course.

In lead partnership models, one institution develops courses and materials. Other universities, or campuses of the lead institution, agree or contract to use them. Like equal partnership models, these models tend to be used for one-time projects. They are efficient in terms of leadership, decision-making, and quality assurance, but may experience challenges in terms of their lack of flexibility for follower institutions, for example with regard to scheduling, quality assurance standards, or administrative support.

In industry-driven collaborations, one or more institutions collaborate with an industry body to establish courses or programmes that are consistent with industry needs. These collaborations can be highly effective in meeting industry and employer needs and in producing highly marketable graduates, and can be a source of significant funding. Although this is typically a model employed for single-instance projects, they are more likely to emerge in contexts with systemic supports for strategic market analysis, collaborative practice, and stakeholder consultation.

Models Which Promote Collaboration

In external contractor models, a group of institutions work with an external contractor to develop courses or programmes. In our review, most external contractors preferred to work with single institutions, but there are some examples (e.g., Cornell-Queen's MBA) where contractors worked with two or a small number of institutions. External contractor models tend to produce professional, high-quality materials efficiently. They can allow for a range of business models in terms of cost recovery and re-purposing: course materials developed are generally the property of the University. External contractor models may have high up-front costs, and may also be difficult to put in place depending on collective agreements. For example, in situations where instructional designers are members of unions, institutions would face challenges contracting out this work. Also, in many collective agreement contexts in Canada, faculty cannot be compelled to use externally produced materials, so the use of external contractors must be accompanied by strong faculty buy-in. This is primarily a production model: development of partnerships, collaboration, and identification of strategically optimal directions is left to the wisdom of institutions. In some cases, there may be tensions in the fit between corporate instructional design approach and academic culture and values. For example, a 2006 case study identified a mismatch between the business-oriented vision of the commercial management of the virtual university and those more concerned with its academic mission and potential for pedagogical innovation for the failure of the UK e-University (e-LERU).

In centralized infrastructure and programme repackaging models, institutions with formal organizational connections (e.g., state university systems) centralize infrastructure for programme and course development. In some cases this also means proactively identifying existing courses that can be re-packaged into new programmes. This approach offers costs savings, the efficiency of a centralized development method, opportunities for sustained expertise development, and potentially the establishment of common technical platforms which offer students a more seamless learning experience. Fishman's (2013) recent review of collaborative practice in state university systems' online offerings indicates that the emphasis in very large system-wide collaborations tends to be on course distribution, credentialing, technologies, infrastructure, and marketing and logistics, rather than on pedagogical innovation or collaboration enhancement. In general the emphasis of these initiatives is strictly online learning. Typically this model is associated with contexts that have large systems with a history of organizational centralization and coordination. Development of fully harmonized infrastructure is quite rare (Fischman, 2013).

In virtual campus models, higher education institutions cooperate in the design, development, and delivery of curricula. In the European context, these projects are most often viewed as large-scale experiments in virtual mobility and can involve both pure distance and hybrid approaches to learning (European Commission, cited Bijnens et al., 2008). There are many cases where initiatives that were originally envisioned as entirely online programmes evolved into mixed approaches (Bijnens, 2008; Burgi, 2008). The virtual campus model is distinct from the Open University approach, which generally fulfill national mandates for access to lifelong education using an industrial model (Burgi, 2008). The term "virtual campuses" was common in European models for about a decade, but appears to have become less prominent in recent years. However, as Bijnens et al. (2008) point out, while the term is less prominent, the notion of multi-university programming, often informed by these initiatives, has continued in various forms in the European context. In the Canadian context, the Canadian Virtual University is intended to function in a similar fashion, but its courses are purely online, and expansion of the model has been hampered by differences among provincial post-secondary contexts and credit arrangements (CVU, 2012).

Virtual campus initiatives typically seek to develop coherent administrative and quality assurance structures. The products of these efforts can be of considerable use for those seeking to establish collaborative approaches. These projects are often transnational: the degree of administrative challenge in setting them up is enormous, from credit arrangements, to scheduling, to languages, to quality assurance frameworks, to faculty contract differences.

Many of these projects have been extensively funded, but results are mixed. Burgi (2009), in his review of the Swiss Virtual Campus project, noted that, of the 112 courses developed through the now defunct initiatives, only 20% were transferable into sustainable structures, while another 20% might have been eventually sustainable, and 50% of them faced barriers such as curriculum integration, financial needs, and technological and culture challenges. Course production at e-LERU virtual campus appears to have been limited: on the other hand, the development of an extensive body of research on harmonizing policy frameworks, regulatory issues, and intellectual property may provide an important foundation for leaner and more nimble approaches. In some cases, as with the Swiss Virtual Campus, the establishment of technical infrastructure and support at home institutions has been a critical legacy for innovation (SVC Coordination Team, 2008).

Consortial models focus on incentivizing and facilitating high quality collaborative course and programme design among individuals or institutions. They may be discipline specific or not, and may also include course-trading approaches (where individual institutions build courses independently and then share them through an agreed-upon mechanism for course exchange). Consortial models have many benefits:

- They allow for smaller institutions, in partnership, to offer a greater variety of programming, in theory allowing for re-allocation of resources in support of mandate differentiation.
- They can work with faculty at the individual level while also addressing institutional and provincial needs.
- They can establish IP agreements with individual faculty.
- They provide an opportunity to leverage existing faculty networks across numerous disciplines.
- They enable sustained expertise development.
- They can facilitate the provision of multi-dimensional support to subject expert teams including administrative support and third-party oversight.
- They can have a profound effect on practice and expertise sharing.
- They provide a central communications hub for the development of industry partnerships and for setting strategic directions set by ministries and others.
- If designed in a consultative fashion, they can also be influenced by participant perspectives and experience.

In a New Zealand study of various SCD approaches, consortial models were identified as lowest cost and highest value (Butcher et al., 2012). There are several risk factors: sustainable funding for the administrative role of consortia tends to be a challenge even when outcomes are strong. It is also critical that, when working directly with faculty members, consortia ensure institutional support for projects and personnel as well. In other words, successful consortia must develop multi-level engagement practices.

Numerous factors may impact the "fit" of a given organizational model with the goals of a project, including whether the project is multi-disciplinary; whether it is a one-time or sustained plan for collaboration; the number of institutions involved; whether the focus is on course development or course distribution; whether the courses developed are intended as components of a shared programme; whether there is an intentional focus on material repurposing or revenue generation; whether all partners have equal contributions to make; and whether the project involves industry or other stakeholders. In some cases the development of collaborative capacity or professional networks may be a core goal of the initiative, whereas in others the emphasis is purely on course development. There are numerous variations as well, particularly with regard to cost and revenue sharing agreements, the nature of the team participants, the decision-making structures, and the role of content and technical experts. An intentional approach to collaboration must take all of these factors into account in the planning stages.

While large-scale models hold the promise of economies of scale and significant productivity gains, they also carry with them greater risk of disengagement, unless they involve a sustained, strategic approach to building buy-in, trust, and collaborative capacity among those involved. Many effective consortia have grown from smaller inter-institutional collaborations. By the same token, some collaborative initiatives have strategically limited the number of partners involved and scope of project to ensure commonality of vision, and overall manageability. Ideally, it would of greatest benefit to create a consortial approach that could facilitate projects of a variety of scopes using a variety of models, building on the basis of those projects an evolving provincial expertise to support expansion.

Finding #5: SCD adds value: financial modeling remains challenging

Provincial and national stakeholders promoting the expansion of e-learning often envision cost-saving economies of scale. However, at the institutional level perceptions of the potential of hybrid and online learning tend to cluster around adding value: offering enhanced learning experiences for approximately the same cost, stabilizing or expanding programming, enhancing access, improving competitiveness, increasing reputation, pursuing innovative approaches, and potentially expanding revenue.

Institutional level perceptions of potential hybrid and online learning tend to cluster around adding value: offering enhanced learning experiences for approximately the same cost, stabilizing or expanding programming, enhancing access, improving competitiveness, increasing reputation, pursuing innovative approaches, and potentially expanding revenue.

Projects reviewed for this study demonstrated a range of funding sources. Course development in many cases was funded through external or internal project grants, resulting in courses with limited capacity for ongoing renewal, and institutional responsibility for ongoing course administration. Consortia with stable funding tended to draw on provincial or federal funds (not always from ministries of higher learning), as well as on grants, funds from partner institutions, private industry, and charitable foundations. Some models involved institutional cost-sharing with an upfront investment in common technologies. Others, all programme-specific in our study, used a coordinated course exchange model where institutions develop and offer mutually agreed upon courses, thus increasing their course offerings for limited investment. In general, unless governmentally funded, consortia continue to work on a multi-year cycle of funding, meaning that despite the often highly effective work being done, they remain vulnerable. The projects reviewed did not provide clear financial models beyond various identifying funding pools and emphasizing the critical importance of making project teams accountable for on-budget deliverables.

There appears to be little research on the financial inputs or outcomes of shared course design, and in particular very little detail regarding return on investment. Burgi (2009) found no relationship between course cost and course use, and wide variations in course cost in his study of the Swiss Virtual Campus initiative. While the intensity of technology integration and desired production values have significant impact on costs, there is no clear consensus regarding the relative merit of different approaches to this challenge, except that costs must be carefully managed to ensure consistency with the scope of the project. However, as a report on cost-savings in online learning by Contact North (2013b) points out, we lack effective approaches to measuring the relative costs of different approaches to course development and delivery. As Bartolic-Zlomislic and Bates (1999) put it,

upfront investment, the establishment of business plans, the imposition of project management, and the likely involvement of cross-unit teams and resources make it difficult both to evaluate the financial success of projects and to determine how to manage the allocation of revenues. For many institutions, these are unfamiliar practices, and the opacity of university finances poses challenges for clear evaluations of the relative financial success of new course implementations. Course development and implementation costs at the unit level are one thing: when one begins to try to factor in the systemic costs of technological infrastructure, promotional and professional development to foster faculty buy-in, technology upgrades, room re-designs, fundraising and grantsmanship, contractor management, legal consultation, learning materials, online student support, technology support, and so on, it becomes extremely difficult to assess the exact costs of technology-enhanced courses.

Many administrations indicate that e-learning is critical to strategic planning because of its potential for revenue generation, but estimates of impact on enrolment, and hence of increased revenues related to initiatives, are also challenging. Garcia and Albert (2011) argued that "the idea that online courses will generate revenue is a myth" (p. 8): while that may be overstating, the reality is that there are many complex decisions and practices in the gap between the intention to generate revenue through e-learning and the real outcomes. Given a multi-institutional approach, establishing a fair and effective business model for ongoing collaboration is all the more complex, given the already difficult accounting of resource outlay across multiple units, technologies and licensing agreements, and services. This involves the creation of agreements regarding issues such as programme revenue, indirect cost recovery, royalties, and revenue distribution (to faculty, programmes, departments, and others).

There are examples to learn from. As a for-profit but not profit-driven subsidiary of Cornell, eCornell has a more robustly articulated business model. It has right of first refusal on all faculty or department e-learning projects. eCornell employs a fee-based and fixed cost business and financial model. This includes agreements for fees and royalties based on pre-established revenue source criteria (e.g., new student enrolment, selling packages). Royalties can be split between the individual and the AAU or faculty: all schools they work with get revenue from their courses every single month. eCornell also employs a multi-channel monetization model (on campus, online, certificates) to repurpose materials for multiple revenue streams. This is a model favoured by most Cornell deans, as it enables them to recruit new students and supplement costs. eCornell also contracts for company specific executive education programmes. The organizations have agreed-upon approaches that function within their own organizational contexts: further study of such models may provide clearer directions for the Ontario context. One benefit of the arm's length approach is significantly greater clarity about costs and inputs. Further, all proposed projects are assessed for financial viability: nothing is built without a plan for maximizing the value of the materials, and all parties have clarity about their responsibilities, potential revenues, and the mechanisms for determining revenues. It is worth noting that eCornell turns down projects: their successful approach enables them to identify and work only on projects with the best chances of success and financial viability. Their independent but interdependent relationship with Cornell is a critical element of this. In order to develop this approach, Cornell hired management that previously led a private-sector e-learning development company: this cross-fertilization of approaches and expertise proved fruitful.

One small-scale model that appears strongly sustainable involves multiple programmes within the same discipline joining together to collaboratively fill gaps in their specialized programming. This has been a particular trend in language departments, where budgetary pressures have made it increasingly difficult to offer a wide range of "less commonly taught languages" (LCTL), but there are also examples from other fields. Many of these programmes use a synchronous videoconference approach where students from remote sites join the home institution class in real time. In all the cases reviewed, there are strict class-size limits, with each remote institution having access to a pre-established number of "seats" in the class. This is not a strictly course exchange model as the programmes have a co-ordinating organizational structure that collectively identifies needs, agrees

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on new courses, establishes policies, and manages emerging challenges. In some cases course harmonization also requires re-design of pre-requisites. Although logistical challenges are common in the early years of such programmes, the programmes tend to be institutionally well-supported. This model meets the challenge of conflicting layers of interest. While institutions tend to view this as improving the return on course development investment, programmes feel they are better serving their students and that the collaborative model gives them a competitive edge over neighbouring programmes which are working in isolation. Faculty members are able to teach more narrowly within their own areas of specialization, and attract students with those interests to work with them (Dow, 2008). Generally no money changes hands: all institutions agree to give credit at their own institutions for the collaborative offerings.

While NCAT, a not-for-profit industry organization in the United States, is not actually a shared course design initiative, the comprehensive categories and consultation on course re-design offered through NCAT resonate with the ways in which SCD may offer opportunities for universities to benefit from each other's experiences and for better knowledge transfer from individual initiatives. NCAT has extensive evidence that the models it promotes reduce costs and improve educational outcomes. Several considerations must come into an evaluation of this model. Firstly, there are many aspects of this approach that cannot be applied in the Ontario labour context. Secondly, a close examination of the thinking behind the savings involved reflects a complex range of factors including time to completion, reduction in student course repetition, and reductions in professor time allocations in individual courses. Many universities that engage with NCAT ultimately continue to work within these approaches because of their value in transforming student learning, while leaving aside the issue of whether the approaches reduce costs (Stripling, 2009). As Bates (2014) points out, the cost savings involved from shared course design are likely to be modest as the primary course costs will continue to be in implementation.

Wang et al. (2005) argue that collaboration must be "win-win" to be sustainable and effective. Although complex, SCD shows promise as an approach to cost-efficiency, as it offers the opportunity to create a more extensive and potentially higher quality range of programmes and courses for the same upfront investment. One challenge is that developed course uptake appears to be tied to personal engagement: the investment involved is not purely financial. The complexities of working out effective collaborative financial models is uncharted territory: it is clear from the research that even single-institution online education funding models are far from well-established, and that initial investment approaches, costing, determining revenue streams, and assessing return on investment remains highly challenging (Miller & Schiffman, 2006; Twigg, 1999). There is, however, much clearer evidence that effectively managed SCD adds significant value to each institution's investment in course design in terms of student learning and opportunity, educational access, instructors' professional growth and leadership expertise, individual and institutional collaborative capacity, engagement with industry and others, and opportunities for curricular specialization. SCD is far more than an opportunity to design one course and get three more for the same price. It is a potential engine for transformative change in the business and instructional models of Ontario universities.

Finding # 6: Context is critical

Because our research on SCD was geographically organized (Australia and New Zealand; Europe and the UK;

United States; and Canada) we were able to identify a number of contextual factors that appear to impact the frequency, success, and sustainability of SCD. SCD has been most successful, and its products most sustainable, in contexts where:

- Policy promotes, supports, and removes barriers to collaboration.
    - Policy frameworks and infrastructure facilitate or demand collaboration, and have supported its development in a sustained fashion across multiple initiatives;
    - Intellectual property, academic freedom, and workload issues have been addressed to ensure fairness to all concerned; and
    - Credit-sharing among universities has been established.
- Collaborative capacity is evident.
    - The development of collaborative capacity is well supported by governmental intervention;
    - There is a history of collaborative practice within and among institutions on curriculum development;
    - Approaches to inter-institutional collaboration have involved stakeholder consultations; and
    - There are mechanisms for stakeholder and employer engagement in programme and course development.
- There is a high degree of institutional readiness for collaboration.
    - Institutions share common curricular understandings and quality assurance practices owing to (usually mandated) standardization of curricular practices; and
    - Institutions share a high degree of distributed expertise.

A summary of each of the four jurisdictional contexts follows. Please note that these are not intended as exhaustive treatments of these large and complex topics, only as illustrations of the impact of context on SCD in these areas.

The Australian/New Zealand Context

There appears to be a deep and healthy tradition of inter-institutional collaboration in Australia and a burgeoning interest in forming partnerships in New Zealand. Shared course developments in both countries have been driven by similar changes in external and internal pressures, affected by broader socioeconomic concerns. From a social perspective, shared courses are viewed as a potential solution to the regional inequities and resource shortages: these shortages hinder student success by limiting access to relevant accreditation that allows them to seek gainful employment in their chosen field. Identifying barriers to education also serves each nation's growing concern over economic gaps created by graduate deficiencies, geographically isolated segments of population, and declining numbers of graduates. For this reason, most enduring shared course initiatives in Australia combine the limited resources of institutions and other stakeholders with similar interests to provide specialized courses that would have been impossible to develop alone. A review of both existing and historical examples of shared course development in Australia and New Zealand indicates that both countries believe that shared courses can improve student retention and success rates, build communities of practice, leverage institutional strengths, address industry needs, and ensure higher quality education.

At a governmental level, the emphasis on quality assurance in higher education in Australia and New Zealand contributes to interest in shared course development as a way to better manage educational resources. In 2008, the Australian government commissioned a sweeping review of higher education in the country in an effort to

assess the education system's ability to compete in a "globalised economy." The findings, commonly referred to as the "Bradley Report," identified graduate diversity, distribution of resources in regional markets, quality assurance, industry driven incentives, and the realization of "life-long learning" as educational objectives (Australian Government, 2008). The Bradley Report's recommendations precipitated the development of the Higher Education Standards Framework and led to a number of regulatory changes in Australia, including the implementation of the Australian Qualifications Framework (AQF), the formation of the Tertiary Education Quality Standards Agency (TEQSA), and the creation of Higher Education Standards Panel. Today, the TEQSA and the AQF are used to manage institutional funding, as are the Tertiary Education Commission, New Zealand Qualifications Authority (NZQA), and the New Zealand Quality Framework (NZQA, 2013) in New Zealand. Each Australian university is further subject to a mission-based compact – an agreement between each individual university and the Australian government that outlines that institution's objectives, the specific steps it must take to achieve them, and the greater importance of those objectives within a national context. Regulatory instruments and national oversight exert considerable influence in institutions' decision-making and their course offerings, often carrying funding penalties. While these regulations do not mandate institutional collaboration, they do help to identify institutional priorities – a necessary step in inter- and intra-institutional alignment.

From a pedagogical standpoint, government regulation is also used in both countries to define course- and programme-level learning outcomes. Frameworks like the AQF provide core standards that allow institutions to address potential barriers, such as credit transfer agreements and recognition of prior learning, but also commit to definitions of learning, the nature of learning, and learning design, and articulate graduate expectations for each level of education. These definitions are integral to inter-institutional alignment forged through shared frameworks and common curriculum, ultimately in the pursuit of more efficient pathways from education to employment. The integration of vocational education and training (VET) and higher education has been identified as paramount in Australia (Australian Government, 2009). In New Zealand, as well, there are ongoing discussions about the important role of VET in higher education institutions (Ako Aotearoa, 2013). In this regard, student outcomes are part of a strategic vision of vocational training within higher education.

Private industry has, and continues to play, an important role in the higher education landscape in both Australia and New Zealand, but more so in Australia. The Minerals Tertiary Education Council and its Minerals Education of Australia (MEA) programme are two of the most demonstrable examples of the benefits of industry support in that they were created and sustained by the mining industry itself. Similarly, the Biostatistics Collaboration of Australia (BCA) was supported by the national health research group because of a shortage of qualified biostatisticians in Australia and the mounting difficulties institutions faced offering higher-level biostatistics courses. As a consequence, the BCA consults with both government and biostatistics industry leaders in the development and evaluation of the programme. While the Entomology Curriculum Australia (ECA) and the Advancing Science by Enhancing Learning in the Laboratory (ASELL) did not feature the same kind of direct industry sponsorship, both sought out industry expertise in building their communities of practice.

The allure of a productive community of practice, including industry and other stakeholders, has served as a primary motivator for participating faculty and staff in enduring shared courses, particularly when collaboration allows faculty within a unit, department, or institution to stay relevant and productive in times of fiscal austerity. This motivation is especially important given that institutions in Australia and New Zealand retain most intellectual property rights for content developed by faculty and staff in their employ, which allows for freer exchange in shared course development with or without faculty input.

Existing collaboration within higher education takes common forms in Australia and New Zealand. "Open"

institutes, such as Open Universities Australia or Open Polytechnic New Zealand, act as centralized intermediaries connecting course content and open educational resources (OERs) to a wider audience as part of distance and eLearning initiatives. Similarly, shared course development tends to feature some form of consortium, in which partnering institutions create, fund, and/or support an independent body to oversee a shared course. Governmental support structures such as the Office of Learning and Teaching (OLT) and Ako Aotearoa have played a crucial role in assisting shared course development in Australia and New Zealand respectively by proving funding for feasibility studies, action research studies, and the development of infrastructure. Both organizations identify collaboration and the creation of national partnerships as strategic priorities.

As Slowey argues, these policies reflect a desire to mobilize and capitalize upon what Clark (1998) described as an "advanced developmental periphery": innovation-producing units which operate on the periphery of universities' traditional organizational structures, and which reach across old boundaries to link up with outside interests. Clark identifies this as one of the core requirements for the growth of more entrepreneurial universities.

The motivation to provide shared or networked courses appears to be relatively new and underdeveloped in New Zealand when compared to Australia. The Ministry of Tertiary Education, Skills and Development's *Draft Tertiary Education Strategy 2014-2019* appears to reach a number of the same conclusions that the Bradley Report reached in 2008, calling on institutions to improve student access to education and to better align education with the perceived needs of the national labour market. A number of shared courses have been developed or considered in New Zealand as proofs of concept (Butcher, Holleyoak, & Sutherland, 2012; Tyler-Smith & Kent, 2008). Nonetheless, this study could not find examples of enduring shared courses developed through inter-institutional collaboration in New Zealand.

Table 2. The Australian/New Zealand Context: Summary

Policy frameworks and infrastructure facilitate or demand collaboration, and have supported its development in a sustained fashion across multiple initiatives	Yes
The development of collaborative capacity is well-supported by governmental (or non-governmental) intervention	Yes
There is a history of collaborative practice within and among institutions on curriculum development	Yes
Approaches to inter-institutional collaboration have involved stakeholder consultations	Yes
Institutions share common curricular understandings and quality assurance practices owing to (usually mandated) standardization of curricular practices	Yes
Credit-sharing among universities has been established	Yes
There are mechanisms for stakeholder and employer engagement in program and course development	Yes
Institutions share a high degree of distributed expertise	Yes
Intellectual property, academic freedom, and workload issues have been addressed to ensure fairness to all concerned	Yes

Australian SCD appears to be robust. It is supported by a policy infrastructure that facilitates collaboration and incentivizes specific areas of programme development in a manner that may contribute to greater collaborative effort among institutions. The well-evolved quality assurance and credit-sharing practices, and long history of e-learning, are critical to their current context, as are their intellectual property and copyright regulatory environment. Integration with industry needs is also well established and facilitated by government policy. The New Zealand context shared many of these characteristics, but until recently has placed little emphasis on collaborative practice among institutions: this is an evolving area in the New Zealand context. See Table 2 for a summary of the Australian/New Zealand context.

The European Context

The most significant contextual factor impacting inter-institutional collaboration, and in fact nearly all aspects of post-secondary teaching and learning in the European context, is the Bologna Process, originally ratified in 1999 (Carter et al., 2010). The objective was to establish the European Higher Education Area by 2010 in order to enhance the competitiveness and attractiveness of European post-secondary institutions. It envisioned and has made progress towards common degree structures; a common system of academic credit, and common standards of quality assurance; easily readable and comparable degrees; and the promotion of European dimensions in higher education (Crosier & Parveva, 2013) by "increas(ing) the development of modules, courses and curricula at all levels with 'European' content, orientation or organization" (Prague Communiqué, 2001). In practice it has shifted what was traditionally a "unitary" system of universities in the direction of a "network of diverse institutions" offering a diversity of programming (Caillods & Varghese, 2013, p. 10), but with greater consistency on a broad range of levels.

The Bologna Process can be seen as a driving force of collaboration in higher education in Europe (Carter et al., 2010; Crosier & Parveva, 2013). It enables a wide range of co-operative working groups and involves a multi-stakeholder decision-making body. As Crosier and Parveva (2013) argue, while the Bologna Process has in part been a response to external pressures to become more competitive globally, this response has been effected through multi-institutional experimental collaboration in reform based on voluntary participation: in effect universities have accepted the notion that they must collaborate to compete. The Bologna Process can also be seen as "a means of engaging students, higher education institutions, stakeholders, and public authorities in debate over a common project" (p. 18). A number of major and sustained programmes, such as the Socrates Programs, the Lifelong Learning Programs, and the Erasmus Program have supported inter-institutional collaborative projects, student and faculty mobility, and professional development opportunities, enhancing opportunities for the growth of inter-institutional networks (de Boer & van Vught, 2013). In the European context, a considerable degree of effort has focused on international collaborations among institutions. According to Burgi (2009), approximately half of European universities cooperate with other universities in their own countries to deliver joint e-modules, and transnational cooperation has grown steadily: up to 90 percent of Europe's institutes of higher education were involved in European education networks in 2009. There have been many examples of ambitious multi-university collaborations supported through these policies, but their sustainability is less easy to parse. In many cases it appears that grander schemes have eventually evolved into more focused, more efficient small-scale collaborations involving a mix of hybrid and online approaches (Bijnens, 2008; Burgi, 2008). Many of the large international projects, however, may provide useful insights for those seeking to create a national e-learning agenda for Canada, as the challenges these projects have faced in attempting to harmonize national systems may offer many lessons to those seeking to harmonize Canadian provincial systems.

The Bologna Accord was birthed in an era of relative prosperity, but since the economic downturn, financial

pressures have shaped a greater programmatic emphasis on the knowledge economy, marketable skills, innovation and entrepreneurialism, and "market"' solutions in the post-secondary sector, more generally (de Boer & van Vught, 2013; Slowey, 2013), which may create greater pressure for collaboration within the sector. These can take the form of national or international alliances among institutions with common definitional characteristics (such as the Russell Group of Universities in the UK or Universitas 21), of international associations, research alliances, or what Slowey (2013) describes as "networked developmental alliances," which may be led by regional or local development agencies rather than by universities themselves. These "grass-roots" approaches are also balanced in some countries by governmental policies that, through earmarked funding or through direct intervention, steer universities towards more "clustered" approaches.

Public policy in a number of European countries has come to incentivize inter-institutional alliances, networks, and mergers at the national level (Slowey, 2013). According to Slowey (2013), the motivations for this incentivized policy steering include goals of improved economies of scale and critical mass, synergy generation, the reduction of duplication, and improved cost-effectiveness. Various national organizations support the development of open educational resources and other online materials: in the UK, for example, both the Higher Education Authority and JISC provide funds for OER development and research. Slowey (2013) argues that these policies reflect a desire to mobilize and capitalize upon what Clark (1998) described as an "advanced developmental periphery": innovation-producing units which operate on the periphery of universities' traditional organizational structures, and which reach across old boundaries to link up with outside interests. Clark (1998) identifies this as one of the core requirements for the growth of more entrepreneurial universities.

Table 3. The European Context: Summary

Policy frameworks and infrastructure facilitate or demand collaboration, and have supported its development in a sustained fashion across multiple initiatives	Yes
The development of collaborative capacity is well-supported by governmental (or non-governmental) intervention	Yes
There is a history of collaborative practice within and among institutions on curriculum development	Yes
Approaches to inter-institutional collaboration have involved stakeholder consultations	Yes
Institutions share common curricular understandings and quality assurance practices owing to (usually mandated) standardization of curricular practices	Evolving
Credit-sharing among universities has been established	Evolving
There are mechanisms for stakeholder and employer engagement in program and course development	Evolving
Institutions share a high degree of distributed expertise	Yes
Intellectual property, academic freedom, and workload issues have been addressed to ensure fairness to all concerned	Evolving*

* Some jurisdictions, like the UK, have largely solved this problem through the consensual adoption of Creative Commons Licensing approaches. There are, however, significant variations in the regulations of various countries which may impact collaborations depending on type and intent.

It is important to remember that although European universities work within the European zone, they continue in many ways to be governed by national contexts: the major policy initiatives that drive the process of harmonization among universities are long and complex, and evolving membership in the European Union has meant a series of new harmonization efforts. That said, in the 15 years since the ratification of the Bologna Accord, European universities have made enormous strides towards greater harmonization of degree structures, credit sharing, and shared curriculum development. One area that has been critical to the development of collaborative capacity in Europe has been the very significant support for projects involving "virtual mobility" which has funded the development of many multi-institutional courses and programmes intended to increase exchange among students and faculty across Europe.

At the national level, and particularly in connection with recent economic crises, some systems have incentivized greater degrees of integration and differentiation, supporting collaborative practice as a way of enabling universities to focus their efforts more narrowly while still serving broader student needs. One area that appears to remain challenging in the European context is copyright and intellectual property rights, which vary among institutions and across national boundaries resulting in a number of complexities for shared course and programme initiatives. See Table 3 for a summary of the European context.

The American Context

While Canada and the U.S. are geographically proximal, their post-secondary education systems are radically different. The rich, complex, diverse, and largely decentralized post-secondary American educational system involves private and public institutions, large integrated university and college systems, and a variety of inter-institutional alliances, in addition to a rapidly growing range of for-profit options (DeBoer, 2012). There were, as of 2011, 4,599 colleges in the United States (National Centre for Education Statistics, 2012). Public universities are state-run and the federal government does not regulate universities, though universities receiving federal grants are responsible for the terms of those grants (Eaton, 2009; McLendon, 2003). In recent years, the federal government has also become more active in the sector, for example enacting the Higher Education Act in 2008 which places the federal government in the role of arbiter with regard to numerous key areas that were previously the exclusive jurisdiction of institutions and accreditation agencies (Clarkeson, 2010). American universities are accredited by private, nonprofit accreditation organizations rather than by governmental agencies (Eaton, 2009). As of 2008, 80 recognized accreditors existed to provide quality assurance, provide access to federal and state funds, facilitate credit transfer, and instill confidence in the private sector about higher education (Eaton, 2009).

