# CREATING A TYPOLOGY FOR ALTERNATIVE CREDENTIALS

## To Enhance Student Success, Mobility, and Transfer

Joanne Duklas, Jean Bridge
Duklas Cornerstone Consulting
March 2017

Research funded by the Ontario Council on Articulation and Transfer (ONCAT)
Project 2016-05-LO

Duklas
Cornerstone
Consulting

# EXECUTIVE SUMMARY

Postsecondary credentials validate and showcase student achievement and are intended to enable transition into other institutions and the workplace. Ideally, they should also help students to reflect on their learning and position their summative postsecondary work in a way that resonates with third parties. Advances in technology and the growing focus on learner centred education are pushing the boundaries of what is possible resulting in expanded roles and formats for credentials. Postsecondary institutions seeking to demonstrate achievement of quality benchmarks and standards are embracing learning outcomes and competencies which is also resulting in experimentation with new forms of alternative credentials. These new opportunities hold the promise of resolving long-standing challenges related to transfer assessment such as a lack of information regarding courses and other details such as syllabi, competencies and learning outcomes. Ultimately, the largest beneficiary of enhanced credentialing practices are students themselves in that they will have ready access to tangible and potentially portable credentials as well as tools and capacities to better reflect upon, articulate, and curate the evidence of their learning and accomplishments, for presentation to other institutions or to future employers.

**Research Goals and Questions**

To support advancement of new ways to position summative learning, this study on alternative credentials sought to identify (i) a credentialing typology for documenting completed learning outcome achievements through a program of study or an institution and (ii) whether these alternative and emerging credentials improve student success, transfer, and mobility.[1] To achieve these goals, the researchers explored the following four questions:

1. *Which postsecondary institutions within North America serve as exemplars to help identify a credentialing typology for Canadian institutions that ties curricular and co-curricular learning within the same schema?*
2. *What are the defining characteristics of the credentialing types particularly related to creating expanded or alternative credentials containing comprehensive information regarding summative learning and achievement of learning outcomes at the individual student level? What system-wide and or institutional level supports were cultivated to ensure success?*
3. *What are the defining characteristics of a credentialing typology for Canadian institutions?*
4. *Does demonstrable evidence exist to suggest that these types of credentialing initiatives facilitate student success, mobility, and transfer?*

The researchers used a variety of research methods including a case-based interview approach with leaders at postsecondary institutions supplemented by site visits and website reviews, a national survey of registrars, broad-based consultation with experts in the field, and a literature review.

[1] *"Student mobility" is defined as the ability of an individual to move into the workforce or from one institution to another aided by trusted, verifiable documents such as official academic transcripts and diplomas, and by established inter-institutional partnerships, transfer systems, agreements, and pathways (adapted from the ARUCC PCCAT Transcript and Transfer Guide, December 2015).*

### Using a Case-Based Approach with Chosen Exemplars

Recognizing that several institutions in North American are developing alternative credentials, the researchers deliberately chose nine exemplar postsecondary institutions as cases for this study to address the first research question. The rationale for this approach is that each of these institutions is innovating in either one or more forms of alternative credentials and maintaining a focus on the use of learning outcomes achievement in credentialing. Identification of these nine drew upon the expertise of the research team, an environmental scan, and recommendations from thought leaders in the higher education. The exemplars studied include Alverno College, Brandman University, Elon University, La Cité, Loma Linda University, Ryerson University, Stanford University, the University of California San Diego, and the University of Central Oklahoma. While other institutions were contacted, these nine met the criteria for this research study. Through their efforts, these exemplars are seeking to better reflect the full breadth and depth of learning available to students through their institutions by enhancing and or augmenting transcripts or diplomas. The leaders within each institution graciously lent their time and expertise to help demonstrate the range of alternative credentialing options available to postsecondary institutions. Appendices 1 and 2 contain the list of people interviewed for this project and more details on the research methods. Appendices 3 to 11 provide detailed information about the credentials, processes, and practices used by these exemplars. The high-level findings from this research are woven throughout the report.

### Defining Characteristics of Alternative Credentialing Types

To resolve questions 2 and 3, the researchers conducted an analysis of each exemplar and a literature and website review; participated in North American and international conferences, webinars, and meetings focused on credentialing and data exchange; and sought advice from national and international associations. To capture Canadian practices and expertise, the researchers conducted cross-Canada consultation sessions and distributed a national online survey to registrars which saw a 42% institutional response rate (71 out of 168 postsecondary institutions). Appendices 12 and 13 contain the survey results and the questionnaire. The report includes specific findings from this survey.

The research findings point to the value of aligning credentials to quality assured practices and theoretically informed learning approaches to ensure trust, transparency, and verifiable portability. Core elements of the postsecondary learning experience underpin and shape institutional credentialing choices and provide further context to address the second research question. They are inextricably linked and foundational, and include qualifications frameworks; quality assurance and accountability systems; accreditation/recognition; frameworks for learning outcomes and competencies; and recognition of the different forms of learning. Appendices 3 to 11 demonstrate the different ways in which postsecondary institutions align credentials to quality practices to inform alternative forms of credentials. These thoughtful and holistic initiatives are promising for the future of student success, mobility, and transfer. Further details on these elements are outlined beginning on page 20.

The researchers also examined the function and purpose of each credential type and its respective alignment to a program of study; the nature of the learning being credentialed at each exemplar

(curricular and or co-curricular informed by an understanding of formal, informal, and non-formal learning); and the roles of the institutions and students with respect to validating the learning and curating the record. How each credential type enables trust and contributes to mobility and transfer represented primary considerations; hence, the value of the case-based method used for the research. This comprehensive approach enabled the creation of a Typology for Canadian institutions seeking to implement an alternative credential.

The proposed Typology outlines seven primary credentialing types – Certificates and Diplomas; Academic Transcripts; E-portfolios; Comprehensive Learner Records (CLR); Co-Curricular Records (CCR); Complementary Records; and Cognitive or Skills Recognition Credentials (CSRC) such as Cognitive Skills Stamps[2] and Badges. The researchers defined and compared the purpose and functions of each type and identified examples of innovative approaches that are expanding the effectiveness of alternative credentials. For example, any one of these types could be considered extended (and potentially alternative) because of options that provide enhanced access to electronic information. The exemplar institutions provided the means to illustrate the Typology which is described in detail beginning on page 54.

**Credentialing Contributions to Student Success, Mobility, and Transfer**

The last research question sought to identify whether these alternative credentials were contributing to student success, mobility, and or transfer. The findings are outlined beginning on page 67. The research suggests alternative credentials are important but represent only one of a myriad of ways that institutions are meeting objectives centred on student-focused transformation and enhanced transition into the workforce and other institutions.

From a student success perspective, larger institutional efforts that embed alternative credentials are seeing improved metrics for engagement, retention, persistence, and subsequent student success. The University of Central Oklahoma with its *Student Transformative Learning Record (STLR)* initiative (Appendix 10) is an example that is generating these kinds of demonstrable improvements; these same outcomes are envisioned by La Cité for its *Graduate Profile*. Alverno College with its *Statement of Evaluation* and abilities-based framework and pedagogy is seeing tremendous success in terms of student engagement and workforce preparations (Appendix 3). Brandman University's curricular and co-curricular e-portfolio appear to be heading in the same direction for two new competency-based degree programs (Appendix 4).

All the exemplars examined for this study provide illustrations of how students are being supported in their personal and academic development; encouraged to contribute meaningfully to their communities; and learning how to position and communicate their strengths by using these alternative credentials and related supports as they progress and transition. Examples include Stanford University's *Notation of Cardinal Service* which recognizes both curricular and co-curricular service learning (Appendix 9), Loma Linda University's *Student Experience Transcript* (Appendix 7), Elon University's *Visual EXP* (Appendix 5), Ryerson University's *Level Up* program which is a student

[2] For information on Cognitive Skills Stamps, see Stanford's alternative credentials information in Appendix 9.

validated model (Appendix 8), and the University of California San Diego's (UC San Diego) institutionally validated Co-Curricular Record (Appendix 11).

For employers, indicators from the research suggest that developing better ways to represent student learning in a consumable format that is relevant, transparent, and easily understood by both students and other third parties, enhances transition to the workforce. Elon University's research in this area corroborates this outcome. Alternative credentials and the array of activities that surround such initiatives help institutions, students, and employers to realize the potential benefits for student mobility into the workforce. These findings are supported by the emerging evidence from the cases in this study and from the literature review.

The findings also suggest improvements to the assessment of transfer and prior learning could be a by-product of access to greater breadth and depth of student information. UC San Diego's transcript and Stanford's extended diplomas represent two examples of institutions that are providing access through these credentials to more detailed course information via embedded hyperlinks (Appendices 11 and 9 respectively). Many of the institutions are supporting curation and validation of summative student artifacts available in e-portfolios and or alternative student credentials that substantiate achievement of specified learning outcomes. In addition, the research suggests that institutionally validated student achievements across the learning spectrum once credentialed could potentially systematize and improve assessment practices for prior learning. The Typology and the literature review provide interesting insights related to this area.

Important questions arose in the exemplar interviews regarding the choices surrounding which activities appear on a co-curricular or comprehensive credential (with a blend of curricular and co-curricular) versus the academic transcript and whether, by being on the alternative credential alone, a future institution might discount the learning when assessing transfer or admission. Some of the exemplars are choosing to showcase the learning on both records although framing them differently: for example, as courses on the transcript and with descriptors of learning outcomes on the alternative credentials. Other institutions are articulating the learning on co-curricular records only because in their context, the learning sits outside of the program even though it is led and assessed by faculty; service learning, community engagement, research, study abroad, and experiential learning are impacted by these local decisions. Interestingly, select institutions are focusing on credentialing institutional level outcomes to answer the question, "What does it mean to obtain a [degree or diploma] from [name of institution]?" These local decisions could have downstream implications for students, particularly when they transfer to other institutions.

Regardless of credentialing method, the research indicates that transfer practices will only be improved if the learning is validated by a trusted source. Ensuring trusted and verifiable validation of credentials benefits institutional reputations by decreasing or diminishing opportunities for fraud. The work of the many exemplars in this study to ensure trusted and validated practices is both laudable and inspiring.

**Implementation Characteristics**

Institutions wishing to create alternative credentials, need to address various implementation considerations which vary in terms of scale. Additional characteristics emerged through the research

process which indicate key success factors essential for successful implementation. These are outlined beginning on page 61. As an illustration, the exemplars and research indicate that creation of alternative credentials cannot be executed in isolation from the broader higher education community or from campus partners within a college, polytechnic, or university. The literature and website review and the consultations for the project revealed that institutions, allied organizations, vendors, and governments in North America, particularly in the U.S., are collaborating and leveraging external funding; learning communities; employer expertise and insights; and system-wide supports offered by regional and national associations.

Further, the exemplar research and the national survey indicate that institutional success requires an internal focus on students and alignment with the overall mission. Credentialing other forms of learning (formal, informal, and non-formal), which is central to alternative credentials, requires first that institutions make the link to the strategic goals, establish or choose a learning outcomes and competency framework, identify and map programs to learning outcomes and competencies, and, by doing so, develop shared nomenclature through internal collaboration, particularly with faculty.

In addition, the creation of scalable alternative credentials requires that institutions leverage technology and enhance data capture and exchange capacities. For Canadian institutions, effectively transmitting, receiving, and leveraging electronic documents represents an exciting although challenging opportunity. The national survey findings suggest that most of the responding institutions agree that access to more information such as course or learning outcomes would enhance transfer assessment practices. However, institutions may not have the in-house capacity to receive and work with these kinds of alternative credentials on a scalable basis.

To fully realize the benefits of alternative credentialing, a parallel focus on expanding system-wide data exchange remains necessary. Ensuring creation of thoughtfully constructed, well understood, trusted, and verifiable credentials that align with institutional goals represents one aspect; the development of institutional and system-level capacity to facilitate sharing of these credentials to ensure transition either into the workforce or to other institutions represents another significant set of considerations. The learnings from other jurisdictions outlined in this research validate these findings.

**Conclusion**

What learning achievements an institution decides to feature on a new credential, how it decides to represent these, and the clarity with which these are expressed, are fundamental questions to resolve. Since alternative credentials are new, each institution's understanding of their local context, principles, and standards which inevitably guide how they categorize co-curricular versus curricular learning, represents an area of further study. The consideration of the downstream implications of alternative credentialing formats for student mobility and transfer is an important area of exploration for developers of new credentials.

Contemplation of other approaches including complementary or extended options for credentialing summative learning at the student level is further influenced by broader considerations such as the reliance on the credit hour as the *de facto* currency for learning; the long-standing reliance on the transcript and the diploma as the only trusted methods by which to showcase summative learning;

and the importance of maintaining standards of trust by subsequent institutions and organizations (e.g., reputation, official nature, clarity, consistency, etc.). None of the exemplars or the organizations consulted for this study recommend doing away with the academic transcript or diplomas/certificate shells[3] given the downstream negative implications for students; rather, they are seeking to carefully and thoughtfully extend, augment, or complement these credentials to better reflect the full range of a student's learning. This research aspires to inform these kinds of opportunities and encourage a dialogue around the creation of trusted alternative credentials with a focus on credentialing learning outcomes achievement. The researchers believe that providing further information about the learning at the individual student level will advance student success, mobility, and transfer. As the research indicates, our higher education neighbours in other countries and regions are exploring this space in earnest; creating a Canadian solution represents an exciting and complementary step.

[3] Certificate or diploma shells refers to the actual document awarded for successful completion of a program of study. More information on their function and purpose is provided in the Typology section of this report.

## ACKNOWLEDGEMENTS

The researchers owe a debt of gratitude to several individuals who lent their time and expertise to this study. While Appendix 1 provides a fuller list, the researchers are particularly grateful to the ONCAT staff, the Canadian registrarial community, and our international partners for their help throughout the project.

We also extend thanks to…

Tom Black, Associate Vice Provost for Student Affairs and University Registrar, Stanford University
Jeana Abromeit, Associate Vice President for Academic Affairs and Professor of Sociology, Alverno College
Dr. Laurie Dodge, Vice Chancellor of Institutional Assessment and Planning and Vice Provost, Brandman University
Dr. Rodney Parks, Registrar, Elon University
Jesse Parrish, Assistant Registrar, Elon University
Chantal Thiboutot, Directrice principale, Planification institutionnelle et de l'imputabilité, La Cité
Patrick Mainville, Coordonnateur, Consortium national de formation en santé (CNFS) volet La Cité
Dr. Rick Williams, Vice President Enrollment Management & Student Affairs, Loma Linda University
Erica Seheult, Director, University Records, Loma Linda University
Charmaine Hack, Registrar, Ryerson University
Kaitlyn Taylor-Asquini, Developer of Leadership Curricula and Programming
Cindy Lyons, Interim Registrar, University of California San Diego
Kimberly Elias, Engaged Learning Tools Coordinator, University of California San Diego
Dr. Jeff King, Executive Director, Center for Excellence in Transformative Teaching and Learning, University of Central Oklahoma
Dr. Mary Wilson, Director, Academic Excellence, and the staff and instructors at Niagara College
Leisa Wellsman, Co-Chair of CanPESC and Manager, Applicant Services, Ontario Universities' Application Centre (OUAC)
Cathy Van Soest, Co-Chair of CanPESC and Manager, Student Data Services, EducationPlannerBC
Michael Sessa, President and CEO, PESC

## ABOUT THE AUTHORS

**Joanne Duklas**

Joanne Duklas is a published author, researcher, and consultant in higher education. Her research interests focus on advancing next generation practices in support of learner success and mobility. Through Duklas Cornerstone Consulting, she brings to her clients more than two decades of expertise in student focused service delivery, strategic enrolment management, business process redesign, research, and policy work. Joanne routinely leads large-scale, learner-focused change projects and research studies informed by institutional, provincial, and national consultation in her pursuit of evidence-based standards development and best practice. A former Assistant Vice President and Registrar, Joanne was the primary author and project lead for Canada's first national transcript and transfer guide which received funding from nine provincial and national bodies (guide.pccat.arucc.ca). Her peers have recognized Joanne at both the national and provincial level for her volunteer, research, and leadership work in higher education by awarding her honorary membership status in both the Association of Registrars of the Universities and Colleges of Canada (ARUCC) and the Ontario University Registrars' Association (OURA).

**Jean Bridge**

Jean Bridge is an adjunct research professor (retired) at Brock University, Centre for Digital Humanities. Her service and research over the past decade engages multi-disciplinary curriculum development and college-university partnerships. The ONCAT funded *College-University Pathways for Games - Game Education Matrix (GEM)* project led by Bridge produced a prototype tool that uses learning outcomes to compare specialized programs in a highly diverse field of study and practice. This work encompassed practical investigation and synthesis of discourses and initiatives that surround the use of learning outcomes to advance student mobility. Bridge continues to be involved in the creation of a beta version of the GEM project while also contributing to the ONCAT *Learning Outcomes for Transfer (LOFT) Research Consortium* whose work is aimed at bringing critical appraisal and lessons learned from international contexts to bear on Ontario's prospects for using learning outcomes to build student pathways.

# TABLE OF CONTENTS

## Tables



## Figures

# INTRODUCTION

Showcasing student postsecondary achievement of ***curricular***[4] competencies and learning outcomes using alternative credentials[5] other than traditional transcripts and diplomas represents a relatively new concept for Canadian postsecondary institutions. This finding sits in contrast to the many Canadian institutions with long-standing ***Co-Curricular Records (CCR)*** [6] in place.[7] The growing interest within Canadian higher education in learning outcomes and competencies presents an opportunity for policy developers including registrars to look at different or expanded options for showcasing and credentialing summative learning at the individual student level.

This research seeks to identify the array of credentialing options suitable for showcasing learning outcomes achievements completed through a program of study or at the institutional level, and to determine whether these efforts improve student success, transfer, and mobility into the workplace. To achieve this, the researchers explored the following research questions:

1. *Which postsecondary institutions within North America serve as exemplars to help identify a credentialing typology for Canadian institutions that ties curricular and co-curricular learning within the same schema?*
2. *What are the defining characteristics of the credentialing types particularly related to creating expanded or alternative credentials containing comprehensive information regarding summative learning and achievement of learning outcomes at the individual student level? What system-wide and or institutional level supports were cultivated to ensure success?*
3. *What are the defining characteristics of a credentialing typology for Canadian institutions?*
4. *Does demonstrable evidence exist to suggest that these types of credentialing initiatives facilitate student success, mobility, and transfer?*

To answer these questions, the authors selected and studied institutional exemplars across North America using a case-based approach. As the goal included identifying a typology of credentialing options, the researchers deliberately chose each exemplar to demonstrate the spectrum of possibilities across a continuum from the curricular through to the co-curricular. The research augmented the case studies and validated the appropriateness of the proposed typology through a process of interviews, literature and website reviews, dialogue with national and international bodies, and consultation with registrars across Canada.

In exploring these questions, this research contributes to the literature regarding Canadian credentialing standards development. Ultimately, the researchers aspire to inform efforts at Canadian institutions that seek to create alternative credentials that document the entire spectrum

[4] Curricular in this context is referring to any type of learning that is officially tied to a student's postsecondary program; otherwise, known as formal learning.

[5] Credential used in this context refers to any method an institution uses to showcase summative student work. Examples include transcripts, diplomas, electronic portfolios, comprehensive learner records, cognitive skills stamps, badges, Co-Curricular Records, and certificates. Alternative credentials for this research refers to any form of credential beyond the static academic transcript or diploma / certificate shell.

[6] Co-curricular refers to learning or activities unrelated to a student's postsecondary program.

[7] The national ARUCC PCCAT Transcript and Transfer Guide provides a summary of sample Canadian institutions with CCRs in place (Duklas, J., Pesaro, J., December 2015).

of student learning and, by doing so, advance broader student success, mobility, and transfer.

Emerging credentialing innovations in North America include extending or creating credentials that embed meta-data and hyperlinks; leveraging flexible electronic portfolios to serve the full range of learning; and, creating Badges or Stanford's Cognitive Skills Stamp, Complementary Records, and Comprehensive Learner Records. New methods for curating and authenticating credentials using options such as Blockchain are also emerging.

While the research findings do not support the dissolution of traditional transcripts or diplomas, room exists to explore extending or complementing these with credentials that facilitate a more in-depth understanding of individual student learning. Overall, alternative credentials hold promise as a means to improve student mobility. Brown and Kurzweil, in recognizing the current state of proliferating credentials and pathways with highly variable formats, point to the need for more data-informed research and enhancement of quality assurance policies and practices to realize the potential efficacy of credentials (Brown 2016). This validates the relevance of this research.

# RESEARCH METHODS

## Overview

Figure 1 provides an overview of the research methods used for this study. These included a review of literature, trade, and website information; site visits and interviews of institutional leadership selected for participation in the study; workshops and conference presentations across Canada involving registrarial and pathway experts; and, a national survey. The relative novelty of this emerging field and the rapidity of change, particularly with respect to technology, validated the need for a multi-faceted research approach.[8] Appendices 1 and 2 detail the people interviewed and the research methods used for this study.

## Case-based Approach to Focus on Specific Institutional Exemplars

Several associations in North America, primarily in the U.S., are leading significant and foundational work in the field of alternative credentials. A growing number of postsecondary institutions within North America are or have implemented expanded or alternative credentials that represent summative learning achieved through curricular or co-curricular learning experiences, or a blend of the two. Some institutions are also partnering with employers to create credentials that showcase learning that extends beyond the postsecondary environment. Of specific interest to this study were those institutions that have used or are developing alternative or extended credentials to showcase summative achievement of learning outcomes at the individual student level, whether focused exclusively on the program of study or across the entire learning experience. This focus determined the primary rationale for the exemplars chosen for analysis. The nine exemplars interviewed for this study included the University of Central Oklahoma, Alverno College, Brandman University, La Cité, Loma Linda University, Ryerson University, Stanford University, the University of California San Diego, and the University of Central Oklahoma.[9] Ryerson provides a fully co-curricular example as do some of the other exemplars; these were included to demonstrate the full range of credentialing options. Appendices 3 to 11 provide detailed overviews of each institution and their credentialing efforts.

In the process of identifying these nine exemplars, the researchers conducted website research and interviews with North American institutions engaged in emerging practices. One example includes the British Columbia Institute of Technology in Vancouver, which is pursuing work in the field of prior learning and seeking to recognize military training. Niagara College in St. Catharine's, Ontario, is capturing evidence of the process of learning in the classroom setting using a cloud-based system. Through its Centre for Academic Excellence under the leadership of Dr. Mary Wilson, Niagara College is implementing online portfolios (to complement their existing learning management system) in which faculty and students are capturing evidence of learning throughout a course to support the teaching process and enhance student reflection, learning, and engagement. The College's efforts appear particularly promising for practice-based, vocational programs. As these examples, while quite promising, did not specifically address the credentialing of summative work, they were not included in this research report.

[8] The research process did not include a detailed analysis or comparison of technology or technology providers; therefore, readers are encouraged to contact the institutions or vendors directly for product details.

[9] The interviews were conducted in fall 2016 and winter 2017.

*Figure 1: Consultation and Research Overview*


## National Survey

To capture a broader understanding of practices, gauge institutional capacities, and elicit expert advice, the research team conducted a national online survey targeting registrarial leadership at Canadian higher education institutions in winter 2017. It resulted in an overall institutional response rate of 42% (71 out of 168 postsecondary institutions).[10] Appendices 12 and 13 contain the results and the survey questions.

The survey aimed to identify the current state of credentialing and transcription activities at Canadian institutions; plans for additional changes; the nature and characteristics of learning outcomes embedded in curriculum; the access, if any, provided to individual students to summative work or credentials; and expert advice to inform best practice recommendations. It included questions that permitted free-form qualitative and closed-ended responses. Questions soliciting opinion used the five-point Likert scale (i.e., 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree', 'strongly disagree'). While not all questions required a response, some forced a response.[11] In addition, the rules coded into the survey deliberately triaged next stage questions presented to respondents. For these reasons, the findings include the 'n' count for each question. Staff of the Ontario Council on Articulation and Transfer (ONCAT), the Research Working Group of the Association of Registrars of the Universities and Colleges of Canada (ARUCC), and the Canadian Post-secondary Education

[10] Total potential respondents included all Canadian publicly funded postsecondary institutions and those privates that are recognized within their province and maintain membership in organizations such as the BC Council on Admissions and Transfer or AUCC. Six private institutions in Canada completed the survey; given the small number, their responses are included throughout rather than separately analyzed. One response per institution was requested. In one instance, two responses were provided by the same institution; the registrar was contacted and requested to identify which response remained relevant. The second response was deleted.

[11] Survey testing revealed the response timeframe was typically 10 minutes for those with no active institutional engagement in alternative credentialing and upwards of 30 minutes for those that did. This information was made transparent to participants in supporting communication.

Standards Council (CanPESC)[12] reviewed the questions and provided advice to inform survey development.

To ensure broader institutional coverage, survey distribution occurred through the listserv of the Association of Registrars of the Universities and Colleges of Canada (ARUCC) and to four provincially-based registrarial associations which, in one case, included members from the territories.[13] Respondents included registrars (or designates) at primarily publicly funded or assisted institutions because these professionals offer institutional expertise in credentialing, technology, and transcription and diploma standards. Private postsecondary institutions also received the invitation to participate if they maintained membership in any of the targeted associations; six provided responses.[14]

Supporting communications for the survey included advance announcements to registrars at provincial and national association meetings and conferences, and follow up launch and reminder emails.

[12] CanPESC, a Canadian affiliate of the American PESC organization, is active in national discussions and activities surrounding data exchange and student mobility. This group is co-chaired by Leisa Wellsman from the Ontario Universities' Application Centre (OUAC) and Cathy van Soest from EducationPlannerBC.

[13] Specifically, to the following organizations: Atlantic Association of Registrars and Admissions Officers (AARAO); Western Association of Registrars of the Universities and Colleges of Canada (WARUCC); Ontario University Registrars' Association (OURA); Ontario College Registrars, Admissions, & Liaison Officers (CRALO).

[14] Given the small sample set of private institutions, their results are included in the analysis.

# SETTING THE STAGE FOR COMPREHENSIVE LEARNER RECORDS: A Review of Core Literature and Initiatives

## Credentials

The term 'credential' is an umbrella covering a range of awards including degrees, diplomas, licenses, certificates, cognitive skills stamps, and badges (Lumina 2016a; Tom Black, personal communication). Postsecondary, professional, and industry education providers award credentials as proxy evidence of trusted individual student achievement relative to a defined type and level of knowledge or skill (Duklas et al 2015).

Subsumed in the notion of the credential is the academic transcript, a nearly universal learning record that represents a student's accomplishments in an itemized, chronological list of courses, credits, and corresponding marks. Using the credit hour as its measurement of achievement, the transcript is intended to inform its consumers of a student's readiness for the labour market or for next level academic qualification (Lumina Foundation 2015a).

Increasing pressure for greater transparency, responsiveness to distributed modes of learning, and the need for enhanced student mobility in a rapidly evolving labour market have motivated many colleges and universities to step outside the confines of the academic transcript and explore new practices for recording and evidencing student learning, and to bring deeper meaning to credentials (Tom Black, personal communications; Pittinsky 2015; Merisotis 2016). Innovations in credentials aim to give stakeholders (learners, employers, and educational institutions) more holistic information about individual student achievements; including information about learning beyond the classroom (AACRAO 2015b; UPCEA/Pearson 2016). The proliferation of credentials is an indicator of their appeal as well as their potentials and limitations in informing student pathways (Brown 2016).

## Credentialing for the 21st Century

The environment within which postsecondary credentials exist is increasingly more complex; leading to a growing demand for transparency, trust, and portability.

Change drivers affecting the entire postsecondary system include a growing focus on student success and mobility in education (Malan 2000) linked to a shift to outcomes-based approaches to learning designed to focus on achievement of clearly communicated outcomes versus a pre-occupation with inputs (Everhart 2016). This change enables a holistic and wider view of the learning enterprise and accommodates more flexible and distributed forms of education including online, competency-based, and experiential learning (AACRAO 2015a). Credentials that represent the outcomes and evidence of curricular learning achievements empower students when they wish to communicate what they know and can do to future employers and others. The frameworks and systems that underlie and support credentials in their capacity to reflect student outcomes also buttress impactful student advising and mobility (AACRAO 2015a).

As the exemplar cases provided in this research indicate, institutions in North America are actively exploring student records that track, capture, and showcase learning achievements across a broader

life-cycle of experiences from curricular to co-curricular (see Appendices 3 to 11). Such innovation introduces important considerations for student success, mobility, and transfer.

The concept of outcomes-based approaches across a broader range of student learning experiences is not new. The Organization for Economic Development (OECD) and its supporting institutional partners represent illustrative examples. Since the late 90s, the OECD formally signaled an intention to prioritize a focus on informal and non-formal learning (OECD 2016). [15]

> *"…OECD activity focuses on the process of formal recognition of non-formal and informal learning. Whether through the awarding of a full certification, a partial certification, a right of access to the higher education system or to any programme in the formal lifelong learning system or any recognised document (portfolio of competences, competence passport…): this activity makes the case that individuals engaging in a recognition process for their non-formal and informal learning outcomes must be awarded a document that has social value and is widely recognised so that they can benefit from it, now or later in life, when returning to the formal lifelong learning system or to the labour market.*
>
> *The assumption behind the work reported here is that all learning has value and most of it deserves to be made visible and recognised. It is a clear possible option, and a plausible alternative to formal education and training, to have non-formal and informal learning assessed. The real question is under which condition(s) the learning that has not been recognised can be codified, and lead to the awarding of a document."*

Co-Curricular Records represent another illustrative example particularly here in Canada, as demonstrated by the sample list in the *ARUCC PCCAT Transcript and Transfer Guide* (Duklas et al 2015).[16] For decades, the University of Manitoba pioneered credentialing of co-curricular activities; it is now joined by many other Canadian institutions.

Given the diversity in learning opportunities and their potential for recognition, a critical need exists to clearly articulate the meaning, value, and different purposes of the wide array of credentials at play in the postsecondary landscape. This is especially helpful as credential providers are often taking unique approaches to credentialing learning outcomes that could create barriers to future transfer and mobility (Lumina 2016b).

Employers appear eager for more comprehensive and focused credentials directly related to the workplace; plus, there is a growing demand for a focus on both 'hard' cognitive and disciplinary knowledge and 'soft' skills such as communication, collaboration, and team building (OECD 2016). "*As jobs have become more technically complex, we need more information about and higher standards around how we measure productive human capital...*" (Pittinsky 2015). The belief exists that more readily understandable credentials that communicate how academic programs align with careers enhance student's transition to employment (Lumina 2015a). "*Never before have colleges and universities been under so much pressure to demonstrate the value of their programs in terms of what*

[15] For the purposes of this study, the researchers rely on definitions of learning informed by prior learning assessment and recognition (CICIC 2017) and other organizations with interest in this area such as the OECD (OECD 2016). Footnotes are used throughout to provide definitions used in this research.

[16] www.guide.pccat.arucc.ca – see examples within the Resources section under *Creating a Competency-based Student Record*.

*their graduates know and can do*" (Parchment 2016). Hence, PSIs seek to differentiate themselves and their students to better position each for successful futures. The result is more moving parts in the intentions behind and mechanics of credentials aimed at communicating information about higher educational attainment in ways that satisfy the diverse stakeholders seeking transparency, modularity, portability, relevance, validity, and equity (Everhart 2016a; Everhart 2016b).

### Optimizing the Value of Credentials

The emerging complexity in the credentialing world demands greater clarity, trust, and verifiable portability. Credentials, as both evidence and record, document and represent the knowledge, skills, and affective capacities a student possesses at the end of an educational program and inevitably provide definition and measurement of achievement (Everhart 2016b). Ideally, a credential clearly tells the end user what competencies and or outcomes of learning are expected of all students at the institutional and program levels (Goff et al 2015). Within this framework, the credential must enable the end user to clearly discern the individual student's level of achievement of those outcomes from a place of trust.

A successful credential is one which is broadly meaningful to the learner it represents and to a potential employer or PSI wishing to know what a student knows and can do (Parrish et al 2017). Credentials and the postsecondary education system must overcome the perceived skills gap suggesting that a great many employers believe higher education institutions produce graduates without the requisite skills and competencies (Leventoff 2016; Lumina 2016b). A challenge also exists to provide trusted, verifiable documentation of student learning to other postsecondary institutions considering admission or transfer credit (AACRAO 2015b). In order to achieve genuine student mobility, all these end users or stakeholders must be satisfied by practices that deliver relevant and meaningful credentials.

### Academic Credit and the Currency of Learning

Conventional approaches to measuring academic achievement use time and award academic credit based on the credit hour (Laitinen 2012). This measure, generally assigned to courses and the accumulation of course credits, is used as an index of student learning and ability; readiness for the workplace or next level academic qualification; as well as a basis upon which to calculate the credits that may be transferred to another postsecondary institution. It is indeed the basic currency of education (ACE 2016). However, many would argue the information provided on a transcript about student achievement is unclear and inadequate for its purpose: as evidence of learning needed by employers, postsecondary institutions, and other third parties as well as for the assessment for credit transfer based on equivalency among similar courses (Johnstone 2010).

Amy Laitinen and others articulate the challenges in 'cracking the credit hour' as the commonly accepted unit of measurement in postsecondary education (Laitinen 2012). She and others argue that the rigid adherence to the credit hour in the traditional academic transcript fails to address learning that is often asynchronous, self-paced, and distributed (Johnstone 2010). Much of the postsecondary environment has responded to these deficiencies in the credit hour as the dominant educational currency with an explosion of new forms of certification and licensure (ACE 2016). Notably, institutions following competency-based education (CBE) models lead the field in

credentialing that uses competencies, often independent of course-taking, as descriptors of learning and assessments of competency as measures of learning (ACE 2016). The American Council for Education (ACE) advocates for a new system, decoupled from the credit hour (Johnston 2010).

Administrators and educators using learning outcomes, competencies, qualifications frameworks, and taxonomies to define levels of learning for assessing transfer credit must often do so across curricula (Carter 2011; Everhart 2016b). The quantifiable measurements included in credentials – whether credit hours and marks or competency units – can be referenced back to credit hours and thus contribute to credit recognition between postsecondary institutions (Pittinsky 2015). Alternative forms of credentialing that operate outside the conventions of the credit hour or marks and do not provide a cross-walk or translation to the credit hour, must rely solely on the sound and comprehensive framework of competencies and or learning outcomes (Everhart 2016b). Alverno College and Brandman University provide cross-walks between the credit hour and thoughtfully developed and aligned learning outcomes and competencies which mitigate any perceived or actual gaps (see Appendices 3 and 4 for details on each institution).

### Core Learning Elements Relevant to Establishing Trust in Credentials

To fully understand how credentials enable various audiences to understand and trust in a learner's educational attainments, it is useful to identify core elements of the postsecondary learning experience and how these impart shape and relational meaning within the diversity of credential types and structures. These elements include, at minimum, clarification of the different forms of learning (i.e., curricular and co-curricular informed by an understanding of formal, informal, and non-formal learning), qualifications frameworks, quality assurance and a system of accountability, accreditation/recognition, and learning outcomes and competencies.

#### *Formal, Informal, and Non-Formal Learning*

Teasing apart distinctions between curricular and co-curricular learning represents an increasing challenge. Understanding the differences between formal, informal, and non-formal learning provides some clarity.

Curricular learning occurs within an intentional and structured curriculum and is typically defined as 'formal learning' (OECD 2016; CICIC 1990-2017). According to the *UNESCO Institute for Lifelong Learning,* formal learning, generally called course-based learning, is confined to recognized educational institutions that award diplomas or other qualifications and is structured within curricula, qualifications, and teaching-learning requirements (UNESCO 2002). In the postsecondary environment, formal learning focuses on that which occurs in the classroom or as part of a structured and defined program (OECD, 2016). Traditional transcripts and diplomas represent the summative outcomes of this category of learning.

A question remains regarding whether an institution captures informal learning in Co-Curricular Records. Informal learning, according to UNESCO, occurs outside postsecondary programs in places such as the workplace, communities, and through interests and activities students independently pursue (UNESCO 2002). OECD (2016) defines it as learning that is "*never organised, has no set objectives in terms of learning outcomes and is never intentional from the learner's standpoint*." The

Canadian Information Centre for International Credentials (CICIC) defines informal learning as "*Learning that takes place through life and work experiences and derives from activities external to a structured learning context*" (1990-2017). Since it is generally understood that informal learning happens within postsecondary institutions, these definitions are slightly limiting but both highlight the essential elements of unstructured lifelong learning activities that are not subject to formal certification.

Non-formal learning represents an alternative or addition to formal learning which may be facilitated by postsecondary institutions. More flexibly structured, it usually takes place in the community, the workplace, and through the activities of service organizations (UNESCO 2002). Non-formal learning in the context of postsecondary credentials, appears to be captured to some extent, although not entirely, within Co-Curricular Records (CCR). Again, with the plethora of structured co-curricular activities at postsecondary institutions, this definition provides a starting point as does the OECD definition, which indicates "*non-formal learning is rather organised and can have learning objectives*" (2016). According to this definition, non-formal learning occurs in curricular settings. In defining the Co-Curricular Record (CCR), Kimberly Elias provides a useful lens through which to understand the scope of postsecondary co-curricular learning as focused on learning beyond the immediate field of study; beyond the classroom; and addressing a holistic academic experience (Elias 2013). According to Elias, co-curricular activities have purposes often distinct from those associated with the curricular such as enhancement of learning, and encouragement of self-awareness, civic responsibility, and engagement, and are often linked to competencies (Elias 2013).

### *Different Forms of Learning Exist in both Curricular and Co-Curricular Settings*

Learner-centred education and pedagogy focus on developing skills and practices that enable lifelong learning and independent problem-solving (Young 2007). It encourages students to be active participants in their learning experiences and fosters transferrable skills such as critical thinking and reflection (Kolb 1985). Experiential learning seeks to achieve these objectives and is illustrative of a form of learning found in both curricular and co-curricular settings. Typical models of such educational approaches engage learners in direct experience and focused reflection to increase knowledge and develop skills (Kolb 1984). Postsecondary institutions with a focus on experiential learning, extend this approach to service learning and work-integrated learning structured within courses or broken out into co-curricular activities (Parrish et al 2017). Elon University, with its focus on the *Experiential Learning Requirement* ('ELR's'), illustrates this approach (see Appendix 5 for more details on Elon's work).

Comprehensive and alternative credentials bring these different learning experiences together into one platform (e.g., e-portfolios) or one document (e.g., a Comprehensive Learner Record). As one perspective to consider that further complicates credentialing, co-curricular experiences and activities become elevated to academic status by virtue of faculty engagement and design of learning within competency or learning outcome frameworks, assessments (rubrics), or other strategies to validate learning. These experiences are often, although not always, coded as courses to underscore the increased rigour applied to learning outside the classroom.

### *Qualifications Frameworks*

Qualifications frameworks serve as fundamental structures undergirding credentials as they define progressive threshold expectations of learners in postsecondary education. These serve as important information and transparency tools that facilitate access, mobility, and recognition of learning by establishing trust in and understanding of the similarities and differences between qualifications (Council of Europe 2014). Quality assurance bodies across Canada are well established and serve as models demonstrating the importance of ensuring quality in postsecondary education. As exploring qualifications frameworks sits outside of the scope of this research, those interested in further information are encouraged to review the research in the *ARUCC PCCAT Transcript and Transfer Guide* (www.guide.pccat.arucc.ca) and to consult with institutional program review professionals and local quality assurance organizations.

### *Quality Assurance and a System of Accountability*

Quality assurance and a system of accountability in postsecondary education are increasingly pinned to outcomes of learning rather than inputs (Kennepohl 2016). National and other regional authorities and accreditation bodies maintain policies and practices to ensure the quality and continuous improvement of postsecondary institutions and their programs (CMEC 2007). These policies and practices typically encourage articulation and alignment of institutional and program level competencies and learning outcomes which act as criteria for cyclical review and evaluation against an ability to deliver on these outcomes such as for the systems that are in place for Ontario colleges[17] and universities (OUCQA 2010) and in other Canadian provinces and territories. Such policies, standards, and practices ensure the quality of colleges and universities and ultimately impact student success in their capacity to inform coherence between institution, program, and course outcomes; curriculum; and the delivery of learning, pedagogy, assessment, and high-impact advising. Credentials generally reflect formal learning experiences tied to the outcomes of accountability and quality assured practices as well as qualifications frameworks and consequently enhance trust in the standards of postsecondary institutions.

### *Accreditation and Formal Recognition / Approval*

The processes involved in obtaining formal accreditation and or recognition/approval at the institutional and program level varies in jurisdictions across North America. Aligning with such processes represents another layer in the postsecondary learning environment; once received, such institutional and or program acknowledgement serves as a proxy for legitimizing the trust, transparency, and portability of a credential. Given the different dimensions to accreditation and recognition, when assessing a student's readiness for admission to a postsecondary institution, this authoritative acknowledgement of an institution's and or program's status represents a typical first step in a review process of a credential when assessing admission and transfer. If applicable, accreditation is also a factor in subsequent acceptance by external professional licensing bodies to facilitate transition into the workforce. Whether the learning is directly related to the academic or vocational course of study; assessed and validated by a trusted individual (e.g., a faculty member or other qualified individual); fully validated and signed by the appropriate institutional authority (e.g.,

[17] See the work of the Ontario College Quality Assurance Service at www.ocqas.ca.

the Registrar); and from a recognized or accredited institution, accreditation and recognition also impact trust, transparency, and future portability of a credential.

When creating an alternative credential, a postsecondary institution would want to consult with outside bodies to ensure transparency and clarity regarding purpose, meaning, and nature of learning, and to identify the ties, if any, to the academic or vocational programs of study or the overall institution. This ensures full alignment of the credential to any other formal accreditation or recognition framework which supports building trust. For the same reasons, if a credential is intentionally student validated and curated, the research indicates this should be clearly stated. Credentialing learning achievement across the full range of curricular and co-curricular learning or creating credentials that reflect a subset of the learning experience whether within a program or outside of a program are equally impacted by this context. Given the interest emerging to credential learning outcomes, exploring the implications of how the credentials will be perceived in the context of existing credentials represents an important area of discussion.

### *Learning Outcomes and Credentials*

Developing learner-centred curriculum, courses, and assessments results from deep consideration at the system, institutional, program, and course levels of what is expected of students (Kennepohl 2016). Learning outcomes are generally accepted as a statement of "*what a learner is expected to know, understand, or be able to do after successful completion of a planned process of learning*" (Lumina 2016a). Shipley (1995) is more concise in defining learning outcomes as *"verifiable learning that must be demonstrated in order to receive a credit for a unit of study/course/program*" (p. 16). Lennon suggests learning outcomes represent

> *Overall alignment of learning outcomes to carefully constructed, focused, and assessed learning experiences appears to be a key success factor…. To build trust, transparency, and verifiable portability, aligning credentials to quality frameworks, protocols, and practices, and theoretically informed approaches is critical for success.*

> *"the summative articulation of what all students are expected to know, be and do as a result of their study whether at the course, program or institutional level. Learning outcomes are measurable statements of student knowledge (what successful students should know) and skills (what successful students should be able to do) expected upon graduation"* (Lennon et al 2014).

Considerable exploration of learning outcomes over the past decade suggest their usage makes postsecondary education more transparent and engenders trust around what graduates know, do, and value (Carter 2011). As postsecondary institutions build, track, and record the outcomes of learning within increasingly well-defined and comprehensive frameworks, credential models are

being tested and implemented to better serve the stakeholders (i.e., learners, employers, and learning providers) (Everhart 2015b). Students benefit from greater definition around what is expected of them and from the opportunities this transparency and intentionality offers for preparing them to better communicate what they have learned and tell the story of their own educational attainments (Parrish et al 2017).

The use of learning outcomes to impart meaning and represent the whole of learning and development, including that which occurs outside the classroom, provides the consumer of a learner record with a richer view of a student's learning, experience, and capacities (CAS n.d.). Capturing overarching, broad knowledge, skills, abilities, and personal capacities embedded in courses through learning outcomes enables them to be communicated to employers for whom these often resonate better than course titles (Everhart 2015b). Similarly, when students seek to transfer credits or move on to new or advanced academic programs, representations of their achievement of learning outcomes validate learning in such important cross-cutting abilities as critical thinking, analytical and research methods, problem solving, writing and communications, civic and global engagement, ethics, personal responsibility, and interpersonal skills, etc. (Le Deist 2007). Finally, learning outcomes expressed at the course level are becoming more widely used to compare courses for the assignment of transfer credits (Carter 2011; BCCAT 2014).

Learning outcomes impart structure, rigour, and validity to alternative credentials, especially where these cross boundaries between jurisdictions or between formal, informal, and non-formal learning (UNESCO 2002). Where alternative credentials diverge from the traditional transcript, and its reliance on grades and courses as accepted measures, the systematic use of learning outcomes becomes increasingly important to meaningfully communicate the achieved learning the credential represents (Everhart 2015b). Europe accomplished this through the Diploma Supplement;[18] and the U.S. is attempting to achieve the same with the Western Interstate Commission on Higher Education[19] and the Lumina funded *Comprehensive Student Record Project* (CSR Project) involving several institutions and supported and stewarded by the American Association of Collegiate Registrars and Admissions Officers (AACRAO) and the NASPA – Student Affairs Administrators in Higher Education.[20]

This AACRAO NASPA CSR Project focuses on exploring alternative credentials beyond diplomas, degrees and the academic transcript in so far as they provide multiple formats; explicit language and definitions; and encourage choice in what is included or recorded (AACRAO 2015b). It is multi-faceted and includes goals such as accelerating and exploring credentialing models that document the full spectrum of learning students gain from studying at institutions, and proposing standards and a framework which will be key to ensuring trust and future acceptance of alternative credentials (AACRAO 2016).

Discussed later in a section on data exchange, the efforts of the Postsecondary Electronic Standards Council (PESC) and its partnering institutions, organizations, and associations, are equally critical to the future advancement of data exchange standards and credential portability.[21] The work of these

[18] For more information, visit http://ec.europa.eu/education/resources/diploma-supplement_en
[19] For more information, visit http://www.wiche.edu/passport/
[20] For more information, visit http://www.aacrao.org/resources/record
[21] For more information, visit pesc.org.

organizations, their funding bodies, and the participating institutions is foundational in the U.S. and important to monitor.

With respect to credentialing models, the AACRAO white paper entitled *A Framework for Extending the Transcript* distinguishes between alternative credentials that function entirely separate; separate but aligned; separate and non-aligned; or as extensions to the academic transcript; it also suggests differentiation based on how these credentials relate to the curriculum (AACRAO 2015b). This sits in contrast to that which is outlined in a recent study conducted for the Ministry of Advanced Education and Skills Development (MAESD) by the Social Research and Demonstration Corporation (SRDC). The SRDC study suggests three basic categories of credentials: badges, e-portfolios, and 'credential supplements'. The European *Diploma Supplement (DS)* and the U.K. *Higher Education Achievement Report* are examples of this third category (SRDC June 2015).

The European *Europass* which includes the *Diploma Supplement (DS)* and *European Credit Transfer System* (*ECTS)* is intended to facilitate student mobility across national boundaries in the European Union (EHEA 2016). The 2009 template for the paper-based DS extends the academic transcript by providing additional context in terms of national qualifications frameworks and information regarding the awarded qualification including entry requirements, skills, competencies, level, and results gained (European Union 2017).[22] The ECTS lays out a cross-walk translation between institutions to enable comparison between a student's program taken locally to the ECTS model.

The United Kingdom *Higher Education Achievement Report* (HEAR) (Higher Education Academy 2007) offers another example of a 'credential supplement' in SRDC's schema. Conceived in 2007, it is an electronic document that provides a six-page record of student achievement. Like the DS, it adheres to a standard template that requires detailed information on the qualification, its level, contents, and results gained, and information on verified performance in non-academic contexts, additional recognized activities, prizes, etc.[23]

These initiatives, to varying degrees, provide insights for how learning outcomes inform and give credence to non-standard credentials. As the findings of this research illustrate in later sections of this report, the exemplars used for this research study reflect the diverse array of possibilities envisioned by efforts of the work of institutions, funding agencies, and organizations in Europe, the U.K., and the U.S. Therefore, the Typology outlined in later sections is greatly informed by these efforts.

---

[22] More information about the Diploma Supplement is available within the ARUCC PCCAT Transcript and Transfer Guide Under "Resources" (guide.pccat.arucc.ca) and online at http://europass.cedefop.europa.eu/documents/european-skills-passport/diploma-supplement.

[23] More information about the HEAR is available within the ARUCC PCCAT Transcript and Transfer Guide under "Resources" (guide.pccat.arucc.ca) and at http://www.hear.ac.uk/. The ARUCC PCCAT Transcript and Transfer Guide provides region-specific analyses and sample credentials showcasing the U.K., Europe, and Australia for those interested in further information on credentials outside North America (Duklas, J., Pesaro, J. December 2015).

### *Competencies*

Competencies represent domains, outcomes, skills, traits, and characteristics that postsecondary institutions and their programs aim to document in an alternative credential. The use of competencies in education represents a subset of the outcomes-based approach to learning (Malan 2000). The variance in definitions of competency represents a challenge in higher education and causes confusion when considering how competencies fit in the credentialing world. Therefore, it remains useful to make a distinction between competence in vocational education and training which references functional areas of knowledge and skill; competence relevant to knowledge, understanding and application of concepts in cognate disciplines; and competency as relating to behaviour or capacity (Le Deist 2007). Institutions sort competencies into readily distinguished knowledge, skills, and abilities that are identified, demonstrated, and measured in a credential. At times, the credential depicts an achieved proficiency level for each competency. Proficiencies are often described as learning outcomes.

Competencies represent broad dimensions of education – notably cognitive, functional, and social and personal capacities such as we see in qualifications frameworks, liberal arts education, and general education requirements (LeDeist 2007). These competencies cut across disciplines and provide the foundation and toolset for all higher education. While variously named, they typically fall within categories of intellectual skills, practical skills, civic/global understanding, and the affective (social, personal, interpersonal) capacities. Competency frameworks that underpin alternative credentials make wide use of these broad cross-cutting competencies (AAC&U LEAP 2005; Lumina DQP 2014; CAS 2009). The exemplars in Appendices 3 to 11 illustrate this finding.

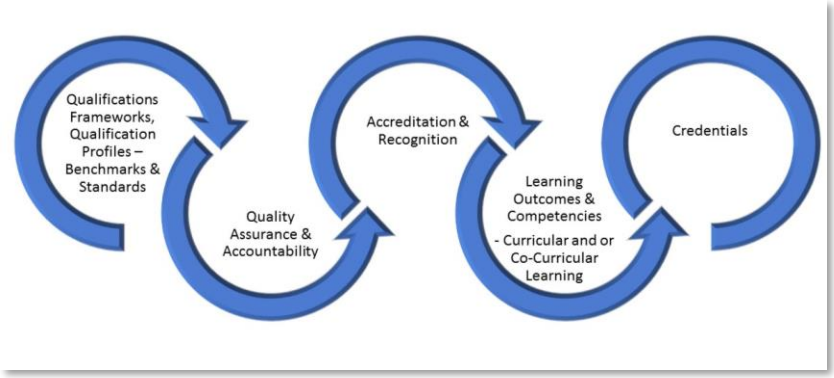
In a similar way, competency links to preparation for work life. As an example, the Ontario Colleges' *Program Standards* emphasize competencies relevant to the workplace (MAESD n.d.b). The ACE report, *Communicating the Value of Competencies*, surveyed employers about what competencies they value most and found these to be communication, teamwork, problem identification, problem solving, and technical knowledge (Everhart 2016b). This approach aligns with the Conference Board of Canada definition of skills or competencies referenced in *Employability Skills 2000+* (CBC n.d.).

Competency-based education programs, which are proliferating in the United States, typically measure learning in units as opposed to the credit hour (Everhart 2016b). The Competency-Based Education Network (CBEN) provides a comprehensive quality standard designed to ensure that programs provide learner-centred, integrated, sequenced curriculum that scaffolds competencies at multiple levels leading to mastery (CBEN 2016). Because the term Competency-Based Education is so closely tied to features of CBE – e.g., self-paced, flexible structure and delivery of a learning model oriented toward progressive attainment of mastery – it is useful to distinguish it from competency-based learning wherein competency frameworks deeply inform course-based curriculum, assessments, and even student records (Klein-Collins 2012). Both strands of postsecondary education are fundamentally outcomes-based and drive the impetus to establish new forms of credentialing that holistically represent what a student knows and has accomplished (Everhart 2016a). Understanding competencies sets the stage for understanding and appreciating the content that institutions use to underpin alternative credentials.

## Links between Quality Assured Practices and Credentials

The literature review amplifies the successive relationship between quality and credentials which is illustrated in Figure 2 at a very high level. In this model, each part of the sequence in the chain represents a component that is foundational to the next. Essentially, this graphic conveys the importance of aligning credentials to quality frameworks, protocols, and practices, and to theoretically informed learning approaches to build trust, transparency, and verifiable portability. While the quality practices for curricular versus co-curricular learning may be different in postsecondary institutions, the fundamental focus on quality and theoretically informed practices supports the value of alignment. This approach requires appropriate and verifiable reflections of summative work and outcomes that showcase the meaning, purpose, and value for students and third parties, and a consideration of the role each play in supporting student learning and ensuring quality. The degree to which attention is paid to any of these elements is directly related to the intended purpose and function of the final credential.

*Figure 2: The Alignment of Credentials to Quality Assured Practices*



## RESULTS FROM THE CANADIAN NATIONAL SURVEY

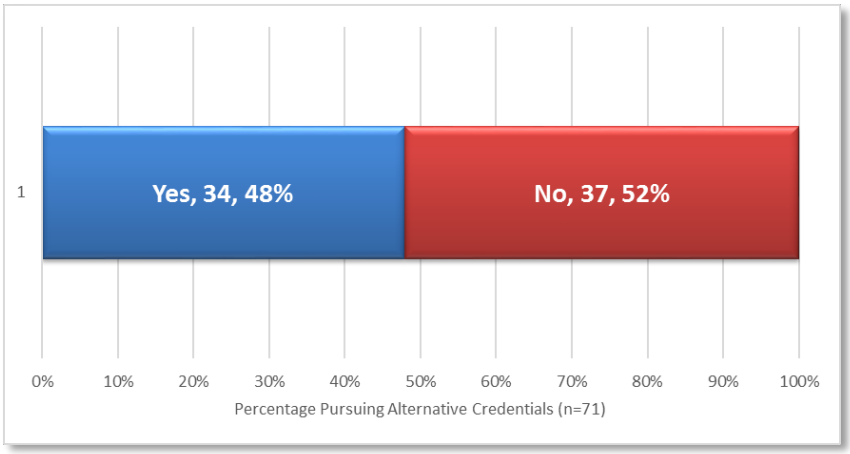
The researchers sought to capture a better understanding of Canadian alternative credentialing practices as these relate to documenting achievement of learning outcomes through a national survey and supporting consultations. This next section outlines the findings. It is followed by a checklist of best practice recommendations provided by leaders in the Canadian registrarial community. The subsequent sections incorporate an analysis of nine North American exemplars which validate the advice provided by the Canadian registrars and provide additional context and examples for those seeking to develop alternative credentials to advance student success, mobility, and transfer.

Forty-two percent (71 out of 168) of Canadian postsecondary institutional leaders responded to the national survey for this research. The questions requested registrars provide expert advice regarding current practices, anticipated future practices, and implementation related to alternative credentials (one response was requested per institution). Appendix 12 provides the detailed findings; the survey questions are contained in Appendix 13. Highlights are presented below.

### Canadian Alternative Credentialing Activity:

Figure 3 indicates that 48% (34/71) of the Canadian respondents currently provide students with alternative credentials to showcase summative learning. Thirty-three of these respondents indicated their institution is distributing certificates, co-curricular records, and or co-curricular portfolios to showcase student learning beyond the transcript or diploma. Two respondents reported that the learning showcased in the alternative credential is student-verified which might indicate a commitment to student curated learning – a philosophy evident in select exemplar case studies.

*Figure 3: Percentage of Canadian Institutions distributing Alternative Credentials*
*N=71*




Variable institutional definitions of curricular versus co-curricular learning emerged as a nuance throughout the project including through the survey. For example, some institutions appear to define study abroad or experiential learning as co-curricular and unrelated to the program or classroom setting whereas others define these learning experiences as curricular and therefore reference these

on an academic transcript. These variable approaches have implications for students and require further study.

In addition to the above, institutions present co-curricular learning through widely divergent credential mechanisms. Examples shared by respondents include online e-portfolios, branded PDFs, non-credit certificates of completion, a formal co-curricular record, and badges; one respondent indicated co-curricular learning is represented in a vocational educational workbook.

Thirty-eight respondents indicated their institution plans to explore creation of alternative credentials.

### *Supporting Student Mobility*

Twenty-two respondents provided insights to support future student mobility. For example, they suggested institutions should consider the potential for these documents to facilitate transfer credit and or prior learning recognition given the diversity of postsecondary institutional recognition policies. Some suggested these credentials might support developing capacity across institutions to map learning outcomes. Only one participant suggested these types of credentials would be meaningless for future transfer consideration.

Some argued that if alternative credentials embed academic learning, access to course outlines and learning outcomes might become possible. At minimum, respondents indicated alternative credentials should consider potential data capture and exchange capacity to enhance future opportunities for students

---

*In addition to transcripts and diploma shells, Canadian institutions typically distribute certificates, co-curricular records, and co-curricular portfolios with senior officials verifying the learning. Cognitive or skills-based credentials, comprehensive student records, and other forms of credentialing remain less common.*

---

### *Learning Outcomes*

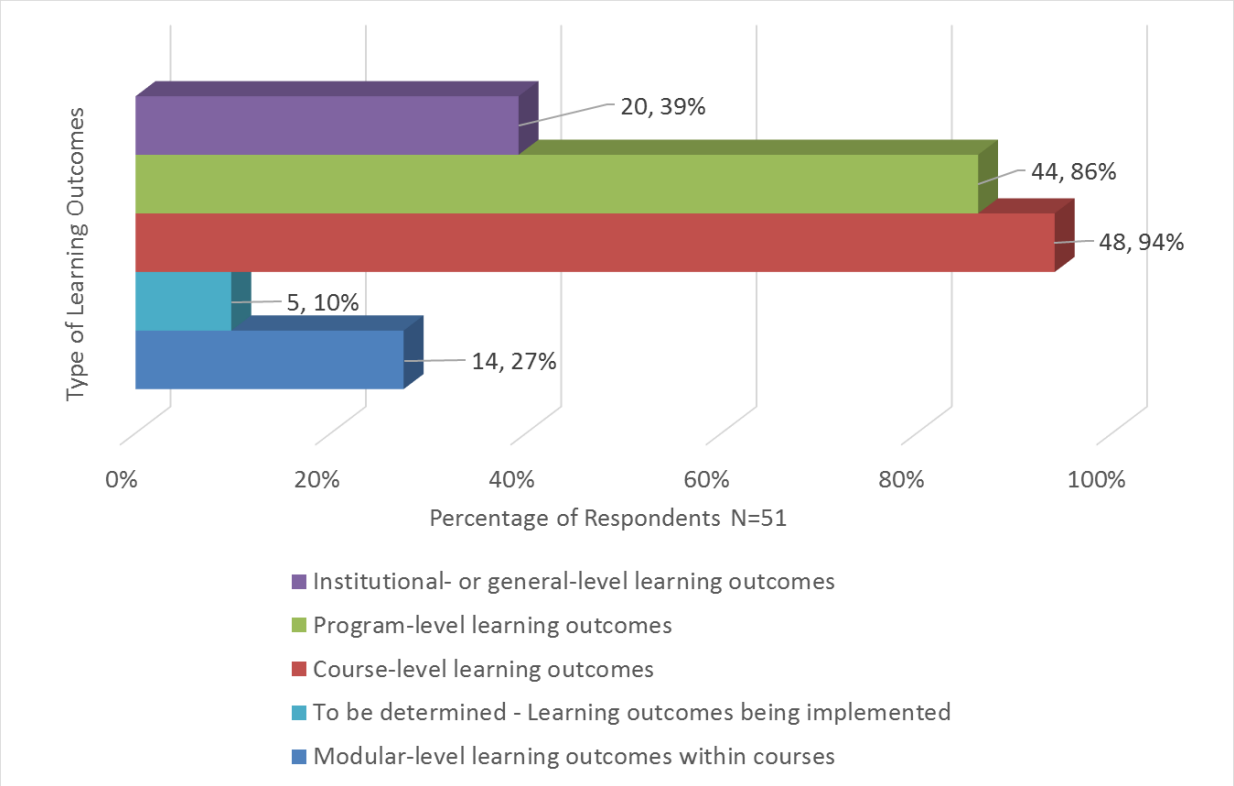
Through consultation, the researchers learned that a perception appeared to exist suggesting that learning outcomes did not commonly exist at Canadian institutions. Since alternative credentials typically showcase achievement of learning outcomes, exploring their status at Canadian institutions represented a helpful line of questioning in the survey. In contrast to the perceptions, the survey results indicate that eighty-seven percent (52/60) of the responding institutions reported learning outcomes exist at their institution. Fifty-one respondents provided further details which are outlined in Figure 4. The findings indicate the most prevalent include course- and program-based learning outcomes (94% and 86% respectively).