Structurally, the existence of the multi-institution college and university systems in the U.S. is a particularly critical difference, as these systems can leverage resources from multiple institutions to create coordinated programming, resources, and infrastructure in ways very different from what can occur in the Canadian context (Fischman, 2013). Although there are numerous examples of initiatives where economies of scale have been of benefit, as Fischman (2013) points out there are actually few truly successful fully consortial models in the state system, despite many efforts: she identifies a minimal "clearinghouse" level of collaboration where students can access courses, but must apply to each institution separately without automatic credit transfer, as the most common degree of integration.

Funding for public universities has declined precipitously in the United States in the last two decades, resulting in considerable pressure to cut expenses, raise tuition, and find sources of corporate and private donor funds to cover costs (Belkin & Porter, 2014). At the same time, there have been increasing demands for greater accountability throughout the sector (Arum & Roska, 2011; Clarkeson, 2010). This has led to some notable examples of what is

sometimes called "disruptive innovation" in the sector (Christensen & Eyring, 2011). Western Governors University (WGU) in Salt Lake City, for example, conducts all of its teaching online. WGU professors are hired to identify learning objectives and to develop curriculum, teaching materials are purchased from independent publishers, and then "mentors" are employed to guide students through the course (Christensen & Eyring, 2011).

A core difference in the American context is the considerably greater flexibility of labour agreements in comparison with the Canadian system, which enables quite distinctive approaches to technology integration for greater efficiency and improved student learning, as typified for example by NCAT (Twigg, 1999, 2003). One significant difference between the American and Canadian systems is the relatively greater availability of private endowment funding, both within institutions (Chronicle of Higher Education, 2014), and from external granting agencies such as the Pew Charitable Foundation, the Bill and Melinda Gates Foundation, the Ford Foundation, and the Andrew W. Mellon Foundation (Osei-Kofi, 2010): both sources of funds have significant implications for innovative e-learning practice in the United States. There is also considerably more evidence of state support for various technology-enhanced learning initiatives. Projects like the Ohio Digital Library (Rogers, 2003) and Florida's Orange Grove repository (Morris-Babb & Henderson, 2012) reflect a degree of state support for such initiatives as well. The much higher level of activity through for-profit universities in the U.S. context (Christensen & Eyring, 2011) creates a competitive edge as yet distinct from the Canadian

Table 4. The American Context: Summary [1]

Policy frameworks and infrastructure facilitate or demand collaboration, and have supported its development in a sustained fashion across multiple initiatives	Within specific networks
The development of collaborative capacity is well-supported by governmental (or non-governmental) intervention	Yes
There is a history of collaborative practice within and among institutions on curriculum development	Yes
Approaches to inter-institutional collaboration have involved stakeholder consultations	Yes
Institutions share common curricular understandings and quality assurance practices owing to (usually mandated) standardization of curricular practices	Within specific networks
Credit-sharing among universities has been established	Inconsistent
There are mechanisms for stakeholder and employer engagement in program and course development	Within specific networks
Institutions share a high degree of distributed expertise	Inconsistent
Intellectual property, academic freedom, and workload issues have been addressed to ensure fairness to all concerned	No [2]

[1] Given the complexity and variety of the American system, it is difficult to make generalizations about it. There are many systems within the sector: in providing responses here we are taking into account the coordination within, for example, a specific state university system or a specific consortium of universities such as the Associated Colleges of the South.

[2] Again, given the complexity of the context, it is very difficult to provide a simple overview. There is however, evidence of significant, sustained tension around IP in the context of e-learning (Diaz, 2005; Schmidt, 2013; Springer, 2005; Twigg, 2000).

context (CVU, 2012). In fact, Oblinger (2012) identified partnerships between private for-profit institutions (who bring production efficiency and market expertise) and public institutions (who bring credibility and academic authority) as an emerging trend in the American sector. There are some signs of emerging resistance to these kinds of partnerships (Kolowich, 2014).

Data regarding technology-enhanced learning in the United States tends to suggest higher student enrolments in online learning in the U.S. than in Canada, although the figures tend not to disaggregate hybrid and online models (CVU, 2012). While the American university system as a whole is not a highly integrated and coordinated one, its density and complexity, and more coordinated state university systems, tend to create a rich collaborative context for e-learning development. This is particularly true given the much richer mix of private-public arrangements and the high levels of external endowment funding that have incentivized a variety of e-learning initiatives across the country. See Table 4 for a summary of the American context.

The Canadian Context

Although traditionally an acknowledged leader in information and communications technology innovation (Canadian Council on Learning, 2009), Canada has lost ground to other nations in this area since 2000. A 2009 survey conducted by the International Telecommunications Union placed Canada 19th out of 154, a drop from ninth in 2002. Overall, the Canadian Council on Learning report argues that levels of adoption of e-learning have been significantly lower than expected. Canada needs a coherent framework to address four key areas: the generation of multi-sectoral momentum, the development of a shared vision for e-learning across Canada, harnessing of the potential of technologies, and filling gaps in the research (p. 8).

Canadian universities have been slow to move towards full strategic planning in the area of technology-enhanced learning, and in many cases development has been piecemeal, opportunistic, and driven by individual, faculty-level innovators.

With a total of 76 universities and 158 publicly funded post-secondary institutions, the Canadian post-secondary sector is considerably less dense than its southern neighbor. Added to this, the provincial mandate for post-secondary education is largely understood to have limited the capacity for national strategic planning with regard to e-learning generally (CVU, 2012). As a recent study conducted by the Canadian Virtual University (2012) put it: "the Canadian online education system is constrained by a lack of national data and strategic planning, cross-jurisdictional collaboration, business models, economies of scale, resources…. The ongoing strategic vacuum creates an environment that fosters weakness and duplication and is causing Canada to fall behind other nations in online education. A national e-learning strategy based on collaboration could address these weaknesses and maximize the potential of online education [in Canada]" (p. 7). In many ways, it is more accurate to speak of 13 provincial/territorial contexts than one national context in Canada. E-learning in Canada "consists of loosely connected provincial, territorial and federal e-learning networks, educational providers (public and private) and targeted initiatives. The consequences of this approach include duplicated efforts, fragmented goals and objectives, and sporadic and short-term initiatives" (Canadian Council on Learning, 2009, p. 7). In general, as a Contact North (2012a) review of online learning in Canada puts it, there is some voluntary coordination through the Canadian Council of Ministers of Education, but the function of the organization is limited, especially as it lacks research and support infrastructure.

Canadian universities have been slow to move towards full strategic planning in the area of technology-

enhanced learning, and in many cases development has been piecemeal, opportunistic, and driven by individual, faculty-level innovators, albeit producing many strong examples of practice across the country. A recent study of barriers to the development and use of open educational resources reflects numerous challenges: lack of institutional policy supporting them; lack of incentives; lack of infrastructure to facilitate the work; lack of skills and expertise; lack of evaluation criteria; lack of time; challenges involving labour contexts, including workload, copyright and IP issues; and lack of fit with existing financial support system (CVU, 2012).

In distinction to the American system, Canadian business-university-government partnerships tend to focus on research rather than teaching and learning. In its response to the university strategic mandate proposals, HEQCO (2013) identified the business sector's significant expertise in online and hybrid learning as a critical resource for universities, advocating greater strategic partnership development. Programme-related partnerships are more common in the Canadian college sector (Contact North, 2012a). On the whole, while there are Canadian companies with core interest in the growth of e-learning (Telus, Bell, Desire 2 Learn, CAE), Canada lacks public/private partnerships aimed at expanding the reach and quality of e-learning (Contact North, 2012a). This is likely to slow the pace of innovation in comparison to other jurisdictions.

The degree of support for online and blended learning educational initiatives in the post-secondary sector varies across provinces. The post-secondary systems of Manitoba (CampusManitoba), Alberta (eCampus Alberta), and British Columbia (BCcampus) have system-wide e-learning consortia, while Ontario has both an organization that functions as an online course portal (Contact North) and an emerging online learning consortium. The Western consortia vary in their range of support for collaborative efforts within their systems, ranging from none in CampusManitoba, through programme level in eCampus Alberta, and both course and programme collaborations in BCCampus.

eCampus Alberta is a consortium of Alberta's post-secondary institutions whose primary purpose is to facilitate student access to online courses and programmes. One of its five guiding objectives is to "facilitate effective collaboration of online courses and programme development projects" (http://www.ecampusalberta.ca/about-us/ecampusalberta-s-five-guiding-objectives#collaboration). eCampus Alberta accomplishes this objective by providing funding opportunities directed to institutions to develop online programmes. The province specifies whether or not an initiative should include a collaborative requirement. Currently only two programmes are collaborative efforts, and the collaboration does not extend to the co-development of courses. Each institution in an eCampus Alberta initiative contributes courses to the collaborative programme and the courses remain the intellectual property of the institution (or the instructor, depending on institutional contractual agreements). eCampus Alberta does not encourage collaboration beyond two partners due to complexity and logistical challenges.

BCCampus has perhaps the richest and most useful examples and models of collaboration in Canada. While it has now shifted its focus to collaborative open textbook (re)development, it supported funded course and programme development for twelve years. BCCampus provided incentives, mandated collaboration, and targeted instructors rather than institutions and administrators. While the courses developed were intended for online use, their use within individual institutions is not controlled, and materials could be used on a hybrid basis rather than fully online. By targeting instructors rather than institutions, BCCampus encourages more organic partnerships through the instructors' already well-established professional and research/teaching networks.

Systematic credit transfer is another area of significant variation among the provinces' collaboration and e-learning initiatives. British Columbia, Alberta, and Quebec benefit from systematic provincial transfer credit systems. Universities there have adopted block-credit transfer mechanisms where students holding a diploma from a college may transfer the entire diploma into an undergraduate programme, reducing the cost and time of

completing a first degree. This is significantly different from the Ontario context where credit transfer agreements remain uneven (Contact North, 2012a). This gives those jurisdictions distinct advantages in establishing inter-institutional collaborations.

As a provincially regulated system, there is no real federal policy context related to e-learning in Canada. Provinces have taken varied approaches, with some showing more evidence of the establishment of practices and policies like systematic credit transfer and common quality assurance procedures that facilitate collaborative practice. BCCampus and the current round of PIF projects appear to represent outliers in terms of major government initiatives intentionally seeking to incentivize collaboration in curricular and institutional practice: however, Tri-Council policy has fostered collaboration in research for many years. Collaborative capacity among Canadian institutions appears limited, and there is as yet little systematic infrastructure to support or extend it. Employer and professional association engagement with curriculum, while present, is not generally systematically facilitated. Contractual matters such as intellectual property agreements, academic freedom, and workload issues vary strongly from institution to institution and pose a challenge for larger collaborative engagement. See Table 5 for a summary of the Canadian context.

Table 5. The Canadian Context: Summary

Policy frameworks and infrastructure facilitate or demand collaboration, and have supported its development in a sustained fashion across multiple initiatives	No
The development of collaborative capacity is well-supported by governmental (or non-governmental) intervention	No
There is a history of collaborative practice within and among institutions on curriculum development	No
Approaches to inter-institutional collaboration have involved stakeholder consultations	No
Institutions share common curricular understandings and quality assurance practices owing to (usually mandated) standardization of curricular practices	Evolving
Credit-sharing among universities has been established	In some provinces
There are mechanisms for stakeholder and employer engagement in programme and course development	No
Institutions share a high degree of distributed expertise	Evolving
Intellectual property, academic freedom, and workload issues have been addressed to ensure fairness to all concerned	Inconsistent

The Ontario Context

Policy frameworks and infrastructure to facilitate collaboration: Over the last ten years, the Province of Ontario has implemented many frameworks and mechanisms, which could inform strategic, coordinated, and collaborative course and programme development. Among them:

MTCU Initiatives

- The Postsecondary Education Quality Assessment Board (PEQAB), established in 2000, reviews and offers recommendations to the Minister of Training, Colleges and Universities regarding Ontario universities' applications for ministerial consent for the offering of all or part of degree programmes. PEQAB's contributions to SCD-readiness include the establishment of provincial quality assessment guidelines and benchmarks for the review of capacity to deliver online and technology-enhanced degree programming (PEQAB, 2011). These guidelines form a strong, common basis for the assessment of institutional, technological, and pedagogical readiness for collaboration in SCD projects.

- The Higher Education Quality Council of Ontario (HEQCO), established in 2005, has a mandate to bring evidence-based research to the continued improvement of the post-secondary education system in Ontario, to evaluate the system, and provide policy recommendations to MTCU (HEQCO, 2013). HEQCO has significantly enriched and extended dialogue and inter-institutional collaboration on research issues related to teaching, learning, and institutional practices. HEQCO's provision of targeted research funding has shaped an evolving research agenda across Ontario universities, and has also increased inter-institutional visibility through a variety of knowledge dissemination activities. HEQCO's activities and consultations have significantly raised the level of debate and awareness around issues of quality, accountability, and accessibility in Ontario post-secondary institutions.

- The Multi-Year Accountability Agreements (MYAA) process, established in 2005, requires institutions to track, document, and report on a range of institutional performance measures, including enrolment management; e-learning; class sizes; credit-transfer system participation; learning environment quality; and student satisfaction, persistence, and graduation rates. Although not by any means a comprehensive review of institutional practice, the MYAAs are a beginning step towards establishing the kinds of institutional reflection and data gathering that could inform and support strategic engagement with other universities.

- The differentiation framework and strategic mandate agreement (SMA) process, although still evolving, will establish strategic directions for individual institutions (MTCU, 2013): in other jurisdictions, like Australia, comparable approaches appear to have eventually led to a more systematic and strategic approach to shared course and programme design. As the HEQCO report on the initial SMA submissions put it, the strategy of institutional differentiation is associated with the goal of creating a more integrated, coherent, and collaborative public post-secondary system (HEQCO, 2013). However, it is not clear whether differentiation in the Ontario context will facilitate greater collaboration or greater competition. For example, differentiation might reinforce competition so long as the same hierarchies and reward structures for "what is the best" remain, but in other jurisdictions diversity of practice is differently incentivized so that different "bests" can be achieved (Usher, 2014). Inter-institutional collaboration may be one way to limit the risks that differentiation presents.

- Funding envelopes, such as the Productivity and Innovation Fund and Shared Online Course Fund, enable institutions and the Ministry to move specific agendas forward and, at least in the case of the Productivity and Innovation Fund, very deliberately incentivize inter-institutional collaboration. These kinds of calls incentivize and reward inter-institutional network building.

- The Ontario Council on Articulation and Transfer (ONCAT), established in 2011, functions as an arm's length body responsible for the central coordination of the credit transfer system, working to expand multi-lateral transfer agreements and to create consistent and transparent approaches to credit transfer across the province (MTCU, 2011).

- The Ontario Online Centre of Excellence is funded by the Ministry but will be established as an independent not-for-profit organization aiming to increase student access to online courses, and to facilitate inter-institutional resource and expertise sharing (Bradshaw, 2014). While funded by the Ministry, the Council of Ontario Universities is playing a key leadership role in bringing this initiative to fruition.

COU Initiatives

A second key contributor to the Ontario policy context is the Council of Ontario Universities (COU), an organization representing Ontario's publicly funded universities. The COU works closely with the provincial and federal government to develop and advocate for policy that supports high quality teaching, research, and innovation at Ontario universities (COU, 2014). The COU has made the following critical contributions to the Ontario post-secondary context as it pertains to SCD:

- The establishment of Ontario's degree-level expectations framework, fundamental to shared understandings of expected student outcomes, and to comparing courses and understanding how they might fit into other programmes.

- The establishment of the Ontario Quality Assurance Framework and the Ontario Universities Council on Quality Assurance, which provide Ontario universities with fundamental common ground with regard to the principles, processes, and procedures through which new and existing courses and programmes should be evaluated for academic quality.

- The establishment of the Ontario Universities Council on e-Learning (OUCEL), a working group of the COU providing leadership regarding e-learning and encouraging scholarly approaches to e-learning in Ontario universities (OUCEL, 2014).

- Significant leadership in the drive to make the MTCU's Ontario Online Institute a reality. Their recommendations (COU, 2011) regarding the establishment of the OOI identified the following among recommended roles for the emerging institute:
    - identification of programme and course needs through market research and institutional data analysis;
    - the facilitation of collaborative programme and development;
    - consortial software and course content licensing;
    - advocacy and contracting with infrastructure providers;
    - evaluation of the utility of a repository of online learning resources;
    - identification of and support for the delivery of sharable student support services;
    - professional development and information exchange;
    - facilitation of dialogue among all stakeholders to support development of effective online pedagogy;
    - facilitation of agreements regarding intellectual property policies and course ownership; and
    - facilitation of course-equivalency practices among institutions.

At the time the recommendations were developed, the OOI focus was specifically on online courses: further consultation with COU has indicated a proposed expansion of that mandate to technology-enhanced courses more generally, so that the institute might in principle support both online and hybrid courses. Currently, COU is in the process of establishing a consultation framework for the establishment of Ontario Online and the Ontario Online Centre of Excellence. The overall model envisaged involves three inter-related spheres of activity: knowledge, courses, and support areas (COU, 2014), with an emphasis on voluntary engagement of Ontario universities.

These policy initiatives reflect serious commitment to the creation of common policy frameworks in Ontario. What is less clear is the degree to which these frameworks have been internalized and fully integrated into institutional culture and practice, and the degree of knowledge, expertise, and discernment that institutions and their inhabitants bring to the practices involved. So, although in principle the policy structure reflects many elements of the Australian or European contexts, they do not yet appear to have created the mindset, priorities, and mandates that inspire collaboration.

The Labour Context

Intellectual property, academic freedom, and workload: At most Ontario universities, workload, right to work, working conditions, ownership of intellectual property, and academic freedom are matters regulated by collective agreements (CAs). Practices vary among institutions, so there are many idiosyncratic barriers to the development of common policies regarding shared course design or collaborative curricular activity. Although a full review of the provincial labour context as it pertains to SCD was beyond the means of this project, a review of eight collective agreements from Ontario universities provides an illustrative review of the dimensions and scale of variations in this area (Appendix C). The implications of that study are included below:

Implications of the Regulatory Context [3]

1. There is a great deal of variation among institutions. A one-size-fits-all approach to establishing agreements would require significant intervention at the provincial level.
2. There are barriers to progress in technology-enhanced learning: they may be disadvantageous to institutions, end users, and faculty, depending on individual interests and concerns.
3. There is a great deal of distrust regarding managerial intentions with regard to technology-enhanced learning, with many believing it is an attempt to reduce academic autonomy, increase class sizes, or reduce the full time academic workforce.
4. Although there may be work-arounds involving contract instructors and professional staff developing courses, these may not work in practice: the reality is that faculty buy-in is critical to making SCD work, and faculty associations must be a part of the dialogue.
5. In general, collaborative approaches that allow for third-party contracts with faculty may be easier to manage than agreements among institutions.
6. There is a range of possible contractual models which could incentivize various kinds of course development, from royalty-agreements, to commercialization agreements, to Creative Commons licensing. Creative Commons licensing is a common, effective approach to creating open access materials: the agreement of whoever owns the rights to the materials (normally the creator) is required.

[3] While members of the PIF team have identified and interpreted the salient provisions of the collective agreements in the Ontario universities' regulatory context to the best of their ability, the reader should understand that the significance of many aspects of collective agreements are subject to opinion, legal and otherwise.

7. Negotiating inter-institutional shared course development will require expertise in the nature and application of labour agreements in the university sector.
8. Technology-enhanced learning is becoming an increasingly contested labour issue across both the province and the country: solutions must be sought, possibly at a system level, that are equitable, respectful of the tenets of academic practice, and which as much as possible meet the needs of all stakeholders.
9. Depending on whether an SCD project is institutionally contentious, academic governance may be a barrier to progress. Institutional contentiousness may arise at any of the layers of incentives and disincentives discussed earlier in the report.
10. The greater the degree of implementation integration, the more involved quality assurance matters become.
11. Ministry policy and leadership have a critical, multi-faceted influence on the collaborative context: if SCD is strategically valuable, it should be factored into analysis of policy implications on a broad basis.
12. If SCD is to become standard operating practice, we must find and establish mechanisms to facilitate these partnerships. This will certainly require collaboration with faculty associations, which take into account the collective rights of the members. It is clear that engagement and goodwill are critical to success.

Collaborative Capacity

Many small, informal, and transient pockets of course collaboration exist within Ontario universities, most often led by individual instructors reaching out to colleagues at other institutions, or across disciplines and departments within their own institution. These are often difficult to identify as they are rarely formalized as research studies or described in university materials or documents. A typical example is the upper-year structural geology course at Carleton and Queen's, which was co-developed by an instructor from each institution in order to solve the problem of insufficient students at either institution to make offering the course viable. In subsequent years the course was no longer offered collaboratively as both institutions had large enough enrollments to offer the course separately at each institution. Inter-institutional collaboration in Ontario initiatives seem to most often occur at the programme level (e.g., the Joint PhD in Educational Studies). Significant collaboration occurs among Ontario universities and colleges.[4] Appendix D provides a listing of more than 40 programme collaborations between Ontario colleges and universities. One notable factor in decision-making around collaboration may be the risk of competition: international joint projects for example may tend to be viewed as strictly value-added, as it is perceived that few students will transfer into the international programme solely (e.g., the Queen's/Cornell MBA; see also the *Re.Vi.Ca Critical Success Factors*, which identify the establishment of non-compete clauses as elements of successful virtual campus initiatives (Appendix B)).

What appear to be absent in Ontario are systematic collaborative efforts among institutions to share the development and delivery of courses, whether these courses are large or small enrollment courses, and whether they are offered in blended, online, or face-to-face formats. We found no examples of shared modular hybrid course design, though there are numerous instances of sharing resources through open educational resources and repositories; online course and programme sharing; and the development of hybrid courses within institutions, or across departments and faculties. In addition, there are few mechanisms for effective multi-

[4] While college/university collaborations are a source of possible guidance for SCD, the governance structures and cultures of universities and their degree of competition for students and reputation create distinctly different challenges in producing systemic collaboration. The college sector was out of scope for this study, especially given the time frame, but examining these types of collaborations as a source of possibly effective practices to be adopted and adapted might be a useful direction for further study.

institutional consultation with employers, industry, or other stakeholders; there are numerous examples of ad hoc collaboration with industry, but these tend primarily to be driven by personal networks rather than by systematic consultative mechanisms. There are also examples of collaboration within disciplines (e.g., OCUBE), although this seems to be at the broader consultation level, or sharing of objects, rather than actual collaboration on course development. The Ontario Universities Council on eLearning (OUCEL) is a loose association of eLearning professionals representing all Ontario universities who meet annually, and interact online to share practice and developments in the field. These individuals are highly collaborative, but their focus often goes beyond individual disciplines or programmes where most effective inter-institutional curricular development tends to be focused.

Despite limited engagement with curricular and in particular e-learning collaboration among Ontario institutions, in recent years numerous stakeholders have begun to identify inter-institutional collaboration as a critically important strategic pathway for the stability and growth of the post-secondary sector both in Ontario and in Canada. The CVU (2012) report on online learning states, baldly, that in terms of competing in a global educational marketplace, "inter-university collaboration is the only way forward" (p. 24). HEQCO, in its 2013 review of Ontario universities' initial strategic mandate submissions, identified inter-institutional collaboration as a critical requirement for the productivity improvements and cost-efficiencies that will be necessary in order to sustain or enhance the quality of the Ontario university system, noting significant degrees of fragmentation and unintentional overlap in the plans submitted. The overall picture of e-learning planning that emerged from the SMAs, according to the review panel, was "one of chaos." Online and technology-assisted learning were identified as "an obvious pilot" for greater integration.

Similarly, Contact North (n.d.-b) identifies collaboration as one of "three big opportunities" for Ontario with regard to online learning: noting the pooling of instructional design, technology support, student support, and student services for online learning and professional development for faculty as of particular importance. The post-secondary sector, argues the position paper, must come to understand collaboration as "a way of building jurisdictional advantage in Ontario. Rather than compete to create courses, Ontario colleges and universities should collaborate to create programmes and courses which compete with the best in the world." Elsewhere, Contact North identifies increasing strategic collaboration in order to enable growth, efficiency, and quality as one of three critical components that jurisdictions struggle to balance in post-secondary education in Canada (Contact North, 2012a).

There is a degree of disconnect between the perceptions of these coordinating agencies and institutional leadership in Ontario. Support for new provincial agencies to support online learning among Ontario college and university presidents was limited, for example (Contact North, 2012b), with some preferring to maintain an independent approach to solving the challenges involved. While presidents acknowledged the potential value of partnership and collaboration, they could offer few concrete examples from their own institutions: the atmosphere of intense competition for students and reputation was cited as one reason for this. Financial pressures, it was noted, may be a fundamental driver of future cross-institutional collaboration. The PIF experience also appears to indicate that incentivizing collaboration will work in our context, but there must be significant incentive and resources to overcome institutional and industry inertia.

Ontario universities are at the initial stages of developing inter-institutional collaborative capacity for course development. There are isolated collaborative projects as well as more experience from cross-jurisdictional collaborations (international and college-university collaborations for example), to draw on, but little in the way of systematic collaborative mechanisms. The following section explores in more detail the nature of the opportunities and challenges institutions face in shifting towards systematic inter-institutional collaboration.

While the section focuses specifically on the goal of shared development of hybrid courses, many of the findings may also apply more broadly to establishing provincial collaborative capacity among Ontario universities. See Table 6 for a summary of the Ontario context.

Table 6. Ontario Context: Summary

Policy frameworks and infrastructure facilitate or demand collaboration, and have supported its development in a sustained fashion across multiple initiatives	No (emergent)
The development of collaborative capacity is well-supported by governmental (or non-governmental) intervention	No (not within university sector)
There is a history of collaborative practice within and among institutions on curriculum development	No
Approaches to inter-institutional collaboration have involved stakeholder consultations	No
Institutions share common curricular understandings and quality assurance practices owing to (usually mandated) standardization of curricular practices	Moderate
Credit-sharing among universities has been established	Evolving
There are mechanisms for stakeholder and employer engagement in programme and course development	No
Institutions share a high degree of distributed expertise	Inconsistent
Intellectual property, academic freedom, and workload issues have been addressed to ensure fairness to all concerned	No

VI | Hybrid Course Design: Exploring the Case for Collaboration

Hybrid Course Design as a Match for Needs in the Ontario Context

There is growing interest in and commitment to hybrid course development in Ontario. In 2011, HEQCO conducted an exploratory study of innovative approaches being used to teach large classes in Ontario universities (Kerr, 2011). Instructors identified many challenges faced in teaching large classes, among them:

- lecture hall designs which discourage sustained student interaction;
- the high level of administrative duties involved;
- the challenges of facilitating student interaction;
- the increasing diversity of the student population;
- the time involved in learning about and developing new approaches to large class instruction;
- a lack of institutional recognition and support for the level of preparation and management involved; and
- challenges in creating well-aligned yet feasible approaches to assessment.

Instructors, selected as high-performing large class instructors from across Ontario, identified core strategies for improving student learning and experience in these courses, including:

1. **creating a sense of community**, either through a team-based or peer-mentor supported teaching approach or through a variety of social media and communications technologies;
2. **improving efficiency through reallocation of time and resources**, through technologies that automate certain parts of information distribution and feedback procedures or through the use of pre-recorded lectures, messaging, and assessment feedback; and
3. **promoting and supporting a culture of teaching at the departmental, faculty, and institutional levels**, which instructors in the study associated with willingness to experiment with innovative practice.

Many instructors noted that hybrid approaches effectively incorporate these strategies. Those using the model

reported improved student learning and engagement, as well as greater personal satisfaction with teaching. Kerr (2011) noted, however, that the costs of implementing these changes, the perception that the effort involved was not well-valued by institutions, and the challenge of inspiring a broader range of instructors to engage with these approaches all remain barriers to full-scale change.

It is worth noting that the value of the hybrid model is not limited to large-enrolment courses. The principles of engagement, flexibility, multi-modality, virtual global interaction, alternative delivery structures, and prompt feedback are fundamentally good, though complex, practice. In fact, few of the shared course designs we examined focused on the development of large enrolment courses: the model has also been applied very effectively to meet a range of other needs (see Finding #1: Compelling Reasons to Collaborate).

Status of Hybrid Course Development in Ontario

Engagement with hybrid approaches has been significant in the Ontario context: an MTCU (2011) survey indicated that approximately 64% of course registrations were in courses identified as hybrid (50% of courses overall), but also identified operating / capital budgets, faculty acceptance, and workload issues as key challenges to further growth in this area. Our institutional inventory process, however, demonstrated the challenges of accurately identifying the degree of intensity of technology-enhancement in courses given highly decentralized approaches to course re-design and new technology adoption in universities.

There is considerable impetus for the exploration and adoption of hybrid approaches at the institutional level. Approximately two-thirds of the original draft Strategic Mandate Agreements submitted by Ontario universities in 2012 identified significant growth in hybrid and technology-enhanced pedagogies and learning as an area for strategic growth (Contact North, 2013b), while at an estimate based on grant titles, 60% of the current Productivity and Innovation Fund grants may also involve a shift in this direction. Bates (2013) noted:

> Despite all the hype about MOOCs, hybrid learning is probably the most significant development in e-learning – or indeed in teaching generally – in post-secondary education, at least here in Canada. I am seeing many universities (13 in six months so far) developing plans or strategies to increase the amount of hybrid learning.

A 2012 survey of Ontario university and college presidents confirms this interest, which is seen as a natural, gradual transition from traditional face-to-face teaching to technology-enhanced teaching, and as the aspect of technology-enhanced learning most likely to impact the mainstream students at an institution (Contact North 2012b). In general, the survey noted that there was little evidence of dedicated strategic plans related to online and hybrid learning, although the evidence from Strategic Mandate Agreements as well as Bates' remarks above suggest that this is an evolving area.

As Bates and Sangra (2011) note, systematic adoption of technology-enhanced learning requires detailed strategic planning and a highly informed approach to managing pitfalls. These include poor instructional design choices, poor cost-benefit analysis, overlooking faculty engagement, lack of systematic training for instructors and administrators, poor project management, misalignment in processes and cultures of academic and technology staff, and failure to plan for course and infrastructure maintenance and renewal. The costs of course conversion are significant, and most universities envision change at a much more rapid pace than their finances will allow. Moreover, course conversion requires a systemic "ensemble" approach to pedagogy and curriculum that is often inconsistent with university cultures. While the promise of hybrid learning is compelling, the real challenges of this transition must be taken seriously if universities and learners are to reap the benefits of the investments

involved. Collaboration can play a number of useful roles in facilitating this change, but it is critical to understand the challenges collaboration can address, and also the challenges we face in developing collaborative capacity among institutions.

Institutional and Collaborative Readiness in Ontario: An Inter-institutional View

An initial phase of this project involved each partner institution undertaking an institutional inventory, in order to:

- establish a sense of each other's resources and approaches for hybrid course development (HCD);
- gain a fuller understanding of the dimensions of practice and resources that need to be considered in evaluating potential collaborative undertakings and in establishing sustainable, cost- and learning-effective models of SCD; and
- evaluate commonalities and variations in current practice that may be either opportunities or challenges in moving forward collaboratively.