If an institution wishes to credential achievement of learning outcomes, the data needs to be stored consistently and in a machine-readable format. Therefore, this represented another line of questioning in the survey. Only 14% (7/51) indicated learning outcomes at their institution exist in a machine-readable format while 55% (28/51) reported this is not the case. Essentially, this finding

indicates that embedding learning outcomes in transcripts or linking them in some fashion to e-credentials would be a significant challenge; without machine-readable data, it is extremely difficult to exchange or provide online access to information in a scalable, portable, or easily accessible manner.

Having noted the above, 37% of the respondents reported their institution is actively seeking to provide students access to this information. Nineteen institutions provided additional details. Examples shared include providing notations on student transcripts (i.e., 'three courses equal one Community Service Learning citation'); developing system capacity to capture and eventually publish learning outcomes; and publishing information on program websites.

*Figure 4: Status of Learning Outcomes at Canadian Institutions N=51*




### *Why bother?*

When asked why their institution was pursuing credentialing learning outcomes on a transcript or diploma, 45% (20/44) indicated these initiatives would help support student transition into the workforce. Thirty-two percent (14/44) suggested these activities would help support transition into other institutions by enhancing assessment of transfer credit. Twenty-five percent (11/44) indicated other reasons drove these initiatives such as encouraging student engagement; supporting curriculum and pedagogical design of high impact learning experiences in select programs; ensuring mobility into the workforce; supporting student mobility; and enhancing student capacity to reflect on and articulate their learning experience.

### *Documenting Achievement of Learning Outcomes*

Sixty-three percent (45/71) provided expert opinion on what must be in place to ensure successful implementation of documenting individual student-level achievement of learning outcomes on credentials including transcripts. As a first order priority, approximately half of these respondents emphasized the importance of defining and implementing agreed upon learning outcomes whether across an institution or within programs that are widely understood and accessible. Some suggested these must be at the program or course level. One respondent suggested the Ontario college system's *Program Standards* approach to embedding learning outcomes might be a potential model to explore. The challenge of achieving this first order priority is best framed by the following anonymous comment:

> *It's not just a matter of building beautifully nested learning outcomes, but it's also about helping instructors and students understand how to work with them and what they mean.*

Other components of successful implementation of alternative credentials highlighted include developing assessment and measurement standards and transcription standards, and encouraging sector-wide adoption. On the operational side, respondents amplified the need for scalable, system data capture and exchange capacity.

### *Course Descriptions and Outlines*

The research team learned through consultation that institutions sometimes embed learning outcomes in detailed course outlines. Plus, access to course outlines to enhance transfer assessment decisions emerged as a persistent challenge and issue throughout the project consultations. The survey explored this area to understand current practices and capture expert advice.

**Highlights**

*Registrarial respondents indicated student mobility and transfer assessment would be improved if students and administrators had access to detailed course and learning outcomes information*

- 85% (49/58) suggested student mobility would or might be improved if students were provided with *detailed course information after leaving an institution.*
- 82% (48/58) suggested student mobility would or might be improved if students were provided evidence *of successful achievement of learning outcomes.*
- 91% (53/58) agreed or strongly agreed access to course learning outcomes information would improve transfer assessment practices for administrators.
- 81% (47/58) agreed or strongly agreed a tool to compare learning outcomes would improve transfer assessment.

*Access to student work, detailed learning outcomes, and course information is a challenge*

- 23% (13/57) reported their institution embeds learning outcomes in course outlines while 63% (36/57) separately capture learning outcomes.
- Only 29% (17/58) reported their institution stores course information in a machine-readable format.
- While 69% (40/58) reported their institution provides access to course information via publicly available online calendars, they indicated the detail is often insufficient to facilitate transfer assessment.
- 78% (45/58) reported their institution does not provide students access to artifacts of their individual work stored within Learning Management Systems or within the institutionally supported e-portfolio after they leave.

*Some institutions are attempting to make improvements*

- 12% (7/58) reported plans to provide access to student created artifacts stored in institutionally supported e-portfolios.
- Consultation revealed some institutions are creating online course description repositories to enhance access.

### Storage of Detailed Course Information

Responses suggest institutions appear to store detailed course information in more than one place and in more than one format; as a result, corralling this material would be a necessary first step. As an illustration of the findings, 47% (27/58) reported storing detailed course information in either the institutional Learning Management System or the Student Information System; 29% (17/58) store this information in the institutional Course Management System; and 33% (19/58) leverage PDF files. Interestingly, 35% (20/58) also store the information in the online calendar, word documents, SharePoint storage, in custom systems that support calendar production, and within program departments.

### Access to Detailed Course Information and Learning Outcomes

Access to detailed course information, learning outcomes, and work artifacts created by students appears to be a significant issue and barrier to entry for alternative credentialing and a problematic hurdle for transfer assessment whether during or after the admission process. This situation will impede creation of alternative credentials. Since this type of information remains essential to ensure equitable transfer credit assessment for students, this barrier represents a problem.

## Canadian Best Practice Advice

Through the survey and the workshops conducted across Canada, the Canadian registrarial community provided advice to those institutions considering the creation of alternative credentials. At the highest level, registrarial leadership encouraged those who are implementing alternative credentials to seek senior-level endorsement (82%, 51/64), establish shared principles (56%, 35/64), maintain a focus on student mobility (39%, 24/63), and conduct a thorough risk assessment (39%, 24/63).

The Canadian registrarial community provided several suggestions to support the creation of alternative credentials. These serve as a beginning checklist and, as the subsequent literature and cases demonstrate, align with findings in other jurisdictions.

**Checklist – Canadian Best Practice Advice for Creating Alternative Credentials**

- ☐ Avoid undermining the academic transcript and diploma
- ☐ Ensure understandable alternative credentials supported by a coherent framework to enhance clarity and consistency across an institution
- ☐ Assess the impact of the alternative credential on downstream consumers (employers, other institutions, allied associations, government); ensure clarity and coherence for these third parties
- ☐ Ensure the process for creating alternative credentials…
    - Focuses on students in a way that ensures equitable recognition of alternative learning experiences;
    - Embeds a commitment to proactive collaboration between and within institutions;
    - Supports outcomes such as consistent approaches to transfer credit assessment; and,
    - Considers implications for inter-institutional evaluation of the credentials (i.e., avoids institutional idiosyncratic approaches).
- ☐ Align alternative credentials with the institutional mission by…
    - Establishing clarity on the parameters to be consistently applied across the institution;
    - Ensuring a shared understanding of the learning outcomes; and
    - Reflecting and supporting strategic plans.
- ☐ Ensure all institutions (or a sufficient cohort) are on board and thought is given to shared criteria/guidelines, whether provincial or national, to determine which elements should be eligible for inclusion on an alternative credential including how the learning/skill would be reflected.
- ☐ Consider carefully defining content in alignment with principles and priorities (what should and should not appear on the credential) - Examples: provide learning outcomes definitions; focus on leadership, service, and academic excellence; document the minimum number of hours students engage in each activity; present and align activities with institutional or program outcomes; integrate experiential and co-curricular activities; establish common nomenclature
- ☐ Consider implications of fraudulent copying and related reputational impacts
- ☐ Maintain rigorous quality oversight and validation protocols and consider the implications of validating activities not stewarded or overseen by the institution (if applicable)

## BACKGROUND ON NINE EXEMPLAR INSTITUTIONS

In addition to surveying Canadian registrars, the researchers sought to capture a deeper understanding of the alternative credentials in place at specific institutions to demonstrate the range of possibilities. A high-level summary of the credentialing initiatives at the nine exemplars chosen for the study follows in Table 1 supported by snapshots for each institution interviewed. Appendices 3 to 11 contain additional details and examples of the credentials.

*Table 1: High Level Overview of Exemplar Credentials and Learning Outcomes Approaches*

| Institution | Credentialing Overview |
|---|---|
| Alverno College<br><br>Appendix 3 | • An American university with an abilities-based focus (see Appendix 3A for information on the Abilities).<br>• Students receive a narrative *Statement of Evaluation* supported by a listing of courses in a *Record of Achievement*.<br>• Students pursue six levels of learning to achieve a baccalaureate degree – Levels 1 to 4 result in course-level learning outcomes achievements and levels 5 and 6 result in program-level learning outcomes achievements across the institutional framework of eight Abilities including communication, analysis, problem solving, valuing in decision making, social interaction, developing a global perspective, effective citizenship, and aesthetic engagement.<br>• The final *Statement of Evaluation* provided to students reflects levels 5 and 6 program learning outcomes.<br>• A traditional transcript is available (called a *Record of Achievement*) as a cross-walk between these credentials given the course learning outcomes approach; however, no grades are attached.<br>• Learning included: curricular (institutionally curated and validated) |
| Brandman University<br><br>Appendix 4 | • A multi-campus, American university that recently launched two CBE degrees offered in a self-paced format at a reduced price that are transcripted with a comprehensive array of tools.<br>• Students receive a Comprehensive Student Record; an e-portfolio which is both student and institutionally curated and validated; and badges for successful completion of each of the five institutional learning outcomes.<br>• The University embeds five institutional learning outcomes into the learning experience: global cultures, applied learning, civic engagement, innovation and creativity, and integrated learning<br>• A cross-walk exists between competency units and credit bearing courses which facilitates creation of traditional academic transcripts.<br>• Learning included in the CSR and e-portfolio: curricular and co-curricular (student and institutionally curated and validated depending on learning experience) |
| Elon University<br><br>Appendix 5 | • A private American university focused on delivering engaged and experiential learning.<br>• Students receive an academic transcript and a Comprehensive Student Record (CSR).<br>• The University embeds five categories of institutionally verified experiential learning opportunities (fulfilling Elon's Experiential Learning Requirement – 'ELR') - research, internship, study abroad/study USA, leadership, and service learning.<br>• Students require at least two ELR units to be eligible for graduation.<br>• Outcomes and activities are reflected in a visually dynamic Comprehensive Student Record (CSR) that is related and complementary to the existing academic transcript.<br>• Learning included in CSR: curricular and co-curricular (institutionally validated) |

| Institution | Credentialing Overview |
|---|---|
| La Cité<br><br>Appendix 6 | • Ontario's largest publicly funded, French-language college.<br>• Students receive an academic transcript; for the new initiative, they will also receive a *Graduate Profile* which, when fully launched, will reflect capstone achievements and faculty assessed and verified artifacts. It will complement the academic transcript.<br>• The initiative is in the early stages of development and launch.<br>• The initiative represents a holistic approach for capturing, assessing, authenticating, and showcasing student achievement of institutional learning outcomes following four tenets - Creative Capacity; Engagement; Bilingual Capacity; and a Spirit of Initiative and Enterprise.<br>• Learning to be included in the Graduate Profile: curricular and co-curricular learning experiences (institutionally validated) |
| Loma Linda University<br><br>Appendix 7 | • An American, faith-based university focusing on health care.<br>• Students receive an academic transcript and an Experience Transcript.<br>• The Experience Transcript is for both undergraduate and graduate students (see Appendix 7B). Its purpose is to collect and showcase experiences outside the classroom that reflect the University's faith-based mission.<br>• Experience activities are grouped in categories that include Leadership, Mission, Research, Awards and Honors, Work at LLUH, and Volunteer opportunities.<br>• Learning included in the Experience Transcript: co-curricular (institutionally validated) – Note: some of the experiences might be considered curricular by another institution. |
| Ryerson University<br><br>Appendix 8 | • A publicly funded, urban university in Ontario with a tradition of delivering experiential education.<br>• Students receive an academic transcript and an e-portfolio with a Co-Curricular Record; the latter two reflect learnings from a *"Level Up"* student development program.<br>• The program provides four levels of experiences; extensive staff engagement; and embeds a focus on student development theoretical approaches.<br>• Students select and focus on five out of a defined set of developmental themes - communication, community engagement, data and analysis, digital literacy and technical aptitude, innovation and enterprise, leadership, personal development and wellbeing, project management, and teamwork and collaboration.<br>• The learning within the E-portfolio and CCR are purely co-curricular (student curated and validated). |

| Institution | Credentialing Overview |
|---|---|
| Stanford University<br><br>Appendix 9 | • A privately funded teaching and research university in the U.S.<br>• Stanford provides students a regular academic transcript and diplomas/certificates, and three innovative electronic credentials.<br>• Samples:<br>*1.* Extended diploma shells – such as the LEAD certificate for executive business education which provides electronic access to a Registrar-hosted site with additional course information and learning outcomes. Learning included: executive level business education<br>*2.* Scholarship Record – this credential showcases general education breadth learning outcomes and cognitive capacities in a complementary record. The breadth requirement is called "WAYs – Ways of Thinking; Ways of Doing"; the approach is intended to cultivate cognitive capacities through general education requirements. These cognitive capacities include aesthetic and interpretive enquiry, scientific method and analysis, social inquiry, applied quantitative reasoning, creative expression, engaging diversity, ethical reasoning, and formal reasoning. Learning included: curricular<br>*3.* Notation in Cardinal Service and a Notation in Science Communication – these credentials chronicle service learning achieved through participation in service-focused activities. The Notation in Cardinal Service includes both activities and or approved Cardinal Courses in that it includes learning experiences ranging from on-campus courses to off-campus research to community-based leadership projects. A supporting Guide provides faculty design guidelines, rubrics, and sample learning outcomes. Learning included: curricular in that students participate in Cardinal Courses; otherwise, co-curricular<br>• These credentials use institutionally validated learning outcomes.<br>• As another innovation, the registrar is working with the Stanford Senate governance committee on a Cognitive Skills Stamp (Heymach, C. November 2016; Tom Black, personal communications). This credential is intended to recognize cognitive achievements. |
| University of California San Diego<br><br>Appendix 10 | • A publicly funded research university with a tradition of collaboration and public service.<br>• Provides a full range of tools supporting a suite of alternative student records:<br>1. Searchable database of opportunities called the Research Experience Applied Learning (*REAL*) Portal<br>2. Enhanced electronic transcript (E2T) with embedded hyperlinks to additional information<br>o It represents an extended alternative credential because it is an electronic document with hyperlinks providing access to more detailed course information.<br>3. Validated Co-Curricular Record (CCR) that captures experiences and skills beyond the classroom<br>o Available as a separate document that can be ordered with the Transcript.<br>o Includes four categories of learning: Community-based/Global Learning; Professional/Career Development; Research/Academic Life; and Student Engagement/Campus Life. Activities are listed along with position, description, and associated, approved competencies chosen from a list of 12.<br>4. Electronic, student controlled portfolio<br>• Learning included: embedded transcript - institutionally verified, curricular learning; Co-Curricular Record - institutionally verified, co-curricular learning; e-portfolio - student curated |
| University of Central Oklahoma<br><br>Appendix 11 | • An American publicly funded, 'master's comprehensive university'.<br>• Students receive an academic transcript, an e-portfolio (student curated), and a Comprehensive Student Record (CSR; institutionally validated), and will eventually receive badges.<br>• The CSR is called the *Student Transformative Learning Record 'STLR';* it is supported by six institutionally approved tenets undergirded by several associated competencies and a rubric (Exposure, Integration, Transformation).<br>• Learning included: curricular learning under one tenet (Discipline) is captured on the institutional transcript; the five other tenets are considered co-curricular and are captured on the Comprehensive Student Record. |

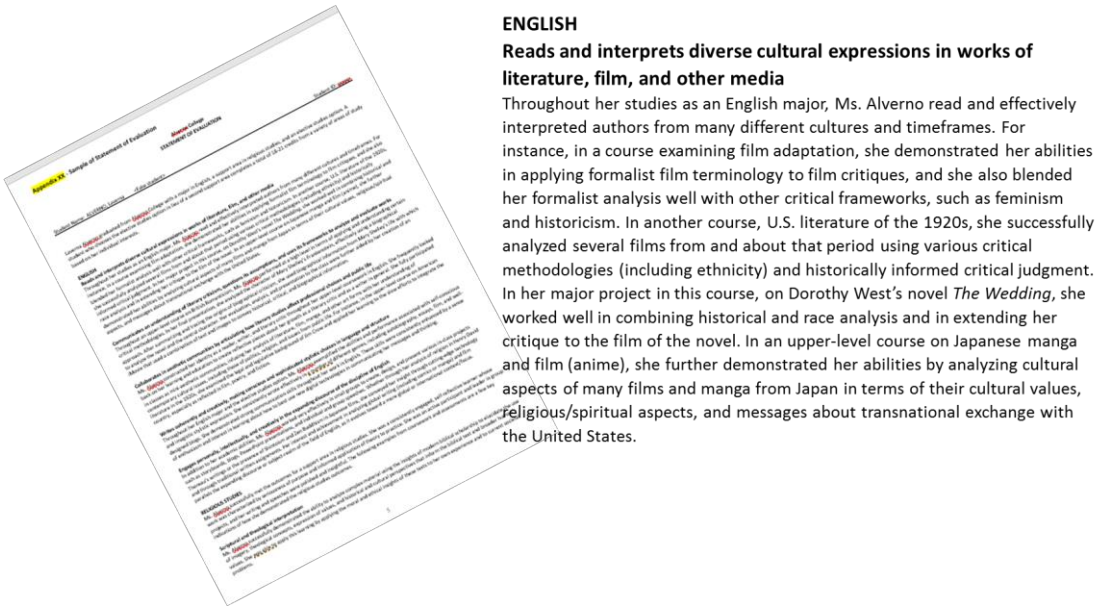
## Exemplar Overview

### Alverno College's Statement of Evaluation – Appendix 3

Alverno College delivers ability-based education across a range of programs including education, arts and science, business, and nursing; a mandate it has fulfilled since 1973 (see Appendix 3B for information on Alverno's eight Abilities). According to Jeana Abromeit, Associate Vice President for Academic Affairs and Professor of Sociology, the learner-focused pedagogical approach and ability-based curriculum at Alverno represents a distinguishing feature of the College's approach (personal communications).

Alverno provides graduates with a *Statement of Evaluation* in addition to the traditional academic transcript called a *Record of Achievement*. The *Statement* reflects summative achievement of program learning outcomes in a descriptive format. It does not break the evaluation down to the course level; rather it defines the student's achievements based on program outcomes referenced to Alverno's institutional Abilities framework. For each program outcome, the description or narrative summarizes a student's achievements and describes samples of summative work drawn from different courses, although not all. The last page provides an overview (a legend) of the expected Abilities for the major and minor. The *Statement* provides no chronology of courses, enrolment start and end dates, or course information (i.e., no titles, weights, or grades) as that information is in the *Record of Achievement*. Figure 5 depicts a thumbnail version of the *Statement*; Appendix 3C contains a larger illustrative example.

*Figure 5: Sample of Alverno College's Statement of Evaluation*



**ENGLISH**

**Reads and interprets diverse cultural expressions in works of literature, film, and other media**

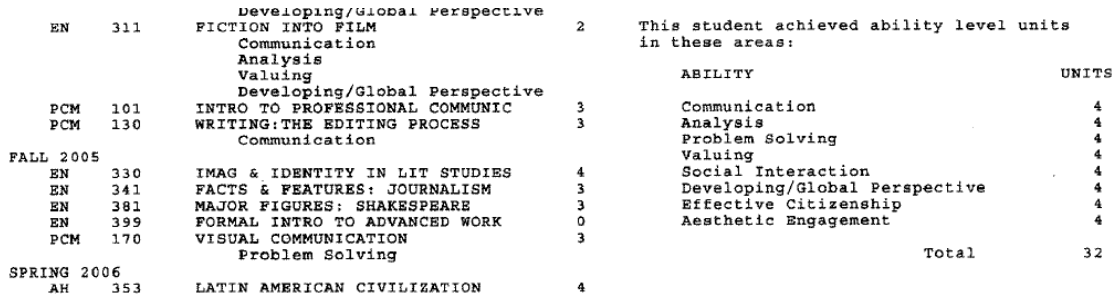
Throughout her studies as an English major, Ms. Alverno read and effectively interpreted authors from many different cultures and timeframes. For instance, in a course examining film adaptation, she demonstrated her abilities in applying formalist film terminology to film critiques, and she also blended her formalist analysis well with other critical frameworks, such as feminism and historicism. In another course, U.S. literature of the 1920s, she successfully analyzed several films from and about that period using various critical methodologies (including ethnicity) and historically informed critical judgment. In her major project in this course, on Dorothy West's novel *The Wedding*, she worked well in combining historical and race analysis and in extending her critique to the film of the novel. In an upper-level course on Japanese manga and film (anime), she further demonstrated her abilities by analyzing cultural aspects of many films and manga from Japan in terms of their cultural values, religious/spiritual aspects, and messages about transnational exchange with the United States.

This *Statement* reflects the ability-based educational approach at the College and results from an integrated and iterative process beginning first with the faculty member who provides qualitative feedback on specific assessments within a course, followed by a final qualitative statement to reflect overall success. Grades are not assigned; rather, students receive a pass or fail. In some programs and courses, students are selectively exposed to quizzes and standardized assessments to ready them for

when they enter a profession where they may encounter this type of testing after graduation (e.g., such as the nursing exams required for certification).

The *Record of Achievement* shows the department, courses completed (including the code and the name), the semester hours earned, and the Abilities with associated units completed by the student (see Figure 6).

*Figure 6: Sample excerpt from Alverno's Record of Achievement*



Developing/Global Perspective

| | | | |
|---|---|---|---|
| EN | 311 | FICTION INTO FILM | 2 |
| | | Communication | |
| | | Analysis | |
| | | Valuing | |
| | | Developing/Global Perspective | |
| PCM | 101 | INTRO TO PROFESSIONAL COMMUNIC | 3 |
| PCM | 130 | WRITING:THE EDITING PROCESS | 3 |
| | | Communication | |
| FALL 2005 | | | |
| EN | 330 | IMAG & IDENTITY IN LIT STUDIES | 4 |
| EN | 341 | FACTS & FEATURES: JOURNALISM | 3 |
| EN | 381 | MAJOR FIGURES: SHAKESPEARE | 3 |
| EN | 399 | FORMAL INTRO TO ADVANCED WORK | 0 |
| PCM | 170 | VISUAL COMMUNICATION | 3 |
| | | Problem Solving | |
| SPRING 2006 | | | |
| AH | 353 | LATIN AMERICAN CIVILIZATION | 4 |

This student achieved ability level units in these areas:

| ABILITY | UNITS |
|---|---|
| Communication | 4 |
| Analysis | 4 |
| Problem Solving | 4 |
| Valuing | 4 |
| Social Interaction | 4 |
| Developing/Global Perspective | 4 |
| Effective Citizenship | 4 |
| Aesthetic Engagement | 4 |
| Total | 32 |

Students wishing to receive grade equivalents for specific courses or an overall GPA equivalent must make a formal and separate request as the College does not normally produce these results. To accommodate these, Academic Support requests grade equivalents from each of the student's former faculty members. Having noted this, the qualitative feedback captured for each student tends to be sufficiently descriptive to allow the faculty to assign grades. If the student has graduated with a degree and requests only a GPA equivalent, Academic Support requests that information from the alum's Dean or Associate Dean who then determines the GPA equivalent based on a careful review of the qualitative/quantitative feedback and the *Statement of Evaluation* (personal communication).

### Brandman University - Appendix 4

Brandman University's mandate focuses on an older student population. As such, it delivers postsecondary education that embeds a "*career-oriented curriculum offering flexible and convenient schedules to accommodate the special needs of students balancing career and family obligations*" (Brandman 2017a). To support its range of program offerings and to directly address this mandate, Brandman developed two competency-based degrees as part of the '*Brandman MyPath*' degree model[24] - the Bachelor of Business Administration (BBA) and the Bachelor of Science in Information Technology (BSIT). Students progress forward in these programs at their own pace for a lower cost than a regularly paced program (Brandman 2017b).

After creating the BBA - Brandman's first direct-assessment competency-based education program - and while creating the next one (the BSIT) - Dr. Dodge and her team developed a comprehensive student record (CSR) to showcase student learning across the full spectrum from admissions through to and beyond graduation (personal communications) (see a sample in Appendix 4B). This CSR features learning both in and outside the classroom including volunteer or work experience, and external certification.[25]

[24] To view a video of how *Brandman MyPath* works, see https://www.brandman.edu/mypath.

[25] Per Dr. Dodge, students pursuing traditional credit hour programs beyond the BBA and BSIT receive a traditional course-based transcript and the verified and unverified co-curricular experiences feature in their online portfolio either because of self-reporting or

In 2016, Brandman joined the *Comprehensive Student Record Project* funded by the Lumina Foundation and coordinated by the American Association of Collegiate Registrars and Admissions Officers (AACRAO) and NASPA – Student Affairs Administrators in Higher Education (AACRAO August 23, 2016).

A portal environment called "*CareerLink"* houses the Brandman comprehensive record. It operates much like an e-portfolio in that it is populated either by University data feeds or by students through self-reporting. Appendix 4B provides an example of the University validated portion of the portal. Due to the nature of the data and the supporting environment, it is possible to access more detailed explanations of the learning, results, or competencies by clicking through to the different levels (i.e., to detailed descriptions, criteria, and evidence). The University validated section related to a student's academic studies includes information on their academic program such as competencies and courses completed, institutional learning outcomes achieved, and any other university sanctioned certifications.

Students receive a badge upon successful completion of a minimum of four scaffolded competencies related to one of the five institutional learning outcomes. For example, to be awarded the Applied Learning badge in BSIT,

> "*…students must master [the following] competencies in sequential order: 1) Interpersonal Communications; 2) Methods and Applications; 3) Creative and Critical Thinking; 4) Social Systems; 5) Organizational Dynamics, and, 6) Information Technology Capstone."* (Singer, D., Yang, H., Dodge, L., Saltzman, N., Zaker, S. 2016)

*Figure 7: Sample of a Brandman University Badge*


Figure 7 is an example of the badge received for Global Cultures (see examples of badges awarded for all the learning outcomes in Appendix 4C). This credential is portable to other platforms outside the University portal such as LinkedIn. There is also a validated section for co-curricular experiences.

In a separate section, the student loads any work or experiences they feel demonstrates their accomplishments; work in this section is clearly marked as unverified. Examples of the kinds of activities a student might load into the portal include volunteer work or other citations.

The key strength of the e-portfolio option, according to Dr. Dodge, is the integration of material that crosses all aspects of a student's professional life, both validated and self-reported (personal communications). This approach showcases all forms of learning experienced during a student's time at Brandman from formal, to non-formal, and informal.

institutional data feeds; however, they do not receive badges or any other components related to competency-based education degree models (personal communications).

## Elon University - Appendix 5

Elon is a private postsecondary institution offering a non-profit liberal arts education to a total student population of 6600+ and credentials up to and including doctoral level studies. For the purposes of this study, Elon University's contributions to alternative credentials include two examples:

- the *Visual Elon eXperiential Profile (Visual EXP*) launched in May 2016; [26] and,
- the *Elon Experiences Transcript* (called "*EET*" or "*Gold*" transcript) which is Elon's original co-curricular record launched in 1994 and, since 2013, distributed with the traditional academic transcript; it is a text-based, flat file that outlines achievement of co-curricular and experiential learning.[27]

Appendices 5B and 5C provide examples of each of these credentials.

Given Elon University's historical focus on experiential learning both in and outside the classroom, the new credentials represent ground-breaking approaches for depicting achievement of learning outcomes in a manner that appears to be resonating with employers and other third parties. These credentials identify, validate, and integrate faculty and department learning expectations across five institutionally approved categories of experiential learning. This type of credential provides students and third parties an interesting and comprehensive institution-wide approach to presenting student learning achievements.

The look and functionality of the *Visual EXP* is unique to Elon (see an example in Figure 8 and Appendices 5B and 5C); this approach to presenting experiential learning achievement represents a priority focus in the design of the credential. The Elon University Registrar, Dr. Rodney Parks, aspired to create a visually appealing document that outlined a student's experiential learning across the five categories in a manner that would be accessible and relatable with third parties, particularly future employers (personal communications). The transcript dynamically resizes depending on the experiences a student completes; the number of categories displayed also recalibrates depending on which learning experiences students pursue. For example, if they never pursue study abroad activities, that category would not appear on the credential.

[26] The *Visual EXP* represents the same experiential learning activities as on the *EET/Gold* record; however, the material is dynamically structured with a pleasing graphical display with interactive features that allow the user to drill down into increasing levels of detail. Innovations of this nature result from Elon's access to a Lumina grant as part of the AACRAO and NASPA partnership to advance creation of comprehensive learner records within the United States. More details regarding this initiative are available online at the AACRAO site (aacrao.org).

[27] This document represents Elon's original foray into alternative credentialing.

*Figure 8: Elon University's Visual EXP Transcript*

The *Visual EXP* pictured above presents student achievement in a short, two-page electronic format. It showcases the categories and within each, the student activities (presented chronologically), the years, and the terms (e.g., "spring"). For example, "Special Olympics" would fall within the category of "Service Learning". For each of the five categories, the *Visual EXP* displays the overall number of hours or terms (i.e., "55 hours" of Service Learning or "8 terms" of undergraduate research). The record does not include any proficiency levels or grades.

The *Gold* experiential transcript, which is the original Elon Co-Curricular Record, contains the categories (e.g., "Service Learning"), the specific types of experience (e.g., "Elon Service Day"), the years and terms in which the experiences were completed, and the number of hours completed per specific experience. As with the *Visual EXP*, the record includes no final results.

The academic transcript identifies which courses contain an ELR component. Grades are assigned to the courses.