The team developed an inventory tool (see Appendix E) surveying the cultural, administrative, and technical contexts in which HCD occurs in each institution. As with most elements of the research, it should be noted that respondents tended to respond in terms of hybrid *and* online, at times identifying one or the other, but functionally viewing them as a spectrum of practice rather than as distinct initiatives. The inventory process provides a more specific local sense of what and where the opportunities might be, and of the kinds of challenges institutional partnerships may face in moving forward with shared course design in Ontario.

Opportunities

Areas Where Shared Course Design can Contribute to Broader Adoption of HCD

This section offers common challenges and characteristics found among institutional partners: each highlighted box indicates the opportunity SCD presents for the challenge or characteristic directly above it.

- **Many institutions have begun to make a shift from primarily instructor-led ad hoc development to the strategic prioritization** of specific initiatives in e-learning, with a goal of significantly increasing course conversions over the next few years. However, decisions about course enhancements are, as one respondent put it, "at the discretion of the instructor" in most universities. The traditional structures of universities still inform this practice so that inquiry and development may be more advanced in some faculties than in others. Administrative and decision-making expertise in the area may be limited. Many institutions have articulated clear, at times ambitious, goals for course re-design.

> Strategic planning for e-learning is still evolving in the province and across the country: **a collective approach to understanding drivers, business models, cultural and labour contexts, and change management is likely to significantly enhance institutional expertise and success** in driving this planning.

- **Most institutions identified student demand as a strong force in the momentum for developing technology-assisted instruction**. Although most noted that there were leaders and adopters among their faculty members, **faculty engagement must overcome barriers such as lack of knowledge, compensation for effort, and perceptions of reduced quality**. As one respondent put it: "full-time faculty are slower to recognize the pedagogical benefits of alternative course delivery as many are not fully aware of what is possible. Many faculty members view course conversion as more work, and so the attractors (i.e., the possibility of having more engaged students, better grades, etc.) have to be consistently showcased and broadcasted by early adopters."

SCD can raise awareness of the attractors at a broader scale and build faculty engagement by promoting success stories, facilitating disciplinary, cross-institutional network building, and gradually expanding shared cultural norms around hybrid learning. Collaboration with student groups to promote and raise awareness of student demand and interest in alternative course delivery may also be of value.

Potentially, **SCD can offer a broader range of approaches to incentivizing faculty engagement**.

There may also be opportunities to **leverage discipline-specific and instructor-specific networks at a greater rate** if a cross-institutional approach is adopted, and **to leverage faculty-based leadership** in one institution to inspire change in others.

Other identified institutional drivers for hybrid courses included:

- enhanced learning experiences;
- improvement of student retention/student success;
- a question of survival – responding to competition from industry providers and "big players";
- meeting the needs of non-traditional clienteles seeking alternative delivery models;
- reduction of sections in large-enrolment courses and resolution of space issues;
- skill acquisition in technology-based learning;
- enhanced faculty and student flexibility;
- improved student experience in large enrolment courses;
- reaching new markets;
- enhancing instructional practice; and
- achieving goals of strategic mandate agreements.

Although institutions share common drivers for HCD **there is a need to identify common specific directions where course development is sufficiently critical to move forwards**: common course and program needs are critical. **It is likely that sustained, wider-scale dialogue would uncover more common needs**.

- Most universities identified a small number of fully-developed hybrid courses, and a much larger number of fully online courses.

Given the institutional strategic emphases and sustained student demand for technology-enhanced learning and the emerging state of the field, there is **clearly room here for collaborative initiatives that can expand offerings, enhance capacity, and increase expertise across the province**. Quite simply, **SCD allows for the faster development of more courses than single-institution approaches, potentially at lower cost**. However, this **requires engaged, consultative coordination at the level of identifying opportunities, as uptake is contingent on buy-in at multiple levels**.

- **Most institutions identified the need for greater professional development, training, and promotion of e-learning among faculty members**: most offer courses and training in online learning. This is a question of shifting engagement with technology-enhanced learning from a specialized group to more general interest. It also involves a culture shift which makes material sharing and **collaboration among instructors a normal part of instructional activity**. Instilling good hybrid course design principles in practice is a shared concern and aim.

A joint initiative to further develop hybrid learning professional development materials (for use in a hybrid format) would offer capacity building opportunities for participating institutions as well as useful tools for the sector. These materials could also provide effective materials for administrative professional development in order to establish a broad-based understanding of the drivers and complexities of this field, and of inter-institutional collaboration more generally.

- **Many institutions showcased innovative and potentially sharable resources and support materials beyond the course level**: York, for example, has developed PerLS, a multi-media learning environment that advances critical thinking through exploration of diverse views and perspectives, as well as SPARK, an award-winning e-learning initiative designed to help students succeed at research, writing, and learning skills. Several institutions have or are developing online courses related to e-learning pedagogies and course design. The University of Windsor has been developing student learning skills modules in conjunction with a re-design of large-enrollment psychology courses.

SCD may provide **a strong opportunity for the expanded use of existing innovative co-curricular and learning support materials and platforms** across the sector.

- Institutions **demonstrated a wide range of typical components in their technology enhanced courses** (see Table 7) and in the types of course design structures typically employed.

Table 7. Typical Hybrid Course Components - This table represents institutional inventory responses regarding components of hybrid courses at respective institutes. Each university is represented by one letter throughout.

	Frequently	Often	Sometimes	Rarely
Lecture capture	A	E	B	C D
Discussion	B E A	C	D	
Online quizzes	B	A D E	C	
Online forums and discussion groups	B	A D E	C	
Synchronous delivery or communications	B		A D E	C
Live office hours		B E	A D	C
Annotation and commentary tools				A B C D E
Collaboration tools		B	A E	
Supplementary readings	A B C D E			
Structured lessons	B	E	A C D	
Produced videos and lectures	B		A E	C D
Learning objects (e.g. simulations, games, scenarios, role play…)			A B	C D E
Interactive exercises		B	A C E	D
Adaptive release			A B C E	
Publisher materials	D	B	A	C E
Case studies			A B C D	E
High-stakes exams	D	B		A C E
Group work		B	A C E	D
Online making	B	E	A C D	
Automated marking	B	D E	A	C
Anti-plagiarism software	B	D E		C A
Printed materials	C	B	A D	E
OERs			E	A B C D
Automated feedback		B	E	A C D

There is a range of expertise development even among this small sample of universities: **institutions and faculty within them have much to learn from one another in terms of course design and learning tool implementation**. There are less commonly used tools (such as the use of open educational resources, learning objects, and annotation tools) which map present opportunities for collaborative growth and development.

Collaborative approaches would facilitate the development of expertise in the assessment of institutional, technological, and collaborative capacity, which is critical to identifying optimal, least-risk collaborative partners.

Opportunities: Summary

From the institutional perspective, a collaborative approach to hybrid course design could facilitate the following:

- faster development of more courses than single-institution approaches, potentially at lower cost;
- significantly enhanced institutional expertise and success in strategic planning for technology-enhanced instruction;
- a broader range of strategies and mechanisms for incentivizing faculty engagement and networking;
- greater efficiency, expertise, and leverage in developing critical mechanisms for technical, regulatory, and policy infrastructure (e.g., contracts, intellectual property issues, resource sharing, approaches to quality assurance, credit sharing, technical standards, etc.;
- broader opportunities for developing institutional leadership capacity across faculty and service units;
- opportunities for broader dialogue around programmatic and course needs and the development of more systematically strategic approaches to coordinating program development;
- more efficient, but still contextually-specific, approaches to professional development for instructors and administrators;
- greater opportunities to leverage existing investments in co-curricular and learning support materials across multiple institutions; and
- more learning for more people: students, instructors, instructional technologists, administrators, and others.

Challenges

Current Barriers to Systematic Shared Course Design

- **Institutional partners' wish lists regarding specific courses were not particularly consistent**: they included Canadian Studies, social work, communications, business, public policy, fine arts, health, courses with a high-degree of multimedia (like introductory physics and math), interdisciplinary courses like Arts 101, and first-year engineering courses. It seems likely that the identification of common course development interests will first of all require discipline-specific and faculty-specific dialogue as well as broader representation at the table: in some jurisdictions deans' associations and other discipline-specific organizations have been engaged in these dialogues. **Establishing sustained, systematic collaborative course-design is a big-picture challenge requiring grass-roots dialogue**.

- **Growth of technology-enhanced learning in many Ontario universities remains highly distributed and decentralized**: gathering information across the strategic, technical, cultural, and programmatic aspects of institutional practice in technology-enhanced learning required consultation with many different people. Institutions rarely had centrally-located documentation of practice. Most institutions identified a high level LMS integration into courses, but had limited ability to assess the degree of technological enhancement these might entail. One institution's current efforts to map practice in various faculties reflected the challenges of truly tracking e-learning in institutions given their current organizational models. Many factors influence this context, among them faculty rights to determine course content and approaches, and the interactions of discipline-specific administrative decision-making with centralized but multi-unit support teams. In order for systemic collaboration to occur, we need to become more coordinated at the institutional level and better able to "introduce ourselves" to others. **Identifying potential collaborators who are a good strategic "fit" may, certainly at some institutions, require new approaches to documentation, planning, and decision-making**.

- A number of institutions cited tensions with regard to **faculty concerns about intellectual property rights, workload, fewer faculty hires, greater dependency on sessional instructors, and academic freedom with regard to course materials and content**. In some cases the issue is that the collective agreements have not kept pace with innovation, and are essentially outdated, but there are evolving concerns that associate technology-enhanced learning with goals of deprofessionalization, commercialization and exploitation of instructors' work. Currently, wide variations in CAs complicate the possibility of programmatic collaboration (See Appendix C). In some cases joint programmes have simply been stipulated on a case-by-case basis to exist beyond the collective agreement of either institution, but that is clearly not a model that can be indefinitely expanded. The current CAUT move to establish standardized collective agreement language around online and hybrid course development may pose further challenges if adopted: it would disallow the use of any course materials not developed by a member of the collective bargaining unit, effectively eliminating the ability of any faculty member who wanted to use shared course materials unless they were part of the development team. **Sharing among institutions is already challenging to negotiate from the position of individual institutions: solutions must be found that ensure equity on all sides, and this may require co-ordinated approaches**.

- **Universities' implementation and incentivization of technology-enhanced learning varied considerably**, reflecting significantly different histories and levels of experience. One institution is a "technology-enriched" learning environment where all courses are Web-enabled, using a cloud-based platform and wide variety of technology-enhanced strategies, and students have access to hundreds of different programmes and tools to support their learning. Another has no strategic goals with regard to hybrid learning, and is emphasizing the growth of its emerging online course offerings. One university is a longstanding member of the Canadian Virtual University with a long history and strong infrastructure for a variety of approaches to distance education. One institution is incentivizing preferred practices and course development through a variety of teaching development funds but with limited infrastructure to support course development, while another is undertaking faculty-led curricular mapping to inform the development of a systematic institutional e-Learning plan. Several of the universities are currently engaged in improving infrastructure for e-learning environments, often with the intent of significantly improving access to the tools to shift instruction to technology-enhanced

modes. **These variations in expertise, reward structure, and priorities have to be taken into account and may pose limits to the viability and potential of partnerships**.

- Most institutions have **limited supports for course development and course development teams, but approaches taken vary considerably**. In some institutions, course development is largely left to the efforts of the individual faculty member with limited consultative support, whereas other institutions work with development teams involving for example an instructor, an instructional designer, an educational developer, an educational technologist, a multimedia author, and possibly others such as librarians, graphic designers, and IT support. This may impact mutual willingness to collaborate and to see the situation as "win-win" at the institutional level. **The question of where similarity is most critical (among team members, among institutions, in technological capability) requires further case-based research**.

- All institutions identified **the individualistic nature of teaching in Ontario and the highly competitive inter-institutional context** as challenges in pursuing collaborative approaches. Working collaboratively is a major change in practice: faculty and institutions need compelling reasons to overcome inertia. It was acknowledged that while at a given level there might be support for a given collaborative initiative, it was always possible that it would meet with resistance at another: that faculty in one institution would feel that the quality of their programmes would be diluted by working with faculty and students at another; or that support for an interdisciplinary programme within centralized administration might meet with resistance at the departmental or faculty level, where it might be perceived as straining resource allocations to the "core business" of the unit; or quite simply that collaborating with another institution risked loss of students to that other institution. While all partners agreed on the clear potential of collaboration to improve institutional practice and sustainability, student learning, programmatic offerings, and instructional practice in the province, there was strong consensus that **improving the collaborative predisposition, capacity, and culture of universities will require sustained, multi-faceted effort at the individual, institutional, and systemic levels in Ontario**.

Challenges: Summary

The institutional inventory process identified challenges in three main areas:

- **institutional readiness for collaboration**, including systematic tracking of technology-enhanced learning; expertise; solid approaches to assessing cost-benefit for e-learning and project management; procedures and mechanisms for inter-institutional collaboration; and cultures with limited pre-disposition for collaboration either at the level of the individual instructor, or among institutions;
- **variability among institutions** in terms of needs, resource allocations, processes and procedures, expertise and infrastructure, which may impact both willingness and effectiveness of inter-institutional collaboration. The impact of such variations is likely to be project specific; and
- **policy and labour contexts,** which may be challenging to address at the institutional level and which impact potential for the development and expansion of SCD.

Wang et al. (2005) argue that collaboration must be win-win: the reality is that it must be win-win-win-win-win-win and so on, in order to gain and maintain momentum and to ensure the necessary informed champions at multiple levels.

Discussion

Shared course design is a powerful mechanism for multi-stakeholder engagement in the strategic development of high-quality, student-centred courses and programmes. In other jurisdictions it has inspired long-running industrial partnerships, expanded access to high-demand but hard-to-offer programmes, rebuilt and renewed fragile programmes, and transformed instruction and curriculum. It has inspired international interaction, supported complex learning, enabled equitable access to education, and functioned as an engine for the development of extended professional and leadership networks in teaching and learning. In Ontario, it hardly exists.

The reasons for this are structural, historical, and cultural. In order to thrive, SCD has to make sense on many levels: for students; for the individual instructors that will lead projects; for programmes and departments who will allocate resources to these initiatives, support their adoption, and sustain their use; for the institutions who must create systematic mechanisms for collaboration and lead the culture change to inspire it; and for government agencies who must systematically create a context that inspires and incentivizes collaboration, frameworks to systematize it, and financial structures that reward it. Wang et al. (2005) argue that collaboration must be win-win: the reality is that it must be win-win-win-win-win-win and so on, in order to gain and maintain momentum and to ensure the necessary informed champions at multiple levels.

Although the sector has established (or is establishing) numerous mechanisms and structures that have been critical to sectoral collaboration in other jurisdictions (quality assurance, credit-transfer mechanisms, infrastructure to support teaching inquiry, learning outcomes, the Ontario Online Centre for Excellence), many of these are still maturing. What are still missing are systematic, explicit frameworks and policies that incentivize, facilitate, or require collaboration.

Ontario universities have almost no history of strategic collaboration in course and programme development. There is very little institutional engagement with collaborative approaches to solving e-learning or other institutional challenges in the province, and little sense of urgency about moving in this direction. While supportive of collaboration in the abstract, universities do not have the concrete mechanisms in place to facilitate collaboration, and are often stymied by competing interests at multiple layers as projects evolve, a factor that is common to the early stages of collaborative intentions everywhere (Kingyens, 2014). We lack collaborative capacity: we do not yet have the skills, the mindset, or the organizational structures to independently embark on large-scale collaboration. There is very limited collaborative culture among universities, and a long history of single-minded competition for students, programmes, faculty, and resources.

In short, there are many structural, cultural, and pre-dispositional barriers to the "natural" evolution of collaboration among Ontario universities: if it is to become a critical part of our practice, it must be incentivized, facilitated, and rewarded. We must build a body of practice and expertise, and a track record that provides

We must build a body of practice and expertise, and a track record that provides compelling evidence that in our context collaboration works, that it's worth it, and when that is and isn't the case.

> University transformation, for the most part, is not accidental or incidental. It does not happen because several innovative programs are established here and there within a university: the new approaches can be readily sealed off as minor enclaves. It does not happen because a solitary entrepreneur captures power and runs everything from the top-down: such cases are exceptions to the rule. Universities are too bottom-heavy, too resistant from the bottom-up, for tycoons to dominate very long. Rather, transformation occurs when a number of individuals come together in university basic units and across a university over a number of years to change, by means of organized initiative, how the institution is structured and oriented. Collective entrepreneurial action at these levels is at the heart of the transformation phenomenon. (Clark, 1998, p. 1)

compelling evidence that in our context collaboration works, that it's worth it, and when that is and isn't the case. If collaboration is critical to the provincial agenda in instructional and institutional improvement, it must be nurtured, incentivized, and normalized.

The challenges and opportunities of the specific collaborative agenda must dictate the approach to be adopted. In the case of shared hybrid course design, these fall largely into three categories: **scope, institutional expertise, and culture change**. A further consideration is **contextual factors that may require action beyond what institutions or a consortium can effect**.

1. Scope: Shared course design needs a broad-based approach so that institutions and individuals find common compelling reasons to collaborate and viable collaborative partners. A broad-based approach has the potential to build collective momentum and expertise around a variety of procedural and regulatory challenges that all institutions currently deal with on an individual basis. It is a difficult balance: collaboration requires a large enough scale to find matches, but an individual enough approach to inspire engagement.

On a small scale, individual institutions may be able to identify common courses or programmes that they might like to design together on an ad hoc basis. However, this approach will not bring about systematic shared course design in the province, as universities have no mechanisms for bringing the right people together from a given discipline, for knowing which institutions to approach, for engaging with industry and employer partners, or for making decisions about whether institutions are good collaborative matches. This is a question of scope: there are fewer chances of finding good "fits" in a smaller pool of partners. A more industrial model, where an institution produces a high-demand course for others to use "on spec," is also problematic: faculty adoption of extended electronic materials without engagement in their development cannot be compelled and may meet with resistance. Evidence of effective course exchange models tends to suggest that the organizing group must reach a strong level agreement about what should be produced, as well as format, style, content, and technical standards in order to ensure strong adoption (Dow, 2008). These examples reflect the power of approaches that foreground partner equality and engagement.

Broader scope also offers the potential for better coordinated action on institutional challenges that may otherwise prove intractable: **a collective approach may offer greater traction, and more representative and informed dialogue with governing bodies and other stakeholders**. There are many areas of policy and practice where individual institutions struggle to effect change, and where a more coordinated approach and dialogue among stakeholders at the provincial level might allow for more substantive, broader evidence; more creative approaches to problem solving; and in some cases, effective advocacy for the establishment of provincial solutions.

On the whole, it is unlikely that institutions, working alone or in small alliances, will be able to develop the range of collaborations or find sufficient appropriate partners to build superior collaborative networks in the province. Although a rapid transition to large-scale adoption of high-quality shared hybrid courses across the province might be envisaged, this linear solution does not reflect the realities of institutional cultures and

practice. **Diverse, incremental collaborative engagement among groups of stakeholders, coordinated by a central body, is more likely to produce the collaborative capacity, predisposition, and quality of product to inspire widespread adoption of inter-institutionally designed courses**. This approach allows for differentiated but coordinated models of collaborative practice, for institutions to identify what best meets their needs in the coming more differentiated future of the university sector, and for engagement with faculty networks while facilitating the expansion of institutional and sector-wide infrastructure to support these initiatives.

2. Institutional expertise: SCD requires mechanisms that enable the development, transfer, and circulation of collaborative expertise. In short, it requires strategic knowledge management across the sector.

One of the critical challenges that single-instance collaborative projects often face is a lack of the broad-based expertise required to anticipate and navigate the challenges of inter-institutional project management, policies, procedures, and cultures. For many leaders of such projects, this will be the first, and often only, time that they undertake a collaborative inter-institutional project. These projects generally involve the navigation of collective agreements, inter-institutional finance procedures, academic governance and registrarial issues, copyright and intellectual property rights, technical standards, curricular practice, project management, staff and faculty training, collaboration skills, and many other areas of expertise. Deficits in any of these areas – which are quite inevitable in a first-time initiative – can stymie potentially valuable initiatives.

The question of collaborative management expertise is just as critical at the institutional level. Institutions may be unfamiliar with approaches to developing cost/benefits models (especially inter-institutionally); business models; organizational models that might inform collaborative decision-making; assessing the risks and potential of proposed collaborations; documenting and managing electronic resources; managing faculty reward structures; and strategic, programmatic decision-making. Institutions need access to sources of this expertise, and also to mechanisms that allow for the documentation of expertise and practice within their own institutions. They also need clear, well-supported opportunities to pursue the creation of knowledge in the area of institutional collaboration: there are many areas of this practice that remain under-researched and underdeveloped. The growth and circulation of a contextually appropriate body of research, evidence, and experience to inform policies, practices, and consultative mechanisms in Ontario is critical. Given the very significant differences among provinces, it is not possible to simply apply knowledge from one jurisdiction to another: solutions to specific challenges – credit allocations, quality assurance, programme demand, and collaborative partner development – must be devised within our own context. **An intentional approach to knowledge management, coordinated by a central body, will accelerate and facilitate the development of collaborative capacity across the province**.

3. Culture change: Sustained and systematic SCD requires major shifts in institutional cultures in Ontario universities.

In the Ontario context, teaching tends to be seen as an individual pursuit, something that occurs strictly between teacher and students in individual course units or in a variety of other settings and contexts. Similarly, institutions are accustomed to a highly competitive context, where each university's success is based on growth in enrollment, generally viewed as coming at the expense of other institutions. The idea that collaboration might create strategic advantage, let alone become a fundamental element of institutional practice, is foreign.

At base, however, is a more fundamental though less tangible problem: people who collaborate have to trust each other in order to work together. They have to understand why collaboration meets their best interests, and they have to know how to act in order to establish and sustain that trust. There is much work to do to make

SCD a normal part of how we do business, and no way to get from where we are to a truly collaborative context without the hard, inclusive work of culture change.

Petersen and Spenser (1991) describe institutional culture as the "deeply embedded patterns of organisational behaviour and the shared, values, assumptions, beliefs, or ideologies that members have about their organisation or its work" (p. 142). One of the critical lessons learned from this process so far is how little we know about each other. Collaboration changes our context: it enables us to reflect on what we are, what we do, and what we need in new ways; and to imagine the possibility of new "normals" and new "possibles" based both on what we discover elsewhere, and what we discover together. The difficulty is in creating permeable collaborative contexts with limited risk; and where what is learned is sufficiently transferable to inspire, extend, and stabilize change. This requires incentives that equitably reflect the concerns and needs of stakeholders, mechanisms that protect their rights, approaches that maximize consultation and inclusion, expertise that deftly manages change, and ongoing commitment to knowledge creation, documentation, and dissemination. **An individual university, or a small group of universities, can embark on this kind of culture change individually. However, approaches coordinated by a central body open to broad-based and diverse participation offer greater opportunities for the active engagement of individuals, for whom broader networks offer more room to manoeuvre; and of institutions, who can enter the partnership without committing to long-term alliances with specific institutions. All involved can work on a project-by-project basis, gradually changing individual and institutional perceptions and practice as experience, policy, practice, and knowledge evolve**.

VII | Recommendations: A Consortial Approach to Shared Course Design for Ontario Universities

In order to assess the feasibility of SCD in Ontario, we set out to answer the following questions:

- What compelling reasons do institutions have for engaging in SCD?
- What problems have institutions solved through the use of shared course design internationally?
- What are the characteristics of successful models of shared course development internationally?
- What contextual conditions contributed to the success of these models in different jurisdictions?
- To what degree are typical outcomes of SCD consistent with institutional needs in Ontario?
- To what degree does Ontario's provincial context provide the necessary conditions for success in for shared course design initiatives?
- Is there a compelling case for a shared course design initiative in Ontario, and for what purposes? What infrastructure, expertise, and capacities are needed to optimize the possibility of success?

Our study has demonstrated that while Ontario's need for collaboration is consistent with the kinds of pressures seen elsewhere, our context is not. Ontario's organizational and policy frameworks are not yet a fit with the contexts where SCD flourishes, though many of those mechanisms and frameworks are in emergent stages. Currently, however, there is little incentive to collaborate, little history of inter-institutional collaboration, and little expertise or infrastructure to support collaboration: each project is another pioneer. Thriving SCD requires the establishment of incentives to stimulate engagement, expertise to support it, mechanisms to facilitate it, tools to document and disseminate the outcomes, and institutional capacity to manage it. A shared course design can play a critical, concrete role in building this capacity.

The findings to date suggest that the creation of truly collaborative programming and course development environment in the province requires significant cultural changes, as well as the development of procedural,

curricular, and expertise infrastructure. The Australian and European experiences tend to suggest that moving in that direction requires a developmental stage of collaboration, large and small: through pilots, action research, and incremental, incentivized growth. While at this point we can identify some overarching guiding principles and conditions that need to be in place in order to move forward, these principles can only mature in a context of real projects involving multiple institutions and strong evaluation strategies used in a coordinated way. The most efficient and effective approach to these challenges is the establishment of a consortium to support it, or the expansion of an existing consortial mandate to include it. One model worth strong examination is the BCCampus model: a full description of their history and mandate can be found in Appendix A.

Based on these findings, we suggest the following:

Phase 1: Preliminary Study

The Ministry should fund a call for Inter-institutional Shared Course Pilot Projects focused on studying the necessary mechanisms and conditions for successful shared course design in Ontario. This project would involve interinsitutional design teams developing courses, and a case study team researching the collaborative processes, challenges, and effective practices emerging from each course development project in order to identify priorities, challenges, and effective mechanisms for the development of a formal consortium in Phase Two. It is critical that this phase seek diverse collaborative models and diverse institutional representation in order both to gather rich data and to foster engagement and trust in collaborative practice. The pilot project would:

- result in the development of specific shared and sharable courses;
- identify the challenges to collaboration within Ontario and develop specific methods, tools, processes, or guidance documents to overcome those challenges; and
- establish recommendations regarding necessary mechanisms, infrastructure, and policy change to establish a strong basis for SCD at Ontario universities and sectorally.

As part of this phase, a number of institutions involved in the leadership team for this project have undertaken to use the data from the study to develop a professional development course on shared hybrid course design to be piloted at all team institutions and available for use by any university in the Province of Ontario. Carleton's current Productivity and Innovation Fund project to develop a certificate program in the area of online and hybrid learning will be foundational to this effort: the modules and materials created for that project will be piloted at various institutions, and feedback provided to Carleton for their use. This project will expand on these materials to explore strategies for shared course development for both instructors and administrators and will identify and discuss the range of factors, as well as effective practices, to be considered in:

- the case for inter-instutional program collaboration;
- developing shared hybrid courses;
- identifying collaborative partners;
- managing inter-institutional project teams;
- establishing necessary pre-planning infrastructures for SCD; and
- identifying and resolving potential problems in SCD.

This phase might also involve case-based research into successful instances of college-university collaboration in Ontario seeking to identify both transferable practices and distinctive differences that differentiate the two forms of collaboration. Materials from this course can be repackaged as promotional and awareness-raising materials to promote inter-institutional collaboration.

It is critical that progress towards enhanced collaboration is phased, allowing us to develop expertise and principles to be consolidated in Phase Two: change in complex systems requires iterative, responsive phases to truly take hold.

Phase 2: Consortial Consolidation

Based on the experiences and findings in Phase One, a formal consortial structure should be developed. We would hope that all Ontario universities would be invited to opt into the consortium regardless of their involvement in this study or the Phase One preliminary project. The consortial mandate would include:

- The promotion of technology-enhanced learning and shared course design, with a particular emphasis on publicizing successful Ontario initiatives.
- Establishment of a multi-stakeholder advisory board for collaborative course design.
- The creation of mechanisms for incentivizing strategically identified shared course design initiatives, explicitly working across "layers" of institutional interests to foster broad-based engagement.
- Establishment and piloting of guidelines for collaborative practice and frameworks for the assessment of collaborative capacity and complementarity. This study provides considerable preliminary research for the development of such guidelines.
- The identification and provision of targeted expertise to support the establishment and management of SCD initiatives in Ontario.
- The establishment of benchmarks for SCD initiatives that allow for the systematic assessment of the quality and impact of individual initiatives in order to better understand the dimensions of effective practice in SCD.
- The establishment of mechanisms for SCD knowledge management, to include the systematic collection, analysis, and reporting of data regarding SCD initiatives; and the transfer of acquired expertise into support for new and emerging SCD in the province.
- The development and implementation of an Ontario SCD research and development agenda, to include:
    - evaluations of the educational impact of hybrid and shared course design in Ontario;
    - the development of effective financial and business modelling processes;
    - the development of effective and consistent approaches to tracking institutional technology-enhanced course materials and learning object development to enhance collaboration and material sharing in the province;
    - research on the implications of the Ontario labour and policy context for SCD;
    - research on identifying risk factors and benefits of potential collaborative partners; and
    - research benchmarking the evolution and progress of SCD in Ontario.
- Targeted professional development for SCD leaders and administrators involved in supporting SCD initiatives.
- Targeted professional development, networking, and dissemination opportunities for those involved in strategic planning related to technology-enhanced learning in Ontario.
- Liaising with provincial and international bodies involved in SCD for collaborative and knowledge management purposes, with various governmental agencies and other provincial or national bodies whose policies impact on or potentially support SCD (e.g., HEQCO, MTCU, OCUFA, COU, OCAV, the Quality Council, OUCEL, COED, ONCAT, the Ontario Association of Computing Services Directors).

- Liaising with provincial organizations with discipline-specific mandates such as associations of deans and disciplinary teaching and learning networks.
- Seeking consortial licensing for common tools and platforms in order to incentivize the technology harmonization among Ontario universities.
- Creation of mechanisms for industry and employer consultation and engagement.
- Establishment of multi-stakeholder dialogue over equitable regulatory and labour contexts related to technology-enhanced learning, and identification of workable solutions to emerging and institution-specific challenges in this area.
- Advocacy for necessary policy changes and provincial initiatives to facilitate enhanced programmatic collaboration in Ontario post-secondary institutions.

Although in principle this might function as a discrete entity, the potential for this mandate to be integrated with the evolving infrastructure of the Ontario Online Centre for Excellence should be fully explored: there is considerable overlap in interests and needs. Although the emphasis on specific infrastructure to support collaborative practice is much greater in this case, this dimension of practice is critical across the entire spectrum of technology-enhanced learning.

A Parallel Agenda: Recommended Directions for Provincial Action

In addition to the suggested approach to facilitating collaborative course and program design outlined above, a number of broader issues which impact the feasibility of shared course design have been identified, where policy research and intervention at the Provincial level would be of benefit:

- **Continued financial support for the development of technology-enhanced learning and collaborative and leadership capacity in the Province of Ontario.**
- **Research into intellectual property issues** and potential negotiation of provincial standards with regard to course material. The Council of Ontario Universities has an ongoing project in this area: the challenges involved require broad sectoral dialogue, and the Ministry may provide useful coordination in facilitating this process.
- **Expansion of credit sharing**. The Ministry has established a broad vision in this area as well as an infrastructure to move this vision forward. One aspect of this that requires further exploration is the establishment of a common qualifications framework that allows for consistency of how course credits and programs are defined: a course, for example, should be defined as a specific number of learning hours per week, rather than in some universities being defined as 36 contact hours, and in others in terms of learning hours. Greater consistency would facilitate harmonization across the province, and the Ministry can play a key leadership role here.
- **Leadership in re-examining the role of teaching quality and technology-enhanced learning as elements of provincial quality assurance practices**. Currently Ontario quality assurance practices require minimal informed, integrated evaluation of the kinds and quality of the learning students experience in Ontario university programs. Establishing approaches to documenting and evaluating these practices would provide a stronger basis for institutional planning and benchmarking, and shift universities towards more strategic and centralized approaches to assessing their status in these areas. While the Quality Assurance Framework is not co-ordinated through the Ministry, consultation and leadership in this area would be of benefit. It is worth noting, in this context, the

need for a more integrated approach to understanding the relations between institutional, programmatic, and individual drivers of learning quality, a factor that is particularly and concretely highlighted in areas such as hybrid approaches where so many elements of the system must come into play in order for high quality learning to occur.

- **Exploration of workload and right-to-work policies in collective agreements** to identify commonalities, challenges, and equitable solutions. While mandating practice in this area is probably not feasible, greater knowledge of common and effective practice across the province may inform the identification of effective and equitable solutions at individual universities.
- **Pro-active, coordinated engagement with students, publishing companies, and universities to fully resolve issues of fees for online materials** potentially used for evaluation. This might include the negotiation of provincial licensing to reduce costs.
- Exploration of the **consistency and degree of access to reliable high speed Internet** across the province, and advocacy for comprehensive access for educational purposes across the province.
- **Development of provincial guidelines regarding the interactions between laws that apply to recording in classrooms** and to broadcasting those recordings, including FIPPA, AODA standards, copyright, and so on. At times the requirements of these guidelines are in conflict, and a way to prioritize compliance would be of use.

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Appendix A

Shared Course Initiative Case Studies: An Overview

Shared Course Initiative Case Studies: *An Overview*

Abbr.	Project	Description	Model	Area
2U	2U Semester Online Project	2U is a for-profit online course and program developer. Until recently, 2U was developing the material for a 10-university collaboration for course sharing and online learning with inter-institutional course sharing. 2U withdrew from this project in April 2014, reportedly due to logistical challenges and the withdrawal of some institutions.	External contractor	US
ACS	The Associated Colleges of the South New Paradigm Project	Joint initiative among 16 liberal arts colleges to develop shared offerings for synchronous collaborative learning environment at multiple institutions for the purposes of broadening and enhancing academic offerings.	Consortium	US
AEC	Archives Education Collaborative	Five universities jointly develop inter-institutional administrative system for their archival education graduate program: each university develops courses and in exchange receives access to all other courses developed by team members.	Equal partnership	US
ASELL	Advancing Science by Enhancing Learning in the Laboratory	Originally established for the purpose of improving instruction in Physical Chemistry, this consortium now facilitates the development of peer-reviewed laboratory activities and exercises.	Consortium	AUS
BCA	Biostatistics Collaboration of Australia	Seven-university collaboration to offer graduate degree and certificate programs in biostatistics, intended to address a world-wide shortage of biostatistics expertise.	Equal partnership	AUS
BCCampus	BC Campus	Publicly funded organization intended to use information technology to connect the expertise, programs, and resources of BC post-secondary institutions under a collaborative delivery services framework.	Consortium	CAN
e-LERU	League of European Research Universities Network	Joint initiative of six LERU partner institutions through the construction of trans-national combined course structures and initiatives intended to inspire virtual student mobility.	Virtual Campus	EU/UK
ECA	Entomology Curriculum Australia	Faculty-led inter-institutional collaboration to expand offerings and enrolment in entomology programs by jointly developing online courses no single institution could afford to develop.	Equal partnership	AUS
eCampus Alberta	eCampus Alberta	Publicly-funded consortium of Ontario colleges, technical institutes, and universities, created to offer students greater access to online courses. The consortium incentivizes course development, as well as collaboration at the program level.	Consortium	CAN
eCornell	eCornell	Arm's length for-profit but not profit-driven subsidiary of Cornell University, with right of first-refusal on development or re-design of Cornell courses for technology-enhanced learning.	External Contractor	US
ECW	Enterprise College Wales Project	University of Glamorgan and six of its further education colleges produced a course in entrepreneurial skills for non-traditional learners.	Lead partnership	EU/UK
Edu-GI	International Network for Education in Geographic Information Science (edu-GI.net)	A collaboration among eight European universities to share and re-use e-Learning courses in the area of Geographic Information Science. The program functions on a course-exchange basis and also involves a repository of courses and more granular learning objects.	Equal partnership	EU/UK
FAVOR	Finding a Voice through Open Resources	Part-time language instructors developed learning materials and professional networks.	Equal Partnership	EU/UK

KCTCS	Kentucky Community and Technical College System	A community college network where courses are offered on a cross-institutional basis involving the development of new programs drawing on the online offerings of 16 partner institutions with a common systems infrastructure.	Centralized infrastructure and program repackaging	US
Kultur360	kultur360	Collaborative module development for use in the instruction of courses on German society and culture.	Equal partnership	CAN
LCTL	Less Commonly Taught Languages Shared Course Initiative	Collaboration among Yale, Columbia, and Cornell to develop a collaborative framework for teaching less commonly taught languages using videoconferencing and distance learning technology.	Equal partnership	US
LECH-e	Lived Experience through Climate Change E-learning	Eight universities in six countries developed four adaptable master's level courses and virtual learning communities.	Equal partnership	EU/UK
MEA	Minerals Education of Australia	An industry-funded collaboration to improve mining engineering education and increase enrolment and graduation in the field.	Industry-driven collaboration	AUS
MedTech	MedTech Central and Entrada	A teaching and learning system designed to offer collaboratively designed case-based interprofessional modules in health care used primarily for hybrid courses.	Equal partnership	CAN
OPEN-er	OPEN-er	Collaboration to create university-level courses on an open access platform with a goal of stimulating engagement in higher education among groups who do not traditionally take part.	Equal partnership	EU/UK
PhD EdS	Joint PhD in Educational Studies (Brock, Lakehead, Windsor)	Joint doctoral program with rotating face-to-face component and joint online courses, sometimes offered by professors from multiple campuses. Administrative responsibilities also rotate among institutions.	Equal partnership	CAN
SEP	Shared E-learning Project	Three programs from three different institutions collaborated on the development of case studies using problem-based learning approach focused on experiences of health and illness.	Equal partnership	EU/UK
SUNY-COIL	SUNY Collaborative Online International Learning	The COIL Center consults, trains and facilitates partnerships for international course collaboration.	Consortium	US
SVU	Swiss Virtual University	Government-sponsored national initiative to promote Swiss information society, improve teaching and learning, encourage the development of new techno-pedagogical practices through the multi-institutional collaborations to develop courses.	Virtual Campus	EU/UK
TESSA	Teacher Education in Sub Saharan Africa Project	18 national and international organizations collaborated with teacher educators to produce high quality materials to improve teacher education.	Consortium	EU/UK
UKeU	UK e-University	Established in 2002 at the direction of the UK secretary of State for Education the UK e-University was intended to deliver "the best of UK higher education across the world" (Bacsich, 2005), UKeU was an attempt to co-ordinate offerings from multiple universities through one industry provider.	Virtual Campus	EU/UK
USG	Interdisciplinary Introductory Forensics at the Universities of Shady Grove	Joint development of an interdisciplinary, inter-professional course hybrid course, which has been in use since 2008.	Equal partnership	US

Contents

Case Studies: Australia

Advancing Science by Enhancing Learning in the Laboratory (ASELL)

Purpose of Collaboration	To improve student laboratory outcomes and improve instructional practice in laboratory-based learning
Model	Consortium with centralized administration
Funding	ALTC, Australian Council of Deans of Science, Universities, other governmental education funding sources
Curriculum Type	Multi-disciplinary, with collaborative peer review of individual or group-designed lab-based modules

ASELL began as APCELL (Advancing Physical Chemistry by Enhancing Learning in the Laboratory) in 1998-1999, when Barrie, Buntine, and Kable drafted a proposal to improve student laboratory learning outcomes (Barrie et al., 2001). Seed funding and institutional support were provided by the University of Adelaide and the University of Sydney respectively. In 1999, the proposal was funded by the Committee for University Teaching and Staff Development (CUTSD), and the project launched in 2000. Initially, APCELL's focus was the professional development of Physical Chemistry teaching staff, encouraging instructors to adopt best practices from evidence-based laboratory teaching.

APCELL expanded to include Organic Chemistry and in 2007 became ACELL (Advancing Chemistry by Enhancing Learning in the Laboratory), supported through funding from the Australian Government Higher Education Innovation Program. With this expansion came the goal of developing a repository of freely available lab exercises that would foster deep learning by providing hands-on and direct experience of real-life labs (as opposed to canned "recipe" exercises). APCELL later expanded again to include biology and physics when it became ASELL in 2009, receiving ongoing funding from the Australian Learning and Teaching Council and the Australian Council of Deans of Science (Kable et al., 2012).

ASELL's mission is to improve teaching and learning in laboratories by providing both a community of practice for instructors and a freely available repository of lab experiments designed to promote deep learning. The labs that are shared are all extensively tested through a series of professional development workshops for both students and faculty, and are revised based on student feedback and peer review. Labs are approved through a strict process. First, authors submit a proposal that contains: student notes for the experiment; technical notes for support staff to set up the experiment; a hazard/risk assessment for the experiments; anything else (such as results pro formas) that those carrying out the experiment will require; and demonstrator notes (these are optional at this stage, but mandatory for the final stage).

The labs are then tested thoroughly under supervision from ASELL, typically, but not necessarily, at one of the above-mentioned workshops. The submitter then has an opportunity to modify the experiment before data collection begins. Data collection is supervised by ASELL to ensure compliance with research ethics, and is used for feedback to prepare the final submission. Once complete, the submission is peer reviewed and submitted for publication. Approved experiments are made available on ASELL's website, and include the following items of information from their educational template:

1) An experimental overview with the learning outcomes, the course context (including level and prerequisite knowledge), a description of the lab tasks/activities, time to completion (including set-up time, lab time, and post-lab), and resources needed.
2) An educational analysis that provides a further breakdown of the lab product, process and indicators of success. Learning outcomes are further broken down into theoretical and conceptual outcomes, science and practical skills, as well as critical thinking skills. Each of these is listed in connection to the lab process and how labs will be assessed.

3) Student experience that describes student feedback.
4) Related documents (student, demonstrator, and technical notes, plus a hazard/risk assessment)
5) Experiment discussion that allows those who have used the lab to comment on it to point to trouble spots, make further suggestions, and so on.

ASELL's sustainability is clear, as it has been operating and growing for the past 14 years. It has fostered faculty engagement through ongoing workshops and professional development that is very highly regarded and encourages best practices in teaching (e.g., Read et al., 2006). In addition, student engagement is also quite high, as students participate in the development of the labs (Read et al., 2006). ASELL also directly impacts national policy on science education in Australian higher education through its advisory role to the Australian Council of Deans of Science.

The Biostatistics Collaboration of Australia (BCA)

Purpose of Collaboration	To create courses programs no single institution could offer; to meet demand for graduates in specialized area
Model	Multi-institution, equal partnership, centralized administration
Funding	Public start-up and tuition
Curriculum Type	Multi-disciplinary, with collaborative peer review of individual or group-designed lab-based modules
Delivery Mode	Distance (hybrid in early years)

Formed in 2001, this Australian collaboration began with seven institutions and a mission to address a worldwide shortage of biostatistics expertise, especially in health research, as a way to satisfy Australia's need for well-qualified biostatisticians (Simpson, 2012). The Australian Government provided $1.2 million AUD in special innovation funding under the Public Health Education and Research Program (PHERP) to support the project, which began with a shared master's degree with individual courses that could also be completed for a post-graduate certificate (Simpson, 2012).

The program works by pooling academic expertise from several institutions to create online courses. Students enroll in the program at, pay fees through, and obtain academic credit from their home institution. All units of instruction in the program are accredited at each of the participating institutions, but only one of those institutions will offer a given unit of instruction in any given semester. In this way, tuition funds course delivery, as student tuition is routed to the institution delivering that course.

Courses are run as distance education because of geographical distances between the institutions. Students are sent packages of printed materials (i.e., study notes and texts) and engage in online activities, including discussion with peers, through a learning management system. Students can complete coursework at their own pace. Blended learning was attempted in the early years of the program but largely rejected by students and so abandoned (Heller, 2008). There are no invigilated examinations; each course uses a combination of assignments and at-home exams.

The program is coordinated through a centralized office that was intended to be self-sustaining but currently still relies on national funding, usually through PHERP. The Steering Committee and Advisory board include stakeholders from clinical fields, industry, and government. This centralized system encourages pedagogical rigor for all courses.

Student enrolment began with just 18 students and by 2012, over 250 had completed; student engagement is high, with students reporting satisfaction. Graduates are in high demand across Australia. In addition, the BCA has strengthened links among academic biostatisticians in Australia, and fostered greater links among them and their counterparts in government and industry. It has grown to include post-graduate certificates in biostatistics, as well as increased capacity to offer PhD studies in this area. According to the PHERP Report, "the BCA has been successfully established as an outstanding multi-institutional system for developing, strengthening and sustaining Australia's workforce of career biostatisticians" (Durham & Plant, 2005, p. 26).

Entomology Curriculum Australia (ECA)

Purpose of Collaboration	To alleviate challenge of dwindling course offerings and enrolment
Model	Multi-institution, equal partnership, centralized administration
Funding	Partner universities, subject-area organization, industry, Australian Teaching and Learning Council
Curriculum Type	Single discipline, collaborative development of for-credit upper-year course suite as well as non-credit offerings
Delivery Mode	Distance with face-to-face tutorials (for those taking it at institutions) or a residential school component (for purely distance education students)

The ECA was initiated by a group of entomology faculty from various institutions in response to reduced offerings of entomology courses and declining enrolments (Orton, 2004) – a decline also noticed by employers, research and development organizations, and government agencies (Merrit et al., 2011). In response to this problem, individual departments attempted to increase the productivity of their entomology courses with distance education courses but found that offering a quality product for their students required more time and resources than individual institutions were able to deliver.

In 2004, Australian entomologists began meeting to explore a high-level cooperative model to creating curriculum and teaching resources. In 2007, with funding from the Australian Learning and Teaching Council (ALTC), working teams were created to fulfill the goals of developing a national steering committee, a suite of entomology courses, and a website promoting entomology. Additional financial support came from the University of Queensland, the Australian Entomological Society, Charles Stuart University, the Grains Research and Development Corporation and the Entomological Society of Queensland. In 2009, two courses were offered on a trial basis.

The ECA follows a cross-institutional enrolment model, allowing students to enroll in courses in their home institution or at another partner institution. Courses are aimed at students who wish to develop entomology expertise either as third-year students in a Bachelor of Science program, or as stand-alone non-award career development courses. Individual courses all began in a strict distance education format, with each of the participating institutions offering one of the four courses.

The first trial courses were based on previous courses already offered through distance education requiring technological updating. Rich media formats hosted on Blackboard were introduced, along with mini-lectures, supplemented with links to other videos, podcasts and articles. Download-able PDF files for annotation also accompanied lecture videos (usually PowerPoint with voice over). Even though courses are all distance based, internal registration in the first year accounted for most of enrolment, although the numbers of external registrations increased in subsequent years

Updates were all based on a pedagogical framework that was designed to ensure pedagogical rigour, allowing for benchmarking in course delivery but also a degree of flexibility for individual instructors. The key features of this pedagogical framework are as follows (from Merritt, et al., 2011):

- subjects to be accessible to students anywhere in Australia (distance-based);
- learning material to be engaging for the students (student-centered approach);
- students are to be given opportunities throughout to check their understanding of the materials (formative assessment);
- material must cater to a variety of student learning styles;
- students are to be given an opportunity to connect with the lecturers and/or tutors;
- courses to employ a variety of assessment opportunities that are embedded into the learning process, match subject objectives and graduate attributes, are criterion-based, and authentic to the discipline of entomology;
- students to receive timely feedback on assessment; and
- subject material and assessment to be offered for peer review by the project team, advisory committee, evaluation committee, colleagues and professionals in the relevant field. (p. 7)

Student and instructor feedback was solicited after the trial run in 2009 and used to make improvements for 2010 (Merritt, et al., 2011). Most significantly, for one of the courses, changes included incorporating compulsory weekly tutorial sessions for the on-campus students and a residential school for the distance-based students. Other changes included improving assessments to ensure regularly scaffolded deadlines and clearer topics and prompts to aid with grading.

Student engagement was high, as evidenced by increasing enrolments and feedback (Merritt, 2011). The project has been growing since 2010, with 88% completion rates. Faculty engagement is also high, as evidenced by the forums and conferences documenting the project's development and its wider dissemination.

Minerals Tertiary Education Council (MTEC) and the Minerals Education of Australia (MEA)

Purpose of Collaboration	To improve and expand enrolment in mining education
Model	Industry-driven multi-institutional collaboration, centralized administration
Funding	Industry consortium and tuition
Curriculum Type	Single-discipline professional program, shared course development
Delivery Mode	Distance, hybrid, and experiential
Website	mea.edu.au

The formation of the MTEC and the development of the MEA were both initiated by the Minerals Council of Australia (MCA) in an effort to improve mining education in Australia, as well as increase student enrollment and graduation. In 1998, the private affiliation of mining companies known as the MCA produced a review of mining education in Australia entitled *Back from the Brink: Reshaping Minerals Tertiary Education*. The report identified problems in the ways mining engineering education prepared students for work in the field while acknowledging a decline in the number of graduates being produced and inconsistencies in the way those students were then integrated into the industry. *Back from the Brink* was so influential that it led to the creation of the MTEC in 1999 and shared course programs such as the MEA, which have received more than $20 million AUD in industry funding since that time.

Mining education programs are offered through MEA, which brands itself as a "national school" and in effect connects courses being offered as part of existing programs at participating institutions. The partner institutions include the University of Adelaide, the University of New South Wales, the University of Queensland, and Curtin University, each of which has strong connections to mining engineering. Upper-level (third- and fourth-year) courses are developed collaboratively and shared across the MEA to ensure that mining students have access to a rich curriculum that will help them develop specializations in the field. Courses are delivered primarily online through distance learning, but there are also field requirements and hybrid elements to the MEA's programs.

Flexibility is the feature of the program most emphasized in MEA promotional literature. Aside from its primarily online delivery, the program has been structured to allow those studying in related engineering fields to easily transfer into the MEA with recognition of prior knowledge and graduate in two years. In an effort to provide applied knowledge, the MEA also offers 'vacation work' and other placement options to its students.

Another important aspect of the flexibility that the MEA offers is its cross-institutional enrolment policy. While a common curriculum primarily bonds MEA member institutions, cross-institutional enrolment ensures students can obtain the specific course credits necessary to complete their degree. Students in the MEA program enroll first at one of its four member institutions, and can apply to enroll in MEA courses being staged at any of the member institutions. Each course is defined by the common curriculum, with course descriptions and learning outcomes publicized centrally on the MEA website (mea.edu.au). A faculty member or faculty members from one institution are appointed course leader(s), with each remaining institution appointing node leaders to support students studying via distance from their home institutions. Upon completion of their studies, students graduate from their home institution with a Bachelor degree in Mining Engineering.

Due to the level of the mining industry's financial commitment and the logistics of cross-institutional program management, the MEA has adopted a corporate structure as part of its governance, with equal representation from the MCA and MEA. MEA funding is distributed according to student numbers, teaching quality, level of collaboration and effective innovation in teaching.

Building on the longevity of MTEC, the MEA is one of the most *sustainable* shared-course models in Australia in that it is supported by industry funding as a training investment in the mining engineering workforce. The program has also demonstrated successful graduate outcomes, boasting high placement rates and increasing demand for its graduates. The MEA program has been running since 2007 and is growing steadily. Staff reports from the collaboration are positive, demonstrating considerable faculty perseverance and engagement. Student enrolment in mining engineering was at an all-time low nationally before this initiative, and has been rising steadily since. The program has also helped grow collaborative culture, as its success has led MTEC and others to develop similar projects. MEA won the Australian Learning & Teaching Council (ALTC) Award for Programs that Enhance Learning - Educational Partnerships and Collaborations with Other Organisations (a national award) in 2010.

Case Studies: Europe

Enterprise College Wales (ECW) Project

Purpose of Collaboration	To make higher education more accessible to non-traditional students
Model	Lead partnership
Funding	Internal
Curriculum Type	Cross-sectoral (college/university), collaborative development with instructional design team
Delivery Mode	Blended learning

The ECW project was a four-year project that involved collaboration between the University of Glamorgan and six of its Further Education Colleges (FEC's) across Wales to produce an undergraduate degree in entrepreneurial skills for non-traditional learners. Although initially completely online, the project evolved to a hybrid format in order to meet the needs of the non-traditional post-secondary student enrolled. Materials were developed by faculty and instructional designers at the University and in the Colleges and delivered via the University-based Virtual Learning Environment (a mix of Blackboard and an in-house platform).

The project's mandate was to develop an innovative, student-centered, blended approach to student support, teaching, and learning in order to make higher education more accessible to non-traditional students. The focus was on the student experience and the success of the project in engaging with non-traditional higher-education students, rather than on the process of creating shared courses specifically.

The project team considered the project a success but identified some significant issues. The university took a lead role, and while this was felt to be beneficial in terms of quality control, college partners felt their flexibility was restricted. Structural issues dictated by the University also caused problems, for example, with the modes of assessment available and the start and finish times for courses.

EDU-GI.net

Purpose of Collaboration	To expand course offerings and internationalize the curriculum
Model	Equal partnership
Funding	European Union, and national and institutional resources
Curriculum Type	Single-discipline coordinated course-exchange
Website	www.edugi.net/eduGI

The Institute for Geoinformatics at the University of Muenster launched the eduGI.net to target closer international institutional collaboration for Geographic Information (GI) science education. The development and provision of high-quality e-learning courses is expensive and hardly manageable for single institutions. The approach of the eight partner institutions is to re-use and share existing resources. Each partner provides this course – including teachers – without charging a fee to the partners' students. In return, each partner receives courses on a non-fee basis. The leaders of the project identify its sustainable business model and low-cost approach as key strengths of the initiative. Key features of the business include:

- The consortium agrees on an exchange of e-learning courses on a non-fee basis.
- Each partner provides a single e-learning course, in return getting access to six courses from the

other partners.

- Each course is based on an existing course and available teaching materials, which "only" have to be adapted to the requirements of e-learning.
- Each partner chooses a course topic in which he/she is an expert, which reduces development time and increases quality.
- Each partner provides a complete course including teaching. Ideally, the receiving partner has no more effort than sending a list of participating students, and receiving a list with students' grades after course execution.
- The consortium uses an existing e-learning platform of one of the partners.

The eduGI project was sustainable, and continued beyond the end of governmental funding: the project partners have continued exchanging e-learning courses without the need for further funding and with even lower costs and higher benefits than providing the courses as regular face-to-face classes. Although institutions specifically in the context of Geoinformatics developed this business model, it is likely to be a functional model for discipline-specific course sharing.

GI is a growing field, and there has been increasing demand for highly qualified personnel (employees and leaders) in the GI market. The successful introduction of the curriculum in "Geoinformatics" at the University of Muenster, as well as similar programs at other universities, suggested an institutionalized exchange program in education. In addition to providing a cost-effective approach to course offerings, EduGI.net also systematically targets the internationalization of the Geoinformatics curriculum. The members of eduGI.net work on the fulfillment of the organizational requirements of internationalization and the execution of concrete measures in direct contact and on low organizational level. Other project goals include quality assurance of teaching and education; exchange and more efficient use of resources; and skills improvement of students/post-graduates as personnel resources of GI research and GI business.

The development of the project was time-consuming, and involved know-how in organizational, technical, didactical, and content e-learning issues without a "quick link" to already existing know-how at the University. In addition, such an experimental phase produces costly mistakes. These included difficulties in harmonizing institutional calendars, challenging transitions for teachers and students into a new medium, differences in cultures and approaches among institutions. However, on the whole feedback from students and teachers identified in research on the project was positive. Students also requested more synchronous learning for direct contact with instructors.

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e-Leru Virtual Campus: the League of European Research Universities (2005-11)

Purpose of Collaboration	To bring a European teaching dimension to teaching and research activities through the construction of trans-national combined course structures and to inspire international virtual mobility
Model	Virtual campus
Funding	Government (EU) and internal
Curriculum Type	Multi-disciplinary individual and group development of materials in a collaborative context
Delivery Mode	Online and hybrid

The e-Leru Virtual Campus has involved a series of initiatives. Nine member universities of League of European Research Universities were involved in at least one of the initiatives. The project was intended to bring a European teaching dimension to teaching and research activities through the construction of

trans-national combined course structures and to inspire international virtual mobility (e-LERU, n.d.). The first phase of the project, from 2005-7, was funded by the European Commission, with a goal of seeking new organizational models for European universities and enhancing opportunities for exchange and sharing. Burgi (2008) estimated that overall funding was approximately $1.5 million USD.

While the intent was for all institutions to contribute to high-quality e-learning modules for university use, as well as open-access lectures given by leading scholars at all institutions, the project also sought the joint development of expertise and rigorous analysis of process during the establishment of various types inter-institutional collaborations in order to establish effective collaborative models. Burgi (2008) identified numerous challenges the initiative sought to overcome across international boundaries, including calendaring differences, credit recognition, quality assurance harmonization, intellectual property rights, and the integration of modules into institution-specific curricula. Success of the project is unclear: Burgi (2008) indicated that at that time only ten modules were active, but the overall aims of the project involved more than just course development.

With the completion of the funded portion of the project in 2008, the project moved into a new phase, attempting to re-define itself as an inter-institutional collaboration with an initial phase of several pilot projects. Seven universities agreed to provide a partial position allocation and contribute an annual membership fee of €8,000 to support the ongoing project. By 2011, however, the consortium had identified a number of challenges: the project leaders' priorities were not well-matched to the strategic directions of partner universities; and the priorities of the institutions with regard to e-learning did not seem to offer sufficient overlap to justify the resource allocations required. The consortium concluded that the project required a greater critical mass of universities in order for the model to succeed, and they had not reached that status. The project appears to be at a standstill: however, the project reports provide comprehensive and detailed resources for those seeking to develop inter-institutional collaborations across regulatory boundaries (http://e-leru.unistra.fr/index.php?id=13700). A number of the partner universities are now highly engaged in more focused, less ambitious collaborations: it is difficult to assess the degree to which expertise and infrastructure gained through e-LERU underpins those efforts.

FAVOR (Finding a Voice through Open Resources) Project (2011-12)

Purpose of Collaboration	Showcase unrecognized work of language tutors and share resources
Model	Equal partnership
Funding	Government (Joint Information Systems Committee [JISC])
Curriculum Type	Single-discipline (but multi-language) Individual and group-development of materials in a collaborative context
Delivery Mode	Online

The FAVOR project was a one-year JISC funded program, as part of the Open Educational Resource Programme, Phase 3. The main objective of the project was to showcase the often unrecognized work of part-time tutors and determine how open practice could benefit them. The project also resulted in the creation of resources that promote language learning. It involved part-time (Contract Faculty) language tutors from five UK universities creating resources and sharing them via an online repository, LanguageBox. LanguageBox is a database of materials and resources created, either collaboratively or not, and shared among everyone that joins. The resources can be taken and altered: resources designed for a particular language can be redesigned to suit another language. The LanguageBox platform promotes collaboration through a group function and discussion forum, which facilitate communication

among partners with common interests. During the project, collaboration was mainly within institutions, but there were some examples of collaboration among partner institutions and among teachers and students.

Web statistics and analysis of LanguageBox via Google Analytics revealed the creation of more than 340 resources in at least 18 different languages during the project. There was also an external evaluation: part-time language tutors reported that they had challenged themselves, learned new technology, developed new teaching practices, incorporated new ideas, evaluated their teaching and altered their practice. The method used to share resources means tutors could see when their materials were downloaded and this inspired them to create more. The project created numerous opportunities for participants, including attending conferences to share their work. The project also made many feel more integrated into their institution.

The success of the project depended on support from the administration of the partner institutions. Some tutors were unable to participate because of the lack of support from their university administration. Working with part-time tutors revealed some challenges: in particular, with little job security and competition for jobs, some tutors were reluctant or refused to share their materials. Time constraints imposed on them (for example limits to work-hours) made it difficult for some to participate. The main dimensions/factors of this model include the contribution of students in the creation of resources, the motivation to create resources linked to validation, not just to produce resources and once created, resources that can be adapted to meet local context.

LECH-e (Lived Experience of Climate Change e-Learning) Project (2010-12)

Purpose of Collaboration	To create resources that enhance awareness of the lived experience of climate change, to inform EU policy, and to promote virtual mobility
Model	Equal partnership
Funding	EU Erasmus program
Curriculum Type	Interdisciplinary virtual collaboration on course development
Delivery Mode	Online with inter-institutional online interaction
Website	http://www.leche.open.ac.uk

The LECH-e project was a two-year project to collaboratively develop online learning resources on the lived experience of climate change for four Masters level courses, as well as virtual learning communities using open educational resources. It involved nine universities in six countries. Following the pilot, curriculum resources were subsequently released as open educational resources: any institution was free to appropriate them for its own curriculum. Accrediting institutions can adapt the materials if they wish, but only under the terms of the Creative Commons License. The curriculum resources were developed in line with open university quality assurance processes that involved peer review of drafts, two external assessors (one for content, the other for pedagogy) and the oversight of a project leader. A key element of this project was the establishment of e-learning communities, which were conceptualized as an experiment in virtual mobility, intended to bring students and academics from the participating universities together in structured activities and discussion to develop trans-boundary competence.

Notable aspects of this model include collaboration in learning as well as producing resources, a clear aim for embarking on the project, the use of multi-expert teams and the intention for resources to be multi-use (both stand-alone noncredit, and for embedding adaptably into existing or new for-credit courses), as well as the use of Creative Commons Licensing.