### La Cité – Appendix 6

Located in Ottawa, Canada, La Cité[28] is Ontario's largest publicly funded, French-language college offering 140 programs and credentials including certificates, diplomas, advanced diplomas, and baccalaureate degrees. La Cité's mission emphasizes an outcomes focus that amplifies a tie to its unique French-language mandate in that it seeks to create a skilled, committed, creative, and bilingual workforce capable of contributing to the economic, cultural, and social development of French Ontario and society more generally.

> *« Dans un milieu de vie francophone, La Cité forme une main-d'œuvre compétente, engagée et créative, capable de contribuer au développement économique, social et culturel de l'Ontario français et de la société » (La Cité 2017).*

These commitments represent critical drivers for La Cité's focus on transforming the learning environment and its distinct approach to showcasing student curricular and co-curricular successes and competency achievement. Of relevance in this context is La Cité's commitment to establishing a tighter knit between curriculum and employer requirements. According to Chantal Thiboutot, Directrice principale, Planification institutionnelle et de l'imputabilité, La Cité strives to enhance the value of their students in the labour market and to answer the questions, "Are students mastering

[28] http://www.collegelacite.ca/

what they should be in all their programs?" and "Is what we say we are teaching, actually occurring?" (personal communications).

The focus of this study is La Cité's credentialing efforts aimed at creating what the leadership refers to as a *"Graduate Profile*." When fully launched, it will be the primary, student-facing environment for capturing and reflecting capstone achievements and faculty assessed and verified artifacts across both curricular and co-curricular learning experiences. The *Graduate Profile* constitutes a record of student achievement which is not intended to replace but to complement the academic transcript. The initiative represents a holistic approach for capturing, assessing, authenticating, and showcasing student achievement of institutional learning outcomes: Creative Capacity; Engagement; Bilingual Capacity; and Spirit of Initiative and Enterprise. The efforts emerge as a result of the institution's focus on living their mission and values. Moreover, it takes inspiration from the transformative learning work occurring at the University of Central Oklahoma (personal communication).

As a point of clarification, the *Graduate Profile*, while providing a lasting record of achievement, should not be interpreted as a document; instead, it is a custom-built e-portfolio which will capture and showcase student artifacts that demonstrate students' summative learning across both the curricular and co-curricular realms. Further, the program is informed by an institution-wide competency/learning outcomes framework (personal communications). Summative achievement will be awarded through the distribution of badges. As the status of the technology component of the project is still being developed, the leadership may decide to augment the types of credentials - beyond badges - provided to students. This may include, as one example, providing recognition at the point of graduation (personal communications).

### Loma Linda University – Appendix 7

Loma Linda University, located in Loma Linda, California, is a faith-based institution that runs a large teaching hospital and offers over 150 health science programs such as nursing, medicine, dentistry, pharmacy, physical therapy, radiology, biology, anatomy, criminal justice, earth science, geology, and social policy and social research, and more. The University believes strongly in local and international community engagement and mission outreach, and embeds service learning and health-related experiential learning into its programming as core elements of its faith-based focus (Loma Linda University n.d.b.). This context sets the stage for the Institution's alternative credentials through the creation of a record that honours the unique learning experiences that occur outside the classroom.

In addition to the academic transcript which lists courses, grades, and credit weights, it is possible for students to order a *Loma Linda University Experience Transcript* (see Appendix 7B). The purpose of the latter credential is to collect and showcase significant service, research, and clinical experiences outside the classroom. The document's legend makes this intention explicit:

> *"As a faith-based Academic Medical Complex, Loma Linda University's mission is to further the healing and teaching ministry of Jesus Christ "to make man whole." Therefore, the LLU Experience programs are designed to help students develop leadership skills and integrate professional health care careers with the University's worldwide mission" (Loma Linda University Experience Transcript 2016).*

Loma Linda does not refer to the 'outside the classroom' experiences as co-curricular activities unlike other institutions. Rather, it is important to note, select activities that Loma Linda deems appropriate for the *Experience Transcript* are sometimes considered by other institutions to be curricular experiences directly related to academic learning. One example includes research where students undertake involved and supervised quantitative and or qualitative studies including at the graduate level; in some instances, the student wins external or internal grants to pursue this research. As a unique feature and unlike other institutions, the *Experience Transcript* is available to both undergraduate and graduate students.

The content of the *Experience Transcript* is similar to other institutions although in Loma Linda's case, it looks somewhat similar to the academic transcript (see Appendix 7C). It lists the activities undertaken, provides an explanation of what each involved, the date range when the activities occurred, and, in some instances, the number of hours. Activities are grouped in categories that include Leadership, Mission, Research, Volunteer (with the number of hours noted per position), Publications and Presentations, Work in LLUH (e.g., employment in the University's health units), and Awards and Honors. If a student does not engage in any activities under a certain category, it is not displayed on the transcript. The *Experience Transcript* is signed by Dr. Rick Williams, Vice President Enrollment Management & Student Affairs. In contrast, Erin Seheult, the Director of University Records signs the academic transcript.

Research conducted outside of a course or dissertation provides an illustrative example of how the process works. Students who participate in a research study that they wish to have reflected on their *Experience Transcript* submit a request through an online form. This request is sent to the Primary Investigator (PI) (usually a faculty member) for verification and validation. The type of activities might include supporting the research process; authoring or contributing to a paper; delivering a presentation to identify new research techniques learned; or it might involve working with a supervisor in the affiliated hospital (who might be adjunct faculty or a physician). Once verified, the activity is published to the *Experience Transcript*, not the academic transcript. The entire process, according to Dr. Williams, is workflow driven and online (personal communication).

In select, although rare circumstances, the activity may be published in some fashion within both the academic transcript and the *Experience Transcript*. An example where this occurs is with the medical student rotations and other forms of practice-based duty that represent a fundamental component of the discipline focus. In situations like this, the academic transcript might contain a course noting the medical rotation whether delivered in the U.S. or abroad; the *Experience Transcript* will describe the nature of the rotation. Having noted this, most appear on one or the other credential (personal communications).

Unlike the academic transcript, placing an activity on the *Experience Transcript* will only occur at the request of a student as they curate the experiences featured by submitting the request through the online form (personal communications). This approach allows the student to customize the record as appropriate to the ultimate intended use such as for seeking a residency position in a hospital, targeting an employer, or applying to a future postsecondary institution.

## Ryerson University – Appendix 8

Ryerson University is a public university located in Toronto, Canada offering 62 undergraduate and 55 graduate programs to 43,000 students. Ryerson University represents an example of a Canadian institution that delivers a *co-curricular program* that will, when fully launched, result in a learner-curated e-portfolio as the record of achievement rather than a Co-Curricular Record. This flows from its focus on supporting student development. While it is possible for students to produce a Co-Curricular Record of their Ryerson activities, that credential is not emphasized nor a priority focus of the program.

Over the past decade several Canadian postsecondary institutions have developed co-curricular records to reflect student activities and, at times, achievements.[29] Some of these validate the learning using staff and faculty; others provide student curated and validated records; and others do a blend. The Ryerson example provides a unique model across the typology of options because it emphasizes student validated and curated co-curricular learning experiences. Therefore, it is included in this study to represent credentials that are entirely student curated.

An initiative led by the Executive Director of Student Affairs, John Austin, the Ryerson program is called "*Level Up*". Figure 9 provides an overview of the program which emerged over a two-year period through consultation with the university community. Ryerson's *Co-Curricular Committee* provided further guidance. The program is currently in pilot mode with a plan to fully launch in September 2017.

The structure of '*Level Up*' encourages students to participate at any point and enables them to create and track their experiences; collect their learning artifacts; and develop the personal capacity to share their own story (Ryerson 2017). It embeds student development concepts and theories in that the program aspires to aid students in self-discovery through learning about themselves, reflecting on their work, and helping them make meaning out of their own experiences. '*Level Up*' facilitates skills development both on and off campus and, secondarily, provides supports to help students with future career development. The program appears to triangulate learning between student engagement, skills development, and personal reflection on co-curricular experiences with a focus on supporting personal growth opportunities and mobility beyond Ryerson.

[29] For a list of Canadian institutional co-curricular examples, visit the following site: http://guide.pccat.arucc.ca/en/creating-a-competency-based-student-record.html

*Figure 9: Ryerson University's "Level Up" Program*


*Source: Taylor-Asquini, K. (2016). Level Up: Ryerson University's Co-Curricular Recognition Program, reprinted with permission*

In Level 1, students take the *Clifton StrengthsFinder assessment*[30] which is an instrument that identifies their 34 top strengths. Participants further narrow the focus to five core strengths and through participation in Ryerson workshops, explore and reflect on these in relation to their work with others. Essentially, the workshops help students reflect on experiences and situations in the context of their strengths. The theoretical framework for StrengthsFinder is based on *Positive Psychology*; a theory that "*encompasses an approach to psychology from the perspective of [encouraging] healthy, successful life functioning.*"[31]

According to Kaitlyn Taylor-Asquini, Developer of Leadership Curricula and Programming for Ryerson's Office of Student Affairs, Level 2 introduces students to a set of learning themes or competency areas relevant to future employers that frame their personal self-development experience (personal communication). These include communication, community engagement, data and analysis, digital literacy and technical aptitude, innovation and enterprise, leadership, personal development and wellbeing, project management, and teamwork and collaboration. Each of these themes emerged from consultation with employers, staff and students, and a review of the following theoretical frameworks (personal communications):

- The Council for the Advancement of Standards for Higher Education (CAS) Learning and Development outcomes (2009)
- The Conference Board of Canada Employability Skills matrix (2017)
- Arthur Chickering's 7 Vectors Theory (2007)

[30] For more details on StrengthsFinder, see https://www.gallupstrengthscenter.com/.
[31] http://strengths.gallup.com/help/general/125522/personality-theory-Clifton-StrengthsFinder-based.aspx

Appendix 8C contains more details on each of these frameworks. In Level 2, students identify co-curricular activities that will help prepare them for their future and begin the process of exploring their community through the lens afforded by these themes.

In Level 3, students focus on developing five theme areas. During this phase, they create and record artifacts of their work in an online e-portfolio (see an example in Appendix 8B). Further, they explore four methods of reflection informed by a focus on Kolb's Experiential Learning Module,[32] to summarize their learning through reflection, and apply at least five '*Level Up'* competencies to their experiences.

Level 4 involves helping students learn how to curate and 'tell' their story in readiness for further personal career development. In this Level, they identify four learning artifacts or experiences for sharing; summarize five examples of experiential learning; identify four external platforms appropriate for sharing their story (e.g., LinkedIn); and articulate three areas for personal growth during their time at Ryerson.

### Stanford University - Appendix 9

Located in Stanford, California, Stanford University is a leading teaching and research university (Stanford February 27, 2017a) and is ranked third in the world in the 2016-17 Times Higher Education World University Rankings. Stanford offers the full range of academic programming with a comprehensive, research focus to approximately 16,000 undergraduate and graduate students.

Stanford University recently created two very interesting credentials, the *Scholarship Record* and the *Notation of Cardinal Service*; each of these demonstrate options for showcasing student achievement of learning outcomes focused on general education breadth and service learning respectively. The University's Registrar, Tom Black, an award-winning contributor to the registrarial field, is also developing electronic diplomas with online access to course information, supporting portability through the use XML data exchange standards that facilitate the exchange of learning outcomes and course information through the Post-secondary Electronic Standards Council, and experimenting with trusted authentication models such as Blockchain[33] to enhance the validation of electronic credentials. His work and that of the data exchange standards community represents ground-breaking contributions to the field of credentialing.

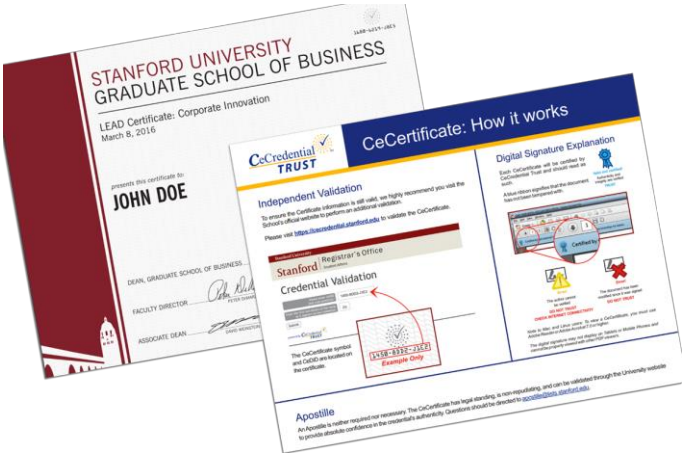
As one example of a credentialing innovation, the Stanford University Registrar's Office created an extended certificate for its executive level continuing education LEAD program in business. Students and third parties such as future employers enter a unique ID into a Registrar-hosted website to access detailed information on courses and achieved learning outcomes. This provides the reader of the electronic credential more information about the learning when reviewing the student's work. Figure 10 provides a thumbnail example; Appendix 9B contains a larger version.

---

[32] For more information on Kolb's approach see https://www.simplypsychology.org/learning-kolb.html.

[33] Blockchain is being harnessed to allow secure exchange of student credentials. Students sent a credential secured in this fashion do not need to continuously return to institutions to request credentials; they can distribute official credentials directly to institutions and employers. Having noted this, institutions can revoke a credential through the Blockchain if necessary. For more information on Blockchain, visit http://er.educause.edu/articles/2017/3/the-blockchain-revolution-and-higher-education.

*Figure 10: Stanford University's LEAD Certificate*




The Stanford *Scholarship Record,* a second credentialing innovation, chronicles achievement of learning outcomes associated with the University's general education breadth requirement called *WAYS* "*Ways of thinking, Ways of doing"*. Currently in pilot mode, the electronic *Scholarship Record* illustrates the value of making learning outcomes visible to students. The catalyst for this project came from the *Study for Undergraduate Education at Stanford (SUES)* that resulted from a desire to move away from discipline-based sampling of courses to achieve breadth in favour of an approach that centres on cognitive capacities (Stanford January 2014). The *Scholarship Record* is sorted by cognitive capacities and learning outcomes and is intended to cultivate essential intellectual skills through General Education Electives (January 2014).

The *WAYS* initiative also sets out a system of approvals which require that *WAYS* courses are designed to align with one or several specified learning outcomes as outlined in the WAYS guide which also provides supporting tools, information, and guidance (January 2014).[34] These learning outcomes are associated with eight cognitive capacities (January 2014). Students select their elective options from over 2000 courses encompassing a diverse range of subjects and disciplines all of which have been '*WAYS certified*' (Stanford University n.d.a.). The academic transcript features the final course grade and the *Scholarship Record* showcases achievement of the *WAYS* requirements. This *Record* provides students a comprehensive tool to help them reflect and articulate their learning beyond simply a grade.

In addition, Stanford approved a new credential type called a "*Notation*" which is intended to support recognition of alternative learning opportunities such as community service. The *Notation of Cardinal Service* represents an example (see example in Appendix 9C). This document contains the Stanford seal and captures learning outcomes achievement in both the curricular and co-curricular areas. Students receive the credential and a notation on their transcript upon successful completion of their Cardinal Service experience or courses.

[34] To view this Guide, see https://stanford.app.box.com/v/ways-faculty-guidance.

According to the Registrar, Stanford is also exploring the creation of *Cognitive Skills Stamps* (personal communications). Once launched, these will allow the University to award specific Skills Stamps for cognitive achievements within academic programs.

To facilitate electronic data exchange of these various credentials, the Stanford Registrar is leading a national credentialing task force for the U.S. based Post-secondary Electronic Standards Council (PESC) to create XML standards for common credential data exchange standards.[35] Recently launched data exchange XML standards now exist for a *Common Credential for Certificates, Degrees, and Diplomas (PESC 2017)*. The importance of this initiative cannot be understated; as a result of this work, XML standards now exist for exchanging customized learning outcomes statements, rubrics, and detailed course information between different institutions (PESC March 31, 2017). Stanford, through the Registrar, is also a member of the Lumina-funded *Comprehensive Student Record Project* coordinated by the AACRAO and NASPA (AACRAO 2017).

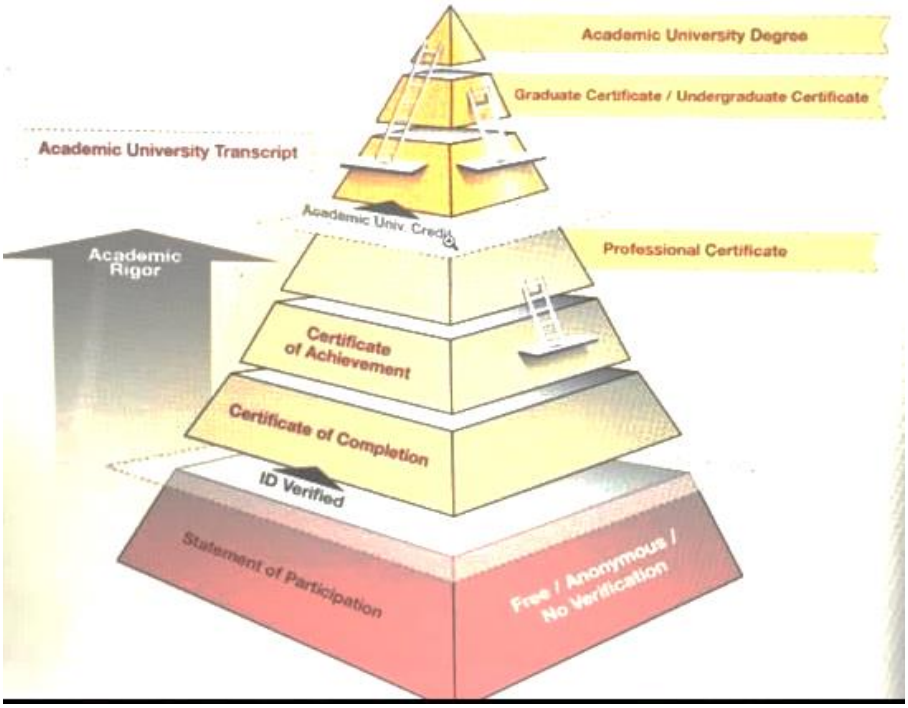
As a precursor to some of this work, the Registrar inventoried the considerable variety of credentials distributed across Stanford. To situate these, in 2016, Carissa Little and Robert Prakash of the Stanford Center for Professional Development drafted a framework (Figure 11) that articulates the different types of credentials and associated approval authority as part of Stanford's *Credential Mapping Project* (2016). At the base are credentials called *Statements of Participation* which are free, unauthenticated, and distributed across the Institution to represent participation in local events. The *Certificate of Completion*, the *Certificate of Achievement*, and the *Professional Certificate* represent the next level. The latter credentials reflect Senate approved programs and denote some form of locally derived academic success. An example would be in Continuing Education where a student completes a range of courses and, through a sequential process, grows their expertise in a focused manner. Another example might include some sort of program-specific success. Typically, a program, Faculty, or School chair signs these documents; they may be distributed at any point including at Convocation. The next level includes institution-wide credentials such as the transcript which is signed by the Registrar and the diplomas which are signed by the University Chair of the Board of Trustees, the President, and the School Dean. These credentials are summative and require the highest level of validation and authentication given the reputational impact on the Stanford brand. Little and Prakash's initial framework represents a starting point for ongoing exploration, iteration, and refinement. For example, Dr. Helen L. Chen, the Director of ePortfolio Initiatives at Stanford, reports the framework led to an enhanced recognition for a more nuanced perspective on credentials for degree-seeking and non-degree-seeking students (personal communications).

This credential framework brings clarity to protocols for handling credentials, particularly those at the Institution-wide level to ensure they are considered high quality by external third-parties. It is easily applicable and transportable to any North American institution and can serve as a guide to inform

[35] For information on the credentialing standard, see the following URL: http://nebula.wsimg.com/7169eb2d3db35263c2d608c899860ab5?AccessKeyId=4CF7FAE11697F99C9E6B&disposition=0&alloworigin=1. For more information on PESC, refer to pesc.org. For more information on XML, refer to the electronic exchange section of the national ARUCC PCCAT Transcript and Transfer Guide at guide.pccat.arucc.ca.

how to implement a credential. It sets the stage for the Stanford Registrar's more detailed efforts to streamline and extend the University's credentials.

*Figure 11: Stanford University's Credential Validation Framework by Carissa Little and Robert Prakash, Stanford Center for Professional Development (2016)*




Reprinted with permission from Tom Black, Stanford University.

### University of Central Oklahoma (UCO) – Appendix 10

The University of Central Oklahoma (UCO) pursues a comprehensive approach to supporting student development with a holistic strategy designed to achieve broader institutional goals in transformational learning. In the late 90s, UCO leadership found several ad hoc student success initiatives underway. While helpful, these different projects lacked an overarching organizing framework. Consultation and discussion led the University to transformative learning as the organizing construct to reflect the common intent behind these various initiatives. In 2006, UCO began a sweeping change of its education delivery which renewed and enhanced the University's focus on student success and experiential learning. According to Dr. King, the Executive Director of the Center for Excellence in Transformative Teaching and Learning, the University recognized the need to create a group of skills, abilities, and values (what other institutions often call 'learning outcomes') as a support to its tangible transformation learning initiative (personal communications). Through consultation, six tenets or institutional learning outcomes emerged – discipline knowledge; global and cultural competencies; health and wellness; leadership; research, creative and scholarly activities; and service learning and civic engagement. From February to April 2012, Dr. King and his team began to design the *Student Transformative Learning Record* ("STLR"), created a project implementation team, and won $7.8M in funding from the US Department of Education (DOE) (personal communications).

DOE funding came with a mandate to develop a scalable and replicable solution for implementation of the new student record. In Fall 2015, UCO joined the Lumina Foundation-funded *Comprehensive Student Record Project* led by ACRAO and NASPA, becoming one of several U.S. postsecondary institutions stewarding the creation of innovative student records (King, J., Kilbourne, C., Walvoord, M. 2015; AACRAO n.d.).

The *Student Transformation Learning Record (STLR),* a sample of which is available in Appendix 10B, is an enduring record for students. It is a document that tracks verified learning experiences within and beyond the academic program across five tenets; the transcript captures the sixth tenet, discipline knowledge. Faculty and staff verify all the STLR learning activities.

Proficiency Levels -- *Exposure, Integration*, and *Transformation* -- are assigned to each completed activity. Under each tenet, the *STLR* provides graphic symbolic representation of levels achieved by a student followed by a list, in chronological order, of activities completed and the level achieved for each.

UCO chose a developmental approach, not a threshold model, which means students are not required to achieve a certain number of *STLR* activities. As a result of this asset-based system, students decide what is ultimately displayed on their *STLR;* however, no matter what is published, each activity will have been vetted, assessed, and assigned an appropriate level of proficiency.

The *STLR* includes a link at the bottom on the front page to the student's self-curated e-portfolio which collects summative capstone artifacts of their work. Sample e-portfolios provided for this study and contained in Appendices 10C and 10D demonstrate the way in which the students use the e-portfolios to position their talents and showcase their work, philosophy, goals, and resume.

Successful fulfillment of the tenets also results in the awarding of badges which will be fully portable to other platforms such as a student curated e-portfolio or LinkedIn. In addition, students participate in an Honor Cording Ceremony prior to their graduation ceremony where, in recognition of their STLR achievements, they receive a special colour-coded cord matched to the colour associated with the tenet(s) reflecting their highest badge level.

### University of California San Diego - Appendix 11

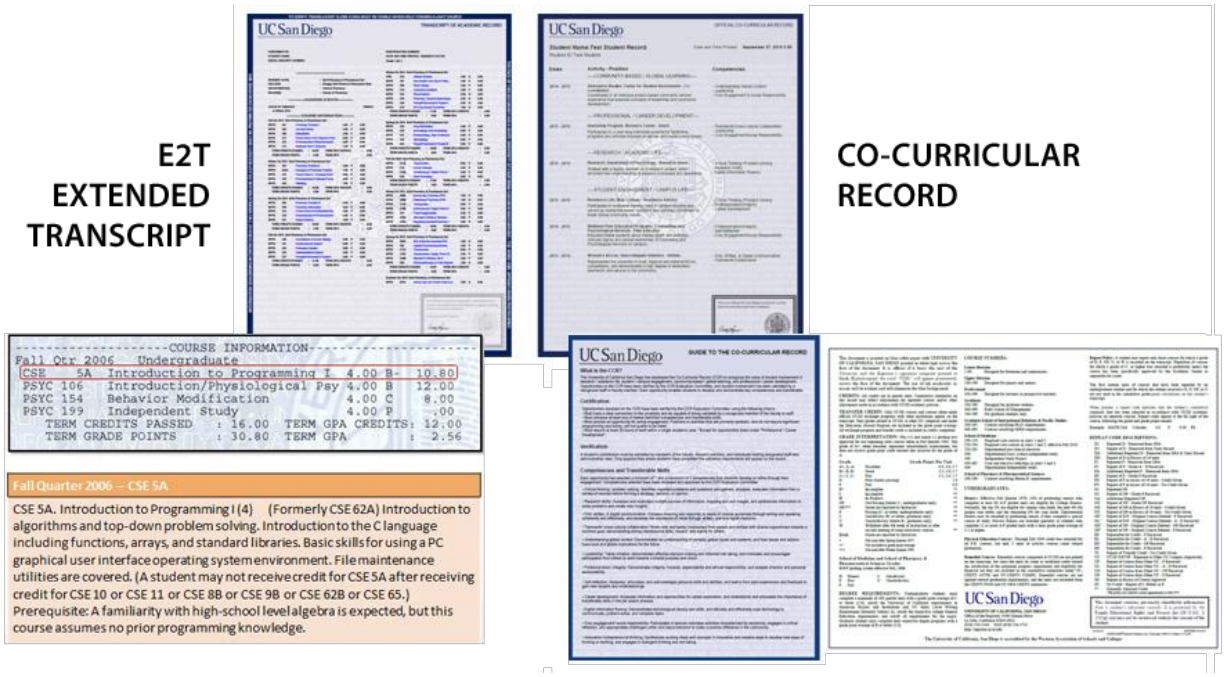
Located in La Jolla, California, the University of California San Diego (UC San Diego) is a publicly funded research institution offering more than 175 undergraduate majors and 117 graduate programs to approximately 36,000 students.

Through the strategic planning process and *Education Initiative*, the then-serving Registrar, Bill Haid, worked with other campus leaders to create credentials that better reflected the learning on campus (UC San Diego May 2, 2016). The *Student Educational and Experiential Record System (SEERS) Steering Committee* (later renamed *Engaged Learning Tools Steering Committee*) led the process in developing a suite of tools, which include: a searchable database of opportunities called the *Research Experience Applied Learning (REAL) Portal;* an enhanced electronic transcript (*E2T*) with embedded hyperlinks to additional information; a validated Co-Curricular Record (CCR) that captures experiences and skills beyond the classroom; and an electronic, student-controlled portfolio (see an

example in Appendix 11B). This array of tools captures and showcases learning across the entire student experience.

Figure 12 provides a thumbnail of the credentials offered by UC San Diego. The *Enhanced Electronic Transcript (E2T)* is, in many ways, a typical transcript in that it provides course titles, grades, and credit weights; however, it is in an electronic format which represents its true value as an alternative credential. Any type of learning that results in earned credits is represented on this document. The blue font in the *E2T* in Figure 12 represents hyperlinks. If a student, employer, or staff at a subsequent institution clicks on the hyperlink for a course, the detailed course description, the instructor's name and email, and the grade distribution for the course section appear. Noted below is an example of the course details that appears via the hyperlink. Future enhancements to the electronic version may include: providing links to theses and dissertations, and highlighting high impact practices and the instructor's name and biography.

*Figure 12: Alternative Credentials available at UC San Diego*




Along with their transcript, students can now request their official validated Co-Curricular Record (CCR). The CCR highlights student activities and competency achievements during their time at the University. Opportunities are categorized under four sections on the record: Community-Based / Global Learning; Professional / Career Development; Research / Academic Life; and Student Engagement / Campus Life (UC San Diego 2017)

Activities are listed under the category along with the position, and a description of the experience and the competencies mastered. Competencies – from a list of twelve provided by the University - are assigned to each activity such that if a student participates and completes the experience, the student is considered to have developed or refined the competency. A staff or faculty validator adds the activity to a student's CCR once they complete the requirements of the activity.

Certifiable co-curricular activities or opportunities include internships, volunteerism, opportunities to engage in research, student organization and leadership, athletics, committee work, student government, and special projects made available to students. Up to three competencies are attached to each activity.

Students order either the *E2T* alone, or the *E2T* and the CCR together, and are sent electronic versions. As an alternative, the documents can be mailed; however, the hyperlink capacity is lost. The Registrar signs both records to provide institution-wide validation.

### Additional Considerations

The efforts of each of the above institutions demonstrate the range of possibilities for supporting alternative credentialing. Supported by the information in the Appendices, each demonstrate the different ways in which postsecondary institutions ensure quality; the thoughtful and holistic initiatives and subsequent alternative forms of credentialing are promising for the future mobility of students. Some are extending traditional transcripts and certificate/diploma shells by providing access to greater breadth and depth of information about the courses within a program. A number are crossing the boundaries between curricular and co-curricular experiences. Each is providing a host of supports and guided mentoring to enhance opportunities for student-focused learning. The care and attention to ensuring students are exposed to broader learning experiences demonstrate the possibilities.

Referencing back to the link to quality outlined in Figure 2, the blurring of the boundaries between curricular and co-curricular learning with alternative credentials introduces interesting considerations. The study of exemplars revealed that 'how' an institution defines learning, particularly for experiential learning, community engagement, service learning, study abroad, and research, could result in credentialing choices that might have downstream impacts on students. In some instances, institutions place the same learning both within the academic transcript and the new credential (as a course on the former and within an experiential or other category on the new credential). Some institutions place these types of learning experiences solely in the co-curricular category. Elon University represents an example of both these approaches for the Research and Service categories respectively (see Appendix 5). Stanford University delivers service learning through both courses and community-based activities which are occurring outside of the class setting (see Appendix 9). The final credential awarded recognizes community-engaged service learning both within courses (called "Cardinal Courses") and the community. Students also pursue and receive credentials that document off-campus research and community-based leadership projects (Stanford University n.d.c.). These examples are institutionally validated and supervised. As another approach, Brandman University is explicit in its e-portfolio about distinguishing institutionally validated versus student validated learning. The diverse options demonstrated by these institutions are indicative of others across North America.

The Lumina funded *Comprehensive Student Record Project* coordinated by the Association of American Registrars & Admissions Officers (AACRAO) and NASPA - Student Affairs Administrators in Higher Education, represents a consortium of 12 postsecondary institutions which include some of the exemplars for this study; these institutions are also pursuing a range of credentialing options

(AACRAO n.d.).[36] As another example, the IMS Global Learning Consortium is leading the Open Badges specification and the "*prototype development of an extended transcript (eT) designed to support competency-based programs*" (IMS Global Learning Consortium n.d.). The University of Maryland University College represents a recently launched example of a prototype resulting from this consortium (IMS Global Learning Consortium 2017).[37] The tremendous work in Canada with Co-Curricular Records represents another set of examples (see the ARUCC PCCAT Transcript and Transfer Guide for a list; www.guide.pccat.arucc.ca).

Innovative thought leaders in North America are actively exploring alternative approaches to showcasing student learning which hold the potential to improve student success, mobility, and transfer. These early pioneers seek to acknowledge student achievement of learning outcomes and competencies at a variety of levels; namely, within courses or a program; at a broader level such as when reflecting on learning achieved within breadth requirements including general education or liberal studies; at an institutional level with adoption of learning outcomes that reflect what is deemed representative of the 'essence' of what it means to study at that institution; and across the entire learning experience from curricular to co-curricular. The institutions examined closely for this study represent a sub-set of a larger area of enquiry and exploration that holds very interesting possibilities for credentialing.

As an important aside, most of the exemplars for this study and in the above initiatives are not attempting to do away with the credit hour or the traditional transcript (assuming that already exists); rather, they are developing complementary credentials that provide demonstrable evidence of achievement of learning outcomes. Further, the holistic models launched or under development such as those at the University of Central Oklahoma and La Cité, carefully leverage and align activities across the entire learning experience. As the findings demonstrate, Brandman and Alverno reported the capacity to cross-walk between evaluative approaches based on learning outcomes and credit bearing courses. In the final analysis, there appears to be interest in creating complementary credentials or improving existing credentials rather than completely doing away with the academic transcript.

[36] This initiative includes twelve American postsecondary institutions: University of Wisconsin – Extension and Wisconsin Colleges, University of Houston – Downtown, Dillard University, Indiana University – Purdue University Indianapolis, Brandman University, LaGuardia Community College, Borough of Manhattan Community College, University of South Carolina, University of Maryland University College, University of Central Oklahoma, Stanford University, Elon University (AACRAO n.d.).
[37] For more information on UMUC's prototype, see https://www.imsglobal.org/article/extendedtranscriptUMUCpilot.

## A CREDENTIALING TYPOLOGY FOR ALTERNATIVE POSTSECONDARY CREDENTIALS

Another research question for this study sought to identify a potential framework for postsecondary credentials based on a review of the exemplars; this Typology is outlined in Figure 13. The research suggests seven distinct categories of credentials exist which are defined in part by the function and purpose; the alignment to the program of study and the nature of learning (reflected by the arrows in the Typology); the institution's role in validation of the learning; and the student's role in curation of the record.[38] These include the following:

1. Academic diploma and certificate shell[39] - **Function and Purpose for credentialing: *Authenticates*** successful, assessed completion of recognized curricular learning; represents a terminal credential directly related to a program of study that is validated by the institution; currently, the norm involves institutions curating the official record; ***facilitates*** trust in the credential; transfer and student mobility

2. E-portfolio[40] - **Function and Purpose for credentialing: *Showcases*** evidence of summative curricular ***and or*** co-curricular learning which may be aligned to institutional or program goals; can be curated and validated by the institution ***and or*** student; contains learning artifacts as demonstration of achievement**; *facilitates*** trust for those aspects that are institutionally validated and learner capacity to understand and communicate achievements; ***could potentially facilitate*** prior learning assessment for institutionally validated work

3. Comprehensive Learner Record (CLR)[41] – **Function and Purpose for credentialing: *Reflects*** student achievement of competencies and or learning outcomes structured and assessed within a defined framework that is related to the program of study and or broader institutional learning goals accessed ***through*** the institution; can be curated and validated by the institution ***and or*** by the student; may contain evidence of summative curricular ***and*** co-curricular learning (note: some refer to e-portfolios as Comprehensive Learner Records); ***facilitates*** learner capacity to understand and communicate achievements; trust in credential for aspects institutionally

[38] Postsecondary institutional use of alternative credentials represents the primary focus of this research; therefore, while it is understood that employers and other education providers distribute credentials and sometimes do so in partnership with postsecondary institutions, these are not fully contemplated in this Typology.

[39] Shells refer to the actual parchments provided to students for successful completion of recognized academic or vocational studies in a certificate, diploma, baccalaureate, or graduate program of study whether at a college, institute, or university.

[40] Lorenzo and Ittelson (July 2005) provide a very helpful summary of the different types of e-portfolios and include a list of questions and considerations institutions should consider when exploring the use of this platform. An e-portfolio refers to a digital collections of learning artifacts which serve multiple purposes e.g. texts, images, multimedia, blog entries, and hyperlinks (adapted from Lorenzo, G., and Ittlelson, J.). E-Portfolios can aid formative and summative assessments (Ferns 2014). These constitute alternative credentials in some instances where they stand as a summative record of a student's achievement of competencies and learning outcomes (Egan 2016).

[41] Some refer to CLRs as records that produce deeper levels of detail and substantiation of attainment and proficiency in defined competencies including learning experiences embedded in courses but not captured by the academic transcript (Parrish 2017). For the *Comprehensive Student Record Project*, AACRAO/NASPA describe a Comprehensive Student Record "*as a fuller reflection of student learning and achievement …[that] includes the traditional transcript…but expands beyond credits, grades, and course titles…to provide students with a record of meeting learning outcomes…. It is widely acknowledged today that learning outcomes occur both within and outside the classroom*" (AACRAO n.d.). See further details at the AACRAO NASPA CSR Project for other models at aacrao.org (AACRAO 2015).

validated; and student mobility; ***could potentially facilitate*** prior learning assessment for institutionally validated work

4. Skills or Cognitive Recognition Credentials[42] - Examples include Cognitive Skills Stamps (sometimes called Academic Skills Stamps) or Badges - **Function and Purpose for credentialing: *Symbolizes*** achievement of curricular ***and or*** co-curricular learning including student achievement of competencies and or learning outcomes as with the CLR; can be curated and validated by institutions ***and or*** students; ***facilitates*** learner capacity to understand and communicate achievements; ***enhances*** trust in credential for institutionally validated work; credential portability; and student mobility; ***could potentially facilitate*** prior learning assessment for institutionally validated work

5. Academic transcript – **Function and Purpose for credentialing: *Identifies*** summative achievements of formal curricular learning; validated by institution; ***facilitates*** trust in credential; student mobility; and learner capacity to understand and communicate achievements although usually to a limited extent due to lack of detail about courses (electronic transcripts can mitigate this challenge by linking to course and learning outcomes information)

6. Complementary record **– Function and Purpose: *Highlights*** a portion of the formal curricular learning aligned with institutional or program goals; ***facilitates*** trust in credentials; student mobility; and learner capacity to understand and communicate achievements; ***could potentially facilitate*** prior learning assessment for institutionally validated work

7. Co-Curricular Record – ***Function and Purpose: Supports*** informal and non-formal co-curricular learning aligned with student development goals which may be aligned to institutional goals; ***facilitates*** student mobility and learner capacity to understand and communicate achievements; ***could potentially facilitate*** prior learning assessment for institutionally validated work

[42] Skills Stamps is a term that is used in other regions sometimes in lieu of Badges; however, Stanford is innovating with Cognitive Skills Stamps rather than badges to recognize cognitive achievements relevant to completing a Stanford degree (Heymach, C. 2016; Tom Black, personal communications). Educause defines badges as "*a visual representation of an accomplishment, achievement or skill acquisition – more granular than a formal degree, but helps to make incremental learning more visible*" [sic] (Educause 2017).

*Figure 13: Credential Typology*

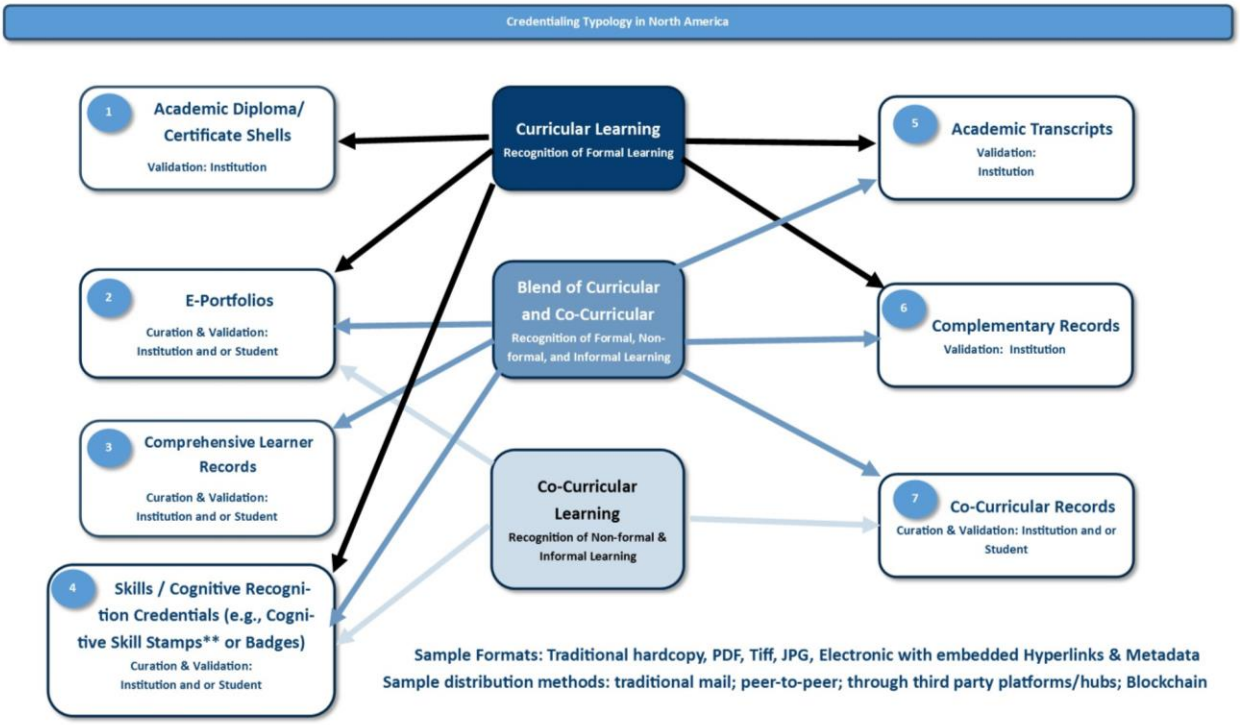



Table 2 below provides further details regarding each of the categories within the Typology. The column on the right in the Table outlines some of the innovations occurring in North America, due primarily to technological advances and enhanced data exchange standards. As an example, institutions tend to refer to electronic credentials as ***extended*** credentials which results from the embedded content or the degree to which these platforms facilitate access through hyperlinks and metadata to detailed information such as to course information or learning outcomes and competencies. Any of the above credential types could be extended in these ways.

In keeping with a learner-focused philosophy, institutions are also exploring ways to facilitate credential portability including providing students with the option to recast and repackage representations of their learning experiences. An example might be when a student wishes to showcase specific aspects of their learning for a potential employment opportunity. Another approach might be Stanford's focus on creating new and innovative credentials that entirely reframe the credentialing paradigm such as its *Cognitive Skills Stamps* or its *Notations*. Ensuring full transparency as to who is verifying the learning (i.e., the institution or the student) and how best to signal whether it represents the entirety of a student's institutional learning experience become important points of discussion in these situations.

*Table 2: Explaining the Typology*

| Credential | Information Included | Format | Formatting Innovations |
|---|---|---|---|
| Academic Diploma or Certificate Shells<br>  | Curricular: Certificate, diploma, or degree awarded<br><br>Other example: Professional Certificates (e.g., continuing education, executive education)<br><br>Institutionally validated<br><br>***Shell Function and Purpose:* Authenticates** *achievement of formal curricular learning in a program or institution;* **Facilitates** trust in credentials, student mobility, and transfer | Paper, PDF file | Electronic documents with hyperlinks and metadata<br><br>**Example:** Stanford University's electronic diploma shells |
| E-portfolios<br>  | Curricular and or co-curricular (varies by institution)<br><br>Includes summative student work and or artifacts, and student, course and program information.<br><br>If aligned with institutional or program goals, provides institutionally and or student curated and validated achievement of learning outcomes and competencies structured and assessed within defined frameworks.<br><br>***E-portfolio Function and Purpose:* Showcases** formal and or informal and non-formal curricular and co-curricular learning aligned or unaligned with institutional or program goals; ***facilitates*** learner capacity to understand and communicate achievements; ***could potentially facilitate*** prior learning assessment for institutionally validated work | Electronic – sometimes tied to LMS, custom built, or leverages third party vendors | Using e-portfolios to create comprehensive records of summative work and or demonstrate achievement of learning outcomes and competencies<br><br>Building system interoperability<br><br>Allowing students and alumni to use e-portfolios after graduation or leaving institution<br><br>**Examples:** Brandman University; Ryerson University; La Cité (in development); University of California San Diego; University of Central Oklahoma |

| Credential | Information Included | Format | Formatting Innovations |
|---|---|---|---|
| Comprehensive Learner Records (CLR)<br>  | Curricular and co-curricular<br><br>Includes information regarding achievement of academic learning, experiential learning, research, community engagement, service learning, study abroad, etc.<br><br>Provides institutionally validated student achievement of competencies, learning outcomes structured and assessed within defined frameworks.<br><br>***CLR Function and Purpose:*** ***Reflects*** formal, informal, and non-formal curricular and co-curricular learning aligned with institutional goals and or program goals; ***facilitates*** learner capacity to understand and communicate achievements, trust in credential, and student mobility; ***could potentially facilitate*** prior learning assessment for institutionally validated work | Typically electronic although not always<br><br>Note: some institutions refer to the e-portfolio as the Comprehensive Student Record | Leveraging technology and internal data exchange to create scalable institutional information feeds<br><br>Accommodating student curation of information<br><br>Ensuring information is portable to external environments (e.g., other e-portfolio platforms, LinkedIn, etc.)<br><br>**Examples**: Brandman University's CCR and e-portfolio; Elon University's Visual EXP and EET; La Cité's Graduate Profile (planned); Stanford's Notation of Cardinal Service |
| Cognitive or Skills Recognition Credentials (e.g., Cognitive Skills Stamps[43] or Badges)<br>  | Curricular and or co-curricular: Varies by institution<br><br>Represent successful completion of course(s) or other learning<br><br>If aligned with institutional and or program goals, provides institutionally validated student achievement of cognitive capacities or competencies or learning outcomes structured by clearly defined frameworks<br><br>***Function and Purpose:*** ***Symbolizes*** formal, informal, **and or** non-formal curricular ***and or*** co-curricular learning; may be aligned with institutional goals and or program goals; ***facilitates*** learner capacity to understand and communicate achievements***; enhances*** credential portability and student mobility; ***could potentially facilitate*** prior learning assessment for institutionally validated work | Electronic | Electronic portability<br><br>Embedding meta-data and hyperlinks to further information<br><br>**Examples**: Stanford's work to create Cognitive Skills Stamps that reflect achievement of specific academic cognitive capacities<br><br>Other exemplars exploring or launching initiatives in this credentialing area: Brandman University; University of Central Oklahoma; La Cité (planned) |

[43] Cognitive Skills Stamp is a Term being used at Stanford to help students receive recognition for achieving specific cognitive capacities (Heymach, C. November 2016; Tom Black, personal communications).

| Credential | Information Included | Format | Formatting Innovations |
|---|---|---|---|
| Academic Transcript<br>  | Curricular:<br>Includes information on student achievement with course titles, grades, credit weighting.<br><br>Provides institutionally validated achievement of courses and programs.<br><br>***Identifies*** summative achievement of formal curricular learning | Paper, PDF, JPG, TIFF | Extended academic transcripts:<br><br>a) Electronic document that is extended with hyperlinks and metadata to provide access to more detailed information<br><br>**Example:** University of California San Diego<br><br>b) Extended academic transcript that incorporates narrative or symbolic notations such as might occur with a graduate transcript that indicates milestone achievements, dissertation title, and supervisors.<br><br>**Examples**: graduate transcripts |
| | ***Transcript Function and Purpose:*** ***Identifies*** summative achievement of formal curricular learning; ***facilitates*** trust in credentials, student mobility, and learner capacity to understand and communicate achievements although, in the case of traditional transcripts, with limited detail provided | | |
| Complementary Records<br>  | Curricular:<br>Includes information that complements the academic transcript; usually includes summative achievement of select courses or validated learning experiences.<br><br>Provides institutionally validated student achievement of competencies and learning outcomes structured and assessed within defined frameworks that may not necessarily represent the entirety of the academic experience. | Electronic | Electronic portability<br><br>Embedding meta-data and hyperlinks to further information<br><br>**Example:** Stanford's Scholarship Record (represents completion of WAYs courses – SU's general education courses)<br><br>Representing program learning outcomes achieved in a program<br><br>**Example:** Alverno's Statement of Evaluation (in this case, it represents the entirety of the learning experience) |
| | ***Complementary Record Function and Purpose:*** ***Highlights*** the formal curricular learning aligned with institutional or program goals beyond courses; ***facilitates*** trust in credentials; student mobility; and capacity to understand and communicate achievements; ***could potentially facilitate*** prior learning assessment for institutionally validated work | | |

| Credential | Information Included | Format | Formatting Innovations |
|---|---|---|---|
| Co-Curricular Records (CCR)<br>  | Co-curricular:<br>Includes information on achievement of activities and experiences beyond the classroom.<br><br>Institutionally and or student verified achievement of competencies and or learning outcomes often structured and validated within defined frameworks. | Paper, PDF, electronic | Electronic portability<br><br>**Examples**: Loma Linda's institutionally validated Experience Transcript; Ryerson's student curated and validated e-portfolio and CCR; Elon's Visual EXP and EET<br><br>Note: Many Canadian institutions offer Co-Curricular Records – most are institutionally validated |

***CCR Function and Purpose:*** ***Supports*** informal and non-formal co-curricular learning aligned with student development goals which may be aligned to institutional goals; ***facilitates*** student mobility and learner capacity to understand and communicate achievements; ***could potentially facilitate*** prior learning assessment for institutionally validated work

## BROADER DEFINING CHARACTERISTICS

The research sought to identify the defining characteristics of alternative credentials which the Typology provides. However, the analysis of exemplars and consequent differentiation between different types of credentials brought additional characteristics to the surface that constitute key success factors. To create these alternative credentials, institutions, regional and national organizations, vendors, and governments in North America, particularly in the U.S., are collaborating and leveraging diverse sources of funding, learning communities, and system-wide supports. Further, this study's exemplar research and the national survey indicate success requires a focus on students and alignment with institutional mission. Credentialing the full range of learning requires institutions identify and map learning outcomes and competencies frameworks and develop shared nomenclature through internal collaboration. Lastly, creating scalable alternative credentials requires that institutions leverage technology and enhance data capture and exchange capacities.

### System Approach: Working across Institutional Boundaries

According to those interviewed, successful implementation of alternative credentials requires looking beyond institutional borders whether for ideas, funding, support, validation, or technology solutions. Whether the exemplars for this research identified and benefited from external funding; sought to develop standards; or wished to ensure full support from other institutions, affiliates, or third parties, none acted in isolation from the broader system.

The value of credentials directly relates to their ability to promote student mobility and communicate meaningfully to employers and other postsecondary institutions what the student knows and has accomplished. As an example, some of the exemplars highlighted the value of student curated e-portfolios that allowed them to engage in and position their learning as assets to enhance access to the workplace. As another example, those interviewed stressed the importance of the design of the credential as a document that must resonate with students and other third parties. Elon's visual dynamic credential tested positively with employers who indicated it would provide students better access to an interview; their findings demonstrate the value of this attention to detail (Appendix 5). Further, Elon students reported to the researchers the importance of this credential to differentiate their work for law school admission, graduate school, and employers (personal communications).

As with the U.S. and other jurisdictions, Canadian institutions and allied organizations such as the Association of Registrars of the Universities and Colleges of Canada (ARUCC) and regional associations remain well positioned to engage in a principled discussion regarding credentialing standards both within and across institutions to address some of the findings in this study. Initial topics of consideration might include where to publish and how to categorize the learning, the level of transparency surrounding the nature of the learning, and the purpose of final credentials in light of their impact on future opportunities for students. In addition, other resources such as the AACRAO and NASPA *Framework for Extending the Transcript* provides a set of recommendations and questions to guide standards creation (AACRAO 2015b).

### Institutional Mission Alignment

The research reveals that alternative credentials function as a reflection of a broader institutional or program mandate and are deliberately designed to reflect and actualize specific goals and values such

as delivering 'transformative learning'; supporting student success; and or enhancing student transition into the workplace. Each institution interviewed for this study amplified the importance of institutional or programmatic context and the subsequent influence on decisions regarding learning outcomes and or competencies and credentialing choices. While doing so, broader student success goals provided points of potential differentiation (e.g., exploring 'What makes learning at our institution or within our program distinctive and student focused?' and 'What goals do we hope to achieve for student retention, engagement, and or success?'). The University of Central Oklahoma's (UCO's) focus on transformational learning and student success, and its resulting tenets, student curated e-portfolios, and comprehensive student record represent very interesting examples of alignment (Appendix 10).

### Internal Collaboration

In every case, the development of credentials and related initiatives required engagement and collaboration across an institution to ensure high quality outcomes and scalable solutions. The research revealed two important participants to ensure success: a senior champion to amplify the vision and an executive lead to oversee the implementation. In most of the examples, the leads engaged students; teaching and learning; student development; registrars; information technology (with internal or external partners, or both); employers; and more. Leadership came from Registrars; Presidents; Provosts/Vice President Academics; Teaching and Learning; Student Development areas; and faculty. Senate, Council, and or Boards and related committees reviewed, endorsed, and approved many of the initiatives which represents a practice to help embed initiatives into an institution's DNA.

### Supporting Student Engagement, Reflection, and Development

In every example, the credential represented one aspect of a larger effort to help students learn to articulate, curate, and showcase their own summative learning in a manner that offered greater meaning and clarity to themselves and others; an aspirational goal of learner centred and outcomes focused pedagogy. The institutions provided an array of supports to facilitate developmental and guided mentoring and instruction, as well as opportunities to encourage reflection and growth. Those interviewed spoke about using various tools and resources to achieve these ends including faculty guides and training; student workbooks; formal reflection opportunities built into the activities and courses; and other techniques including rubrics and assessments to support the learning and evaluation process. UCO, as one example, went a step further and offered faculty incentives and release time for training on how to embed the STLR approach in their courses.

### Alignment with Learning Outcomes and Competencies - Establishing Shared Frameworks

Given the burgeoning space of alternative credentials, it is increasingly important to set principles and related standards and frameworks to guide new forms and formats. Nesting a student's learning in carefully constructed, theoretically informed, and institutionally relevant learning outcomes supported by an overarching framework of competencies appears to be a core necessity. While some used, or were inspired by, external frameworks such as the Lumina Foundation's Degree Qualifications Profile or the Council for the Advancement of Standards in Higher Education (CAS) competencies, the focus on extending or refining these speaks to the need and desire to honour local context and goals. Ryerson wove a tapestry of student development theory together to create and

align their *Level Up* program. La Cité looked for a way to build on the provincially mandated *Program Standards* to honour their creative and bilingual context. Alverno College constructed detailed program maps to align assessments, learning activities, course, and program outcomes to their competency/ability-based framework. Whether the focus involved creating co-curricular, curricular, or a blended credential, the institutions in this research study strove to ensure theoretically informed and commonly agreed-upon outcomes. It takes time to identify and build consensus on frameworks, competencies and learning outcomes. Therefore, most of the institutions in this study looked to outside frameworks, and engaged in analysis, modifications, and mapping exercises to align the curriculum before creating the alternative credential.

### Nomenclature and the Evolving Nature of the Learning Experience

The need to establish agreement regarding terminology is a constant refrain amongst those eager to advance student mobility and alternative credentials. As evidenced by this research, institutions use different terms to describe credentials, learning outcomes, experiential learning, competencies, etc. To resolve this issue in the U.S., another Lumina-funded initiative called the *Credential Transparency Initiative* begun in 2013, recently created the non-profit called "*Credential Engine*" (2017) focused on developing collaborative standards to identify, document, and openly share solutions that support the comparability of credentials and competencies. *Credential Engine* maintains the open-licensed *Credential Registry (CR)* and *Credential Transparency Description Language (CTDL),* and is launching a prototype credential search app (*Workit*$^{TM}$) built on the registry.[44] Credentials, according to Jamie Merisotis, president and CEO of the Lumina Foundation, have operated in silos for too long and need to connect through a universal taxonomy that can unite a "fragmented system" (Merisotis 2016).

Categorization of learning, based on distinctions between what is co-curricular and curricular represents another area requiring broadly agreed-upon frameworks given the impact such divisions have on alternative credentials. The researchers found that select learning opportunities that are defined by institutions as co-curricular might be considered by other institutions to be directly related to an academic or vocational program. Specific examples of types of learning that might fall into either category include service learning, community engagement, experiential learning, research, and study abroad. From a perspective of transfer or future admission to other institutions, downstream implications exist for students. This is an area deserving of future study as it would be helpful to secure common agreement around the nature of the learning before creating alternative credentials.

---

*Given the burgeoning space of alternative credentials, it is increasingly important to set principles, frameworks, nomenclature, and related standards to guide the new forms and formats.*

---

A plethora of reports from U.S. associations, councils, and various consortia of organizations interested in improving postsecondary credentialing, suggest steps to take to improve the value of alternative credentials. Reports in the American Council for Education (ACE) *The Chronicle of Higher Education: Credits and Competencies* and *Student Learning as Academic Currency,* make the case for

[44] For more details, visit http://www.credentialengine.org.

structured outcomes and competencies; early benchmarking of student achievement to discover gaps; representation of experiential learning; third-party verification; broad acceptance of equivalencies; multiple types of evidence; and compatibility with distributed learning systems (Johnstone 2010; ACE 2016). In the ACE report entitled *Quality Dimensions of Connected Credentials,* Everhart calls for the application of standards of transparency, modularity, portability, relevance, validity, and equity (Everhart 2016a). These are similar to the checklist of considerations proposed by AACRAO and NASPA in *A Framework for Extending the Transcript* that champions shared language around competencies and outcomes, choice of information to include, and defined format options (AACRAO 2015b). Finally, in *Connecting Credentials: Lessons Learned from the National Summit on Credentialing and Next Steps in the National Dialogue,* recommendations underscore most of these requirements and add the need to leverage effective and efficient data capture and technology for creating dynamic and scalable credentials (Lumina 2016b).

### Enhancing Data Capture Opportunities

This study's exemplar and national research findings indicate that once an institution determines the overarching goals and objectives and learning outcomes and competency framework, next steps include identifying what learning should be credentialed and for what purpose (i.e., identifying the data needed), what types of credentials make sense given the existing credentials, and what implementation process is appropriate to create a scalable, trusted, and sustainable environment. None of this is effectively translated into an enhanced alternative credential unless trusted data capture and exchange is in place. Hence, systems to support these two fundamental aims emerge as critical areas of enquiry.

The national survey highlighted the lack of available data at the institutional level necessary to credential learning outcomes and competency achievements whether embedded in a course description or as stand-alone summative results. Canadian postsecondary institutions reported gaps and indicated that much of the needed information about courses and learning outcomes appears to reside in the faculty or program areas (if it exists at all).

Resolving these gaps at the local level and ensuring access to machine-readable data would be substantial exercises requiring significant resources. Whether this becomes achievable depends on the institutional context and credentialing choices. However, by setting ambitious goals such as sharing detailed course outlines, the exemplars in this study demonstrate that early stage institutional decision-making can facilitate downstream opportunities. For example, capturing detailed course information in a central repository and ensuring machine-readable information might be appropriate next steps particularly if a broader goal included improving transfer and student mobility.

### Enhancing Data Exchange Opportunities

Many Canadian institutions have moved to distributing credentials, particularly transcripts, electronically, thus relying on secure, validated, and trusted data exchange.[45] Institutions sometimes use a PDF format (*Portable Document Format*) as it ensures a verifiable and secure document that is well-suited to delivery in electronic form because it carries an embedded digital signature that must

[45] As outlined in the ARUCC PCCAT online Transfer Guide which can be found at: http://guide.pccat.arucc.ca/en/.

be authenticated in Adobe Reader software (Gollin 2008). Other forms of electronic data exchange used for transcripts include *Electronic Data Interchange (EDI)* and *Extensible Markup Language (XML*).[46] The latter is more common in Canada which bodes well for creating data exchange networks.

Exchanging electronic student data with other organizations and institutions requires involvement from both the sender and receiver. Having noted Canada's XML data exchange capacity which is largely due to the work of the various application centres and CanPESC, not all Canadian postsecondary institutions have the capacity to accept expanded electronic credentials as official documents from third party providers. With respect to access to detailed course information, the data from the national survey conducted to support this research provides an indication of readiness amongst Canadian higher education institutions to advance in this area (see Appendix 12 for detailed findings).

Until the recent launch of the Post-secondary Electronic Standards Council's (PESC) "*Common Credentialing Standard for Certificates, Degrees, and Diplomas*", the capacity for streamlined XML exchange of credentials with embedded learning outcomes and competencies between two organizations represented a challenging gap (PESC 2017). This groundbreaking work promises to be critical to the exchange of alternative credentials including in Canada and elsewhere. PESC, along with partnering institutions such as Stanford University and another international organization called the Groningen Declaration Network, is working to enhance international data exchange. PESC and its Canadian counterpart, CanPESC, encourage the development and implementation of XML data standards that support validated, consistent, and flexible data exchange. The Groningen Declaration Network, of which the Canadian Association of Registrars of the Universities and Colleges (ARUCC) is a signatory member, aims to remove impediments for data portability to enhance student and cultural mobility.[47]

In Canada, five application centres and one provincial association provide postsecondary institutions with transcript exchange capacity, particularly in the area of XML data exchange. These include EducationPlannerBC, ApplyAlberta, the Ontario College Application Services (OCAS), the Ontario Universities' Application Centre (OUAC), and the Nova Scotia Council on Admission and Transfer (NSCAT). Within Quebec, the universities created a PDF transcript exchange system through the Bureau de coopération interuniversitaire (BCI).