OpenER Project (2006-2008)

Purpose of Collaboration	To extend access to higher education to individuals from groups who do not traditionally attend higher education
Model	Equal partnership
Funding	Government and charitable foundation funding
Curriculum Development	Multi-disciplinary collaborative module design
Delivery Mode	Distance

The Open University of Netherlands (OUNL) experimented with an early form of MOOC beginning in August 2006: university level courses were offered free of charge on an open access online platform. The aim was to stimulate engagement in post-secondary education among non-traditional groups. The project was funded by Directorate Learning and Working, established by the Dutch Ministry of Education, Culture and Science and the Ministry of Social Affairs, as well as the William and Flora Hewlett Foundation (in total approximately €660,000 until July 1, 2008). Despite the end of the funding period, the OUNL continues to offer the courses free of charge.

Schools within OUNL collaborated to create the offerings, which involved 24 courses attracting 5700 registered users and 800 visits per day. The courses are reported as being of high quality. The project aim was achieved since many of the users subsequently enrolled on post-secondary courses either with the OUNL or other Dutch institutions.

Notable elements dimensions this model include a clear aim for embarking on the project, with a commitment by each institution and the use of Creative Commons License.

Shared e-Learning Project

Purpose of Collaboration	To create an opportunity for students from different disciplines to work collaboratively to explore complex health issues
Model	Equal partnership
Funding	Internal
Curriculum Type	Interdisciplinary collaborative case-study development
Delivery Mode	Hybrid
Reference	Aubeeluck, A., Hyde, A., McGarry, J., Thompson, S., & Wilkie, K. (2013)

In this one-year pilot project faculty from three disciplines and three institutions developed a case study module through which students could learn about experiences of health and illness through multiple perspectives: service user and career (English university – nursing program), women gender and health (Irish university – qualified midwives studying for Master's degree) and midwifery (Scottish university – midwife professional program - Masters). The case study was collaboratively developed with the intention that each group of students would bring their own unique viewpoint to the work (based on their discipline and institution). One motivation was incorporating EBL/PBL (evidence or problem based learning) which requires that learning should incorporate a range of disciplinary perspectives. They wanted students from different programs to engage in conversation and share and learn from different viewpoints coming from different disciplines.

Case study development was collaborative, but the implementation into the curriculum was

independent and only one part of each of the different modules taught at each institution, so the home institution had complete control, including assessment strategies, in order to ease the challenge of differences in institutional requirements. The project lead institution has "an established international objective" and supports (financially as well) collaboration with other institutions. The project leaders created their own evaluation tool, which they will be making open access later this year.

Preliminary reports indicate that the students were satisfied with the experience, overall. The project lead team has just begun a second project, this time with a university in the United States. They believe that success depends on the commitment of all involved (Aubeeluck, March 7, 2014). The obstacles faced mainly involved technical issues, but also a preoccupation with the logistics and practicalities of the project meant a lack of careful planning on the use of the discussion board, whose use consequently did not always live up to the goals set.

Notable features of this model include the collaboration in learning as well as producing resources, as well as freedom to adapt the product to local needs.

Swiss Virtual University (2000-2008)

Purpose of Collaboration	To promote Swiss information society, improve the quality of teaching and learning, encourage the development of new techno-pedagogical practices, and create learning materials for shared use in order to enhance the competitiveness of Swiss university education
Model	Virtual campus
Funding	EU Erasmus program
Curriculum Type	Collaborative inter-institutional multi-discipline course and program development
Delivery Mode	Online and hybrid

The Swiss Virtual Campus initiative was established in 2000 in response to concerns about underdevelopment of technology-enhanced learning in Switzerland and lack of coordination among Swiss universities in the field of information and communications technology. The goals were to promote Swiss information society, improve the quality of teaching and learning, encourage the development of new techno-pedagogical practices, and create learning materials for shared use in order to enhance the competitiveness of Swiss university education (Burgi, 2009). The initiative applied the Bologna Accord as a conceptual framework for its emphasis on virtual mobility and harmonized accreditation.

SVC projects were required to involve at least three institutional partners, matched funding (either actual funds or employee contributions), pedagogical objectives that were consistent with the overall aim of the initiative, innovation, alignment and integration of courses with existing programs, linguistic diversity, and the use of the European Credit Transfer and Accumulation System. While the initial phase prioritized course development, the 2004-7 consolidation phase also prioritized the development of infrastructure, including centres of competence, service, and production at every institute of higher education in the country, as well as expanded use and maintenance of already developed projects.

The ambitious nine-year project involved 14 higher education institutes and approximately $130 million in funding (half of which was from the Swiss government), and resulted in 112 online or technology-enhanced courses in a wide range of fields. It also resulted in the development of expertise in and support infrastructure for technology, intellectual property, quality assurance, pedagogical

support, and management of such initiatives in participating institutions (Burgi, 2008; 2009). 2007-8 data indicated that most materials developed were intended for use in hybrid fomats, and that overall, the initiatives did not lead to significant curricular change (Lepori & Probst (2008) cited Burgi, 2009). In his assessment of SVC, Burgi (2009) identified numerous challenges:

- SVC participants used at least ten different learning management systems, necessitating the development of a common, web-based interface and student log-on approach for accessing modules;
- Courses needed consistent descriptors and metadata in order to ensure effective search mechanisms;
- Institutions and the overall initiative required experts in the field of intellectual property to assist with the establishment of course development agreements;
- Faculty buy-in is critical to such initiatives, is slow to develop and often not widespread: fewer than 5% of faculty at the participating universities became involved with the initiative;
- Collaboration was more likely to occur among institutions teaching in the same language, and multi-lingual support was then required for further course use;
- Course development costs were highly variable, and investment was not correlated with subsequent results; and
- Course sustainability was questionable: approximately 2/3 of the modules developed were only used as supplementary material, and only 40% of courses were likely to be sustainable after development (Seufert & Euler, 2006).

Burgi argues based on these finings that while it is relatively easy to set up large-scale consortia in support of e-learning, cross-institutional involvement of faculty over the long-term is a considerable challenge.

SVC concluded in 2008: its most lasting contribution has been the development of support and leadership infrastructure in Swiss institutions, who continue to collaborate through initiatives like eduhub.ch which maintains and supports the Swiss e-learning community through the provision of a virtual community platform as well as a variety of community events. In its final evaluation of the project, the SVC coordination team (2008) indicate that the project significantly enhanced the integration of e-learning into Swiss institutes of higher learning, the creation of technical and support capacity in those institutions, a national platform for e-learning delivery, and a common administrative and authentication structure as lasting legacies of the project. Further, the authors note that the initiative significantly enhanced collaborative capacity among Swiss institutes of higher education, establishing permanent and previously non-existent links among many of them.

TESSA (Teaching Education in Sub Saharan Africa) Project

Purpose of Collaboration	To extend quality of and access to teacher education in sub-Saharan Africa
Model	Consortium
Funding	Charitable foundations and the Open University (UK)
Curriculum Type	Single-discipline materials collaboratively produced by (over 100) teacher educators
Delivery Mode	Sequenced and coordinated online materials usable in face-to-face, hybrid, and classroom-based contexts

This initiative has been undertaken by consortia of 18 national and international organizations, 13 from within Africa. The aim of the project was to produce high quality materials to improve teacher education. The resources are produced collaboratively by teacher educators then shared: the project has involved over 100 authors, and use both audio and text. Perhaps most significantly the project has invested considerable attention into the use of the resources once completed, engaging co-ordinators and the African partner institutions to promote and curate resource use. The user has been kept central to the design process, and attention has been given to the eventual use of the resources, not just their development.

Formative evaluation of the project revealed success in the take-up of resources, which are used in programs with almost 300,000 enrolments, across a wide range of programs, and in a variety of settings and contexts. Although sustainability is potentially threatened by staff mobility, there has been considerable collaboration in distance programs and many teacher educators were involved, so resources are "assets not easily discarded" (Harley & Simiyu Barasa, 2012).

Notable feature of this model include having a specific purpose to improve teacher education in Africa with the commitment by partner institutions. The creation of OERs followed a standard template, but the material was adaptable to meet local context.

UK e-University (2001-2004)

Purpose of Collaboration	To "deliver the best of UK higher education to the world" (Bacsich, 2005)
Model	Virtual campus
Funding	Public
Curriculum Type	Multi-disciplinary course distribution
Delivery Mode	Distance

The UK e-University (UKeU) was established in 2001 with the intention of creating a single vehicle for the delivery of UK universities' higher education programs over the Internet. The initiative was partly intended to respond to a growing awareness of global competition in online learning and need for economies of scale to compete in that market (House of Commons Education and Skills Committee [HCESC], 2005). The government allocated £62 million to the project, of which £50 million was spent before the cancellation of the initiative in 2004. In that time, the initiative attracted only 900 students (with a target of 5,600) and no industry partners, which had been a condition of the funding. At the time of cancellation a policy determination was made that future investments in e-learning directly fund e-learning development at universities and colleges.

UK e-University was established as a private company, majority owned by the higher education sector with the intent of contracting with UK universities to offer their degrees online: universities were the joint owners of an e-Learning holding company through which they could license UKeU to offer their

courses. The holding company was intended to function as a quality assurance body for the higher education sector and to assess whether public investments were producing value. Private sector investors, who never materialized, in part because of the dot-com collapse, were intended to bring market forces to bear to contribute to the overall accountability of the initiative. This organizational structure proved to be unwieldy and did not create sufficient corporate accountability for fulfilling its mandate (HCESC, 2005). Ultimately the few successful elements of the project were transferred to specific universities, and the government shifted its emphasis in e-learning investment to working directly with universities and colleges.

Over the course of its three-year trajectory, UKeU focused considerable effort and money on the development of a customized learning platform that proved to be unsuccessful, and whose development created significant delays in rolling out course and program offerings. There was little real developmental integration of university faculty or staff; limited understanding of how universities operate (Bacsich, 2005) or market their courses and programs; and limited strength in liaising with institutions of higher education. The senior management team had very little experience in e-learning, and in many instances did not follow the advice of the experts they consulted.

Although technologies, approaches and context have changed significantly in the last ten years, the UKeU experience provides numerous important lessons for those seeking to establish large-scale collaborative ventures in technology-enhanced learning. The HCESC study of UKeU identified, among others, the following lessons learned:

- UKeU's market focus was too general and lacked sufficient market research. As well, given the how rapidly the market was evolving, the research it did conduct rapidly grew outdated. The initiative drifted from its original mandate, which was to offer services within the United Kingdom and in carefully targeted international markets, to a more general international approach that was overly ambitious.
- The approach emphasized the development of a custom-built platform rather than focusing on the social and human relationships necessary to teaching and learning: further, the platform, once built at considerable cost, was unsatisfactory. The emphasis on entirely online offerings rather than a blended approach was not consistent with the advice of their expert consultants, who had indicated that a hybrid approach with local centres offering face-to-face tutorials, would be necessary to make the model work.
- Government review of the venture suggested that there was little evidence that higher education institutions were truly engaged with trying to drive the project forward: there appeared to be enthusiasm among pockets of individual faculty members, but little institution-wide support for the idea. Bacsich (2005) further confirms this view, noting a lack of trust between UKeU and university staff, and a divide between the corporate culture of UKeU and the loose coalition of universities intended to be the broader partners and content providers for the endeavor. He argued further that the attempt to work with such a wide variety of types of institutions with the intent to reach such widely varied types of audiences is not an approach which the evidence suggests was likely to succeed.

Overall, HCESC advocated for a less risk-intensive and global approach to e-learning initiatives:

> We do not want the Government to become increasingly risk-averse as a result of what happened with the UKeU experience. Instead it should learn from this experience and, in th future, take a more experimental approach to high risk ventures. This would involve focusing more on testing various models and prototypes; taking an evidence-based approach; involving the private sector as partners in a more organic process; undertaking effective risk assessment procedures, and setting open and transparent success criteria for such projects." (HCESC, 2005, p. 3)

Case Studies: United States

Archival Education Collaborative (AEC)

Purpose of Collaboration	To expand course offerings
Model	Equal partnership
Funding	Institute for Library and Museum Services, Internal
Curriculum Type	Single-discipline coordinated course-exchange
Website	http://archiveseducation.info/about.html

Archival education is a niche curriculum market: the programs are small, and most institutions are unable to offer upper level and graduate course because instructors with the expertise are unavailable, or because there are so many demands for them to cover more generic courses. To address this challenge, five schools created the Southeastern Archival Education Collaborative (SAEC) in 2002, as an experiment in resource sharing in archives education. Courses offered through the collaborative are taught face-to-face in the host location, with synchronous video hook-up to remote locations. The initial collaboration evolved: several schools withdrew owing to technical standard, accounting, and e-learning approach differences, and other institutions joined. Original funding covered travel expenses for collaboration, but not for the course development itself, costs that the institutions bear as a normal part of their business models. The only ongoing cost beyond course development now borne by institutions is the cost of the annual meeting for the advisory board.

One critical success factor in AEC is the governance model. A steering committee composed of representatives of each of the partner institutions meets regularly (mostly by videoconference), develops principles and policies, and jointly identifies courses to be developed and offered. A second success factor is that money does not change hands between institutions, and technical costs are not borne by the programs, making the model cost-effective.

Students at each institution take the course for credit at their home institution: the Collaborative has an agreement to accept each other's approved courses based on steering committee agreement. There is an instructor of record at each institution, for each course, who deals with administrative matters. Students are governed by the rights and responsibilities of their home campuses, and library and other resources are offered by the home institutions. Classes do not exceed 35 students: 15 seats are reserved for the home institution, and other institutions may enroll up to five students. Unfilled seats can be filled by other institutions. Courses are graded on a percentage scale, and then entered into each institution's grading system by that institution based on their grading system. Institutional arrangements have been a challenge, with numerous early "workarounds" eventually evolving into more consistent policy as the program solidified.

Participation in the Collaborative does not offer any additional remunerative incentives for faculty, but they are able to teach more consistently within their own specializations and work with students interested in those areas. As well, many find the networking opportunities a positive experience. Dow (2008) notes that the programs involved perceive this as collaborative as a recruiting advantage: collectively they are able to offer a much more comprehensive program than their local competitors who are teaching archives programs as individual institutions.

Associated Colleges of the South (ACS): The New Paradigm Initiative

Purpose of Collaboration	To broaden and enhance academic offerings
Model	Consortium
Funding	Internal and charitable foundation
Curriculum Type	Multiple disciplines and instructional models: both joint course development and course exchange
Website	www.colleges.org

The Associated Colleges of the South (ACS), a consortium of 16 liberal arts colleges throughout the Southeast United States, has begun to share courses through a combination of face-to-face instruction and computer-mediated instruction across their 16 campuses, including courses, webinars, modules, and tutorials. The goal of the initiative is to broaden and enhance academic offerings for students (in upper-level language courses and other specialized offerings) so that they are not limited to the curriculum available at their home college, but can also select from a variety of course taught at any participating ACS school. The ACS alliance of 3000 faculty and 30,000 students will enable the colleges to pool resources and act collectively in ways not possible for individual institutions.

Hybrid and joint projects are incentivized through the ACS Blended Learning Program, which since 2011 has funded both single-institution and multi-institution projects, incentivizing inter-institutional collaboration by offering larger grants for these projects. Faculty members can teach these courses on their own, or they can team-teach with colleagues in various locations. Either way, the technology enables professors and students in both places to interact as one class. Without video or audio delays, the software creates seamless communications. This “blended learning” approach preserves the experience of one-on-one classroom interaction, since students and faculty can see and talk with each other and ask questions in real time.

Chief academic officers on each campus work with faculty to explore appropriate new possibilities and to navigate the curriculum approval structures and processes in place on the campuses. The effort will draw on the expertise of instructional technology officers and their collaborative efforts across the 16 campuses. The consortium has taken a very deliberate approach, seeking to systematically address issues such as faculty support and training for blended instruction, sensitivity to the role and position of pre-tenured faculty, assessing results of inter-institutional courses or programs, evaluating technology capability on campuses involved, harmonizing technology systems, establishing necessary bandwidth, and seeking external funding to establish the initiative.

Faculty initially expressed concerns about potential loss of quality through the inter-campus approach, but so far the results have been positive, despite a significant learning curve. Initiatives must be a faculty-driven effort to succeed: one identified benefit is that instructors are able to teach more often within their areas of specialization.

eCornell (Cornell University)

Model	External contractor
Funding	For-profit but not profit-driven. Seed funding provided by Cornell University
Curriculum Type	One or more faculty members working with centralized design team
Delivery	Distance and hybrid
Website	http://www.ecornell.com/

eCornell is a unique online teaching and learning initiative formed in 2001 by the Cornell University trustees. A stand-alone entity with Cornell University as the sole owner, it currently works with eight of the university's colleges and units. Since its inception, it has developed over 180 for-credit and certificate courses, and has served over 50,000 students from 184 countries.

It has worked in a number of delivery models to suit client needs, including, certificates, Bachelors and Masters programs, for-credit courses for blended and "flipped classroom" learning, hybrid programs, and free courses and MOOCs through platforms such as EdX, Udemy, Canvas.net, and executive/corporate programming for companies such as General Electric, Royal Bank of Canada, Rogers Telecommunications. It has also developed a successful inter-institutional collaboration between Queen's University and Cornell University through the creation of a joint Executive MBA program.

The University established eCornell as a separate e-learning company in order to take advantage of private sector approaches to translating content from classroom to e-learning. Cornell also has a technology education department that creates specific educational tools and objects: eCornells role is to work to work independently to create courses and programs for Cornell faculty and other institutions and organizations.

eCornell works with parties that approach them wanting to convert or develop new courses in online or hybrid formats. At first, much of e-Cornell's work was with private industry: there was limited Cornell faculty buy-in. However, e-Cornell has worked hard to change this pattern and has had significant success in fostering faculty engagement. In some cases, deans championed eCornell, convincing faculty to adapt their courses to online or flipped models using their services. Cornell faculty members are drawn to use these services as a way to enhance what they are already doing, and also because they come to view it as an opportunity to extend their reputation, to democratize education, to earn, supplemental income, and to be innovators. According to CIO Rob Kingyens, the production process can sometimes intimidate faculty but most really like being part of a creative process. They often develop extended relationships with the production team and enjoy the creative space/culture of eCornel. They are also drawn in by high production values that make them "look good", a factor in their recommending the process to others. Student demand for online and hybrid choices has also been key in its development

There is a growth in joint course development among faculty members in multiple disciplines including schools that traditionally have never worked together. eCornell is now turning people away, assessing which courses are more crucial to their mission than others, and identifying strategic priorities for course development. There has been a 30%+ enrollment growth over the past five years.

eCornell has first right of refusal with for all Cornell course development. They employ a fee-based and fixed cost business and financial model which includes fees and royalties based on pre-established revenue source criteria (e.g. new student enrolment, selling packages). Royalties can also be split between the individual and the AAU or faculty. eCornell also employs a multi-channel monetization model (on campus, online, certificates), a model favoured by most deans since it is a way to recruit new students and supplement costs. They also contract out for company specific executive education programs. All schools they work with get revenue from their courses every single month.

Over the years, eCornell realized that they needed a more consistent and efficient development process that included more clearly defined roles and responsibilities, and focused compressed timelines

for working with faculty. Previously, it could take up to 18 months to produce a completely online or digital course because of faculty schedules/availability (e.g., all faculty would be available at the same time, then not available, leading to fatigue because of difficult timelines). This impacted faculty willingness to engage in course design. They developed a course development strategy called "sprints." This two-week, dedicated course development process consists of two days for design, six days for production and two days for finalization. A three-credit course typically requires four to six sprints (8-12 weeks), and a single course sprint typically produces four to six hours of finished content. Courses are developed in three phases: design (instructional designer and faculty), production (development team and faculty), and finalization (development team and faculty), using a production team approach. Using this model, they have moved from developing three to five courses a year to 20 courses a year. Kingyens ascribes much of e-Cornell's growing success to this 'agile methodology.'

2U and Semester Online (2012-2014)

Purpose of Collaboration	Profit and increased course offerings
Model	Industry-driven
Funding	Industry
Curriculum Type	Production-team supported, consortially determined course development
Website	http://2u.com/ http://semesteronline.org/

Typically, 2U focuses on the development of online graduate programs prepared by single universities, but they have expanded into undergraduate programs, focusing on the design and delivery of high-quality programs that rival the quality of their face-to-face equivalent. Their services include customizing their platform for each institution, training faculty in the online medium, designing social networking tools for student involvement, designing all courses involved, and even evaluating the first cohort of applicants to the program: according to co-founder Jeremy Johnson, 2U may invest as much as $10 million in each graduate program they create (Empson, 2014). Their revenues in 2013 were $83.1 million: it is not clear whether 2U's "high touch" and resource-intensive approach will face pressures given its recent decision to become a publicly traded company (Empson, 2014).

2U also established Semester Online, acting as its parent company. Semester Online then established a consortium comprised of: Boston College; Brandeis University; Emory University; Northwestern University; University of North Carolina; Trinity College Dublin; University of Melbourne; University of Notre Dame; Wake Forest University; and Washington University. Semester Online was intended to enable the participating institutions to share courses and make online learning more accessible for their students. Credit transfer arrangements were pre-assigned, and students whose home institution was in the consortium could take a Semester Online course for credit even if it was developed and taught by another institution. Courses offered by Semester Online were not however only exclusive to students within the consortium. The courses were open to all online learners for credit; students whose institution was not part of the consortium had to apply to their home university for a transfer credit.

In April 2014, 2U announced that they would no longer be working with Semester Online, and as a result the Semester Online initiative will cease to be offered. One reason for its cancellation was resistance from faculty at a number of institutions, including Duke, which withdrew from its agreement after its Arts and Sciences Council voted against a policy to grant credit for online courses that would have automatically affirmed the 2U partnership. Two other universities followed suit. Faculty members

at Duke expressed concern with a lack of transparency from the administration, the reputation of other partner schools, and whether the arrangement would devalue Duke education (Baccelieiri, 2014). Although the intent was originally to offer courses that were not commonly available, one concern noted at Duke was 2U's planned provision of more generic courses (Baccelieiri, 2014). There were many logistical challenges involved in harmonizing registration systems, calendars and course approvals: enrolment was also quite low at a number of institutions (Walker, 2014). In general there was a perception that the potential benefits did not merit level of administrative complexity involved.

The Kentucky Community and Technical College System (KCTCS)

Purpose of Collaboration	Access, program expansion, and increased enrolment
Model	Centralized infrastructure and program repackaging
Funding	State funded by block grant against a performance agreement and approved business plan
Curriculum Development	Co-ordination of program development at multiple system institutions
Delivery Mode	Online
Website	http://www.kctcs.edu/

KCTCS works both with post-secondary education institutions and industry partners to develop and offer online programs. KCTCS designs online programs based on centralized, strategic analysis of needs and potential gaps in existing offerings, and then initiates a request by proposal to its institutional members to provide online courses. KCTCS also packages together courses from across its membership to form programs (in practice, courses are usually provided from one or two institutions).

KCTCS allocated $3 million in 2009 to implement online learning as a response to flat and/or declining enrollment across the system. Identified priorities were the need to improve completion rates, to find alternative customer bases, and to respond for a demand for short, focused, and easily available courses related to the workplace" (*Game Changers*). A critical feature of reaching this alternative customer base was on-demand approaches to learning. Admission procedures allow students to enroll and register in its programs 365 days of the year in two formats: Online Learn by Term and Online learn on Demand. Students can take any of the online modules for partial credit and complete as many as they like or need in a number of different formats (online or in-class) across colleges. KCTCS significantly streamlined its system, and centralized administrative activities, and now has 16 colleges with 68 campuses, and offers over 600 credit program offerings.

KCTCS management indicated that instructors and institutions do not formally collaborate on the individual courses. When courses are designed, instructors work with centralized instructional designers to improve the efficiency and consistency. In recent years, KCTCS has shifted its focus to student-centered learning. In doing so it has increased enrolment and improved student completion rates (in the case of the online learn on demand system by as much as 80%). All programs are offered on a common delivery platform. KCTCS also has a strong relationship with Pearson as a primary content provider.

KCTCS has also made a commitment to faculty training and compensation for taking part in IT and online course development training sessions. All courses are facilitated by instructors KCTCS has certified to teach online. Faculty who participate in the design of a course must undergo online teaching training before they can actually teach that course. Faculty are also compensated, in addition to their base salary, on a per-student basis for teaching on-demand courses.

KCTCS has adopted a business model in their course delivery in order to make the system more efficient. Acceptance of the Learn on Demand model has proven challenging because it is competency-based learning which is more of a business model than a traditionally academic one. Adopting a business model in an academic context has resulted in some tensions, and requires a culture shift for many of those involved in the design and delivery of courses.

Interdisciplinary Introductory Forensics (Universities at Shady Grove [USG])

Purpose of Collaboration	Providing better and more interdisciplinary learning experience
Model	Equal partnership
Funding	Internal
Curriculum Type	Interdisciplinary joint course development
Delivery	Collaborative hybrid course

Designed for students in criminology, psychology, and the health professions, this course explores how health care professionals, psychologists, and law enforcement officials support one another in criminal investigations. Offered since 2008, the course combines face-to-face classroom time with online components (i.e., weekly in-class guest lectures and discussions, weekly online quizzes, and online readings and subject matter guides provided through Blackboard). One driver for its development was recent calls by a number of research organizations and professional associations for increased interdisciplinary education in forensic science. The course is structured to mirror the process of a criminal investigation. Instructor presentation is supplemented by expert presenters from the various fields involved in a crime scene and in forensics recovery.

Core instructors and participating programs are located in three institutions within the Universities at Shady Grove (USG), a Regional Higher Education Center within the University System of Maryland. The USG Committee on Collaboration, Inter-professional, and Interdisciplinary Education Strategies (CIPES) provided critical support for the development of the course. The CIPES has since supported the development of a number of other interdisciplinary and inter-professional courses on critical care, diversity in the workplace, and geriatrics across institutions.

Course outcomes have been positive: enrolment figures and positive student feedback have been the indicators of its success. Students across numerous disciplines (criminology, nursing, psychology, pharmacy, biology, pre-med, social work, and communications) have enrolled in the course since its inception. However, the authors cite a number of challenges in the design and implementation of the course:

- Course approval was difficult primarily due to the differences in course submission requirements among the participating institutions.
- The Universities did not all have access to the same library materials. Course instructors were able to surmount this challenge by working closely with one of the system's major libraries to identify as many shared databases as possible and providing a specific subject guide for the course, as well as offering in-class training on the use of the shared databases. They also changed the final paper requirement to a group project so that students in different institutions could share their respective resources with each other.
- Receiving adequate credit for the workload involved in the course has been challenging. Although the course is collaboratively designed and delivered, each instructor spends as much time and effort on the course as they would if they were the sole instructors. There is no method for participating institutions to measure or track the time instructors put into the course

across their departments. Moreover, the instructors' institutions have different approaches to measuring workload, and these do not take into account the nature of collaborative work.

- High variance in student ability is challenging, in particular in terms of writing proficiency across disciplines. Because it is an interdisciplinary and inter-professional course, some of the students enrolled have more familiarity and experience than others with university-level writing.

Less Commonly Taught Languages (LCTL) Shared Course Initiative: Yale, Columbia, and Cornell

Purpose of Collaboration	To expand course offerings
Model	Equal partnership
Funding	Internal and charitable foundation
Curriculum Type	Single discipline (but multiple languages) co-ordinated course exchange model
Delivery	Synchronous multi-campus videoconference
Website	http://cls.yale.edu/shared-course-initiative

In response to the budgetary constraints that have forced many universities to reduce the number of foreign languages they offer, Yale, Columbia, and Cornell formed a partnership (2012-2013) to develop a collaborative framework for teaching LCTL using videoconferencing and distance learning technology in order to make additional language learning opportunities available to students. The languages are chosen based on the availability of a qualified instructor and the strength of an existing curriculum at one of the institutions (the sending institution), and on an identified need for a specific language at one or both of the other partner institutions (the receiving institution(s)). The pedagogical model is based on a synchronous, classroom-to-classroom approach to instruction and is designed to offer a highly interactive, and learner-centered environment.

The courses are taught 'live' by an instructor at the sending institution, and students at the receiving institution are expected to attend in a regular class outfitted with videoconferencing technology. At the receiving end, students see the teacher and can interact via videoconference with him/her and the other class of students. Technology support is available and in some cases a special language assistant, a native speaker of the language, will also be present in the classroom. Thus far, 10 of the least commonly taught languages (including Bengali, classical Tibetan, Dutch, Romanian, Tamil, Yoruba, and Zulu) have been taught. Project leaders plan to expand the initiative by adding more languages each year, gradually building the curricula from the beginning through the advanced levels of instruction.

As per the institutional agreement, each course conforms to the academic calendar of the sending institution. Therefore, students at receiving institutions will be expected to attend some classes (or participate in an appropriate alternative meeting time or online activity as approved by the instructor) even when their own institutions are not in session.

Enrollment in the shared LCTL courses is strictly limited and subject to the following institutional agreement: Total enrollment in any shared LCTL course will not exceed twelve; and at least three of these twelve slots will always be reserved for students from each receiving institution. Thus, where there is one receiving university, students from the sending university will have first enrollment priority for a maximum of nine slots in a course, and where there are two receiving institutions, students from the sending university will have first enrollment priority for a maximum of six slots.

Instructors report a more dynamic use of shared space, a greater focus on collaboration, deeper engagement with students, and the ability to establish a sense of community across institutions.

Students report more autonomy and greater control of their learning environment; and that they have real opportunities for authentic interaction and can build a shared community across the distance. The biggest challenges are the institutional differences related to language requirements, length of the term, and differences in institutional and class schedules. Other challenges include: the need for technological and pedagogical training and professional development for the instructors; and the sharing of best practices across institutions. Further, instructors face challenges in balancing the 'far' and 'near' classroom and fully integrating the multimodal learning resources.

Other implications of engaging in this type of collaborative project are the replicability of the model and its scalability (i.e. how it could be applied to other disciplines and used for different academic purposes). With respect to replicability, the model is gaining momentum in a wide range of institutional contexts: the University of Wisconsin system has had a longstanding system-wide collaborative partnership to share critical languages through its Collaborative Language Program (Rosen, 2002), and—more recently – Duke and Virginia have begun collaborating on language instruction.

SUNY Collaborative Online International Learning (COIL) Centre

Purpose of Collaboration	To enhance student learning through the introduction and strategic implementation of cross-cultural pedagogical collaboration
Model	Consortium
Funding	Corporate sponsors, government funds, national endowments
Curriculum Type	Sponsors equal partner collaborations in multiple disciplines
Delivery	Online and hybrid
Website	http://coil.suny.edu/home

Based at the State University of New York (SUNY) the COIL Center facilitates partnerships for online international collaboration. The initial impetus was to develop more online courses with an international dimension throughout SUNY by working with faculty to develop courses to be team taught with an international partner for students at both institutions. Co-developed courses may be offered online or in blended formats. In the case of blended courses, traditional face-to-face lectures would take place at both institutions involved in developing the course. SUNY-COIL is well-recognized for its effective and highly systematic approach to inspiring and supporting intercultural educational collaboration, and is set to expand into Latin American partnerships in the near future. SUNY COIL provides small grants for faculty seeking to collaborate in developing an international online or hybrid course, which support attendance at COIL events for professional development, networking and dissemination purposes.