Several vendors or not-for-profit organizations outside Canada such as the U.S. National Student Clearinghouse offer secure creation, issuance, and or distribution of credentials (or data). Examples include Digitary,[48] Credly,[49] Parchment,[50] Credential Solutions,[51] and Paradigm Inc.[52] Although not the focus of this study, several country- or region-specific organizations provide trusted depositories for verifying student credentials to which Canadian institutions and application centres could potentially

46 For more details on XML, visit the ARUCC PCCAT Transcript and Transfer Guide http://guide.pccat.arucc.ca/en/.
47 Find details on the Groningen Declaration at http://arucc.ca/en/resources/task-force-groningen.html.
48 Digitary: https://www.digitary.net/
49 Credly: https://credly.com/
50 Parchment: http://www.parchment.com/
51 Credential Solutions: http://www.credentialssolutions.net/solutions/transcriptplus
52 Paradigm: http://www.paradigm-corp.com/

connect to advance incoming credential verification capacity as a support to international students. This represents another aspect of trusted data exchange to aid mobility and combat fraud. Examples outside the North American context include EMREX in the European Union,[53] the China Higher Education Student Information and Career Center (CHESICC),[54] and the recently launch *MyEquals* in Australia.[55]

Blockchain represents a recent and emerging innovation in data security that promises to significantly impact the trusted transmission of credentials. It is a shared, immutable ledger for recording the history of transactions.[56] This technology is being applied to student data shared across institutions to facilitate secure transfer and validation of qualifications (Lemoie 2016).

Credentials seeking to recognize attainment of specific cognitive capacities or skills such as Stanford's Cognitive Skills Stamp or the Badges pursued by other institutions (these types of credentials in the Typology are called "*Cognitive or Skills Recognition Credentials*"), are where technology is having the greatest impact. IMS Global Learning Consortium is supporting a range of programs that will advance alternative credentialing – especially badges – by way of developing standards and tools for interoperability.[57] Members are pursuing adoption, integration, and transferability of digital credentials within and across institutions. Conformation certification that encourages issuing platforms to adhere to technical requirements will play a critical role in enhancing portability. The *Open Badges Extensions for Education* (OBEE) initiative is supporting demonstration projects "*to identify, define and develop the framework, common language and supporting interoperability specifications necessary to transmit meaning and value of badges*" (IMS Global 2017). The IMS *Building a CBE-aware Ecosystem* project focuses on the creation of a standard to support interoperability between learning management systems, portals, learning object repositories, and other technologies necessary for sharing essential data.

Reports from the Lumina Foundation *Connecting Credentials* initiative stress how real-time data in machine-readable form which drives the Open Badge standard can be adapted and expanded to include all credentials (Lumina 2016b). There are also calls for enhanced technology interfaces for websites and mobile applications to serve the information needs of learners and employers.

### Leveraging Enabling Technology

The institutions examined in this research emphasized the importance of effectively leveraging technology. To accomplish this, institutions wove together the strengths of enterprise systems such as institutional learning management systems; student information systems; and e-portfolio platforms; and ensured interoperability, efficient data capture, and reporting out capacity. Although each one employed different technological options including both vendor and custom designed models,

[53] For more information on EMREX, see http://emrex.eu/
[54] CHESICC (China): http://www.chsi.com.cn/en/
[55] MyEquals (Australia): https://www.myequals.edu.au/
[56] For more information on this technology, visit http://er.educause.edu/articles/2017/3/the-blockchain-revolution-and-higher-education.
[57] More details are available online at: https://www.imsglobal.org/initiative/enabling-better-digital-credentialing

solutions did not rest with any one platform or vendor.[58] Whether capturing student attendance in an activity, collating summative course work, assigning learning outcomes to specific activities, or creating the credential, institutions matched technology to the requirements for information to enhance efficiency, scalability, and downstream analytics. Evident principles, according to those interviewed, included ensuring the chosen options enhanced portability; transparency; ease of use for faculty, staff, and students; and access.

## CREDENTIALS AND STUDENT SUCCESS, MOBILITY, AND TRANSFER

For the final research question, the researchers sought to identify whether demonstrable evidence exists to suggest that the credentialing efforts of the exemplars interviewed facilitate student success, mobility, and transfer. Given the pilot or early launch status of the initiatives underway at these institutions, only preliminary findings are available. Positive indicators exist for student success and subsequent mobility into the workforce. Transfer success was not readily evident although there are suggestions that the alternative approaches to credentialing would ultimately benefit transition to other institutions. Each exemplar offers insights to this question.

### Alverno College

Alverno's mission and focus involve preparing learners to enter the workforce and contribute to their communities in a manner in keeping with its Roman Catholic principles.[59] Specific data are not available to indicate whether the *Statement of Evaluation* contributes to mobility into the workforce; however, the College's overall approach appears successful. Using the NSSE results as evidence of achieving the College's mandate, 83% of students reported their College experience contributed to them acquiring job- or work-related knowledge and skills (Indiana University 2015, page 4). In 2009, the then U.S. Secretary of Education lauded Alverno's education program:

> *"Alverno College, a Catholic women's college in Milwaukee, also requires a rigorous field experience in the public schools and has faculty and local principals assess videotapes of student teachers. Eighty-five percent of Alverno graduates are still in the classroom five years after graduation, an extremely high retention rate…I cite all these examples to point out that, with courage and commitment, our teacher preparation programs absolutely can provide dynamic and effective teacher preparation for the 21st century" (Duncan October 22, 2009).*

From 1975 to 1985, the college conducted a 10-year longitudinal study which involved following students from freshmen year through to graduation and to five years after graduation. This study included in-depth interviews with alumni to augment the results. Published by Jossey-Bass in *Learning that Lasts*, the research and findings provide further evidence to validate the Alverno approach (2000). While more current, publicly available research is not available, Abromeit indicated the College distributes internal surveys to students, alumni, and employers to ensure continuous improvement and a tighter tie to the workforce (personal communication).

---

[58] Details on technology used are included in the cases within the appendices if the institution provided the information. The researchers did not engage in a detailed review of technology platform options as that was out of scope for the research. Those wishing more information are encouraged to contact the institutions and vendors directly.

[59] https://www.alverno.edu/aboutalverno/missionhistory.php

With respect to credit transfer, Abromeit acknowledged the challenges of supporting students interested in transferring or moving onto graduate studies when using only the *Statement* while at the same time emphasizing the value for enhanced engagement of students in their learning experience once grades are not an influencing factor (personal communication). To bridge the gap, however, the College is considering a policy to request faculty report grades along with the end-of-course reports on student achievement (personal communications). While there is no intention to undermine or stop using the *Statement*, this implies that having access to grades along with the *Statement* may facilitate future transfer.

### Brandman University

New students with prior postsecondary studies transfer course work into a CBE program at Brandman based on the University's cross-walk of courses to competencies. The dual transcript which includes the competency transcript (CSR) and a credit-hour transcript, facilitates a Brandman student's ability to transfer competencies to other institutions. Further, the portfolios that students create remain accessible to them for a total of five years which includes at least one year beyond graduation. As a result, if a student were to transfer to another institution, the comprehensiveness and depth of information available regarding the student's accomplishments and the information on the competencies and outcomes achieved, all of which inform the basis of the comprehensive student record, would likely be very helpful to admissions assessment staff at subsequent institutions.

The motivations for Brandman to build these competency-based degrees and create badging capacity and portals showcasing institutionally validated and self-reported student work included a commitment to improve the quality of education and education delivery; provide affordable education; and facilitate transition into the workforce for its graduates (Brandman March 27, 2014). The benefits of leveraging competency-based education and creating understandable, comprehensive, and accessible records to reflect and showcase this work hold promise. As these new credentials at Brandman are in the very early stages of implementation, it is premature to assess their effectiveness in improving mobility into the workforce; however, the intentional alignment to externally validated learning outcomes frameworks, rubrics, and workforce related insights informed by employer advisory boards suggests potential for enhancing transitions into the workforce.

### Elon University

Early indicators suggest Elon's experiential credentials are facilitating assessment of prior learning and transition to subsequent institutions and transition to employment. Jesse Parrish, Assistant Registrar at Elon, indicated students do not always recall or value the experiential learning undertaken during their studies (personal communications). Therefore, the experiential transcript, which evidences student learning through experience that is either embedded in an existing course, coded as a unique course and validated by faculty and staff throughout a student's time at Elon, or captured through co-curricular exposure, becomes a dynamic and comprehensive portfolio with utility beyond Elon. For employers, students leave with a credential that demonstrates the amalgam of the experiences undertaken. For subsequent institutions, providing validated credentials crossing both curricular and co-curricular learning appear to be resulting in additional recognition, whether to support assessment of prior learning, admission, or transfer credit. While anecdotal, two Elon

students interviewed for this study validated these points (Fryer, J., Shaw, M., personal communications).

A recently completed study by the Elon Registrar's Office indicates that employers and graduate admissions officers value the newly created *Visual EXP* (Parrish, J., Fryer, J., Parks, R. 2017). Approximately 80% of the 140+ respondents to Elon's survey indicated that the transcript differentiates Elon applicants; 72% noted that it provides useful information to inform the hiring process; and, 42% suggested that it would increase access to the interview process (pages 7-8). This early research is promising.

### La Cité

Given the early pilot phase of the project at La Cité, it remains premature to determine whether successfully achieving the successive levels in the four competency tenets results in enhanced transition into the workforce. However, the employer research that informed the rationale for moving in this direction at the very outset of the project provided the strong validation required by the College's Board. This represents a potential future area of research for La Cité after full implementation of the *Graduate Profile.*

The goals for the project are mindful of supporting transfer into other institutions and La Cité is exploring how to best position their credential to facilitate transfer; however, this represents an area of future exploration (personal communications). It does appear that the *Graduate Profile* e-portfolio might provide benefits to credit assessment practices such as prior learning especially if students demonstrate and share their transformational work. La Cité's plan includes providing life-long access to the *Graduate Profile* e-portfolio for their graduates; therefore, this too would be an interesting area of future exploration.

### Loma Linda University

Colleagues at Loma Linda interviewed for this project indicated that employers, particularly physicians when selecting students for residency positions, find the Loma Linda model helpful as a supplement to resumes (personal communications). Students actively participated in the creation and testing of the *Experience Transcript*; they expressed ongoing enthusiasm for the project and saw its relevance to facilitate transition into the workforce and other institutions. Because the *Experience Transcript* is validated, having the additional information, particularly where further details including hours are noted, seems to hold promise for enhancing transition into the workforce.

### Ryerson University

The Ryerson *'Level Up'* program is primarily focused on enhancing transition into the workforce. Given the pilot nature of the program, it is too early to determine its effectiveness. Having noted this, the program is firmly rooted in established student development theory which provides frameworks and research to support the Ryerson approach.

The goal of the Ryerson *'Level Up'* program does not explicitly include supporting transition into other institutions through the transfer of credit or assessment of prior learning. Its focus is on supporting student development regardless of where students ultimately go. Its co-curricular focus; use of student curated and validated artifacts and testimonials; and the production of an optional e-

portfolio underscore this flexibility of purpose. For that reason, this exemplar does not represent a close fit with other exemplars in this research study. However, it does represent an option on the typology spectrum that is fully student curated; developmental in focus; holistic in approach; and theoretically informed so as to support student achievement of learning outcomes outside the academic classroom.

### Stanford University

The impetus for the credentialing efforts at Stanford did not include enhancing transfer; however, according to the Registrar, supporting student transition into the workplace was an important consideration (personal communications). Another central focus involved showcasing and reflecting on the essence of what makes up a Stanford educational experience which then drove certain credentialing decisions such as those related to the *Scholarship Record* and the *Notation of Cardinal Service*. To ensure continuing relevance, the Registrar is exploring alternate technology options, additional alternative credentials (i.e., the Cognitive Skills Stamp) and, potentially, a future survey of students aimed at determining how students see quality of the fit in learning outcomes to courses (personal communications).

The Stanford Registrar is very focused on student data exchange and enhancing the international ecosystem of data standards as the next level imperatives to support Stanford credentialing initiatives and student mobility more generally. Ensuring other institutions and employers understand and are poised to receive these new electronic credentials represent critical priorities for the mobility of the University's graduates. As such, Tom Black is an active member of the international Groningen Declaration community which is, as of December 2016, a registered declaration under Dutch law (personal communications). It represents a consortium of like-minded individuals, organizations, institutions, and associations from around the world who are intent on creating large-scale capacity to securely exchange verifiable and trusted student data to enhance student mobility.[60] He is also the co-chair of the Post-Secondary Electronic Standards Council's Credentialing Task Force,[61] and an active participant in the Lumina funded AACRAO-NASPA *Comprehensive Student Record Project*.

### University of California San Diego

Student development theory and alignment to the new institutional Strategic Plan and Education Initiative informed the efforts of UC San Diego's *Engaged Learning Tools* task force and the development of the e-portfolios, the *Enhanced Electronic Transcript*, and the Co-Curricular Record (CCR).

At the time of this research, no data was available to indicate whether UC San Diego's efforts facilitated mobility and transfer; however, the project is still in the early stages of implementation and launch. Having noted this, the *Enhanced Electronic Transcript* does achieve a goal of improving access to more details regarding courses beyond the title, grade, and credit weighting which

[60] For more information on the Groningen Declaration, refer to http://www.groningendeclaration.org/. The Association of Registrars of the Universities and Colleges of Canada (ARUCC) is very active in the Groningen initiative and has led the Canadian interest in this area through a national task force and consultation process. More details on this project are available online at www.arucc.ca.
[61] CanPESC, a Canadian affiliate of the American PESC organization, is active in national discussions and activities surrounding data exchange and student mobility. This group is co-chaired by Leisa Wellsman from the Ontario Universities' Application Centre (OUAC) and Cathy van Soest from EducationPlannerBC.

addresses a transfer credit assessment gap identified in the Canadian national survey. Of course, the assumption is that receiving institutions have the capacity to receive and use an electronic transcript and, for those wishing to develop this model, provide course information in a machine-readable format.

The stated intention of the CCR includes demonstrating "*the value of engaging in opportunities beyond the classroom, and to help students reflect on and articulate the skills they developed*" (UC San Diego 2017). The CCR augments a student's resume, professional certifications, and volunteer efforts to enable access to career pathway opportunities. As the Registrar institutionally validates and signs the final Record, UC San Diego suggests to students that this credential will facilitate admission into other institutions and the workforce (2017). For the student, having a verified document that confirms they engaged in specific activities aligned with clearly stated competencies and outcomes and then supporting it with evidence of their work accessible through the online portfolio might have utility if a future institution embedded prior learning assessment practices in their admissions processes. This is true for most of the exemplars in this study.

According to Elias, UC San Diego alumni have full and continuous access to *Portfolium* after graduation through a personal URL which they can publish on a resume or application (see Appendix 11B for a sample). Since the entire project also ties into provision of career supports to aid transition to the workforce, validating its success in this area would be an interesting focus for future research. As one example of recent research, Elias conducted a quantitative research study in 2014 as part of her graduate studies focused on exploring perceptions of co-curricular engagement and the role of the CCR in the hiring process (Elias 2014).[62] Using data from a survey to employers sourced from the University of Toronto Career Services database, Elias concluded from the findings that employers do not fully understand the value of co-curricular experiences, due in part to a lack of adequate articulation by students of the skills they developed in co-curricular activities. According to Elias, tying competencies to activities on an official record provides comprehensive information about the experiences which then serves as an aid to reflection and communication in the hiring process (personal communications).

### University of Central Oklahoma (UCO)

Early indicators suggest the UCO initiative, called the *Student Transformative Learner Record* ("*STLR*"), is contributing significantly to retention, engagement, and student success. According to Dr. Jeff King, demonstrable evidence exists of extremely positive increases in retention and graduation rates, particularly for underrepresented, low income, first generation students which represent two thirds of UCO's population (personal communications). Data analytics capacity already in place allows UCO leadership to identify what percentages of retention improvement owed to what interventions; Dr. King reports that early *STLR* results among targeted subpopulations shows fall-to-fall improvements ranging all the way up to 18% (personal communications). In an unpublished study of incoming students' Advanced Placement (AP) and Grade Point Averages (GPA), UCO found increases in retention specifically among higher risk, lower income, and first generation students (personal communications). Early indicators also suggest a direct correlation to increased university level GPAs

[62] See the full study conducted by K. Elias at http://www.kimberlyelias.ca/.

as students mentored by faculty outside the classroom in research, creative, and scholarly activities (one of the *STLR* tenets) are reportedly experiencing a 95% graduation rate (UCO July 27, 2016).

There are also emerging indications that the *STLR* initiative is enhancing mobility into the workforce. As the program is not yet in its fourth year, the opportunity to conduct a full assessment of its contributions to mobility is pending; however, several publicly available videos provide testimonials asserting the utility and success of the *STLR* initiative.[63] As one example, an employer who sits on the *STLR Employer Advisory Board*, stressed the value of the *STLR* and the supporting student curated portfolio as tools to help students better articulate, reflect on, and showcase their learning experiences, and engage more fully in the university experience. After participating in select mock interviews, he reported *STLR* students from UCO showcased their work and learning experience more effectively than students who had not participated in *STLR* activities (UCO February 17, 2017).

The UCO initiative did not specifically design the *STLR* to facilitate transfer between institutions; therefore, targeted data regarding potential success in this area is unavailable. However, it seems reasonable to conclude that having access to summative work through an e-portfolio and a *STLR* containing evidence of validated proficiency and achievement in clearly defined competency areas might have utility for students when showcasing their efforts to other institutions.

### Additional Considerations

This research as well as the explorations we have cited from the United States indicate that credentials must be flexible enough to record and validate learning from a wide range of contexts. Dietmar Kennepohl (2016) and Rebecca Klein-Collins (2012) point to recognition of prior learning (RPL) which focuses solely on the outcomes and evidence of learning in informal and non-formal circumstances suggesting it provides lessons that can be applied to credit transfer and, by extension, to alternative credentials. Kennepohl goes on to underscore the need for greater commonality of language that can produce learning outcomes capable of aiding transfer as well as recognition of prior learning by bridging postsecondary sectors and framing learning within content-specific fields of study and experience.

As Figure 14 illustrates, alternative credentials reflect one or a combination of three categories of learning: formal learning within the classroom setting, informal learning from life and work experiences such as might occur in unstructured co-curricular learning, and non-formal learning produced through structured co-curricular activities and service or volunteerism. As such, alternative credentials appear to hold the promise to facilitate future transfer and prior learning assessment, particularly in cases where institutionally validated learning occurs.

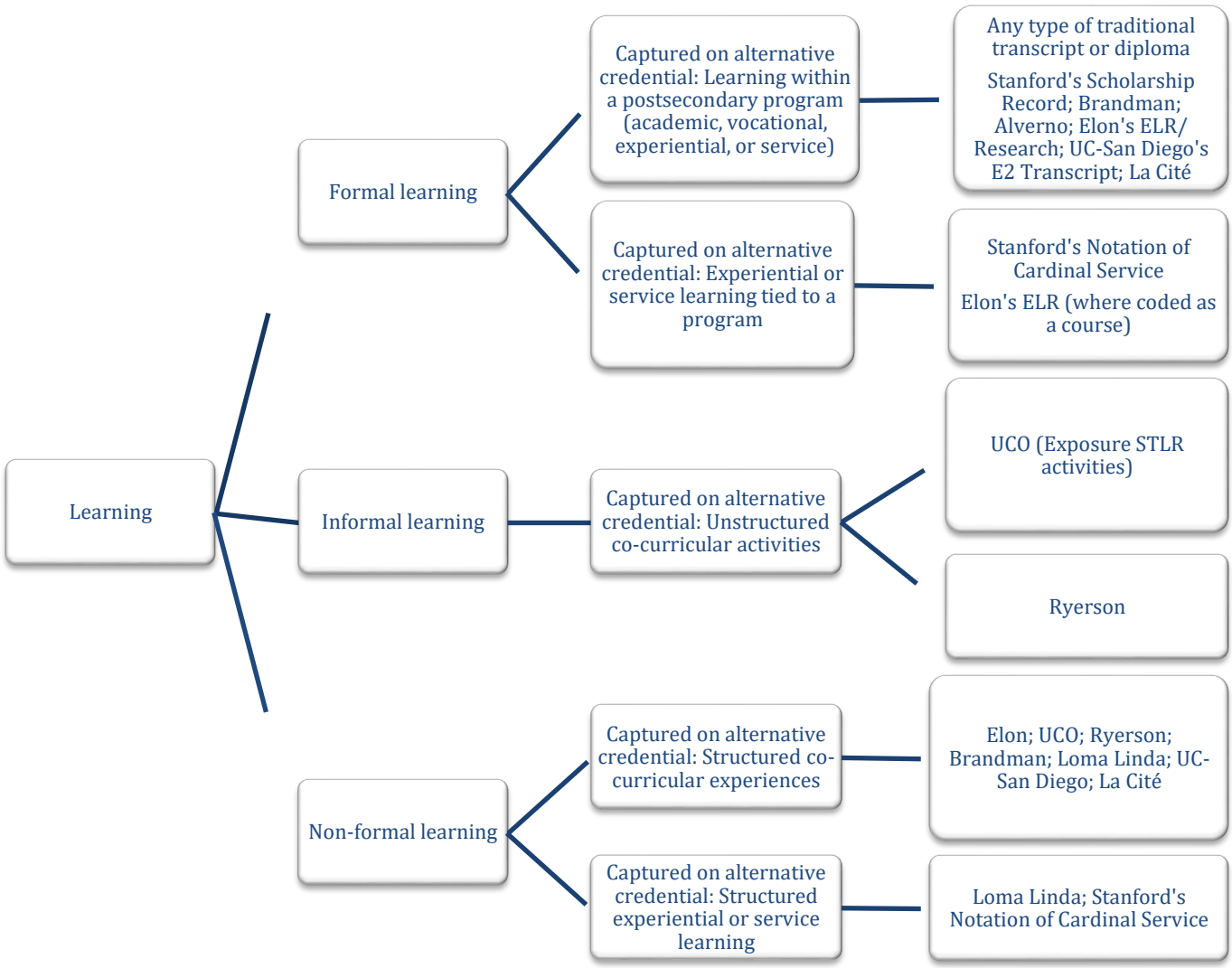
The various exemplars suggest that these new or extended credentials that reflect outcomes achievement from a fuller range of learning experiences at postsecondary institutions including experiential learning may hold the promise of enhancing prior learning assessment practices. While further research is needed, this suggestion remains promising.

These new forms of credentialing exist in a context that is long established. For example, at receiving institutions, great care and attention is taken during admission and transfer assessment processes to

[63] To access these UCO videos, visit https://www.youtube.com/channel/UCD_kuweaWry1sWzwxDae4_Q.

ensure official documents are thoughtfully evaluated. Detailed reviews involve examination of where the learning occurred to validate accreditation/recognition; the types of program, courses, and credits successfully completed to establish potential equivalency; the grades, grading scales, and equivalent averages; the quality of the documents submitted (official, unofficial); and any other requirements unique to the sending institution or program. Often for transfer assessment, institutions also require submission of course outlines. As a result, the exemplars interviewed fully validated the importance of official transcripts to support these processes; however, these new credentials suggest expanded review processes may be needed.

*Figure 14: Examples of the Ways in which Alternative Credentials Reflect Different Forms of Learning*[64]




[64] Figure 14 does not include all the possible permutations from the exemplars. It is intended to illustrate the types of learning being captured.

Under the leadership of the Association of Registrars of the Universities and Colleges of Canada (ARUCC), Canadian registrars since the mid-90s adopted transcript standards that allowed for narrative evaluative statements on transcripts (ARUCC, 2008). While the original standards did not contemplate a fully separate and complementary credential to the academic transcript, these standards embed and acknowledge other means of representing student learning. This commitment to recognizing alternate ways to express student learning continues with the new national ARUCC PCCAT Transcript and Transfer Guide launched in December 2015 (Duklas, J., Pesaro, J. 2015).[65]

On the student affairs side and as previously noted, creating Co-Curricular Records reflecting learning outcomes achievement outside or beyond the academic classroom is well established in North America, particularly in Canada.[66] This is not surprising given the long-standing focus on student development through informal and non-formal learning amongst student affairs professionals. The commitment to learning outcomes and competency development is deeply embedded in the cultural ethos and best practice standards of the Canadian Association of College and University Student Services (CACUSS) - the national body for student affairs professionals. This group supports the Council for the Advancement of Standards for Higher Education (CAS) Learning and Development Outcomes (2009). As a result, student affairs professionals at member institutions across Canada embed this commitment into their practices (see Appendix 8C for more information on CAS).

The opportunity to realize the full gains for student mobility and transfer of the campus level focus on learning outcomes, competencies, and credentialing requires a direct link to data exchange and best practice informed standards. Faculty, institutional leadership, policy developers, and quality assurance organizations hold pivotal roles in this work. Further, the efforts of thought leaders like Tom Black, Dr. Jeff King and organizations and associations such as the Groningen Declaration Network, PESC, AACRAO and NASPA, the Lumina Foundation, EMREX, the Australia and New Zealand *MyEquals* credential sharing project led by postsecondary leadership, and others identified throughout this report remain essential to success. In Canada, associations such as ARUCC, the Pan-Canadian Consortium on Admissions and Transfer, and CanPESC along with the provincial organizations are equally important partners in this work. Ensuring credentials that are thoughtfully constructed, well understood, trusted, verifiable, and aligned with institutional goals, and yet capable of facilitating transition either into the workforce or to other institutions remain paramount considerations.

[65] To access the national ARUCC PCCAT National Transcript and Transfer Guide, visit guide.pccat.arucc.ca.
[66] A list of Canadian institutions offering Co-Curricular Records is available in the ARUCC PCCAT Transcript and Transfer Guide (guide.pccat.arucc.ca).

# CONCLUSION

This study on alternative credentials explored four questions using a variety of research methods including a case-based approach with interviews supplemented by site visits and website reviews, a national survey, broad-based consultation with experts in the field, and a literature review. One goal was to identify the array of credentialing options suitable for documenting completed learning outcomes achievements through a program of study or an institution. A second goal was to determine whether these efforts improve student success, transfer, and mobility. To achieve this, the researchers explored the following questions:

1. *Which postsecondary institutions within North America serve as exemplars to help identify a credentialing typology for Canadian institutions that ties curricular and co-curricular learning within the same schema?*
2. *What are the defining characteristics of the credentialing types particularly related to creating expanded or alternative credentials containing comprehensive information regarding summative learning and achievement of learning outcomes at the individual student level? What system-wide and or institutional level supports were cultivated to ensure success?*
3. *What are the defining characteristics of a credentialing typology for Canadian institutions?*
4. *Does demonstrable evidence exist to suggest that these types of credentialing initiatives facilitate student success, mobility, and transfer?*

**Chosen Exemplars**

The researchers chose nine exemplars to demonstrate the range of possible options available when considering alternative credentials; namely; Alverno College, Brandman University, Elon University, La Cité, Loma Linda University, Ryerson University, Stanford University, the University of California San Diego, and the University of Central Oklahoma. While these institutions are not the only ones exploring alternative credentials, they are representative of the array of possibilities. At this time, all of these exemplars seek to preserve the integrity of the academic transcript and diploma shells while simultaneously exploring ways to better reflect the full breadth and depth of learning achieved through the institution by moving beyond single options.

**Defining Characteristics and a Typology**

Analysis of these exemplars enabled the researchers to produce a credentialing Typology for Canadian institutions (Figure 15 provides a thumbnail version). It emerged from an examination of the function and purpose of each credential and their respective alignment to a program of study, the nature of learning (curricular and or co-curricular supplemented by an understanding of formal, informal, and non-formal learning), the institution's role in validation of the learning, and the student's role in curation of the record.

*Figure 15: A Credentialing Typology*

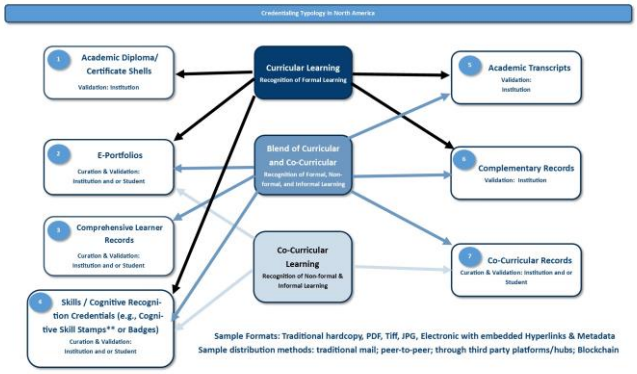


*Figure 16: Aligning Credentials to Quality Practices*


The literature review, national survey, and consultations for the project amplified the value and importance of establishing trust in credentials to enhance their currency for students and others - an important principle underpinning the Typology. It is evident that core elements of the postsecondary learning experience impart shape and relational meaning within the diversity of credential types and structures. These elements include, at minimum, clarification of the different forms of learning; qualifications frameworks; quality assurance and accountability systems; accreditation/recognition; and frameworks for learning outcomes and competencies. From this perspective, each element is foundational and linked, as in a chain, to the next as illustrated in the thumbnail graphic to the right (Figure 16). Hence, this research points to the capacity for aligned credentials based in quality assured practices and theoretically informed learning approaches to ensure trust, transparency, and verifiable portability.

The exemplars outlined in Appendices 3 to 11 demonstrate the different ways in which postsecondary institutions ensure quality and alignment; these thoughtful and holistic initiatives and subsequent alternative forms of credentialing are promising for future student success, mobility, and transfer.

The Typology produced by this research provides the array of options; however, additional characteristics emerged which indicate key success factors. To create these alternative credentials, institutions, allied organizations, vendors, and governments in North America, particularly in the U.S., are collaborating and leveraging external funding, learning communities, and system-wide supports offered by regional and national associations. Further, the exemplar research and the national survey indicate that institutional success requires a focus on students and alignment with the mission. Credentialing other forms of learning, which is central to alternative credentials, requires first that institutions identify and map learning outcomes and competency frameworks and develop shared nomenclature through internal collaboration. Lastly, the creation of scalable alternative credentials requires that institutions leverage technology and enhance data capture and exchange capacities.

**Student Success, Mobility, and Transfer**

The research suggests an alternative credential is but one of the methods in an array of ways that institutions are meeting objectives centred on student-focused transformation and enhanced transition into the workforce and other institutions. Larger institutional efforts that embed alternative credentials are seeing improved metrics for engagement, retention, persistence, and subsequent student success. Exemplars examined for this study provide illustrations of how students are being supported in their personal and academic development; encouraged to contribute meaningfully to their communities; and learning how to position and communicate their strengths as they progress and transition.

Ultimately, the largest beneficiary of enhanced credentialing practices are students themselves in that they will have ready access to tangible and potentially portable credentials as well as tools and capacities to better reflect upon, articulate, and curate evidence of their learning and accomplishments, particularly to future employers. For employers, indicators from the research suggest development of better methods for representing student learning that is consumable, relevant, transparent, and easily understood by both students and other third parties, enhances transition to the workforce.

Based on this study's case-based approach, emerging evidence suggests that alternative credentials improve student transition into the workforce. The findings also suggest improvements are possible for assessment of transfer and prior learning as a by-product of greater access to breadth and depth of student information; specifically, to detailed course information via embedded hyperlinks within a transcript; to summative student artifacts available in e-portfolios; and to alternative student credentials that validate achievement of specified learning outcomes such as those identified in the exemplar analysis.

Having noted this, institutions wishing to create alternative credentials, need to address various considerations which vary in terms of scale. Advice from the national registrarial survey provide specific insights for postsecondary institutions. For example, it is highly probable that enhancing the amount and quality of information available regarding courses and learning outcomes achieved will improve admission, transfer, and prior learning assessment practices. While the exemplar research revealed less direct evidence that these types of credentials contribute to transfer, given that many of these initiatives are still in their early stages of development, the researchers believe the possibility exists. Evidence of the efficacy of alternative credentials will clearly benefit from further study.

The national survey results conducted for this study amplified a key challenge for both administrators and students which could be resolved in part by enhanced credentials; namely, *having access to learning outcomes and or detailed courses information is considered essential for an improved transfer process. However, much of this information is not in an accessible or consumable format*. If a postsecondary institution could solve this challenge as some of the exemplars examined in this study have, the opportunity to enhance transfer becomes possible.

Important questions arose in the different examination of exemplars regarding the choices surrounding which activities appear on a co-curricular or comprehensive credential that blends curricular and co-curricular learning versus the academic transcript and whether, by being on the alternative credential alone, a future institution might discount the learning when assessing transfer or admission. Some of the exemplars are choosing to showcase the learning on both records although framing them differently: for example, as courses on the transcript and with descriptors of learning outcomes on the alternative credentials. Some are focusing on credentialing institutional level outcomes to answer the question, “What does it mean to obtain a [degree, diploma, or degree] from [name of institution]?”

Regardless of credentialing method, this research indicates that transfer practices will only be improved if the learning is validated by a trusted source. Ensuring trusted and verifiable validation of credentials benefits institutional reputations by decreasing or diminishing opportunities for fraud.

In the final analysis, what learning achievements an institution decides to feature on a new credential, how it decides to represent these, and the clarity with which these are expressed, are fundamental points of discussion. Since alternative credentials are new, each institution's understanding of their local context, principles, and standards which inevitably guide how they categorize co-curricular versus curricular learning, represents an area of future study. The consideration of the downstream implications of alternative credentialing formats for student mobility and transfer is an important a question for developers of new credentials.

**Final Thoughts**

For Canadian institutions, effectively transmitting, receiving, and leveraging electronic documents represents an exciting although challenging opportunity. The national survey suggested that most of the responding institutions agreed that access to more information such as course or learning outcomes will enhance transfer assessment practices. However, institutions may not have the in-house capacity to receive and work with these kinds of credentials on a scalable basis.

To fully realize the benefits of alternative credentialing, a parallel focus on expanding institutional data capture and exchange capacity and system-wide data exchange remains necessary. Ensuring creation of thoughtfully constructed, well understood, trusted, and verifiable credentials that align with institutional goals represents one aspect; the development of institutional and system-level capacity to facilitate sharing of these credentials to ensure transition either into the workforce or to other institutions represents another significant set of considerations.

Contemplation of other approaches or complementary options for credentialing summative academic learning at the student level is further influenced by broader considerations such as the reliance on the credit hour as the *de facto* currency for learning; the long-standing reliance on the transcript and the diploma as the only trusted methods by which to showcase summative learning; and the importance of maintaining standards of trust (e.g., reputation, official nature, clarity, consistency, etc.).

The opportunity exists to conduct further research in this area to identify more evidence that these initiatives enable student success, mobility, and transfer. As many of the institutional credentialing initiatives are new, it is difficult to develop a suite of standards; however, the aspirational hope of this research is to encourage further dialogue and study in Canada around alternative credentials as a support to both students and postsecondary institutions focused on overall student success, mobility, and transfer.

# BIBLIOGRAPHY


Acclaim. (2016). *Case study: Interactive Advertising Bureau [IAB] Certification Program.* Retrieved on March 20, 2017 from http://blog.youracclaim.com/uploads/5/3/5/3/53532919/iab_badging_case_study.pdf.

Adelman, C. (2009). *The Bologna Process for U.S. Eyes:Re-learning Higher Education inthe Age of Convergence.* Washington, DC: Institute for Higher Education Policy. Retrieved on March 17, 2017 from www.ihep.org/Research/GlobalPerformance.cfm

Ahn, J., Pellicone, A., Butler, B. (2014). Open Badges for Education: What are the implications at the intersection of open systems and badging. *Research in Learning Technology, 22(1)*. Retrieved on March 20, 2017 from http://www.tandfonline.com/doi/pdf/10.3402/rlt.v22.23563?needAccess=true

American Association of Collegiate Registrars and Admissions Officers [AACRAO]. (n.d.). Comprehensive Student Records Fact Sheet. Washington, D.C.: Author. Retrieved March 30, 2017 from http://www.aacrao.org/docs/default-source/Lumina/csr-fact-sheet-4_2016.pdf?sfvrsn=0.

American Association of Collegiate Registrars and Admissions Officers [AACRAO] & National Association of Student Personnel Administrators [NASPA] (2015a). *Summary of Comprehensive Student Record Project.* Retrieved from on March 17, 2017 http://www.aacrao.org/resources/record

American Association of Collegiate Registrars and Admissions Officers [AACRAO] & National Association of Student Personnel Administrators [NASPA] (2015b). *A Framework for Extending the Transcript.* Retrieved on March 18, 2017 from http://www.aacrao.org/docs/default-source/PDF-Files/extending-the-transcript-framework-final-draft-.pdf?sfvrsn=2

American Association of Collegiate Registrars and Admissions Officers [AACRAO] & National Association of Student Personnel Administrators [NASPA] (2016). Comprehensive Student Record Project Summer 2016 Convening, Retrieved on March 18, 2017 from http://www.aacrao.org/docs/default-source/Lumina/download-pdf.pdf?sfvrsn=0

American Council on Education [ACE]. (2016). *The Currency of Higher Education: Credits and Competencies.* Retrieved on March 18, 2017 from http://www.acenet.edu/news-room/Pages/The-Currency-of-Higher-Education-Credits-and-Competencies.aspx

Brown, J., Kurzweil, M. (2017). *The Complex Universe of Alternative Postsecondary Credentials and Pathways*. Commission on the Future of Undergraduate Education: American Academy of Arts & Sciences. Retrieved from https://www.amacad.org/multimedia/pdfs/publications/researchpapersmonographs/CFUE_Alternative-Pathways/CFUE_Alternative-Pathways.pdf

Canadian Association of Prior Learning Assessment (CAPLA). (2015). RPL Quality Assurance Manual. Ottawa, Ontario: Author. www.capla.ca

Canadian Information Centre for International Credentials (CICIC). (2017). Terminology Guide. Ottawa, Ontario: Author. Retrieved March 3, 2017 from https://www.cicic.ca/1541/Search-the-terminology-guides/index.canada

Carter, I. C. (2011). Easing the Transfer of Students from College to University Programs: How Can Learning Outcomes Help? *Canadian Journal of Higher Education/ Revue canadienne d'enseignement supérieur, 41*(2), 10-27. Retrieved on March 18, 2017 from http://journals.sfu.ca/cjhe/index.php/cjhe/article/view/2297

Competency-Based Education Network [CBEN]. (2016). *Quality Standards for Competency-Based Educational Programs.* Retrieved on March 18, 2017 from www.cbenetwork.org

Conference Board of Canada. (n.d.). *Employability Skills 2000+.* Retrieved on March 18, 2017 from http://www.conferenceboard.ca/Libraries/EDUC_PUBLIC/esp2000.sflb

Council for the Advancement of Standards in Higher Education [CAS]. (2009). *CAS Learning and Development Outcomes: CAS Contextual Statement.* Retrieved on March 18, 2017 from http://www.nj.gov/highereducation/documents/pdf/EOF/2013/CAS-LD-Outcomes.pdf

Council of Ministers of Education Canada [CMEC]. (2012). *Report of the CMEC Credit Transfer Working Group.* Retrieved on March 18, 2017 from http://cmec.ca/Publications/Lists/Publications/Attachments/311/CTWG%20Report%202012_EN.PDF

Council of Ministers of Education Canada [CMEC]. (2007). *Ministerial Statement on Quality Assurance of Degree Education in Canada.* Retrieved on March 18, 2017 from http://www.univcan.ca/wp-content/uploads/2015/07/qa-cmec-statement-on-qa-of-degree-education-in-canada-2007.pdf

Council of Europe and the UNESCO Division for Teacher Development and Higher Education. (2014). *Recommendation On The Use Of Qualifications Frameworks In The Recognition Of Foreign Qualifications.* Retrieved on March 18, 2017 from http://www.coe.int/t/dg4/highereducation/Recognition/DGIIEDUHE(2012)14%20Rev09%20FINAL%20-%20LRC%20Supplementary%20Text%20on%20the%20Use%20of%20QFs%20ENGLISH.asp

Diaz, V., Finklestein, J., Manning, S., (2015) Developing a Higher Education Badging Initiative. *Educause Learning Initiative Brief*. Aug. 2015. Retrieved on March 27, 2017 at https://library.educause.edu/~/media/files/library/2015/8/elib1504-pdf.pdf

Duklas, J., Pesaro, J. (2015). *Institutional Readiness for Competency-based Education and Learning Outcomes.* Association of Registrars of the Universities and Colleges of Canada [ARUCC] and Pan-Canadian Consortium on Admissions and Transfer [PCCAT]. Retrieved on March 18, 2017 from https://www.arucc.ca/uploads/ARUCC-PCCAT-Project/Subsection_3.7_Institutional_Readiness_for_Competency-based_Education_and_Learning_Outcomes.pdf

Duklas, J., Pesaro, J. (December 2015). *The ARUCC PCCAT National Transcript and Transfer Guide*. Alberta, Canada: Association of Registrars of the Universities and Colleges of Canada [ARUCC] and the Pan-Canadian Consortium on Admissions and Transfer (PCCAT). Guide.pccat.arucc.ca.

Duklas, J., Pesaro, J. (2015b) *Transcript Best Practices Guidelines*. Alberta, Canada: Association of Registrars of the Universities and Colleges of Canada [ARUCC] & Pan-Canadian Consortium on Articulation and Transfer [PCCAT]. Retrieved on March 18, 2017 from http://guide.pccat.arucc.ca/uploads/pdf/Academic_Transcript_best_practice_guidelines_Sept_2.pdfPurpose

Duklas, J., Maki K., Pesaro, J., Brady J. (2014). *National Transcript and Transfer Credit Nomenclature Project Phase Two: Consultation Document.* Alberta, Canada: Association of Registrars of the Universities and Colleges of Canada [ARUCC] & Pan-Canadian Consortium on Articulation and Transfer [PCCAT]. Retrieved on March 18, 2017 from http://guide.pccat.arucc.ca/uploads/pdf/Excerpt_Subsection_3.7_Consultation_Document.pdf

Egan, M. (2016). What I really Learned in College: Holistic learning portfolios in a residential liberal arts setting. *AAEEBL Portfolio Review*. 1 (1), 54-66. Retrieved on March 18, 2017 from http://c.ymcdn.com/sites/www.aaeebl.org/resource/resmgr/aepr_/AePR_Nov_2016.pdf

Elias, K., Drea, C. E. (2013). The Co-Curricular Record:Enhancing a Postsecondary Education. *CollegeQuarterly, 16*(1). Retrieved on March 18, 2017 from http://collegequarterly.ca/2013-16-num01-winter/elias-drea.html

European Association for Quality Assurance in Higher Education. (2016). *ENQA Quality Assurance Professional Competencies Framework.* Retrieved on March 18, 2017 from http://www.enqa.eu/indirme/papers-and-reports/occasional-papers/ENQA%20Competencies%20Framework.pdf

European Higher Education Area [EHEA] Advisory Group. (2016). *New draft of the Diploma Supplement template and guidelines, based on the conclusions of the Tirana meeting*. Retrieved on March 18, 2017 from http://www.ehea.info/cid106970/ag-revision-diploma-supplement-2015-2018.html

European Union. (2017). Europass: Diploma Supplement. Author. Retrieved March 30, 2017 from http://europass.cedefop.europa.eu/documents/european-skills-passport/diploma-supplement

Everhart, D; Ganzglass, E; Casilli, C; Hickey, D; Muramatsu. (2016a) *Quality Dimensions of Connected Credentials*, American Council on Education [ACE]. Retrieved on March 19, 2017 from http://www.acenet.edu/news-room/Documents/Quality-Dimensions-for-Connected-Credentials.pdf

Everhart, Deborah, Deb Bushway, and David Schejbal. (2016b). *Communicating the Value of Competencies.* American Council on Education [ACE]. Retrieved on March 19, 2017 from http://www.acenet.edu/news-room/Documents/Communicating-the-Value-of-Competencies.pdf

Fallon, N. (2015). *Learning Outcomes in Credit Transfer: A Key Tool for Innovation in Student Mobility.* Ontario Coalition for Articulation and Transfer. Retrieved on March 18, 2017 from http://www.oncat.ca/files_docs/content/pdf/en/oncat_reports/ONCAT_Positon_Paper_on_Learning_Outcomes.pdf

Ferns, S. C. (2014). ePortfolios as Evidence of Standards and Outcomes in Work-Integrated Learning. *Asia-Pacific Journal of Cooperative Education, 15*(3). Retrieved on March 18, 2017 from http://www.apjce.org/files/APJCE_15_3_269_280.pdf

FitzGibbon, J. (2014). *Learning Outcomes and Credit Transfer: Examples, Issues, and Possibilities.* British Columbia Council on Admissions and Transfer. Retrieved on March 18, 2017 from http://www.bccat.ca/pubs/Learning_Outcomes_and_Credit_Transfer_Feb2014.pdf

Ganzglass, E. (2014). *Call for a National Conversation on Creating a Competency-based Credentialing Ecosystem.* College and Career Readiness and Success Centre. Retrieved from http://www.ccrscenter.org/blog/call-national-conversation-creating-competency-based-credentialing-ecosystem

Goff, L., Potter, M. K., Pierre, E., Carey, T., Gullage, A., Kustra, E., Lee, R., Lopes, V., Marshall, L., Martin, L., Raffoul, J., Siddiqui, A., Van Gastel, G. (2015). *Learning Outcomes Assessment: A Practitioner's Handbook.* Higher Education Quality Council of Ontario. Retrieved on March 18, 2017 from http://www.heqco.ca/SiteCollectionDocuments/heqco.LOAhandbook_Eng_2015.pdf

Government of Ontario Ministry of Advanced Education and Skills Development [MAESD]. (n.d.b.). *Published College Program Standards*. Retrieved on March 19, 2017 from http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/

Higher Education Academy. (2007). *Higher Education Achievement Report:Bringing it all Together: Introducing the HEAR.* York, UK: Retrieved on March 18, 2017 from http://www.hear.ac.uk/tools/bringing-it-all-together

IMS Global Learning Consortium. (2016). *Competency-Based Education and Extended Transcripts: IMS Global Learning Consortium Enabling Better Digital Credentialing.* Lake Mary, Florida: Author. Retrieved on March 18, 2017 from http://www.imsglobal.org/articles/SLI19-051616

IMS Global Learning Consortium. (n.d.). Digital Credentialing and Badges Background. Lake Mary, Florida: Author. Retrieved March 8, 2017 from https://www.imsglobal.org/activity/digital-credentialing-badges.

IMS Global Learning Consortium. (2017). *Enabling Better Digital Credentialing: Open Badges.* Lake Mary, Florida: Author. Retrieved from http://www.imsglobal.org/initiative/enabling-better-digital-credentialing.

IMS Global Learning Consortium. (2017). A New Learning Model Paired with a New Kind of Transcript - Digital Style. Lake Mary, Florida: Author: Retrieved from https://www.imsglobal.org/article/extendedtranscriptUMUCpilot.

Johnstone, S. E. (2010). *Student Learning as Academic Currency.* American Council on Education. Retrieved from http://www.acenet.edu/news-room/Documents/Student-Learning-As-Academic-Currency.pdf

Jones, E., Voorhes, R. Paulson, K. (2002). *Defining and Assessing Learning: Exploring Competency-based Initiatives*. National Postsecondary Educational Cooperative [NPEC] U.S. Department of Education. Retrieved on March 18, 2017 from htt ps://nces.ed.gov/pubs2002/2002159.pdf

Kennepohl, D. (2016). Incorporating Learning Outcomes in Transfer Credit: The Way Forward for Campus Alberta? *Canadian Journal of Higher Education/ Revue canadienne d'enseignement supérieur, 46*(2), 148-164. Retrieved on March 18, 2017 from https://eric.ed.gov/?id=EJ1113455

Klein-Collins, R. (2012). *Competency-Based Degree Programs in the U.S.Postsecondary Credentials for Measurable Student Learning and Performance.* Chicago, IL: Council for Adult and Experiential Learning. Retrieved on March 18, 2017 from https://cdn2.hubspot.net/hubfs/617695/CAEL_Reports/2012_CompetencyBasedPrograms.pdf

Kolb, D. (1984). *Experiential Learning: experience as the source of learning and development*. Englewood Cliffs, NJ. Prentice Hall

Laitinen, A. (2012). *Cracking the Credit Hour.* New America Foundation. Retrieved on March 18, 2017 from www.Newamerica.org

Le Deist, F. W. (2007). What Is Competence? *Human Resource Development International, 8*(1). Retrieved on March 18, 2017 from http://www.tandfonline.com/doi/abs/10.1080/1367886042000338227

Lemoie, K. (2016). What Blockchain Means for Higher Education. *EdSurge.* Retrieved on March 24, 2017 from https://www.edsurge.com/news/2016-05-12-what-blockchain-means-for-higher-education

Lennon, M. C., Frank, B., Humphreys, J., Lenton, R., Madsen, K., Omri, A., & Turner, R. (2014). *Tuning: Identifying and Measuring Sector-Based Learning Outcomes in Postsecondary Education*. Higher Education Quality Council of Ontario. Retrieved on March 19, 2017 from http://www.heqco.ca/SiteCollectionDocuments/Tuning%20ENG.pdf

Lennon, M. (2016). *Learning outcomes: Moving past the hype.* Birmingham, UK: EAIR 38th Annual Forum. Retrieved on March 18, 2017 http://oucqa.ca/wp-content/uploads/2016/03/International-Trends-and-Activities-Mary-Catharine-Lennon.pdf

Lennon, M. F. (2014). *Tuning: Identifying and Measuring Sector-Based Learning Outcomes in Postsecondary Education.* Higher Education Quality Council of Ontario. Retrieved on March 18, 2017 http://www.heqco.ca/en-ca/Research/ResPub/Pages/Tuning-Identifying-and-Measuring-Sector-Based-Learning-Outcomes-in-Postsecondary-Education.aspx

Lesser, M. (2016). Why We Badge: The Potential for Digital Credentials. *Mouse*. Retrieved on March 18, 2017 https://mouse.org/news/why-we-badge-the-potential-for-digital-credentials-eddigest

Leventoff, J. (2016). Data Can Show if Credentials Pay Off*. The EvoLLLution*. Retrieved on March 20, 2017 http://evolllution.com/revenue-streams/workforce_development/data-can-show-if-credentials-pay-off/

Lindstrom, G. (2015). Micro-credentialing in Professional Learning Development in Higher Education. *Canadian Society for the Study of Higher Education 2016.* University of Calgary. Retrieved on March 20, 2017 http://ocs.sfu.ca/leadingchange/index.php/csshe/csshe2016/paper/view/661

Lorenzo, G., Ittelson, J. (July 2005). An Overview of E-Porfolios. Louisville, CO: Educause. Retrieved March 30, 2017 from http://www.educause.edu/ir/library/pdf/eli3001.pdf.

Lumina Foundation. (2014). *Degree Qualifications Profile.* Retrieved on March 18, 2017 https://www.luminafoundation.org/files/resources/dqp.pdf

Lumina Foundation. (2015a). *Connecting Credentials: Making the Case for Reforming the U.S. Credentialing System.* Retrieved on March 18, 2017 http://connectingcredentials.org/wp-content/uploads/2015/06/MakingTheCase-6-8-15.pdf

Lumina Foundation. (2015b). *Connecting Credentials: A Beta Credentials Framework.* Retrieved on March 18, 2017 https://www.luminafoundation.org/resources/connecting-credentials

Lumina Foundation. (2016a). *Connecting Credentials: Glossary of Credentialing Terminology.* Retrieved from http://connectingcredentials.org/common-language-work-group-glossary/

Lumina Foundation. (2016b).*Connecting Credentials: Lessons Learned from the National Summit on Credentialing and Next Steps in the National Dialogue*. Retrieved on March 24, 2017 from: http://connectingcredentials.org/wp-content/uploads/2016/04/Summit-Synthesis-Paper.pdf

Malan, S.P.T. (2000). The 'New Paradigm' of Outcomes-Based Education in Perspective. *Tydskrif vir Gesinsekologie en Verbruikerswetenskappe, 28*(20). Retrieved on March 18, 2017 http://www.ajol.info/index.php/jfecs/article/download/52788/41390

Merisotis, J. (2016). Credentials Reform: How Technology and the Changing Needs of the Workforce Will Create the Higher Education System of the Future. Educause Review 51(3). Retrieved on March 18, 2017https://er.educause.edu/articles/2016/5/credentials-reform-how-technology-and-the-changing-needs-of-the-workforce-will-create-the-higher-ed

Mintz, S. (2017). The Credentials Revolution: Alternative credentials as pathways to a rewarding career. *Inside Higher Ed*. Retrieved from https://www.insidehighered.com/blogs/higher-ed-gamma/credentials-revolution

National Institute for Learning Outcomes Assessment [NILOA]. (2016). *Higher Education Quality: Why Documenting Learning Matters.* University of Illinois and Indiana University. Retrieved on March 18, 2017 http://www.learningoutcomesassessment.org/documents/NILOA_policy_statement.pdf

Morissey, M., Myers, D., Bélanger, P., Robitaille, M., Davison, P., Vankleef, J., Williams, R. (2008). *Achieving our Potential: An Action Plan for Prior Learning Assessment and Recognition (PLAR) in Canada.* Halifax, Nova Scotia: PLA Centre. pp. 18-20.

Morrison, D., (2015) Universities On Board with Micro Credentials. *Online Learning Insights.* Retrieved on March 18, 2017https://onlinelearninginsights.wordpress.com/tag/micro-credentials-in-higher-education/

Mozilla Foundation and Peer 2 Peer University. (2012). *Open Badges for Lifelong Learning.* The Mozilla Foundation. Retrieved on March 18, 2017https://wiki.mozilla.org/images/b/b1/OpenBadges-Working-Paper_092011.pdf

Ontario Universities Council on Quality Assurance [OUCQA]. (2010). *Quality Assurance Framework*. Retrieved on March 21, 2017 http://cou.on.ca/wp-content/uploads/2010/04/COU-Quality-Assurance-Framework-and-Guide.pdf

Organization for Economic Cooperation and Development [OECD]. (2014). *Assessment of Higher Education Learning OutcomesFeasibility Study Report, Volume 2 –Data Analysis and National Experiences.* Retrieved on March 18, 2017 http://www.oecd.org/education/skills-beyond-school/testingstudentanduniversityperformancegloballyoecdsahelo.htm

Organization for Economic Cooperation and Development [OECD]. (2016). Recognition of Informal and Non-formal Learning: Home. Paris, France: Author. Retrieved March 3, 2017 from http://www.oecd.org/edu/skills-beyond-school/recognitionofnon-formalandinformallearning-home.htm

Parchment. (2015). *Extending The Transcript, Empowering The Learner.* Retrieved on March 18, 2017 http://www.parchment.com/wp-content/uploads/2016/08/ExtendTranscripts-Whitepaper-2015.pdf

Parchment. (2016). *Extending The Credential, Empowering The Learner.* Retrieved on March 18, 2017 http://info.parchment.com/rs/parchment/images/ExtendingCredentialsWhitePaper.pdf

Parrish, J. F. (February 2017). Expanding the Academic Record: Revolutionizing Credentials for Today's Employers. *National Association of Colleges and Employers*. Retrieved on March 18, 2017 https://www.naceweb.org/job-market/trends-and-predictions/expanding-the-academic-record-revolutionizing-credentials/

Pittinsky, M. (2015). Credentialing in Higher Education Current Challenges and Innovative Trends. *Educause Review, 50*(2). Retrieved on March 19, 2017 https://er.educause.edu/articles/2015/3/credentialing-in-higher-education-current-challenges-and-innovative-trends

Quality Assurance Agency for Higher Education (2014). UK Quality Code for Higher Education: *The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies.* Retrieved on March 18, 2017http://www.qaa.ac.uk/en/Publications/Documents/qualifications-frameworks.pdf

Sandeen, C. (2013). The Emerging World of Alternative Credentials. *Higher Education Today*. Retrieved on March 21, 2017 from http://higheredtoday.org/2013/10/01/the-emerging-world-of-alternative-credentials/

Shipley D., (1995) Transforming Community Colleges Using A Learning Outcomes Approach. Presented at the *Advanced Education Council of British Columbia Centre for Curriculum and Professional Development*. Retrieved from http://eric.ed.gov/PDFS/ED388346.pdf

Silva E., White, T., Toch, T. The Carnegie Unit: A Century-old Standard in a Changing Education Landscape. (2015). *Carnegie Foundation for the Advancement of Teaching*. Retrieved on March 20, 2017 from https://www.carnegiefoundation.org/wp-content/uploads/2015/01/Carnegie_Unit_Report.pdf

Social Research and Demonstration Corporation (SRDC). (June 2015). Review of Ontario's Labour Market Related Postsecondary Credential Mix: Final Report. Toronto, Ontario: Ministry of Advanced Education and Skills Development (MAESD). Retrieved March 9, 2017 from http://www.tcu.gov.on.ca/pepg/srdc/.

UNESCO Institute for Lifelong Learning. (2002). *UNESCO Guidelines for the Recognition, Validation and Accreditation of the Outcomes of Non-formal and Informal Learning.* Retrieved on March 18, 2017 http://unesdoc.unesco.org/images/0021/002163/216360e.pdf

University Professional and Continuing Education Association [UPCEA] and Pearson. 2016. *Alternative Credentialing: New Paths, New Opportunities*. Retrieved on March 18, 2017 http://www.pearsoned.com/rise-of-alternative-credentials

Young, L., Paterson, B. (2007). *Teaching Nursing: Developing a Student-centered Learning Environment*. Philadelphia, PA. Lippincott Williams & Wilkins. p. 5.

**Bibliography for Alverno College**

Alverno College. (2017). The 8 Core Abilities. Wisconsin: Author. Retrieved March 15, 2017 from https://www.alverno.edu/academics/ouruniquecurriculum/the8coreabilities/index.php.

American Association of Colleges of Nursing. (2017). Commission on Collegiate Nursing Education. Washington, D.C.: Author. Retrieved on March 14, 2017 from http://www.aacn.nche.edu/ccne-accreditation.

Indiana University. (2015). National Survey of Student Engagement: NSSE 2015 Snapshot Alverno College. Bloomington, Indiana: Author. Retrieved March 15, 2017 from https://www.alverno.edu/media/alvernocollege/pdfs/2015%20Alverno%20NSSE%20snapshot.pdf.

Marquette University. (May 18, 2003). Honorary Degree Recipient: Sister Joel Read. Milwaukee, Wisconsin: Author. Retrieved March 15, 2017 from http://www.marquette.edu/universityhonors/honors_read.shtml.

**Bibliography – for Brandman University**

American Association of Collegiate Registrars and Admissions Officers (AACRAO). (August 23, 2016). A Comprehensive record for competency-based education. Washington, D.C.: Author. http://www.aacrao.org/resources/resources-detail-view/a-comprehensive-record-for-competency-based-education.

Brandman University. (2016-17). 2016-17 Catalog. Irvine, California: Author. Retrieved March 6, 2017 from https://www.brandman.edu/files/documents/academic-catalog-programs/2016-2017_Catalog_6_24_16_0.pdf.

Brandman University. (2017a). About Brandman. Irvine, California: Author. Retrieved March 19, 2017 from https://www.brandman.edu/about.

Brandman University. (2017b). Brandman MyPath. Irvine, California: Author. Retrieved March 19, 2017 from https://www.brandman.edu/mypath/how-it-works

Brandman University. (2017c). Learning Outcomes. Irvine, California: Author. Retrieved March 19, 2018 from https://www.brandman.edu/assessment/learning-outcomes.

Brandman University. (2017d). Degrees and Courses On-Campus or Online. Irvine, California: Author. Retrieved March 6, 2017 from https://www.brandman.edu/degrees-courses.

Brandman University. (2017e). School of Arts and Science. Irvine, California: Author. Retrieved March 19, 2017 from https://www.brandman.edu/learning-outcomes/school-arts-and-sciences.

Brandman University. (2017f). Program Assessment. Irvine, California: Author: Retrieved March 19, 2017 from https://www.brandman.edu/assessment/program-assessment.

Brandman University. (Fall 2012-13). Program Learning Assessment Results. Irvine, California: Author. Retrieved March 19, 2017 from https://www.brandman.edu/files/documents/assessment/BALBST-2012-2013-Fall-Collection.pdf.