The SUNY-COIL method involves a two-stage process. Firstly, the partnership sets goals for how the course can be developed through collaboration, making determinations regarding the scope of content and material to be covered, the likely class size at each school, recruitment issues, the appropriate division of online versus classroom instruction, identification of an approach to examining and analyzing the cross-cultural aspects of the course interactions, and eliciting support from key administrators at each institution. Secondly, the partners plan course infrastructure, including the educational software platform to be used, the provision of training for instructors and students, an approach to dealing with language issues, determinations regarding the use of common or complementary syllabi for the course, management of differences in academic calendar, determinations regarding the need for technical or educational support, and issues of socio-political context that need to be taken into account, and drawn out, in planning student collaboration. Team building is also taken

into account, and partners establish regular times for teleconferences and possible opportunities for in-person exchanges.
The SUNY-COIL Faculty Collaboration Guide identifies time, both in terms of calendars and in terms of time zones, as a challenge, as well as differences in language, technology and cultural expectations.

National Centre for Academic Transformation (NCAT)

Model	Not-for-profit organization
Funding	Internal and charitable foundation
Curriculum Type	Charitable foundations and endowment grants. Course re-design is intended as a cost-saving measure that in principle "pays for itself" over time
Delivery	Hybrid, online, and face-to-face
Website	http://www.thencat.org/

Building on her experience as vice president of Educom (now Educause), Dr. Twigg created the Program in Course Redesign (PCR) with the support of an $8.8 million grant from the Pew Charitable Trusts. From 1999 to 2004, NCAT worked with 30 diverse two- and four-year colleges (50,000 students annually) to prove that it is possible to improve quality and reduce cost in higher education. Course redesign using information technology is key to achieving both outcomes.

The results of the PCR were exceptional. Twenty-five of thirty course redesign projects showed significant increases in student learning; the other five showed learning equivalent to traditional formats. Of the twenty-four projects that measured retention, eighteen reported a noticeable decrease in drop-failure-withdrawal rates, ranging from 10 to 20%, as well as higher course-completion rates. Most dramatically, all thirty institutions reduced their costs by 37% on average, ranging from 20% to 77%, and produced a collective annual savings of about $3 million" (NCAT website). Working from a four-stage process, NCAT endeavors to improve student learning through information technology, while also helping to reduce instructional costs. This process includes:

1. Proof of concept (creation of program in collaboration with colleges and universities)
2. Analysis (an assessment of best practices)
3. Communication (promoting best practices)
4. Scale (scope of who they have worked with)

NCAT concerns itself with assisting institutions in redesigning courses and programs – especially in terms of leveraging technology. From 1999-2003, they worked on the Program in Course Resign (PCR) project, which focused on large-enrollment, introductory courses. From 2003-2006 NCAT worked on The Roadmap to Redesign (R2R), this allowed them to share their best practices from the PCR across the nation. During 2006-2010, they worked on the Colleagues Committed to Redesign (C2R) – this was a large-scale collaborative initiative wherein NCAT consulted partnering institutions in their redesign. There were 28 institutions involved in redesigning large-enrollment introductory courses. The successes of this initiative are valued through the projection of cost savings for the participating institutions through the implementation of the redesign.

While NCAT's results are impressive, it is important to note that many aspects of the model are context specific, and that factors such as labour agreements and size of institution can have a pronounced impact on the transferability of the model. In addition, the model of cost-savings should in some cases more properly be understood as enhancement of productivity.

Case Studies: Canada

BCcampus

Purpose of Collaboration	To enable institutions to offer needed programs that institutions cannot offer on their own; to lead and inspire technological innovation in the post-secondary education sector
Model	*Consortium*
Funding	Ministry of Advanced Education, Technology and Innovation operating on an annual funding letter
Curriculum Type	Incentivized and supported collaborative course and program design based on multiple models across all disciplines
Delivery	Online, but materials developed are used variously
Website	http://bccampus.ca/

The BCcampus consortium is an arm's length government agency comprised of 26 colleges and universities. It is a publicly funded organization that uses information technology to connect the expertise, programs, and resources of all BC post-secondary institutions under a *collaborative service delivery framework*" (http://bccampus.ca/about-us/ emphasis added). This is essentially a suite of technology, collaboration, and innovation services through which the consortium "assist[s] participating institutions to do together what one institution may find difficult to do alone" (http://bccampus.ca/about-us/collaborative-educational-services/). This includes researching and leading technological innovation; implementing, supporting and coordinating collaborative online program development; and providing student services through shared virtual learning spaces, which also function to connect participating institutions. This approach allows institutions to coordinate existing resources for delivery of online learning or student services beyond what any individual institution could provide on its own.

The Consortium has focused strategically on the development of online collaborative programs, which allow students to work towards a credential by taking courses from a number of different colleges or universities. "Adopt, Adapt, Create" are the BC Campus pillars for action. When the province identified a need in the post-secondary education system, BC Campus issued a request for proposals. Faculty were encouraged to network and brainstorm ideas for initiatives to submit for consideration: projects must be credentiable, needed, and multi-institutional. There could only be one "lead" institution on any initiative. Regardless of who was involved (i.e., academic institutions, industry, etc.) all initiatives had to use existing resources to meet the identified needs; search for innovative ways to use those resources; include collaboration; and create resources to meet needs only when no existing resources could do so. Funding was contingent on courses being made openly available online, though they remained the intellectual property of the course developers.

BCcampus is perhaps the richest and most useful model of collaborative course and program initiatives in Canada. While it no longer is offering focusing on the development of online courses or programs (it has shifted its priority to collaborative open text book development and redevelopment), it led 12 years of funded course/program development among BC post-secondary institutions and other stakeholders. One critical success factor in the BCcampus model is that it incentivizes new initiatives at the level of the individual instructor. By targeting instructors rather than institutions, BCcampus encourages more organic partnerships through instructors' own well-established professional, research and teaching networks. Other provincial consortia, including eCampusAlberta and Contact North have been strongly influenced by the BCcampus approach.

As each collaborative or partnership program or service is unique, the services institutions and teams require from BC Campus include providing flexible business, program or service and support

models: these are achieved in part through collaborative service development, participatory governance, and cost sharing. These services helped institutions to integrate individual and collective institutional processes into the broader inter-institutional initiative.

BC Campus sees the projects through all the way from planning, through operations to implementation to ensure successful collaboration. One role they have identified as particularly important is that of third-party oversight: institutions establish memoranda of agreement, and BCcampus helps to ensure that the guidelines and parameters set out by the participating members are being followed. This may also mean assisting individuals and teams to navigate challenging bottlenecks in inter-institutional practice. Some important lessons from the BCcampus model:

1. Funding needs to be treated as a business process as opposed to an entitlement process because there needs to be high accountability of the funds as they are government investment.
2. It is important to have a neutral third party involved in the projects (such as the consortium itself) in order to ensure that all institutions and parties to the agreement are abiding by the agreed upon terms and conditions.
3. The collaboration model that must be built on mutually beneficial initiatives. This therefore requires that collaboration is coming from some sort of need, an optimization of a problem, and/or when a single institution is unable to address an issue without the collaboration of another institution (e.g., not enough enrollment for a required course). The mutual benefit must take into account different levels of concern and motivations, for example working at both the perspective of the individual faculty member and at the institutional level.

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eCampus Alberta

Purpose of Collaboration	To improve access to online learning opportunities and programs
Model	*Consortium*
Funding	*Public*
Curriculum Type	Lead-partner model: one institution develops and offers the course, and the partner institutions support students taking the course and accept the course for credit; collaborative development occurs at the program, but not, course level
Delivery	Online
Website	http://www.ecampusalberta.ca/

Established in 2002, eCampusAlberta is a consortium of Alberta's 26 post-secondary institutions whose primary purpose is to facilitate student access to online courses and programs. One of its five guiding objectives is to "facilitate effective collaboration on online courses and program development projects" (http://www.ecampusalberta.ca/about-us/ecampusalberta-s-five-guiding-objectives#collaboration), an objective achieved by incentivizing institutions to develop online programs. Each institution in an eCampusAlberta initiative contributes courses to the collaborative program, remaining individually responsible for the courses and their implementation. eCampusAlberta does not encourage collaboration beyond two or more partners due to complexity and logistical challenges.

Although eCampus Alberta's model emphasizes direct institutional collaboration to a greater degree, it remains cognizant of the need for faculty-level engagement. They emphasize collaboration by "socializing ideas" – that is, using committees drawn from the consortium's institution's representatives to propose and analyze ideas. The operational committee is comprised of individuals selected by institutions' Vice-Presidents, Academic, but the roles of representatives vary depending on the goals of

the institution. Depending on the issues, representatives specializing in different subjects will also be invited. Currently, the creators of a course are also owners of that course. Courses that are submitted for consortium consideration must succeed in a quality assessment. Once successful and part of the course offerings within the consortium, the course is open to partner institutions within the consortium.

One of the strengths of the eCampus Alberta model is its clarity about the logistics surrounding course delivery and administration, including institutional agreement based on memoranda of understanding that are flexible, adaptable, and open to modification; the involvement of a limited number of collaborating institutions; the establishment of transfer agreements and aligned pre-requisites; tuition revenue managed and collected at student institution; student governance by student institutional regulations; and the explicitly definition of student service responsibilities in MOUs. (eCampus Alberta, 2009). Agreements must also articulate mechanisms for institutions leaving the consortium or partnership, outlining their responsibilities and obligations.

Joint PhD in Educational Studies (Brock, Lakehead, and Windsor)

Purpose of Collaboration	Establishing a program no one institution has the resources to offer
Model	Equal Partnership
Funding	Internal
Curriculum Type	Single-discipline collaborative program design
Delivery	Online and face-to-face

The Joint PhD in Educational Studies (Brock, Lakehead, and Windsor), established in 2000, is typical of many joint programs offered in the Province, in that it was conceived of as a solution to creating a program where no single institution had the resources to move forward. Programs of this type often use a balance of online and face-to-face instruction, in this case face-to-face summer courses which rotate among campuses, and online courses and a dossier-based approach in the winter terms. Courses are often team taught by faculty from more than one campus, and it is a formal regulation that all courses are developed by faculty members from at least two of the three institutions. Students work with supervisors from their own programs, but other committee members can be from any of the programs.

As a joint program that is anomalous to the various institutions' structures, all aspects of its operation must be collaboratively negotiated, and also navigated institutionally: the degree program is covered by a specific letter of understanding that is an attachment to the institutions' faculty bargaining unit collective agreements. The program is managed through a committee with representatives from all three institutions, with administration managed through the office of the director of the committee, supported by pooled finances. Admissions are channeled through each institution's admissions committee for short-listing, and then returned to the joint committee for final decision-making. As per the Quality Assurance Framework, joint institutional programs must be reviewed through a collaborative process among participating institutions.

Because programs of this nature are generally negotiated as single-instance programs, solutions to collaborative barriers can be idiosyncratic: these kinds of collaborations do not conform to one standard model. As Dow (2008) points out, solutions to problems are often initially "work-arounds:" as programs solidify and gain a sense of permanence, more formal solutions can be adopted. Typically, single-instance inter-institutional collaborations face many challenges because of the non-collaborative traditions of universities: these challenges, while not insurmountable, must be factored into assessing the risk, costs, and potential of collaborative initiatives.

MedTech Central and Entrada (Queen's and Calgary)

Purpose of Collaboration	To respond to the demands of a competency-based curriculum
Model	Equal partnership
Funding	Internal
Curriculum Type	Interdisciplinary collaborative case-based module development: implementation has been both uni-disciplinary and interdisciplinary
Delivery	Hybrid
Website	https://meds.queensu.ca/central/community/learninwithcases http://meds.queensu.ca/home/medical_education/medtech_central http://www.entrada-project.org/

MedTech Central is an integrated teaching and learning system originally designed to meet the needs of Queen's competency-based medical education curriculum. Courses are delivered primarily in hybrid format and are designed in collaboration across the different schools and programs within the School. Modules, housed on the *Learning Together with Cases* website, involve fictional, media-rich cases which draw on expertise from multiple disciplines, intended to encourage and require inter-professional interaction. These are supported by a variety of instructional and social networking tools that enable instructors and students from multiple disciplines to work together and share expertise. Course development is initiated by the course directors and educational developers, but is supported by the MEdTech Central and Entrada units who offer instructional design and technical support.

As the School of Medicine uses it for reporting purposes including faculty workforce requirements, accreditation reporting, and curriculum mapping, some degree of adoption is essentially mandatory. However, in general its use has been viewed positively from a consumer's point of view, as the single system allows for instructional organization, collaboration efforts, and annual reporting obligations in one place. Students have responded to the system positively, and student demand for more extended use is a key marker of success for MedTech Central. Challenges experienced by MedTech Central developers have often been more human than technical, for example, managing expectations in terms of what is technically feasible, realistic development timelines, establishing a critical mass of faculty buy-in and training for the creation of new materials, changing business requirements, and multi-level communications.

The University of Calgary (2008) and UCLA's David Geffen School of Medicine (2013) have joined forces with Queen's to use and expand Entrada, an open-source version of the MedTech software, essentially a custom-built LMS platform. Entrada is licensed under GNU GPL v3. Intellectual Property rights for code developed by each institution remain with that institution, and each contributor to the project signs a contributors' license agreement granting Entrada a "perpetual, worldwide, non-exclusive, no charge, royalty-free irrevocable copyright license to reproduce, prepare derivative works or publically display, publicly perform sub license and distribute their contributions and such derivative works." According to the project manager this method has been extremely effective, efficient, and inexpensive to implement. It is also widely accepted and adopted throughout the industry. Instructional materials developed for MedTech have varying degrees of 'openness.' Some content developed by faculty is available under a Creative Commons license and open to the public, while other content is restricted and available only to their learners for the duration of their course.

Kultur360 (Waterloo and York)

Purpose of Collaboration	Innovation and pedagogical improvement
Model	Equal partnership
Funding	Internal funds from both institutions and external development grant
Curriculum Type	Single discipline collaborative development
Delivery	Online

This project is typical of many small, informal module development initiatives that take place across the Province. Faculty members from two institutions are jointly developing this German-language and culture website. Still under development, the site will have three types of content: Dossiers (commissioned long-form pieces containing multiple media (text, photos, video, audio) concentrating on a specific topic), Commentaries (commissioned pieces, such as reviews of books and films, opinion articles on current issues), and Extras (links to stories, web pages, and blog posts that deal with contemporary Germany society and culture). The core instructors and others becoming involved in the project are approaching it as a research project. Involvement is not incentivized through increased funding or a decrease in other areas of workload. The intent of the project is to work with like-minded colleagues, to engage experts who can develop materials, and to build a platform that would host these materials. Other collaborators will provide peer review of the materials developed and shared on the website.

The project leaders expect that colleagues producing materials for the site will count them as part of their regular research activities, including original research and knowledge mobilization: whether this is really the case is dictated by institutional context.

The instructors' goal is to develop an authentic, openly accessible, and public resource for research and commentary on contemporary German culture that would be useful to anyone – journalists, travelers, post-secondary instructors, or the general public as a resource for learning about German-speaking Europe in the 21st century. Dossiers are intended for use by instructors teaching about German society and culture. With enough Dossiers, an instructor could simply use the site as the course textbook, or use individual Dossiers as they see fit. A communal site would save instructors time by providing them with original research packaged for a general audience. Graduate students will be involved in developing draft assignments and other educational materials for the instructor package. The site is also envisioned as a source of knowledge mobilization about German language and culture, so needs to be more dynamic than a traditional teaching and learning site.

Most of the challenges to this point have been technical in nature. There are also a number of challenges with colleagues buying in to the concept and committing the work needed since it is deemed a risk to contribute to something that is not a standard peer-reviewed publication. Uptake by instructors and others is as yet an unanswered question.

Appendix B

Evaluation Frameworks

Evaluation Frameworks

Our study has identified numerous filters, from reasons to collaborate, to success factors, to contextual conditions for success factors that should be taken into account as elements of decision-making. This appendix provides some representative and well-researched decision-making frameworks reflecting core elements of shared course design that must be considered in evaluating both institutional readiness to collaborate and the potential of a given inter-institutional collaboration.

These include the following

I. Technological readiness: The e-Learning Maturity Model (Marshall, 2014)
II. Collaborative readiness: Collaborative Capacity Assessment (Norris-Tirelll & Clay, 2010)
III. Institutional fit: The University of Greenwich Collaborative Provision Policy and Practice Framework (2005)
IV. Key success factors for inter-institutional collaboration planning: The Re.Vi.Ca Critical Success Factors for Virtual Campus Initiatives

Appendix E also includes a copy of our institutional inventory document, which provides a useful preliminary framework for assessing inter-institutional commonalities, complementarities, and challenges in shared course collaboration: actual shared course collaboration efforts will enable a more concrete assessment of the value of these tools and opportunities to refine and integrate various approaches in order to create an effective approach for the Ontario context.

I. The e-Learning Maturity Model

According to Stephen Marshall, the eMM lead researcher, eMM "a means by which institutions can assess and compare their capability to sustainably develop, deploy and support e-learning" (Marshall, 2014). The basic principle of the process is that institutions' processes have a significant impact on their ability to be effective, and that in order for institutions to evolve and function responsively, these processes must be reproducible extensible, and sustainable. The eMM looks at five process areas (delivery, planning, definition, management, and optimization, comprised of 35 processes that underlie an institution's ability to effectively deliver e-learning. The eMM model has been the subject of extensive international use and is widely used.

The following is a summary of descriptors involved in the eMM: please use the link below to visit the interactive web page with full access to the breakdown of each criterion.

eMM Version 2.3 Processes (DRAFT VERSION)
Note: the reason these are labelled draft is to indicate that they are likely to be updated in response to feedback from practitioners and researchers.

Learning: Processes that directly impact on pedagogical aspects of e-learning

L1. Learning objectives guide the design and implementation of courses
L2. Students are provided with mechanisms for interaction with teaching staff and other students
L3. Students are provided with e-learning skill development
L4. Students are provided with expected staff response times to student communications
L5. Students receive feedback on their performance within courses
L6. Students are provided with support in developing research and information literacy skills
L7. Learning designs and activities actively engage students
L8. Assessment is designed to progressively build student competence
L9. Student work is subject to specified timetables and deadlines
L10. Courses are designed to support diverse learning styles and learner capabilities

Development: Processes surrounding the creation and maintenance of e-learning resources

D1. Teaching staff are provided with design and development support when engaging in e-learning
D2. Course development, design and delivery are guided by e-learning procedures and standards
D3. An explicit plan links e-learning technology, pedagogy and content used in courses
D4. Courses are designed to support disabled students
D5. All elements of the physical e-learning infrastructure are reliable, robust and sufficient
D6. All elements of the physical e-learning infrastructure are integrated using defined standards
D7. E-learning resources are designed and managed to maximise reuse

Support: Processes surrounding the support and operational management of e-learning

S1. Students are provided with technical assistance when engaging in e-learning
S2. Students are provided with library facilities when engaging in e-learning
S3. Student enquiries, questions and complaints are collected and managed formally
S4. Students are provided with personal and learning support services when engaging in e-learning
S5. Teaching staff are provided with e-learning pedagogical support and professional development
S6. Teaching staff are provided with technical support in using digital information created by students

Evaluation: Processes surrounding the evaluation and quality control of e-learning through its entire lifecycle

E1. Students are able to provide regular feedback on the quality and effectiveness of their e-learning experience

E2. Teaching staff are able to provide regular feedback on quality and effectiveness of their e-learning experience

E3. Regular reviews of the e-learning aspects of courses are conducted

Organisation: Processes associated with institutional planning and management

O1. Formal criteria guide the allocation of resources for e-learning design, development and delivery

O2. Institutional learning and teaching policy and strategy explicitly address e-learning

O3. E-learning technology decisions are guided by an explicit plan

O4. Digital information use is guided by an institutional information integrity plan

O5. E-learning initiatives are guided by explicit development plans

O6. Students are provided with information on e-learning technologies prior to starting courses

O7. Students are provided with information on e-learning pedagogies prior to starting courses

O8. Students are provided with administration information prior to starting courses

O9. E-learning initiatives are guided by institutional strategies and operational plans

Retrieved from http://www.utdc.vuw.ac.nz/emmWiki/index.php?title=Version_2.3&oldid=1789

Assessing Inter-institutional Collaborative Capacity

In *Strategic Collaboration in Public and Non-Profit Administration*, Norris-Tirell and Clay (2010), the authors provide a detailed model for the assessment of collaborative readiness, noting that systematic analysis of collaborative readiness is a critical missing step in many organizations' decision to collaborate with other stakeholders: "Too often, public administrators engage in collaborative activity unwisely, before they have had a chance to adequately assess the factors and dynamics that will directly and ultimately shape the collaboration's effectiveness" (Section 3.2). Although the language of the text is ore typical of community practice, the principles resonate with the challenges that institutions, as organizations with multiple stakeholders with conflicting interests, face in assessing their capacity to collaborate with other institutions. Further research would be of benefit to assess the value of adapting models like this to the Ontario university sector. It is wise to remember that collaboration, no matter how positively perceived at the broad institutional level, will in large part be carried out by specific individuals, and that their expertise, engagement, and collaborative skills, as well as many broader contextual issues, impact the potential of collaborations.

They identify five preconditions for collaborative success:

Precondition 1: Legitimate and pressing need to collaborate

a. Does sufficient political support exist to sustain the work of the collaboration
b. Is the issue adequately urgent to displace other priorities?
c. Does the driving issue have public visibility?
d. How likely will the key stakeholders and community be to accept or implement the results?
e. What other projects are currently underway related to this issue?
f. Is the proposed effort duplicative of these efforts?
g. What agencies are involved and how?
h. How will the collaboration relate to these efforts?
i. How much resistance will this new effort face?
j. Why bring added focus and energy to the issue now?

Precondition 1 Signals:
The issue is important to stakeholders: identify key stakeholders and estimate the level of collaborative salience that each would place on the issue driving the collaboration.

Need for and purpose of the collaboration is clearly articulated; purpose does not unnecessarily duplicate other efforts: draft a statement of purpose for the collaboration, identify key projects and agencies that relate to this purpose, and estimate the degree of overlap with existing collaborations.

Precondition 2: Critical mass and sufficient representativeness

a. Is the convening group sufficiently knowledgeable about the set of "must be at the table" participants?
b. Can the collaboration count on key people or agencies to carry their part of the burden?
c. Will agencies be willing to add this as an important expectation for their staff?
d. Will the set of participants collectively and legitimately represent the varied and competing interests?
e. Will the people who have the knowledge and expertise that is needed fro the collaborative issue be willing to commit to the collaboration?

f. Can the collaboration balance the needs for both professional expertise and local knowledge?
g. How much direct participation of elected or community leaders is necessary?

Precondition 2 Signals
Individuals and agencies that have a purpose and stake in the purpose and anticipated outcomes of the collaboration are likely to engage in the work of collaboration: identify the key interests that must be represented and the extent of overall engagement that can be anticipated from these key interested parties.

The set of key agencies and participants with needed expertise are likely willing to actively engage in the work of the collaboration: Identify the essential tasks that need to be done, then predict the willingness of key agencies or participants to be engaged and their relevant expertise areas.

Precondition #3: Skilled and committed leadership

a. Is there an obvious designated lead or coordinating organization or individual?
b. Would this assumption of the leadership role be helpful or problematic?
c. Will the initial leadership structure be in place only for start-up, or will it continue for a set period indefinitely?
d. Will the founding group be able to develop an agreed upon leadership olan if leadership is shared among multiple participants?
e. Does the leadership team possess the skills to facilaite participants through the collaboration process?
f. Will it be clear who has the power to set the rules on accountability and who would be responsible for assuring and monitoring outcomes?

Precondition 3 Signals:
Key participants have the necessary leadership and facilitative skills to guide the design and evolution of the collaboration and are willing to serve in leadership roles: Identify the participants who are likely to lead the collaboration, and assess the leadership skill level.

Prospective leaders have adequate community connections and the skill level to recruit participants and to generate resources: Assess the capacity of anticipated leaders to obtain resource commitments and to enlist support.

Precondition #4: Competence for collaboration

a. Do the likely participants have the skills and personal characteristics that will foster and enhance trust so that the collaboration can be successful?
b. If they do not, will they be willing to work together to develop these skills?
c. Will they be able and willing to cooperate together to overcome issues that may arise to hinder trust?
d. Of those likely to want to engage in collaboration, can they suspend self-interest in the pursuit of a collective goal?
e. Are thy respected in their relationship network?
f. Can they trust others sufficiently to work through what may be difficult, controversial, or threatening issues?

Precondition 4 Signals:

Positive history of productive relationships and collaboration: Identify the examples of recent collaboration efforts within the community, and assess whether the experience was positive or negative.

Key participants have sufficient levels of trust within the group to work through the initial steps of forming a collaboration and to sustain the collaboration: Identify the participants who are likely to be involved in the collaboration and assess the strength of their relationships with each other.

Precondition #5: Reasonable probability of consequential change

a. Have the stars aligned to engender innovation and change?
b. What system-level barriers (e.g., entrenched "silo" perspectives, turf protection, inequalities, policy contexts), may impact success?
c. What are the prospects for meaningful innovation and positive results?
d. How timely is this initiative?

Precondition #5 Signals:

The timing is right: Articulate the pressing reasons or forces that justify proceeding now. List the key environmental conditions, initiative forces, and tactical drivers that are propelling collaboration.

System-level barriers can be identified to become targets of opportunity: identify key obstacles specific to the issue driving the collaboration and estimate the likelihood of innovation and reinvention.

Decision-Making

Likelihood of Collaborative Success	Collaboration Decision
High: All signals for all five preconditions suggest optimal collaborative readiness.	Proceed with forming the collaboration.
Medium: Signals suggest a mixed picture of collaborative readiness.	Proceed with caution, realizing that the lack of readiness of the preconditions provide important clues as to roadblacks that will likely appear and interfere with success.
Low: All signals suggest inadequate collaborative readiness.	Do not proceed OR Proceed only if other considerations trump the assessment, an then proceed with great caution.

Adapted from: Norris-Tirrell, D. & Clay, J. (2010). *Strategic collaboration in public and nonprofit administration: A practice-baed approach to solving shared problems.* Book Series on Public Administration and Public Policy. Boca Raton: CRC Press.

The University of Greenwich Collaborative Provision Policy and Practice Framework (2005)

The University of Greenwich (UK) has an extensive history in inter-institutional collaboration: in support of this practice, the institution developed comprehensive policies for the purpose of assessing potential partners including tiered process and detailed matrices for the assessment of risk and potential. These are offered in part as a model for possible practice and part because they are illustrative of the range of factors that successful collaborators take into account in establishing partnerships.

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University *of* Greenwich

COLLABORATIVE PROVISION: POLICY AND PRACTICE

SUMMARY

This paper:

1. outlines the University's strategic approach to regional, national and international collaborative academic provision in relation to University of Greenwich taught awards;

2. describes the University's current models of partnership;

3. summarises the current arrangements for their authorisation, approval, monitoring and review, and

4. outlines the responsibilities of different departments in the coordination and management of collaborative provision.

1. INTRODUCTION

Collaborative academic provision is a key aspect of the University's mission and strategic objectives. The University is involved in a number of partnerships and consortia, many of which seek to enhance access to higher education and to ensure that its benefits are available to a wide range of communities, local, regional, national and international. Collaborative academic provision also supports other key areas including research, curriculum development, student recruitment, and staff development and staff exchange.

The University collaborates with a significant number of external institutions and organisations for the delivery of programmes of study that lead to named awards and/or academic credit, as well as in developing progression arrangements to provide access and/or advanced standing to University programmes. These partnerships, in their diverse formats, all contribute to the University's strategic mission and objectives of "developing local, regional, national and international partnerships with other educational institutions, professional bodies, and public and private enterprises" *(University Mission Statement, 2002)*.

1.1. The growth of collaboration of partnerships at the University of Greenwich

Currently the university has a wide range of partnerships, both in the UK and overseas, which include:

- The FE Partner College Network in South East London, Kent and Medway;
- The PCET Network of Linked colleges;

- Full-cost collaboration with both private and state institutions in the UK and overseas delivered through a variety of modes;
- Credit-rating of provision by other organisations;
- Progression arrangements for entry and advanced standing with a diverse range of institutions in the UK and overseas.

There are links with 25 UK FE colleges, 8 other UK partners and more than 20 overseas institutions for collaborative programme provision and with a growing number of institutions for agreements covering progression. Currently more than 4000 students are registered on partnership programmes in the UK and overseas.

2. PARTNERSHIP MODELS

The University has a number of different partnership links according to the nature of the partnership and the status and experience of the partner institution.

2.1 Types of link

Some partners offer a number of University programmes, sometimes several partners offer the same programme, and a number of partnerships simply involve one bespoke programme. The advantages of each type of link are summarised below:

(a) *multi-disciplinary link,* ie where one partner offers a range of programmes from a number of University Schools: this strengthens the institutional bonds and understandings between the University and the partner, offers resource economies for all those involved, and fosters the sharing of good practice between Schools. There may also be opportunities to share general and subject-specific experience and expertise between similar multi-disciplinary partners.

(b) *mono-disciplinary links,* ie where several partners offer the same programme from one of the University's academic Schools: this can offer economies of scale, and has the potential for fruitful sharing of experience and expertise between all the partners involved. (NB In some cases, the same programme may be also offered by a partner who is already multi-disciplinary.)

(c) *unique links*, ie where a single partner offers a small number of programmes, (usually only one or two) from one of the University's Schools; these largely reflect individual opportunities or a collaboration arising from particular staff links and often address niche markets. They may also enhance research or other types of connection between the two organisations. Where possible, however, the University is keen to build on a successful single discipline link to develop further collaborations and grow a multi-disciplinary partnership.

The University may also develop partnerships which originate in strategic initiatives at regional or national level (which may be HEFCE-funded). These give the institution a stake in key policy agendas. An example would be the development of the joint School of Pharmacy with the University of Kent.

2.2 Types of collaboration

The University defines partnerships for the collaborative delivery of its awards by the extent to which the four 'learning facilities' of the University's Strategic Framework for Learning are subcontracted to the external partner, i.e.:

- access to information (printed or electronic library resources)

- learning facilitation (by direct teaching or resource-based learning)
- tutorial support (academic and personal)
- formal assessment

In all cases, the University controls the outcome standards through staff visits, appointment of external examiners, annual monitoring requirement, and regular reviews. For delivery of the programme, however, there is flexibility in the way the four learning facilities are addressed. The most common models are as follows:

Teaching Centres: partner provides library access, does all or most of the teaching and tutoring and also the assessment.

***Learner Support Centres*:** partner provides library access, and (approved) local staff who provide tutorial support for University-provided print-based or electronic learner support materials, often allied with some face-to-face intensive tuition by University staff. The University also controls the assessment by marking and/or moderating locally marked coursework, and by setting and marking examinations.

Administrative Support Centres: partner simply provides local premises and administrative support, with library access if required. The University of Greenwich provides intensive schools and/or distance learning or e-learning materials plus e-tutoring.

The University regards the diversification of the University's collaborative provision, in terms of where, when and how it is delivered, as posing a 'continuum of quality risk'. On such a continuum, the highest risk is regarded as occurring where most of the learning facilities are subcontracted to the external partner as a *teaching* centre, and the University itself has little direct and routine involvement in the delivery. *Administrative Support Centres* are deemed to represent the lowest risk because University staff communicate directly with students, and the centres simply provide local facilities and administrative support.

2.3 Types of programme

New programmes may be designed by the partner, using the University's protocols, and may then be approved ('validated') by the University for delivery in collaboration with that partner (operating as a teaching centre) as a University of Greenwich award. Exceptionally, a programme devised by a partner to its own specifications can be externally validated as equivalent to a University of Greenwich award.

Some *existing* programmes, which have already been approved for delivery by the University, may be approved ('franchised') for delivery in collaboration with an external partner operating as a teaching centre, learner support centre or administrative support centre.

The University may also enter into a *strategic* partnership with another authorised awarding institution, either in the UK or overseas, to provide one or more programmes of study leading to a *joint award*.

2.4 Types of funding

The collaborative provision in UK FE colleges is supported by HEFCE funding, and is one component of the University's recruitment contract. Full-cost partnerships are required to be completely self-supporting, without any cross-subsidisation from HEFCE funded staff or other resources. The latter mostly involve overseas partners, such as private colleges or state-funded higher education institutions (and also include externally credit rated provision

in the UK). *Appendix A* shows examples of the different types of links within the HEFCE-funded and full-cost partnerships.

3. QUALITY ASSURANCE

The University procedures for Quality Assurance are set out in the Quality Assurance Handbook. Additionally guidance is provided in the Partner College Guide and the Guidance Notes on full-cost partnerships.

3.1 Threshold Criteria

The University has developed some general threshold criteria which guide its decisions about the nature of its links with particular external partners. These take account of the partnership model (see above), but also consider the level of academic credit involved, and the type of partner institutions (see *Appendix B* for Matrix of Threshold Criteria for Collaborative Provision). Bearing in mind these threshold criteria, each new full-cost proposal is also required to present a satisfactory business plan.

The academic risk is evaluated with the help of the University's preliminary risk assessment tool. This tool compiles an overall risk 'score' by assessing possible risk factors such as the partner's location (UK or overseas?), the partner's status (university?, college?, public?, private?, current portfolio?, experience of collaboration?), the programme (new?, franchise of existing?, academic level?), the delivery model (teaching centre?, support centre?) and assessment arrangements (see *Appendix C*). Further information is gathered from colleagues, other HEIs, overseas contacts, web-based data, and other sources. A senior planning committee, the Academic Planning Sub-Committee (APSC), then debates the issues, weighs possible benefits against likely risks, and has the power to give authorisation ('approval in principle to proceed').

Prior to the submission of a proposal for authorisation by the APSC, the host School should have researched the market and the proposed partner thoroughly and presented the proposal to its own Learning and Quality or Collaboration Committee for discussion.

3.2 Approval Process

Once a collaborative proposal is authorised, a formal approval exercise is arranged following the procedures outlined in Section 4 of the University's QA Handbook and the associated Appendices. The University already has guidelines indicating whether the host School or the Learning and Quality Unit should take lead responsibility for different types of collaborations. However, given the diversity of links, a 'hierarchy' of approval arrangements operates. The critical elements of externality, and scrutiny of the partner's institutional context, and the arrangements for curriculum coverage; teaching, learning and assessment; staffing and other resource provision should always be present, but the *intensity* of scrutiny is varied to suit the perceived level of risk.

3.3 Monitoring

Every collaborative programme is required to submit an annual monitoring report. Schools provide an overview of their collaborative provision within their Annual Reporting and Planning Document (ARPD), and Partner Colleges compile an annual institutional review (comparable to the ARPD). Both these reports are scrutinised by the senior manager with responsibility for the oversight of collaborative provision and a report highlighting key issues is considered by both the University's Academic Collaboration Committee and Academic Council so as to identify and follow-up both good practice and/or concerns at a range of levels viz. within and between Schools, partners and programmes.

3.4 Review

All collaborative provision is subject to regular formal review and renewal of approval, at least once every five years. This will comprise both programme reviews and institutional reviews for partners offering a range of programmes. More frequent reviews will be undertaken where major concerns are raised from visits and annual reports which could impact on the quality and standard of provision.

Appendix D sets out threshold requirements for approval and review arrangements for different types of partnership.

4. COORDINATION AND MANAGEMENT OF COLLABORATIVE PROVISION

The success of collaborative provision rests on the development of strong linkages and good lines of communication between University Schools and Offices in the management and operation of partnerships. As collaborative provision has developed, a range of systems, procedures and responsibilities have emerged to ensure the robustness and effective administration of both partnerships and programmes.

The responsibilities of the main departments involved are set out below. Oversight of all collaborative provision and strategic oversight of the Partner College Network rests with the Division of Learning Enhancement, Access and Partnership through its Learning and Quality and Educational Partnerships Units. Quality assurance of provision and responsibility for individual programmes and groups of programmes rests with University Schools through the devolved quality assurance model adopted by the University. Schools are expected to undertake initial appraisal of collaborative proposals, but responsibility for authorisation, and for providing University oversight of approval and monitoring processes rests with the Academic Planning Sub-Committee and Academic Collaboration Committee respectively, and School activity is reported through the Annual Reporting and Planning Document (ARPD).

Where a number of partners have been established in a relatively confined geographical area, such as the Partner College Network in South East London and Kent and Medway, additional deliberative structures to support planning and monitoring processes have been established (see *Appendix E*).

It is the University's aim to increase the number and level of multidisciplinary links with key partners in selected geographical locations. This provides the opportunity to increase the level of University and partner interaction and to ensure that comparable standards are maintained across a diversity of programmes. The University recognises the resource efficiencies gained through a focused approach and the advantages of sharing good practice across a range of programmes and partnerships.

4.1. ROLE OF SCHOOLS/OFFICES IN COLLABORATIVE ACTIVITY

Department	Responsible
Recruitment and Admissions Office (International Unit)	- Market Intelligence - Identification of overseas parties and opportunities for delivery overseas and informing Schools of possibilities - Raising University profile overseas - Brokering of articulation arrangements
Schools	- Identification of links and following up Recruitment and Admissions suggestions - Development of business plans - Seeking authorisation and approval of programme proposals - Monitoring and maintenance of quality and standards - Enhancement, including staff development, with the support of LEAP and the Staff Development Unit
Division of Learning Enhancement, Access and Partnership (LEAP)	- Administration of partnership arrangements (memoranda of agreement and financial memoranda, articulation agreement register, database of collaborations) - Strategic oversight and facilitation of Partner College Network - Facilitation of multi-School collaborative links - Oversight of QA arrangements for collaborative provision - Officer support to ACC, APSC, PSPM, PPG - Annual analysis of collaborative monitoring and external examiner reports - Support of enhancement activity carried out by Schools - Advice to committees on new partnership proposals
Office of Student Affairs	- Registration of students on collaborative programmes - Processing of results - Building authorised programmes on Banner - Conferments and awards

Department	Responsible
Planning and Statistics	- Oversight of collaborative numbers - Provision of cohort statistics
Information and Library Services	- Resource visits to partner organisations - Advice on resource requirements for delivery of partnership programmes - Support for off-campus students (OSCARS)
Finance Office	- Approval of business plans for collaborative activity, where necessary - Advice on full-cost provision - Establishment of overheads
Marketing	- Approval, and monitoring by sample checks, of marketing and publicity materials produced by partners offering University of Greenwich programmes - Advice on marketing development - Provision of advice on publicity material
Executive	- Debate/discussion of collaborative strategy - Agreement of key principles and approaches
Vice Chancellor's Office	- Consideration of any referred decision on collaborative programmes/developments and partnerships

5. SUMMARY

Over the last ten years the University has developed a robust approach to collaborative provision through establishing a range of risk assessment and QA processes to ensure the minimization of risks and the establishment of high quality collaboration.

As collaborative provision expands, however, a number of operational issues arise which are regularly deliberated. These include:

- The level of resource needed to support collaborative work;
- The risks associated with expansion of collaboration in terms of both quality, and resources and demand on University services;
- The development of standardised approaches to memoranda of agreement and greater control over the operationalisation of partnerships;
- The range and balance of QA mechanisms at central and local level.

Policy and procedures for collaborative provision are continually updated and revised in the light of the University's Collaborative Strategy, feedback from all partners and discussion and deliberation within the University.

APPENDICES:

Appendix A	**Overview of main types of collaborative provision**
Appendix B	**Matrix of Threshold Criteria for Collaborative Provision** (amended version of earlier Matrix; to be adjusted following recent Academic Court approval re Level 3).
Appendix C	**Preliminary Risk Assessment Tool for full-cost Collaborative Provision**
Appendix D	**Threshold Requirements for Programme Approval and Review** (elaborated from previous version; will need endorsement from LQC)
Appendix E	**Key deliberative structures for Partner Colleges**

APPENDIX A: OVERVIEW OF MAIN TYPES OF COLLABORATIVE PROVISION

HEFCE funded partnerships	***As exemplified by***
Multi-disciplinary partners	Eight FE colleges in the South East region (forming the Partner College Network), mostly offering Edexcel and Foundation Degrees programmes, plus a few Honours degrees
One mono-disciplinary cluster	The PCET Network of Linked Colleges in England and N. Ireland, each offering FE teacher training programmes
A few 'unique' links eg	Bird College of Dance Christ the King Sixth Form College
Joint Partnership Link	Medway School of Pharmacy, jointly with the University of Kent, through the Universities for Medway project
Full-cost partnerships	
Several multi-disciplinary partners	MSA University, Egypt Saxion Hogeschool, Netherlands ABRS Institute, Hong Kong SBCS, Trinidad
Several mono-disciplinary clusters	The School of Computing and Mathematical Sciences offers the BSc Hons Computing (top-up) programme in colleges in Bahrain, London, Malaysia, Malta, Kenya, Zambia, Saudi Arabia, Hong Kong, Trinidad and elsewhere The School of Architecture and Construction has a masters portfolio which is offered in collaboration with institutions in mainland China, Hong Kong, and the Netherlands
A few 'unique' links, eg	TEI, Kavala, Greece

APPENDIX B: MATRIX OF THRESHOLD CRITERIA FOR COLLABORATIVE AUTHORISATIONS
(without prejudice to further evaluation using the Risk Assessment Tool, and to independent resources check and on-site approval meeting)

Delivery Model*	Levels 0, 1 and 2	Level 3	Level M
Status of partnership: **(a) *Partner as a Teaching Centre***	Recognised education provider by home government, and established in the discipline at this level or lower	a) Recognised by home government as a general HE or wholly specialist FE institution** b) Already established in the discipline at pre-entry level c) Meeting University of Greenwich requirements re. appropriate institutional context and strategy d) Where appropriate, achieved or potential multi-disciplinary link	a) Recognised by home government as a University or polytechnic b) Already established in the discipline at undergraduate level c) Meeting University of Greenwich research and scholarly activity requirements for *teaching* at Level M *(QA Handbook, Annex 2)*, with appropriate institutional strategy and context d) Where appropriate, achieved or potential multi-disciplinary link
(b) *Partner as a Learner Support Centre*	As above	a) HEI or FE College, with expertise in the discipline at lower levels b) Providing local support for University of Greenwich or commercially produced student learning materials (printed or electronic)*** AND c) Meeting University of Greenwich criteria for library access *(see QA Handbook Appendix C4)*	a) Partner with expertise in the discipline at undergraduate level b) Providing local support for University of Greenwich or commercially produced learning materials (printed or electronic)*** AND c) Meeting University of Greenwich criteria for and library access *(see QA Handbook Appendix C4)*

* Partners acting only as Administrative Support Centres are not considered here
** FE college can be considered a specialist in FE, so can offer Level 3 Education and Training qualifications
*** See QA Handbook Appendix D8 re U of G materials, but note also the increasing availability of commercially produced materials as an aid to off-campus delivery

Collaborative Provision: Policy and Practice (final version)

October 2005

APPENDIX C:

RISK ASSESSMENT TOOL
for initial evaluation of new full-cost collaborations
(Revised autumn 2005)

[1 = low risk; 2 = medium risk; 3 = high risk]

A. THE CONTEXT

- **Language**
  - UK or overseas; English first language 1
  - UK based, English second language 2
  - overseas, English second language 3

- **Educational culture**
  - UK 1
  - Commonwealth 2
  - European or other 3

Sub-Total =

B THE PROPOSED PARTNER

- **Status**
  - large HEI (public or private, govt approved/supported) 1
  - publicly funded FE College 2
  - small private college/organisation 3

Resources
- well resourced *large* institution 1
- well resourced *small* institution 2
- limited 3

Prior experience of collaboration with UK (or other) HEIs
- at this level 1
- at lower level 2
- none 3

- **HE 'ambience' for our students**
  - many progs/students at this level 1
  - some progs/students at this level 2
  - no other progs/students at this level 3

Sub-Total =

C. THE PROPOSED PROGRAMME

- **Collaborative 'history'**
  - established collaborative programme 1
  - established on campus only 2
  - new programme 3

Credit level
- level 0 0
- level 1,2 2
- level 3,M 3

Sub-Total =

D DELIVERY MODEL (ie the student learning experience)

Partner as administrative support centre

- local centre only provides premises, IT facilities, etc		1
Partner as learner support centre *('supported collaboration')*		
- Uof G curriculum, (d- or e-) learner materials and/or UofG intensive schools, plus local tutoring based on materials and tasks defined by UofG	2	
- as above, but local tutors have more freedom of action	3	
Partner as Teaching Centre *('delegated collaboration')*		
- Uof G curriculum: teaching/tutoring based on lecture notes and tutorial tasks provided by UofG		4
- Uof G curriculum; all or most teaching and tutoring delegated to partner	5	
- partner devised curriculum; all or most teaching and tutoring delegated to partner	6	
		Sub-Total =

E. CONTROL OF OUTCOME STANDARDS *(in addition to external examiner scrutiny)*

• **Coursework**	
- Set and marked (or second marked) by UofG	1
- Set by UofG, marked by partner, moderated by UofG	2
- Set and marked by partner, moderated by UofG	3
• **Examinations**	
- Set and marked (or second marked) by UofG	1
- Set by UofG, marked by partner, moderated by UofG	2
- Set and marked by partner, moderated by UofG	3
• **Dissertation (if any)**	
- Project spec agreed and supervised and marked by UofG	1
- Project spec agreed and supervised by partner, marked by UofG	2
- Project spec agreed and supervised and marked by partner, moderated by UofG	3
	Sub-Total =
	TOTAL =

NOTES

1. The 'delivery model' option is regarded as particularly significant factor in the assessment of risk and the'scale' for this factor has therefore been extended to run from 1 to 6, rather than 1 to 3 as elsewhere. The overall total score of any proposal will therefore lie between 12 (min) and 39 (max). The profile and the sub-totals for any proposal scoring more than 24 points (ie assuming around 2 points for each of these 12 factors) should be scrutinised particularly closely in order to make a realistic assessment of risk levels.

2. Other checks/factors to consider:
- ***views of any local accreditation agency and/or British Council***
- ***views of UofG International Office***
- ***any local legislation about collaboration***
- ***existing or potential geographical 'node'***
- ***existing or potential multi-disciplinary partner***
- ***any internal university issues (eg re-structuring)***
- ***host School's track record on quality***
- ***other latent benefits, (research/consultancy opportunities, staff development, curriculum development, contribution to community need etc)***

APPENDIX D: THRESHOLD REQUIREMENTS FOR PROGRAMME APPROVAL AND REVIEW

	Approval and Review: Minimum Requirements		
	Site Visit	***Virtual visit***	***External***
Franchised or teaching centre			
New partner, first programme	√		√
Established partner, additional programme		√	√
Review (separately or together):			
Partner in general		√	
Programme in general			√
Partner's delivery of programme		√	√
Learner support or tutorial centre	*UK meeting to approve programme, materials and delivery model, followed by:*		
New partner, new programme	√		√
Established partner, new programme		√	√
New partner, established programme	√		√
Established partner, established programme		√	√
Review (separately or together):			
Partner in general	√		
Programme in general			√
Partner's delivery of programme		√	√
Administrative support centres			
New partner, any programme	On-site visit by senior manager external to host School. No external.		
Established partner, any programme	UK-based meeting. No external.		
Periodic review	UK based meeting, with option of site visit by senior manager external to School if there are serious concerns. No external.		

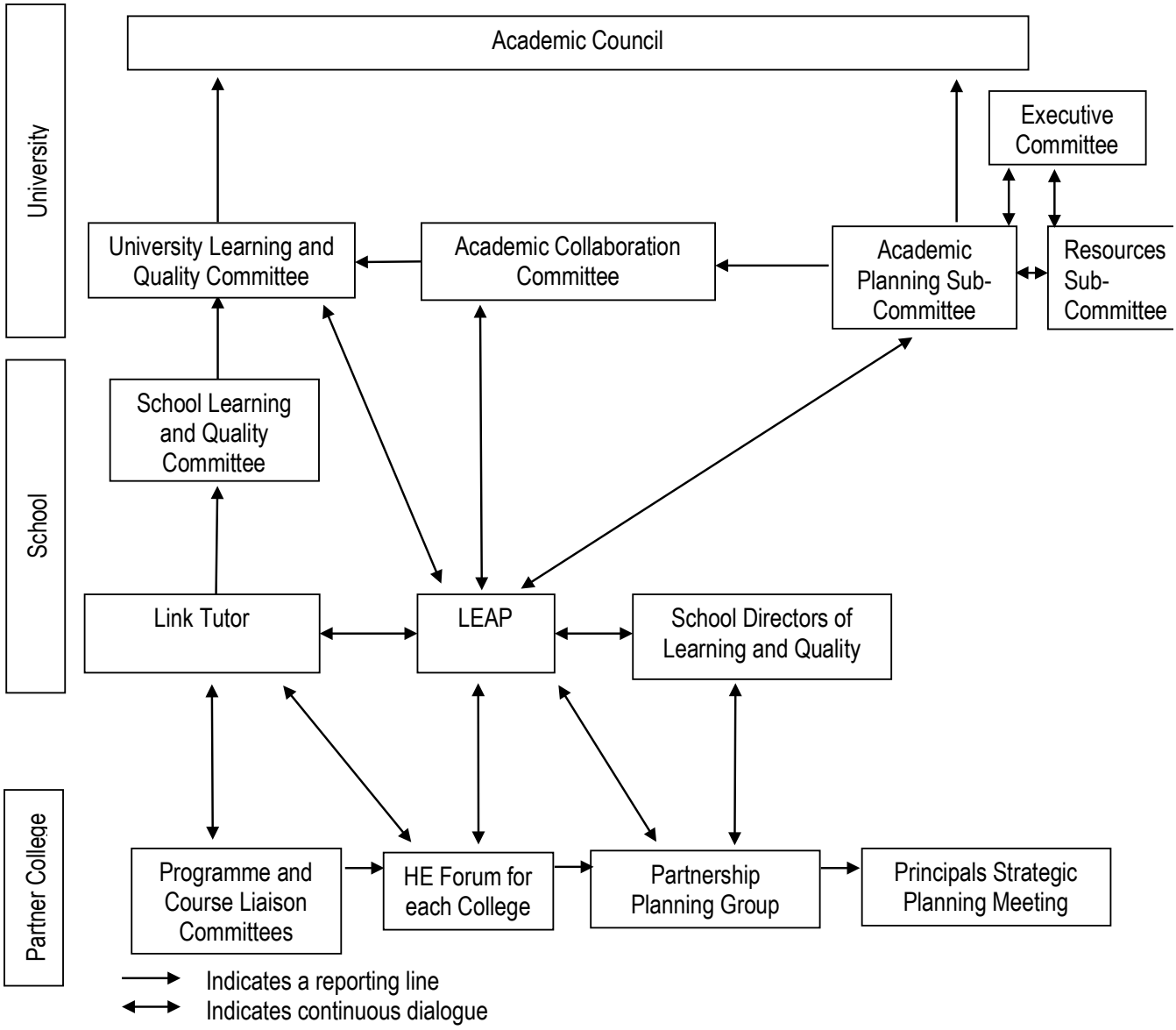
NOTES:

1. *A QA Officer will make the arrangements for the approval/review meeting, will attend the report on virtual visits and will either be present at the site visit or will provide guidance and a template for reporting on the site visit.*
2. *The School Link Tutor will normally be expected to be present at any site visit.*

NB These approval arrangements are suggested here only as a guide; Academic Planning Sub-Committee sometimes recommends a particular approach at the point of authorisation and the Learning and Quality Office will also advise on the appropriate procedure in the light of prior experience and contextual information.

APPENDIX E: KEY DELIBERATIVE STRUCTURES FOR PARTNER COLLEGES

Fig 1 below indicates channels of communication through Committees and Schools



Critical Success Factors for Virtual Campus Initiatives

In 2008, the Re.Vi.Ca project undertook an extensive review of Virtual Campus initiatives worldwide: the data that was the basis for this iniativie is available on the Re.Vi.Ca website: http://virtualcampuses.eu/index.php/Main_Page

One element of the 2008 study was the development of a framework of critical success factors for Virtual Campus Initiatives. While the virtual campus model is considerable more ambitious than many shared course initiatives, the categories identified provide fruitful organizing principles for those seeking to evaluate the viability of a potential collaboration. The full document from which these are drawn is:

Schreurs, B. (Ed.) (2008) . *Reviewing the virtual campus phenomenon: The rise of large-scale e-learning initiatives worldwide.* Heverlee(NL): EuroPACE izzw
http://revica.europace.org/Re.ViCa%20Online%20Handbook.pdf

Key Success Factors

From Researching Virtual Initiatives in Education

This is the table of Key Success Factors created for the IAC meeting at the ICDE Conference, Maastricht, June 2009.

A key success factor is a factor whose presence is necessary for an organisation to fulfil its mission, for some subset of virtual campuses - such as National initiatives. In other words, it is a critical success factor across that subset.

table of Key Success Factors with indication of which types of virtual campus they apply to

Code	Factor name	Critical Success Factor (level 5 statement)	Consortia	National initiatives	Newly created institutions	Evolution of existing institutions	For-profits	Public institutions
R24	Collaboration for e-Learning	The institution has a reasoned approach to collaboration at various levels to gain additional benefit from sharing e-learning material, methodologies and systems.	X	X				
R25	Brand Management	The institution has a reasoned approach to managing its brand					X	
R32	Worldware for Students	Students can on the whole make use of widely-used hardware and software thus minimising cost and support issues		X		X		

R34	Recruitment of Staff	The institution has effective processes designed to attract, for appropriate roles, employees enthusiastic about e-learning			X			
R36	Pricing	The institution has effective processes which ensure that the price of its courses are competitive yet sustainable.					X	maybe
R37	Innovation Management	The institution has a balanced approach to encouraging innovation and innovators within the constraints of delivering effective services attractive to students.				X		
R41	Consortia No-Compete	The consortium has taken steps to ensure that issues of competing with its members are resolved	X					

R42	Consortia Roles Definition	Each member of the consortium has a reasoned, evidenced and documented approach to collaboration with partners.	X					
R43	Consortia Role Implementation	Each member of the consortium implements the collaboration role it agreed with its partners.	X					
R55	Foresight	Both look-ahead and lab, working in concert; at least one of these should be a sector leader.						X
R56	Selling	Widespread skill in selling e-learning and the theory to support the skills.					X	maybe
R59	Competitor Research	The institution has processes to carefully analyse the relationship of each proposed e-learning offering to existing providers and stakeholders.					X	maybe

R82	Dissemination Internal	A systematic managed process of internal dissemination of good practice in e-learning aspects of courses is in place.				X		
R99	Organisational Learning	Institution is a learning organisation on all core aspects of e-learning.					X	

Appendix C

Collective Agreements and Academic Governance: Implications for Shared Course Development

Collective Agreements and Academic Governance: Implications for Shared Course Development

Collective Agreements[1]

At most Ontario universities, workload, right to work, working conditions, ownership of intellectual property, and academic freedom are matters regulated by collective agreements (CAs). Practices vary among institutions, meaning that there are many idiosyncratic barriers to the development of a common policy regarding shared course design or collaborative curricular activity. Although a full review of the provincial labour context as it pertains to SCD was beyond the means of this project, a review of eight collective agreements provides an illustrative review of the dimensions and scale of variations in this area.

Workload: Typically CAs seek to ensure equitable workloads among faculty members. Many factors impact the determination of equity, and these factors also vary between universities. Considerations generally include factors such as the number and types of courses taught, new course development, methods of teaching and uses of technology, course delivery methods, faculty members' other academic responsibilities, the number of contact hours or credit value of each course, departmental or programmatic needs, career stage, personal circumstances, and when possible, individual preference. There are several factors which may particularly impact SCD initiatives: firstly, CA definitions of courses based on contact hours may be a barrier to faculty engagement where contact hours are only defined as co-located contact with a faculty member. This is sometimes problematic for hybrid courses where the number of contact hours in direct contact with the instructor is generally lower, but the course credit value does not change. While in one institution a standard course-credit value might be 36 hours, based on 3 in-class contact hours per week, at another it might be 195 learning hours, including all in-class and non-classroom contact time with the content of the course.

Secondly, many CAs regulate workload relating to new course development and courses using alternative technologies or delivery methods. Some universities provide consideration in the workload calculation or additional compensation for those developing new courses, and also may identify resource allocations for instructors preparing to teach courses using new technologies. In addition, at a number of universities, faculty cannot be compelled to use specific learning technologies in their courses, meaning that faculty at those institutions will always have the right to decide whether to use developed hybrid course materials, and usually, whether to participate in the development of courses using new technologies. CAs may also specify guidelines or place limits on the maximum number of hours an instructor can be expected to spend on a course, a factor that could certainly come in to play in the development of hybrid course modules, which, if done well, is a time-intensive process.

Each of the elements above can vary between or even within institutions, affecting who the rules apply to, time limitations, degree of decision-making, and rights of approval for new courses. At Queen's, for example, each unit has a Workload Standard that must be ratified by a majority of voting unit members and then approved by the Dean. Their collective agreement also mentions team teaching (2 or more instructors teaching parts of the same course) and doubling-up (one instructor teaches more than one section) as creative workload arrangements. Many other universities have no formal recognition of such "creative workload arrangements" although they may in practice be commonplace. In terms of SCD,

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[1] While members of our PIF project team have identified and interpreted the salient provisions of collective agreements and the Ontario universities regulatory context to the best of their ability, the reader should understand that the significance of many aspects of collective agreements are subject to opinion, legal and otherwise, and that other interpretations may well differ from our summary document. Expert legal opinion is recommended.

these matters can be critical as they may limit or enable a much more flexible range of approaches to offering courses. While at the institutional level informal arrangements solve such problems, they are unlikely to be successful for inter-institutional projects.

Right to Work. University policies and CAs have statements about the responsibilities, duties or obligations of faculty to engage in activities, which in some cases can be used in arguments against assigning work of a faculty member to employees outside the bargaining unit (which would often be cheaper labour). For example, a university may specifically exclude GAs from certain teaching responsibilities. They may also regulate the right to teach courses an individual develops, (particular in distance formats) – a certain number of times (Windsor) or in perpetuity (Trent). In some cases course development may also result in temporary course-load reduction. For sessional or contract instructors and course developers, as well as professional staff, these rights may be different. For example they may not have the right to teach the course they were contracted to develop, and they may not own the IP included in the course – which we will discuss later. This is an issue which has a profound impact, for example, on the viability of the National Center for Academic Transformation (NCAT) models in regulated labour environments.

While these variations are not necessarily a barrier to collaboration, regulations that stipulate the right for a creator of a distance education course (or any course) to teach that course either several times or in perpetuity, may be more challenging to address. A critical factor here is whether hybrid courses are perceived as distance education, a matter that will depend very much on the specific language of a given collective agreement.

Another matter that must be taken into account of instructors' roles and responsibilities as identified in CAs, such as the teaching of courses, student supervision, attendance at labs, provision of tutorials. These regulations vary, and impact potential alternative labour arrangements envisioned in some course re-design models, such as courses, sections, or technology-supported active learning labs facilitated by graduate or teaching assistants.

A final point in emerging developments in CAs across the country is that of the push by CAUT for standardization of CA language around online and hybrid course development. Suggested language has been sent to all faculty associations for proposed inclusion in the next round of bargaining. Of interest and potentially critical importance to SCD, the suggested language includes not allowing the use of any course materials not developed by a member of the collective bargaining unit, effectively eliminating the ability of any faculty member who wanted to use shared course materials to do so, unless they were part of the development team.

Intellectual Property (IP): All institutions in Ontario use the Copyright of Canada Act as their legal basis and for their terms of reference. All institutions surveyed also assign ownership of the IP rights to the creator(s) of the work, in this case a course. At seven of the eight institutions reviewed, when the creator owns the IP rights for a course they are required to grant the institution a royalty free, non-exclusive, non-transferable license for internal educational and non-commercial use. At UOIT, the licence allows for modification of the work, but this is not common without the creator's consent. At six institutions, the internal license is specified as irrevocable and/or perpetual. Universities also have explicit regulations regarding joint ownership with regard to created work: all have regulations related to third-party or external funder co-ownership, some with regard to co-creators or the institution itself. Only one explicitly articulated mechanisms related to co-ownership with creators from other institutions.

Regulations related to licensing agreements vary along dimensions which include scope of the uses to which universities can put materials (e.g. non-commercial uses, educational purposes, any use they choose, within the institution only), the period of time involved (including whether making revisions to the materials "restarts the clock"), and which materials “count” as materials that must be licensed (ie “recorded works” which in one university do not include class notes, or class syllabi). In some cases, complete rights to the materials are purchased upfront by the university, for example for professional development programs. Licensing of these materials by third-parties would of course be at the purview of whoever retains rights to the materials, though at some universities the institution must agree to any arrangements.

Several exceptions to this situation are consistently cited, in cases where: (1) University funds, above and beyond the employee’s regular salary, were used in creating the work; (2) University facilities not normally used in their day-today role were substantially used in the creation or the work; or (3) The creator was in a contractual agreement with the university specifically for the creation of the work.

In exception (3), it is clear that the university owns the IP rights for the work. However, in exceptions (1) and (2), above, IP rights ownership is not consistently identified. In some cases it is jointly owned by the creator and the institution while in others the institution has sole IP rights, but in either case it is be to negotiated on a case-by-case basis, usually with the involvement of the Faculty Association in the negotiation. If a third party, such an external funder, funds the creation of the work, the creator must have a contract with the third party that includes ownership of the IP rights. This means that in order for materials to be shared, individual faculty members must agree to participate in course development activity and to release or license the materials for specific uses, in conjunction with their institution.

In practice the faculty member involved must agree to the licensing of the work for use by others: the only exception would be work contracted by the university, and even then, the faculty member has the right to choose to be involved. Although at the moment in many institutions this is largely a negotiation between individual faculty members and the administration, that may not continue to be the case: a key element of the CAUT advisory document on online learning is that the bargaining unit, rather than the individual faculty member, should determine agreements regarding the licensing or release of rights for such items of intellectual property. The advisory on online learning identifies a series of negotiating positions that identify the course with the instructor: “Ownership of faculty members’ intellectual property and protection of academic freedom means that without the creator of the course content, there is no course.”

A further critical and potentially divisive matter is that at many institutions, it may make a difference who creates the course. Universities own the IP rights when they hire a course developer, sometimes including a contract or sessional instructor, to develop a course. In some cases, the IP of the course is owned by the University, with payment of a fee or royalty to the creator. At institutions that have a Right to Teach clause, if the course developer is a sessional (who has been hired outside of their bargaining unit teaching position), the university may own the IP rights, but the course developer/creator may still be entitled to teach the course if he or she is a sessional member of the union, and has previously taught the course. At many institutions another instructor cannot be compelled to use those materials to teach the course in another session. Table 1 provides a summary of intellectual property rights conditions at 8 Ontario universities.

Table 1: Intellectual Property Rights Summary

		Windsor Article 35	**Trent*** Chapter VI	**UOIT** Article 22, Appendix D (same as Policy 7.4)	**Brock** Article 39	**Queen's** Article 16	**Waterloo** Policy 73	**York** Article 23	**Ryerson** Article 23
	Course IP								
1	**University owns courses development by faculty member(s)**	Only by contract; if commissioned	Only by contract; if commissioned	Only by contract; if it is work of non-academic personnel; if commissioned	Commissioned work. "If *member* is employed for express purpose of creating or producing specific works that are copyrightable", then BU owns IP completely unless alternate provisions are made	Only by contract. Commission not mentioned in CA.	Course management & admin docs: outlines, assignments, exams, lab manual	Only by contract. Commission not mentioned in CA.	Only by contract; commissioned work
2	**Faculty Member (tenure & contract) owns copyright to courses he/she developed**	√	√	Yes, unless significantly assisted by non-academic personnel, then 50/50 with UOIT (see 5 below)	√	√	Course notes (unless printed & distributed or made publicly available, then should be available under license to UW)	√	√
3	**Course Developers' (outside of union[1]) work**	University owns IP	University owns IP, including DE courses	University owns, if non-academic	University owns IP of BU *staff,* unless otherwise arranged	Not mentioned in CA	Specifics Unknown	Not mentioned in CA	Not mentioned in CA
4	**Grad students'[2] work**	Contributions to course design & delivery needs to be acknowledged in writing	Own IP[4]	Own IP[4]	Own IP[4] IP for a computer program created as TA belong to University	"Teaching Fellows", own course IP	Specifics Unknown	Own IP[4]	Own IP[4]
5	**Joint IP ownership – mentioned in documentation?**	Yes in wording *member(s) owning copyright*	If TU resources not used, then no. If funds, facilities, support &/or tech personnel	Yes; creator & UOIT / inter-institutional - Teaching materials (print & digital): only if	If BU "contributes significant resources (at least equivalent to 50% of	Yes in wording *owned by the member(s) who create(s) it* ~~Not mentioned.~~	Between creators "works of joint ownership" based on contribution of	Yes, Copyright "retained by employee responsible for the origination for the materials	Yes. *Owned by member(s)* Also, Association must get a copy contracts between

			used, then equal share of revenue but member still owns IP rights.	non academic personnel (including from Centre for Academic Excellence & Innovation) significantly assisted its creation, then UOIT & academic creators have equal IP rights.	stipend of half course) the development" of the work, then shared by specific contract between member and BU.		each & not on power differences	in or whole or in part, *pro-rated to reflect the contribution of the originator(s)"* Association must get a copy of contracts between creator(s) & YU.	creator(s) & RU or external sponsor. Contracted prior to work starting
6	**Inter-institutional**	Not mentioned	Not mentioned	Collaborative research needs agreements in advance and in writing re: IP rights of those involved. Use of UOIT's facilities or funds requires UOIT is a party to the agreement (Appendix D, Article 1.8)	Not mentioned	Possibly Through PARTEQ?	Contingencies included	Not mentioned	Not mentioned

Appendix C Collective Agreements and Academic Governance: Implications for Shared Course Development

		Windsor	Trent*	UOIT*	Brock	Queen's	Waterloo*	York*	Ryerson
7	**Internal use licence granted to University for educational purposes; free, non-exclusive, non-transferable, & non-commercial**	Yes; but no modifications allowed	Yes. Nothing stated explicitly about modification, so likely not. Except for DE courses – If not taught for 4 years, University can request updating & if creator declines, can get other qualified personnel to revise.	Yes, and can modify the work	Yes; but no modifications allowed	No. QUFA CA states no licensing *required*, IP holder's choice	Yes, work can be used by other university members	Yes, modification only with consent of IP owner	Yes. Nothing stated explicitly re: modifications, so likely not
8	**Duration of license**	[3] 5 years from completion or revision, or 1 year from employment termination	Irrevocable	Irrevocable, perpetual.	Irrevocable	None (unless by agreement)	Irrevocable	Perpetual	Irrevocable
9	**External use license**	For "recorded works"[3], fees negotiated by individual or FA	No	No	No	No	No	No	No
10	**Copyright for Distance Education (DE) courses**	Mentioned: Creator owns	Creator owns & must grant license to TU. Unless by an LTA hired outside of regular contract, then TU owns.	Mentioned as same as other courses	DE courses not specifically mentioned: same as other courses	Creator owns, license to Queen's is member's choice	Creator owns, but UW is granted an exclusive license for DE or Cont Ed uses	DE courses not specifically mentioned: same as other courses	Mentioned as creator owned. Except by contract, then can be *sold* to RU

Academic Freedom: Every collective agreement (and Waterloo's Memorandum of Agreement) has an Article about members' academic freedom (AF). While some collective agreements (Windsor, Trent, Brock and Queen's) more directly connect a member's AF to their freedom to choose their teaching methods and how they cover course content, others do not make this connection (Waterloo, UIOT, York, Ryerson). The latter group, instead refer to AF in more general terms. For example, "UOIT regards academic freedom as indispensable to the pursuit of knowledge. The freedom of Faculty Members to define research questions, to engage in research, to pursue the answers with rigor, and to disseminate knowledge according to their best judgment resides at the core of the University's mission."

As it relates to SCD, at some institutions the Collective Agreement includes the right to determine what should be in courses, and in programs, to identify learning outcomes, methods, delivery modes. In general the regulation of course content is governed not so much by the collective agreement, but by senate governance, which typically approves new courses and programs. Faculty must abide by the institution's formally approved course descriptions, and can be required to teach specific courses, but beyond that they generally cannot be forced to adopt a specific approach to teaching, or a specific course design.

Academic Governance: In addition to matters regulated by collective agreement, all Ontario universities are also governed by a representative Academic Senate which approves all academic policies, new courses and programs, and program reviews. The matters governed by Senates can have wide-ranging impacts on the harmonization of shared courses, particularly approaches that involve synchronous delivery of courses across multiple campuses. Examples of such inter-institutional differences in policies related to scheduling, when exams and assignments must or must not be scheduled, course evaluation processes, syllabus requirements, office hours, matters of academic integrity, and so on.

One significant advantage in Ontario is the adoption of the Quality Assurance Framework, which harmonizes approval processes and requirements for programs and courses in the Province. This means that although the processes will vary to a degree, the fundamentals should be consistent across all participating institutions. Unfortunately, it does not mean that the forms used to propose new courses and programs at various institutions have been harmonized: each institute taking up a new course will have to go through the approval process anew, unless new processes are put in place for block approval of courses provincially.

New courses and programs must be approved at multiple levels within institutions. The approval of new courses using jointly developed materials, or materials developed at one institution to be used at another, may prove politically contentious. Materials to be used in a course are not subject to academic governance, so in theory course modules could be adopted without formal review. However, if their adoption involves changes to course learning outcomes, which is likely, then formal review is required. Either way, the proposed adoption of modular materials may prove to be a political barrier to acceptance. According to the Quality Assurance Framework, new programs must be approved at multiple levels within institutions, and if joint, must be approved by the governance structures of all institutions involved, and subsequently must be jointly reviewed for regular program review.

Collaborative course implementation, as opposed to design, is likely to involve more complicated negotiations of the academic governance contexts of universities. However, many highly effective

courses do involve integrated course implementation, and these matters must be taken into account when considering collaborative activities.

Implications of the Regulatory Context

1. There is a great deal of variation among institutions. A one-size-fits-all approach to establishing agreements would require significant intervention at the provincial level.
2. There are barriers to progress in technology-enhanced learning: they may be disadvantageous to institutions, end users, and faculty, depending on individual interests and concerns
3. There is a great deal of distrust regarding managerial intentions with regard to technology-enhanced learning, with many believing it is an attempt to reduce academic autonomy, increase class sizes, or reduce the full-time academic workforce.
4. Although there may be work-arounds involving contract instructors and professional staff developing courses, these may not work in practice: the reality is that faculty buy-in is critical to making SCD work, and faculty associations must be a part of the dialogue.
5. In general, collaborative approaches that allow for third-party contracts with faculty may be easier to manage than agreements among institutions
6. Many cases identified agreement that course creators agree to license courses under Creative Commons licensing as a good solution to the issue of IP (e.g. the BC Campus model).
7. A second direction would be to explore a range of possible contractual models which would incentivize various kinds of course development, from royalty agreements, to commercialization agreements, to creative commons licensing
8. What is certainly true is that negotiating inter-institutional shared course development will require institutional expertise in the nature and application of labour agreements
9. Technology-enhanced learning is becoming an increasingly contested labour issue across both the Province and the country: solutions must be sought, possibly at a system level, that are equitable, respectful of the tenets of academic practice, and which as much as possible meet the needs of all stakeholders.
10. Depending on whether an SCD project is institutionally contentious, academic governance may be a barrier to progress. Institutional contentiousness may arise at any of the layers of incentives and disincentives discussed in the main body of the report (Finding #3).
11. The greater the degree of implementation integration, the more involved the quality assurance matters become.
12. If SCD is to become standard operating practice, we must find and establish mechanisms to facilitate these partnerships. This will certainly require collaboration with faculty associations, which take into account the collective rights of the members. It is clear that engagement and good will are critical to success.
13. Ministry policy and leadership have a critical influence on the collaborative context: if SCD is strategically valuable, it should be factored into policy analysis more generally.

Appendix D

Collaborative University and College Programmes

Collaborative University and College Programs
Programmes conjoints des universités et collèges

This information summarizes the joint programs that will be offered for the 2014 cycle by the universities of Ontario in collaboration with the colleges. Note that some of these programs are not open to international applicants; contact the university for information.

Each institution defines its own procedures for applying to these programs. The following chart provides an overview of the available programs and indicates the application centre through which the application is to be made: either the Ontario Universities' Application Centre (OUAC) or the Ontario College Application Service (OCAS).

If you have questions about the programs or procedures for admission, please contact the university in which you are interested.

Cette section donne un aperçu des divers programmes conjoints qui seront offerts en 2014 par les universités de l'Ontario en collaboration avec les collèges de la province. Certains de ces programmes ne sont pas ouverts aux candidats internationaux; communiquez avec les universités pour plus de renseignements.

Chaque université définit ses propres procédures relatives aux demandes à ces programmes. Le tableau qui suit donne un aperçu de ces programmes et indique à quel centre la demande doit être faite : soit le Centre d'admission aux universités de l'Ontario (« le Centre »), ou le Service d'admission des collèges de l'Ontario (SACO).

Si vous avez des questions à propos des programmes et de la procédure d'admission, veuillez communiquer directement avec l'université qui vous intéresse.

Contact/*Contactez :*

Ontario Universities' Application Centre (OUAC)
Centre de demande d'admission
aux universités de l'Ontario (« le Centre »)
170 Research Lane
Guelph ON N1G 5E2
Tel/*Tél.* : 519-823-1063
Fax/*Téléc.* : 519-823-5232
www.ouac.on.ca
http://centre.ouac.on.ca

Ontario College Application Service (OCAS)
Service d'admission aux collèges de l'Ontario (SACO)
60 Corporate Court
Guelph ON N1G 5J3
Tel/*Tél.* : 519-763-4725
Toll-free in Canada/
Numéro sans frais au Canada : 1-888-892-2228
www.ontariocolleges.ca
www.collegesdelontario.ca

To obtain this document in an alternative format: www.ouac.on.ca/about/about-accessibility/.

Pour obtenir ce document dans un autre format : http://centre.ouac.on.ca/about/about-accessibility/.

Legend
- ■ Apply through the OUAC
- ◆ Apply through the OCAS
- ▼ Apply through the OUAC or OCAS
- ● Apply through the OUAC and OCAS
- ▲ Some postsecondary studies required

Légende
- ■ Faire demande auprès du OUAC
- ◆ Faire demande auprès du SACO
- ▼ Faire demande auprès du OUAC ou du SACO
- ● Faire demande auprès du OUAC et du SACO
- ▲ Des études postsecondaires sont exigées

Algoma University

Algoma University has a significant number of articulation agreements with Ontario colleges. For a list of our exceptional agreements, please visit: www.algomau.ca/admissions/diplomadegree/.

Brock University

In addition to the collaborative programs listed below, Brock has a significant number of articulated college to university pathways. For details, please refer to: www.brocku.ca/registrar/transfer-students/articulation-agreements-new/.

Collaborative Program with St. Clair College (Anishinabek Educational Institute)

BDC Distinct and Diverse Communities – Aboriginal Stream (BA) & Native Community Worker (Traditional Healing Methods) Diploma ■

Collaborative Programs with Durham College

BD Child and Youth Studies (BA) & Child and Youth Worker Diploma ■

BPY Psychology (BA) & Social Service Worker Diploma ■

Collaborative Programs with Fanshawe College

BF Film Studies (BA) ■: Advanced Film Making Graduate Certificate; Broadcast Journalism – Television News Graduate Certificate; Visual Effects & Editing for Contemporary Media Graduate Certificate

Collaborative Program with George Brown College

BLB Labour Studies (BA) & Contemporary Labour Perspectives Certificate and Human Resources Management Post-Graduate Certificate ■

Collaborative Programs with Lambton College

BAH Community Health (BA) & Massage Therapy Advanced Diploma ■

BAH Community Health (BA) & Pharmacy Technician Diploma ■

Collaborative Program with Loyalist College

◆ Nursing (BSc)

Collaborative Programs with Mohawk College

BEC Economics (BA) & Insurance Diploma ■

BPC Popular Culture (BA) & Journalism – Print and Broadcast Diploma ■

BUC Media and Communication Studies (BA) & Journalism – Print and Broadcast Diploma (graduate with BA Communication Studies) ■

BUD Business Communication (BA) & Journalism – Print and Broadcast Diploma (graduate with a BA in Communication Studies) ■

BUC Media and Communication Studies (BA) & Public Relations Graduate Certificate (graduate with BA Communication Studies) ■

BUD Business Communication (BA) & Public Relations Graduate Certificate (graduate with BA Communication Studies) ■

BLB Labour Studies (BA) & Labour Studies Certificate ■

Collaborative Programs with Niagara College

BJP Physics (BSc) & Advanced Lasers Post-Graduate Certificate ■

BAH Community Health (BA) & Dental Hygiene Diploma ■

BGE Geography (BA) & Geographic Information Systems – Geospatial Management Post-Graduate Certificate ■

BO Physical Geography (BSc) & Geographic Information Systems – Geospatial Management Post-Graduate Certificate ■

Collaborative Program with Sault College

BDC Distinct and Diverse Communities – Aboriginal Stream (BA) & Social Service Worker Diploma ■

Collaborative Programs with Seneca College

BPO Political Science (BA) & Law Clerk Diploma ■

BPO Political Science (BA) & Seneca College Paralegal ■

Collaborative Programs with Sheridan College

BPO Political Science (BA) & Emergency Management Graduate Certificate ■

BUD Business Communication (BA) & Emergency Management Graduate Certificate (graduate with a BA in Communication Studies) ■

BUC Media and Communication Studies (BA) & Emergency Management Graduate Certificate (graduate with a BA in Communication Studies) ■

BPY Psychology (BA) & Social Service Worker Diploma ■

BWS BA Honours: Women's & Gender Studies and Social Service Worker Diploma ■

BGN Computing and Network Communications Co-op (BSc) & Telecommunications Technology Ontario Diploma (graduate with a BSc Computer Science) ■

Collaborative Program with St. Lawrence College

BPY Psychology (BA) & Behavioral Science Technology Advanced Diploma ■

Carleton University

Collaborative Programs with Algonquin College

CIM Bachelor of Information Technology – Interactive Multimedia & Design ■

CIN Bachelor of Information Technology – Network Technology ■

CIP Bachelor of Information Technology – Photonics and Laser Technology ■

University of Guelph

Collaborative Programs with Humber Institute of Technology and Advanced Learning
All programs are delivered at the University of Guelph-Humber located in Toronto.

GMT Honours Bachelor of Applied Arts in Media Studies (BAA) and Diploma in Media Communications ■
GDB Honours Bachelor of Business Administration (BBA) and Diploma in Business Administration ■
GHE Honours Bachelor of Applied Science in Early Childhood (BASc) and Diploma in Early Childhood Education ■
GHF Honours Bachelor of Applied Science in Family & Community Social Services (BASc) and Social Service Worker Diploma ■
GMP Honours Bachelor of Applied Science in Justice Studies (BASc) and Diploma in Police Foundations or Community and Justice Services ■
GHK Honours Bachelor of Applied Science in Kinesiology (BASc) and Diploma in Fitness & Health Promotion ■
GMA Honours Bachelor of Applied Science in Psychology (BASc) and Diploma in General Arts & Science ■

If you are interested in pursuing College/University Articulations and Pathways Programs, you are encouraged to check the University of Guelph program listing on the OUAC website, as newly developed agreements will be outlined as they become available.

Lakehead University

Collaborative Program with Confederation College
AN Bachelor of Science in Nursing (BScN) ■

Note: The recommended deadline for our Nursing program is February 7, 2014. Late applications will be considered on an individual basis. Please contact the Office of Admissions & Recruitment for more information.

Laurentian University

Collaborative Programs with Georgian College
LGC Arts (three years) (Barrie) ▲ English; History; Political Science; Psychology; Sociology ■
LKG Commerce (Barrie) ■
LGG English Literature (Barrie) ■
LGI History (Barrie) ■
LGM Political Science (Barrie) ■
LGU Psychology (Barrie) ■
LGS Sociology (Barrie) ■
LLG Social Work (Barrie) ■

Collaborative Program with the Michener Institute
LRS Radiation Therapy ■

Collaborative Programs with St. Lawrence College
◆ Bachelor of Science in Nursing (BScN)
St. Lawrence College – Brockville Campus
St. Lawrence College – Cornwall Campus
St. Lawrence College – Kingston Campus
◆ Business Administration – Kingston Campus

Collaborative Program with Cambrian College
◆ Bachelor of Science in Nursing (BScN)

Collaborative Program with Northern College
◆ Bachelor of Science in Nursing (BScN)

Collaborative Program with Sault College
◆ Bachelor of Science in Nursing (BScN)

McMaster University

Collaborative Program with Conestoga College
◆ Bachelor of Science in Nursing (BScN)

Collaborative Programs with Mohawk College
◆ Bachelor of Science in Nursing (BScN)
MRS Bachelor of Science in Medical Radiation Sciences (BSc) & Diploma in Medical Radiation Technology ■
MET BTech – Degree Completion Program (BTech) ■▲
MBT BTech I (BTech) ■

Nipissing University

Collaborative Programs with Canadore College
PAJ Bachelor of Arts Honours in Criminal Justice ■▲ Community & Justice Services; Legal Studies; Police Foundations
PSN Bachelor of Science in Nursing (BScN) ■
PS Bachelor of Science ■ Environmental Biology & Technology

OCAD University

OCAD University has a number of articulation agreements with Ontario colleges and other postsecondary institutions. For details, please refer to: www.ocadu.ca/prospective_students/transfer_pathways/.

University of Ottawa/ *Université d'Ottawa*

Collaborative Programs with Algonquin College, Woodroffe Campus

ONA Four years – Bachelor of Science in Nursing ■
OPA Four and a half years – Bachelor in Public Relations ■▼▲

Collaborative Program with Algonquin College, Pembroke Campus

OWC Four years – Bachelor of Science in Nursing ■

Collaborative Programs with *la Cité collégiale* (Ontario)

ONF Quatre ans – Baccalauréat ès sciences infirmières ■
OPR Quatre ans et demi – Baccalauréat en relations publiques et communication ■▼▲

Collaborative Programs with *le Collège universitaire de Saint-Boniface* (Manitoba)

ONT Quatre ans – Baccalauréat ès sciences infirmières ■ (admission en 4e année seulement)

Ryerson University

Collaborative Program with Centennial College

SNN Bachelor of Science in Nursing (BScN) ▼

Collaborative Program with George Brown College

SNG Bachelor of Science in Nursing (BScN) ▼

University of Toronto

University of Toronto St. George Campus Collaborative Programs with the Michener Institute

TRN Medical Radiation Sciences – Nuclear Medicine & Molecular Imaging ■▲
TRS Medical Radiation Sciences: Radiological Technology ■▲
TRT Medical Radiation Sciences: Radiation Therapy ■▲

University of Toronto Mississauga Collaborative Programs with Sheridan College

TMC Communication, Culture & Information Technology ■
TMT Theatre & Drama ■
TEV Visual Studies ■

University of Toronto Scarborough Collaborative Programs with Centennial College

TSJ Journalism ■
TSI Paramedicine ■

Trent University

Collaborative Programs with Fleming College

RCN Bachelor of Science in Nursing (BScN) ■
◆ Honours Bachelor of Science in Ecological Restoration (BSc)
Emphasis in Geographical Information Systems*
Emphasis in Museum Studies*

* Please refer to the Trent academic calendar for information on the Emphasis programs.

Collaborative Programs with Loyalist College

RAJ Honours Bachelor of Arts, Joint Major in Journalism ■
RSJ Honours Bachelor of Science, Joint Major in Journalism ■

In addition, Trent University offers more than 50 articulation agreements that provide degree completion pathways for college graduates. See www.ontransfer.ca for complete details.

University of Ontario Institute of Technology (UOIT)

Collaborative Programs with Durham College

DHN Bachelor of Science in Nursing (Honours) (BScN [Hons]) ■
DHR Post RPN (working toward an Honours BScN degree) ■

Collaborative Programs with Georgian College

DHB Post RPN (working toward an Honours BScN degree) ■

University of Waterloo

Collaborative Program with Niagara College

WER Bachelor of Environmental Studies in Environment & Resource Studies and Certificate in Environmental Management, in Environmental Assessment or in Ecosystem Restoration ■

Western University

Collaborative Programs with Fanshawe College

ENW Bachelor of Science in Nursing (BScN) ■ (Western site)

ENF Bachelor of Science in Nursing (BScN) ■ (Fanshawe site)

EIT Media Theory & Production ■

Wilfrid Laurier University

Joint Programs with Conestoga College

UVH Human Rights & Human Diversity (BA) with Human Resources Management (Post-Degree/Post-Diploma)

UBI Biochemistry & Biotechnology (BSc) with Biotechnology Technician (Diploma) ■

UVQ Journalism (BA) with one of Videography-Broadcast Journalism/ Documentary; Integrated Marketing Communications; or New Media: Convergence (one-year graduate certificate programs) ■

UFA Computer Science (BSc) & Software Engineering Technology (Diploma) ■

York University

First-Year Entry and Upper-Year Entry

Joint Program with Sheridan College

YF Design (Bachelor of Design) ▼◆

Joint Program with Georgian College

YHF Bachelor of Science in Nursing (BScN) ▼◆

Joint Program with Seneca College

YHG Bachelor of Science in Nursing (BScN) ▼◆

Upper-Year Entry Only

Joint Program with Sir Sanford Fleming College

YEE Ecosystem Management (BES in Environmental Studies/Ecosystem Management Technologist Diploma) ●▲

Joint Program with Humber College

YEM International Project Management (BES in Environmental Studies/International Project Management Post-Diploma Certificate) ●▲

Joint Programs with Seneca College

YHM Rehabilitation Services (BA in Psychology/ Certificate in Rehabilitation Services) ■

YHN Rehabilitation Services (BSc in Psychology/ Certificate in Rehabilitation Services) ■

YEU Urban Sustainability (BES in Environmental Studies/Diploma in Civil Engineering Technology) ●▲

YBR Radio & Television Broadcasting (Broadcast Journalism, Radio Broadcasting, Television Broadcasting) ●▲

YBR Creative Advertising Diploma (BA in Communication Arts) ●▲

Joint Programs with Centennial College

YBR Book & Magazine Publishing (BA in Communication Arts) ●▲

Appendix E

Shared Courses Institutional Inventory - Administrative

Shared Courses Institutional Inventory - Cultural

Shared Courses Institutional Inventory - Pedagogical

Shared Courses Institutional Inventory - Technical

Shared Courses Institutional Inventory - Administrative

Page #1

Survey Sections

This survey has been split into 5 sections in order to facilitate different people filling out different sections. Please ensure you select your institution before completing each section. Click on a link below to visit other sections: Pedagogical Technical Cultural Wishlist These links will also be available on the last page of the survey.

Which institution do you belong to?

- Carleton University
- Trent University
- University of Ontario Institute of Technology
- University of Windsor
- York University

Please enter your email address.

_____

Page #2

Institutional Strategic Role and Perceived Benefits of HCD

What are your institution's core strategic goals for modular HCD? How does HCD fit into your institution's core strategic goals?(A1)

_____
_____
_____

What are your institutional drivers for online learning, more generally? (A2)

_____
_____
_____

What impediments has your institution faced to the broader development of modular HCD?(A3)

_____
_____
_____

How are decisions regarding HCD made at your university?(A4)

_____
_____
_____

Do you have an institutional strategic plan for hybrid course development and/or open learning?(A5)

- Yes
- No

Page #3

History of Hybrid Course Development (HCD)

How have modular hybrid courses been developed in the past at your institution (in response to what, who undertook development, who supported it, and how has it been received)? (A7)

How financially sustainable have hybrid courses been at your institution?(A8)

Who are your existing industry partners? (A9)

Page #4

Organization of HCs

What is the typical teaching structure and ratio (instructor, GA support) for hybrid courses at your institution?(A10)

Is scheduling flexible at your university? How so? (A11)

Page #5

Degree of Motivation/Demand for HCD

Describe any incentives your institution offers for developing HCD.(A12)

_____
_____
_____

Describe any incentives your institution offers for offering hybrid courses.(A13)

_____
_____
_____

What are your institution's identified hybrid course priorities?(A14)

_____
_____
_____

What are your institution's identified hybrid course requests?(A15)

_____
_____
_____

What is your institution's wait-list for HCD?(A16)

_____
_____
_____

What was the number of applications for last call for HCD (if applicable)?(A17)

_____
_____
_____

Page #6

Course design approach: Institutional model(s) for developing hybrid/online courses (attach guidelines if available). (A18)

_____
_____
_____

Do your courses use a common design template? Please describe.(A19)

_____
_____
_____

Is technical resource development work done in-house or outsourced (or proportion)?(A21)

_____
_____
_____

Average HCD Time?(A22)

_____

Number of courses developed last year?(A23)

_____

Average HCD costs?(A24)

_____

Shared Courses Institutional Inventory - Cultural

Page #1

Survey Sections

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_____

Page #2

Please describe the current typical student experience in HCD at your institution (e.g. degree of engagement, student satisfaction, student demand for alternative course delivery).(C1)

_____
_____
_____

Please describe the current degree of permanent faculty buy-in and demand for alternative course delivery approaches (e.g. the degree of permanent faculty vs. sessional instructor involvement with online and HCs).(C2)

_____
_____
_____

Please describe any other institutional/administrative supports for HC and online course delivery that are key to student and instructional success at your institution. (C3)

_____
_____
_____

Assess the degree of commitment to technological innovation in teaching and learning at your institution, including examples.(C4)

_____
_____
_____

Please describe 3-4 projects that best represent or showcase what you aspire to/where you're headed in your HCD and explain why.(C5)

_____
_____
_____

Shared Courses Institutional Inventory - Pedagogical

Page #1

Survey Sections

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Excel Download File

Click on the link below to download a worksheet for your Shared Course Inventory.

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_____

Page #2

Institutional Hybrid Course Development (HCD) Profile

Typical Hybrid Course Components(P1)

	Frequently	Often	Sometimes	Rarely	Never
Lecture capture					
Discussion					
Online quizzes					
Online forums and discussion groups					
Synchronous delivery or communications					
Live office hours					
Annotation and commentary tools					
Collaboration tools					
Supplementary readings					
Structured lessons					
Produced videos and lectures					
Learning objects (e.g. simulations, games, scenarios, role play...)					
Interactive exercises					
Adaptive release					
Publisher materials					
Case studies					
High-stakes exams					
Group work					
Online marking					
Automated marking					
Anti-plagiarism software					
Printed materials					
OERs					
Automated feedback					

Typical Course Design Structures(P2)

	Frequently	Often	Sometimes	Rarely	Never
Linear					
Non-linear					
Self-paced					
Self-paced with same deadline					

What are your institutional course design standards (E.g. alignment of outcomes, instruction and evaluation; engagement; interaction, formative feedback...)?(P3)

How many hybrid courses do you offer annually for credit?(P4)

How many hybrid courses do you offer annually that are not for credit?(P5)

Shared Courses Institutional Inventory - Technical

Page #1

Survey Sections

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_____

Page #2

Current LMS

Are your course elements integrated with your LMS?(T1)

- Yes
- No

Are you using any authoring tools that would pose a problem in sharing?(T2)

- Yes
- No

Are you using the following tools?(T3)

	Yes	No
Flash		
Java		
HTML5		
H264		
MP5		
LateX		
Drupal		
PHP or other server side web technologies		

Do you use an object repository or CMS system? Please specify.(T4)

_____
_____
_____

Page #3

What technical standards do you apply to course design (e.g. Common Cartridge or IMS Global Standards)?(T5)

_____
_____
_____

Please comment on degree of AODA compliance of existing courses and approach to ensuring accessibility now.(T6)

_____
_____
_____

Please identify existing licensed resources for which it might be possible to negotiate multi-institutional pricing. (T7)

_____
_____
_____

Are you using learning analytics tools in your hybrid and online courses? Please describe. (T8)

_____
_____
_____