Competency-Based Education Network (CBENetwork). (2016). Questions Financial Aid Professionals Should Ask about Competency-Based Education Program: A Resource Guide. San Francisco, California: Author. http://www.cbenetwork.org/sites/457/uploaded/files/QuestionsFinancialAidProfessionalsShouldAskCBE_CBEN_2016.pdf.

Lumina Foundation. (October 2014). The Degree Qualifications Profile. Indianapolis, Indiana: Author. https://www.luminafoundation.org/files/resources/dqp.pdf.

Singer, D., Yang, H., Dodge, L., Saltzman, N., Zaker, S. (Fall 2016). *Design and Applicability of Digital Badges: The Brandman University Experience*. Journal: Unbound: Reinventing Higher Education. Washington, D.C.: UPCEA. Retrieved March 19, 2017 from https://unbound.upcea.edu/innovation/alternative-credentialing/badges/design-and-applicability-of-digital-badges-the-brandman-university-experience/.

WSCUC Senior College and University Commission. (n.d.). Statement of Accreditation Status Brandman University. Almeda, California: Author. Retrieved March 18, 2017 from https://www.wscuc.org/institutions/brandman-university.

**Bibliography for Elon University**

Elon University. (2016-2017). Elon Core Curriculum. Elon, North Carolina: Author. Retrieved March 20, 2017 from http://elon.smartcatalogiq.com/en/2016-2017/Academic-Catalog/Academic-Information-and-Elon-Core-Curriculum/Elon-Core-Curriculum

Elon University. (2016a). Research for Credit. Retrieved August 24, 2016 from http://www.elon.edu/e-web/academics/core_curriculum/experiential.xhtml.

Elon University. (2016b). Undergraduate Research – 499 Courses. Retrieved August 24, 2016 from http://www.elon.edu/e-web/academics/undergraduate_research/499.xhtml.

Parrish, J., Fryer, J., Parks, R. (February 1, 2017). Expanding the Academic Record: Revolutionizing Credentials for Today's Employers. Publisher: National Association of Colleges and Employers. Retrieved March 6, 2017 from https://www.naceweb.org/job-market/trends-and-predictions/expanding-the-academic-record-revolutionizing-credentials/.

USA News and World Report. (2017). Elon University. New York, New York: Author. Retrieved March 30, 2017 from http://colleges.usnews.rankingsandreviews.com/best-colleges/elon-university-2927.

**Bibliography for La Cité**

La Cité. (2017). Mission et vision du collège. Ottawa, Ontario: Author. Retrieved March 17, 2017 from http://apaq.collegelacite.ca/mission-et-vision-du-college.

La Cité. (April 22, 2013). Vison 2018: Plan stratégique 2013-2018. Ottawa, Ontario: Author. Retrieved March 17, 2017 from https://www.collegelacite.ca/documents/39427/169480/VISION_2018_Plan_strategique_2013-2018.pdf.

Ministry of Advanced Education and Skills Development (MAESD). (2017). Published College Program Standards. Toronto: Author. Retrieved March 14, 2017 from http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/index.html.

**Bibliography for Ryerson University**

Council for the Advancement of Standards in Higher Education (2009). CAS learning and development outcomes. In L. A. Dean (Ed.), *CAS professional standards for higher education* (7th ed.). Washington, DC: Author. Retrieved March 9, 2017 from http://www.cas.edu/learningoutcomes.

Conference Board of Canada. (2017). Employability Skills 2000+. Ottawa: Author. Retrieved March 10, 2017 from http://www.conferenceboard.ca/topics/education/learning-tools/employability-skills.aspx.

Chickering, A. (2007). The Seven Vectors: An Overview. Retrieved March 10, 2017 from http://faculty.winthrop.edu/fullerb/QEP/7%20vectors%20of%20development.pdf.

Ryerson. (2017). RU Leadership: What is Level Up? Toronto: Author. Retrieved March 9, 2016 from http://www.ryerson.ca/studentlife/leadership/level-up/.

**Bibliography for Loma Linda University**

Loma Linda University. (2016). Loma Linda University Experience Transcript. Loma Linda, California: Author. Extract from Legend on back of Transcript.

Loma Linda University. (April 18, 2016). Service Learning at Loma Linda University. Loma Linda, California: Author. Retrieved March 22, 2017 from https://news.llu.edu/education/service-learning-loma-linda-university.

Loma Linda University. (2017). Assessment Strategy & Cycle. Loma Linda, California: Author. Retrieved March 22, 2017 from https://home.llu.edu/academics/academic-resources/educational-effectiveness/assessment/assessment-strategy-cycle.

Loma Linda University. (n.d.a.). Find a Program. Loma Linda, California: Author. Retrieved March 22, 2017 from http://www.llu.edu/explore/step1.html.

Loma Linda University. (n.d.b.). Mission and Outreach. Find a Program. Loma Linda, California: Author. Retrieved March 22, 2017 from http://home.llu.edu/mission-and-outreach.

Loma Linda University. (2016-17). Accreditation Overview. Loma Linda, California: Author. Retrieved March 22, 2017 from http://llucatalog.llu.edu/introduction/accreditation-overview/.

Seheult, E., Williams, R., Dunn, D. (2016). Low Budget Development of a High-Powered Experience Transcript. Loma Linda, California. Retrieved March 22, 2017 from http://www.parchment.com/wp-content/uploads/Seheult_UC2016.pdf.

**Bibliography for Stanford University**

AACRAO. (2017). Comprehensive Student Record Project. Washington, D.C.: Author. Aacrao.org

Avila-Linn, C., Rice, K., Akin, S. (n.d.a.). Designing Community-based Courses. Stanford, California: Stanford University. Retrieved December 1, 2016 from https://issuu.com/ucb-campuslife/docs/cal-corps-engaged-scholarship-toolkit.

Little, C. & Prakash, R. (March 4, 2016). Stanford University Credential Mapping Project. Stanford, California: Stanford University.

National Student Clearinghouse. (2017). What We Do. Herndon, Vermont: Author. Retrieved March 24, 2017 from http://www.studentclearinghouse.org/about/what_we_do.php.

Post-secondary Education Standards Council (PESC). (March 31, 2017). Press Release: Common Credential for Certificates, Degrees and Diplomas V. 1.0 Ratified as a PESC Approved Standard. Washington, D.C.: Post-Secondary Education Standards Council.

Stanford University. (2014). Haas Center for Public Service - Principles of Ethical and Effective Service. Stanford, California: Author. https://haas.stanford.edu/about/about-haas-center/principles-ethical-and-effective-service.

Stanford University. (February 27, 2017a). Stanford Facts at a Glance. Stanford, California: Author. http://facts.stanford.edu/index.

Stanford University. (February 27, 2017b). Administration and Finances. Stanford, California: Author. http://facts.stanford.edu/administration/.

Stanford University. (February 27, 2017c). About Stanford: The Founding of the University. Stanford, California: Author. http://facts.stanford.edu/about/.

Stanford University. (January 2014). Stanford, California: Author. https://stanford.app.box.com/v/ways-faculty-guidance.

Heymach, C. (November 2, 2016). Senate confirms commissioner, discusses cognitive skill stamps. Stanford, California: Stanford University. Retrieved March 18, 2017 from http://www.stanforddaily.com/2016/11/02/senate-confirms-election-commissioner-discusses-cognitive-skill-stamps/

Stanford University. (n.d.a.). WAYs. Stanford, California: Author. Retrieved November 2017 from https://undergrad.stanford.edu/programs/ways/ways.

Stanford University. (n.d.b.). Cardinal Service Notation. Stanford, California: Author. Retrieved March 24, 2017 from https://haas.stanford.edu/students/cardinal-courses/current-cardinal-courses/cardinal-service-notation.

Stanford University, (n.d.c.). Characteristics of Cardinal courses. Stanford, California: Author. Retrieved December 1, 2016 from https://haas.stanford.edu/faculty/course-development.

Stanford University. (n.d.d). Haas Center for Public Service. Stanford, California: Author. https://haas.stanford.edu/.

Stanford University. (n.d.e.). Cardinal Quarter. Stanford, California: Author. Retrieved November from https://haas.stanford.edu/students/cardinal-quarter

Stanford University. (n.d.f.). Electronic Transcript Information for Students and Alumni. Stanford, California: Author. Retrieved March 24, 2017 from https://registrar.stanford.edu/students/transcripts/electronic-transcript-information-students-and-alumni.

Times Higher Education. (2016-17). World University Rankings 2016-17. https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking.

**Bibliography for UC San Diego**

American Association of American Colleges & Universities. (n.d.). VALUE. Washington, D.C.: Author. Retrieved March 20, 2017 from https://aacu.org/value.

WSCUC Senior College and University Commission Core Competencies. (June 2014). Core Competency FAQs. Alameda, California: Author. Retrieved March 20, 2017 from https://www.wscuc.org/contact.

Centre for World University Rankings. (2012-2017). CWUR 2016 – World University Rankings. United Arab Emirates: Author. Retrieved March 20, 2017 from http://cwur.org/2016.php.

Elias, K. L. (2014). Employer perceptions of co-curricular engagement and the co-curricular record in the hiring process. (Order No. 1572371, University of Toronto (Canada)). *ProQuest Dissertations and Theses*, 143. Retrieved from http://search.proquest.com/docview/1650594021?accountid=14771.

ShanghaiRanking Consultancy. (2016). Academic Ranking of World Universities 2016. Retrieved March 20, 2017 from http://www.shanghairanking.com/ARWU2016.html.

The Times Higher Education World University Rankings. (2016-17). World University Rankings 2016-17. London, U.K.: Author. Retrieved March 20, 2017 from https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/scores.

University of California San Diego (UC San Diego). (n.d.a). Academics. La Jolla, California: Author. Retrieved March 20, 2017 from http://ucsd.edu/academics.html.

University of California San Diego (UC San Diego). (May 2, 2016). UC San Diego Campus Notice. La Jolla, California: Author. Retrieved March 20, 2017 from http://adminrecords.ucsd.edu/Notices/2016/2016-5-2-1.html.

University of California San Diego (UC San Diego). (n.d.b.). UC San Diego Campus Profile. La Jolla, California: Author. Retrieved March 20, 2017 from http://ucpa.ucsd.edu/resources/campus-profile/.

University of California San Diego (UC San Diego). (n.d.c.). Campus Timeline. La Jolla, California: Author. Retrieved March 20, 2017 from http://ucsd.edu/timeline/index.html.

University of California San Diego (UC San Diego). (2017). About the CCR at UC San Diego. La Jolla, California: Author. Retrieved March 20, 2017 from https://myccr.ucsd.edu/aboutCCR/overview.htm.

**Bibliography for University of Central Oklahoma**

Association of American Colleges and Universities. (n.d.). VALUE Rubric Development Project. Washington, D.C.: Author. https://www.aacu.org/value/rubrics.

American Association of Collegiate Registrars and Admissions Officers (AACRAO). (n.d.). Comprehensive Student Record Project. Washington, D.C.: Author. http://www.aacrao.org/resources/record.

King, J., Kilbourne, C., Walvoord, M. (2015). Student Transformative Learning Record (STLR): Capturing Beyond-Discipline Learning In and Outside the Classroom. Retrieved March 17, 2019 from http://sites.uco.edu/central/tl/files/JKingCKilbourneMWalvood_2015_proceedings_R2P.pdf.

McNutt, K. (October 2016). University of Central Oklahoma earns national reputation for student engagement. Oklahoma City, Oklahoma: NewsOK.com. Retrieved March 15, 2017 from http://newsok.com/university-of-central-oklahoma-earns-national-recognition-for-student-engagement/article/5520930.

University of Central Oklahoma. (n.d.). Student Learning Outcomes (SLOs) Framework. Edmond, Oklahoma: Author. Retrieved March 15, 2017 from http://sites.uco.edu/central/tl/files/stlr/SLOs_Web.pdf.

University of Central Oklahoma. (July 21, 2016). STLR: Student Transformative Learning Record @ UCO – Faculty Video. Edmond, Oklahoma: Author. Retrieved March 15, 2017 from https://youtu.be/t42EDXgmaMc.

University of Central Oklahoma. (February 17, 2017). Lance Haffner, UCO STLR Student Mock Interview Reflections. Edmond, Oklahoma: Author. Retrieved March 15, 2017 from https://youtu.be/YNo-UCrAqww.

University of Central Oklahoma. (2016). The Central Six. Edmond, Oklahoma: Author. Retrieved March 15, 2017 from http://sites.uco.edu/central/tl/central6/index.asp

University of Central Oklahoma. (May 2016). STLR Rubric and Badge Level Descriptions. Oklahoma: Author. Retrieved March 15, 2017 from http://sites.uco.edu/central/tl/files/stlr/STLR%20Rubric%202016.pdf

University of Central Oklahoma. (September 2016). Student Learning Outcomes. Oklahoma: Author. Retrieved March 15, 2017 from http://sites.uco.edu/central/tl/files/stlr/SLOs_Web.pdf

University of Central Oklahoma. (January 2, 2017). STLR Faculty/Staff Frequently Asked Questions. Oklahoma: Author. Retrieved March 15, 2017 from http://sites.uco.edu/central/tl/stlr/details/facultystaff-faqs.asp

University of Central Oklahoma. (2017). Mission and Vision. Edmond, Oklahoma: Author. Retrieved March 17, 2017 from https://www.uco.edu/mission-and-vision/.

# APPENDICES

# APPENDIX TABLE OF CONTENTS

## TABLE

## FIGURES

## APPENDIX 1 – Consultation List for the Research Study

**For Alverno College:**
Jeana Abromeit, Associate Vice President for Academic Affairs and Professor of Sociology

**For Brandman University:**
Dr. Laurie Dodge, Vice Chancellor of Institutional Assessment and Planning and Vice Provost

**For Elon University:**
Dr. Rodney Parks, Registrar, and Jesse Parrish, Assistant Registrar, Elon University
Meetings with the Registrar; Assistant Registrar; Mary Morrison, Director of the Kernodle Center for Service Learning and Community Engagement; Maurice Levesque, Associate Provost of Curriculum and Institutional Assessment; Paul Miller, Assistant Provost for Communications and Operations (and former Director of Undergraduate Research); Peter Felten, Assistant Provost and Executive Director of the Center for the Advancement of Teaching and Learning; Evan Heiser, Assistant to the Vice President of Student Life; Casey Hayes, Student Information Systems Specialist; Jack Fryer, Sophomore Entrepreneurship Major; and Mikayla Shaw, senior Human Service Studies and Public Health Major

**For La Cité**
Chantal Thiboutot, Directrice principale, Planification institutionnelle et de l'imputabilité
Claude Masse, Directeur principal, Technologies de l'information
Michel Singh, Innov@Cité Manager and faculty member
Patrick Mainville, Coordonnateur, Consortium national de formation en santé (CNFS) volet La Cité
Nathalie Plante, Quality Assurance Advisor/Conseillère en assurance de la qualité

**For Loma Linda University:**
Dr. Rick Williams, Vice President Enrollment Management & Student Affairs
Erica Seheult, Director, University Records

**For Ryerson University:**
Heather Lane-Vetere, Vice-Provost, Students
Jen Gonzales, Director of Student Life
John Austin, Executive Director of Students Affairs
Julie Zahab, Director, Administration and Special Projects
Kaitlyn Taylor-Asquini, Developer of Leadership Curricula and Programming
Restiani Andriati, Manager, Digital Media Projects
Susan Vercruysse, Director, Communications, Recruitment & Client Services
The researchers also extend thanks to Charmaine Hack, Registrar, who, along with her team, made this visit possible.

**For Stanford University:**
Tom Black, Associate Vice Provost for Student Affairs and University Registrar
Mei Hung, Software Application Developer

Sameer Marella, Senior Director, Student, HR & Middleware Systems
Dr. Helen L. Chen, Designing Education Lab, Department of Mechanical Engineering; Director of ePortfolio Initiatives, Office of the Registrar, Student and Academic Services

**For University of California San Diego (UC San Diego):**
Cindy Lyons, Interim Registrar
Kimberly Elias, Engaged Learning Tools Coordinator

**For University of Central Oklahoma (UCO):**
Dr. Jeff King, Executive Director, Center for Excellence in Transformative Teaching and Learning

**For BCIT:**
Dr. Kevin Wainwright, Director, Projects and Strategic Initiatives, School of Business

**For Niagara College:**
Dr. Mary Wilson, Director, Academic Excellence
Dr. Natasha Patrito Hannon, Manager, Educational Development
Gary Torriville, Associate Dean, Canadian Food and Wine Institute
The researchers would also like to thank the faculty and students who graciously lent their insights on the value of using Sesame in the classroom as a platform to document the process of learning.

**For Brock University:**
Jason Hawreliak, Assistant Professor, Game Studies
Kate Baggott, consultant and researcher supporting the Brock/Niagara GEM project

**For Algonquin College:**
Dr. Patrick Devey, Dean, Centre for Continuing Education and Online Learning
Dr. Krista Pearson, Registrar
Margaret Cusson, Dean, Academic Development

**Vendors:**
Chris Jager, Co-Founder, Learning Machines
Ian Tao, CEO, Sesame

---

**For ARUCC Research Working Group**
Dr. Kate Ross, Registrar and Associate Vice-President, University of British Columbia (Chair); Ray Darling, Registrar, University of Guelph (Co-Chair); Alice Miller, Registrar, University of Windsor (ARUCC Executive Representative); Kyle Vuorinen, Associate Registrar, Douglas College; Mike V. Sekulic, University Registrar, MacEwan University

**For CanPESC:**
Leisa Wellsman, Manager, Applicant Services, Ontario Universities' Application Centre (OUAC); Cathy Van Soest, Co-Chair and Manager, Student Data Services, EducationPlannerBC

**For PESC:**
Michael Sessa, President and CEO

**For AACRAO:**
Mike Reilly, Executive Director, AACRAO

---

The researchers extend thanks to the following associations and meeting groups for their willingness to distribute the national survey and or facilitate consultation workshops and sessions during the project:

- Association of Registrars of the Universities and Colleges of Canada (ARUCC) and the institutions across Canada within all provinces and territories who participated in the survey
- Atlantic Association of Registrars and Admissions Officers (AARAO)
- CanPESC
- Council of Articulations and Transfer, New Brunswick (CATNB)
- Ontario Colleges Registrars, Admissions and Liaison Officers (CRALO)
- Ontario CRALO Registrars Forum
- Ontario University Council on Admissions
- Ontario University Registrars' Association (OURA)
- Ontario University Registrars' Forum
- Pan-Canadian Consortium on Admissions and Transfer (PCCAT)
- Western Association of the Registrars of the Universities and Colleges of Canada (WARUCC)

# APPENDIX 2 - Research Methods

**Overall Methodology**

The researchers employed a variety of methods to ensure the findings and resulting taxonomy were supported by sufficient breadth and depth. Specifics included the following:

- A review of literature, trade material (e.g., vendor publications, data standards, transcript standards), and website information related to the topic
- A review of institutional, association, and vendor websites across Canada and the United States (U.S.) to inform a deeper understanding of practices at exemplar institutions and within jurisdictions
- Exemplar field interviews following an appreciative enquiry approach supported by specific research questions which were distributed in advance to participants
    - U.S. Postsecondary institutions: Elon University, Brandman University, University of Central Oklahoma, Loma Linda University, University of California San Diego, Stanford University, Alverno College[1]
    - Canadian Postsecondary institutions: British Columbia Institute of Technology (BCIT), Algonquin College, Brock University, Niagara College, Ryerson University, La Cité
- Site visits to select institutions (Stanford University, Elon University, Ryerson University, La Cité College, Niagara College, Algonquin College, University of California San Diego)
- A national survey of registrarial experts at Canada's postsecondary institutions
- Session consultations (supported by consultation questions and, if needed, standardized presentation material that provided information on exemplar practices)
  Examples:

    - Annual conference session for the Western Association of Registrars of the Universities and Colleges of Canada (June 2015) – joint presentation with Dr. Kate Ross, Associate Vice President and Registrar
    - Two biannual meetings of the Ontario Universities' Council on Admissions (OUCA)
    - Two biannual meetings of the Ontario College of Registrars and Admissions and Liaison Officers (CRALO)
    - Conference or Registrarial Forum sessions: biennial national conference of ARUCC (Jun. 2016); Council of Articulations and Transfer, New Brunswick (CATNB, Oct. 2016); annual national conference of the Pan-Canadian Consortium on Admissions and Transfer (PCCAT, June 2016); Ontario University Registrars' Association (OURA, Feb. 2017); Ontario College Registrars, Admissions, and Liaison Officers (CRALO, Nov. 2017)
    - Discussions with Association representatives with knowledge of this space: American Association of Collegiate Registrars and Admissions Officers (AACRAO); Canadian Post-

[1] Additional outreach occurred to expand the list of U.S. and Canadian exemplars and vendors; however, the lists noted represent those that agreed to be interviewed for this study.

secondary Education Standards Council (CanPESC); Research Working Group of the Association of Registrars of the Universities and Colleges of Canada

- Conference attendance to understand activities of exemplars
    - AACRAO Technology and Transfer Conference (Jul. 2015)
    - US Post-secondary Electronic Standards Council (Oct. 2016)
    - AACRAO/NASPA Beyond the Transcript Conference (Nov. 2016)
    - Parchment Credential Data Summit (Apr. 2017)[2]

**National Survey Methodology**

The project included a national online survey to capture insights and information from registrars at Canadian postsecondary institutions.[3]

Members of the Ontario Council on Articulation and Transfer (ONCAT), the Research Working Group of the Association of Registrars of the Universities and Colleges of Canada (ARUCC), and the Canadian Post-secondary Education Standards Council (CanPESC) reviewed the questions and provided insights to inform survey development. The instrument included questions that permitted free-form qualitative and closed-ended responses (see Appendices 12 and 13 for the survey findings and a copy of the survey). Select opinion type questions used the five-point Likert scale (i.e., 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree', 'strongly disagree'). While not all questions required a response, some did which likely resulted in a completion rate of 81.69%.[4] In addition, the rules coded into the survey deliberately triaged next stage questions presented to respondents. For these reasons, the findings include the 'n' count for each question.

To capture a broader understanding of practices, expert advice, and institutional capacities, the project team distributed the online survey nationally to registrarial leadership across Canada at higher education institutions through the listserv of the Association of Registrars of the Universities and Colleges of Canada (ARUCC) which has members from all of Canada's provinces and territories. Supplemental distribution occurred to four provincially-based registrarial associations which, in one case, includes members from the territories.[5] Respondents intentionally included registrars (or designates) at primarily publicly funded or assisted institutions. Private postsecondary institutions received the participation invitation if they maintained membership in any of the targeted associations; six provided responses.

[2] The researchers extend thanks to Kimberley Elias from the University of California – San Diego for providing following up notes regarding the Parchment Summit on Credentials to inform this study.
[3] One response per institution was requested. In the one instance two responses were provided by the same institution; the registrar identified which response remained relevant. The second response was deleted.
[4] Survey testing revealed the response timeframe was typically 10 minutes for those with no active institutional engagement in alternative credentialing and upwards of 30 minutes for those that did. This information was made transparent to participants in supporting communication.
[5] Specifically, to the following organizations: Atlantic Association of Registrars and Admissions Officers (AARAO); Western Association of Registrars of the Universities and Colleges of Canada (WARUCC); Ontario University Registrars' Association (OURA); Ontario College Registrars, Admissions, & Liaison Officers (CRALO).

Supporting communications for the survey included advising registrars in advance at provincial and national association meetings and conferences, and distributing launch and reminder emails. These efforts resulted in an overall institutional participation rate of 42% (71 out of 168 postsecondary institutions).[6]

**Limitations to the Methodology**

The limitations to the methodology included the following:

- The ARUCC listserv does not include membership from all postsecondary institutions. As a result, the researchers cascaded the survey invitation to regional registrarial listervs across the country managed by the Western Association of Registrars at Universities and Colleges of Canada, the Ontario College Registrars and Admissions Officers, the Ontario University Registrars' Association, and the Atlantic Association of Registrars and Admissions Officers. Given the 42% institutional response rate, the ARUCC listserv did not appear to be an impediment to encouraging participation in the study.
- Distribution of the survey was deliberately delayed from the fall to the winter because of the degree to which awareness raising needed to occur. This is directly a cause of the newness of the field in Canada.
- The rapidly changing technological and data standards environment made it very difficult to rely on the currency of information over the life of the project; therefore, the researchers need to revalidate findings including with the exemplars. This review process was appropriate in the final analysis and helped to mitigate the situation. This also became a core reason for not engaging in any kind of technological platform analysis which is a potential future research project. As an example, the area of Blockchain credential distribution and validation will likely be remarkably different in about four months.

Having noted the above, the comprehensiveness and range of the research methods used for this study mitigated challenges and allow for assessment of the alternative credentialing field.

[6] Total potential respondents include all Canadian publicly funded postsecondary institutions and those privates that are recognized within their province and maintain membership in organizations such as the BC Council on Admissions and Transfer or AUCC. Six private institutions completed the survey; their responses are included throughout.

# APPENDIX 3 - Case Study: Alverno College[7]

***Institutional Background***

Located in Milwaukee, Wisconsin, Alverno College[8] is a Roman Catholic four-year, independent institution sponsored by the School Sisters of Saint Francis and dedicated to the undergraduate education of women. The student -- her learning and her personal and professional development -- is the central focus of everyone associated with Alverno (personal communications). Alverno extends its mission of service and strengthens its ties to the community by offering graduate and adult programs to both women and men.

As a small liberal arts institution, its total student population hovers around 2000. The College receives its accreditation from the Higher Learning Commission in Chicago, Illinois and from program-specific accrediting bodies such as the Commission on Collegiate Nursing Education which is recognized by the U.S. Secretary of Education as a national accrediting body.[9] Alverno delivers ability-based education across a range of programs including education, arts and science, business, and nursing, a mandate it has fulfilled since 1973. As a measure of its success, the College outpaces other institutions across the U.S. on several key benchmarks on the NSSE survey (Indiana University, 2015). For example, select 2015 results indicate strengths in

- Engagement indicators (e.g., academic challenge such as higher order learning, reflective and integrative learning, first year teaching practices); and,
- High-impact practices (e.g., first and second-year service learning, research with faculty, learning community, study abroad, and culminating senior experience).

According to Jeana Abromeit, Associate Vice President for Academic Affairs and Professor of Sociology, the learner-focused pedagogical approach and ability-based curriculum at Alverno represents a distinguishing feature of the College's approach (personal communications). The mission statement reflects this commitment: *"The student -- her learning and her personal and professional development -- is the central focus of everyone associated with Alverno*."[10]

***Alternative Credentials***

Alverno provides graduates a *Statement of Evaluation* in addition to the traditional academic transcript. The *Statement* reflects summative achievement of program learning outcomes in a descriptive format, not institutional or course level outcomes. For each program outcome, the description or narrative summarizes a student's achievements and describes samples of summative work drawn from different courses, although not all. The last page provides an overview (a legend) of the expected abilities for the

[7] Information about Alverno College contained in this report is based on a website review and an interview with Jeana Abromeit, Associate Vice President for Academic Affairs.

[8] For details see https://www.alverno.edu/

[9] For details see http://www.aacn.nche.edu/ccne-accreditation

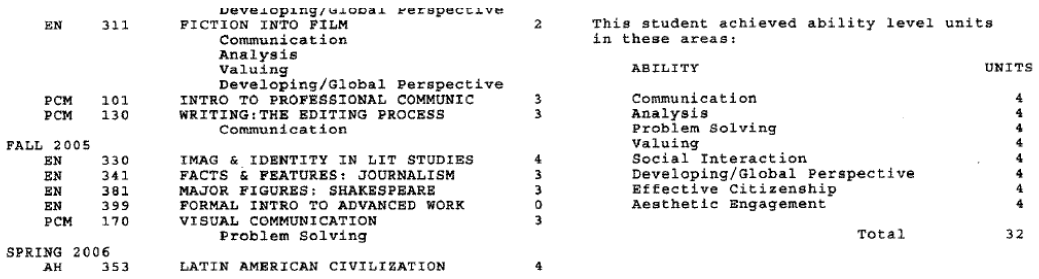
[10] https://www.alverno.edu/aboutalverno/missionhistory.php

major and minor. The *Statement* provides no chronology of courses, enrolment start and end dates, or course information (i.e., no titles, weights, or grades). Appendix 3B contains an illustrative example.

This *Statement* reflects the ability-based educational approach at the College and results from an integrated and iterative process beginning first with the faculty member who provides qualitative feedback on specific assessments within a course, followed by a final qualitative statement to reflect overall success (personal communications). Grades are not assigned; rather, students receive a pass or fail. In some programs and courses, students are selectively exposed to quizzes and standardized assessments to ready them for when they enter a profession where they may encounter this type of testing after graduation (e.g., such as the nursing exams required for certification).

Upon graduation, students receive an academic transcript – called a *Record of Achievement* – and a *Statement of Evaluation* (narrative transcript). The *Record of Achievement* shows the department, courses completed (including the code and the name), the semester hours earned, and the Abilities with associated units completed by the student. The document provides no grading information (see Figure 1).

*Figure 1: Sample excerpt from Alverno's Record of Achievement*



Developing/Global Perspective

| | | | |
|---|---|---|---|
| EN | 311 | FICTION INTO FILM | 2 |
| | | Communication | |
| | | Analysis | |
| | | Valuing | |
| | | Developing/Global Perspective | |
| PCM | 101 | INTRO TO PROFESSIONAL COMMUNIC | 3 |
| PCM | 130 | WRITING:THE EDITING PROCESS | 3 |
| | | Communication | |
| FALL 2005 | | | |
| EN | 330 | IMAG & IDENTITY IN LIT STUDIES | 4 |
| EN | 341 | FACTS & FEATURES: JOURNALISM | 3 |
| EN | 381 | MAJOR FIGURES: SHAKESPEARE | 3 |
| EN | 399 | FORMAL INTRO TO ADVANCED WORK | 0 |
| PCM | 170 | VISUAL COMMUNICATION | 3 |
| | | Problem Solving | |
| SPRING 2006 | | | |
| AH | 353 | LATIN AMERICAN CIVILIZATION | 4 |

This student achieved ability level units in these areas:

| ABILITY | UNITS |
|---|---|
| Communication | 4 |
| Analysis | 4 |
| Problem Solving | 4 |
| Valuing | 4 |
| Social Interaction | 4 |
| Developing/Global Perspective | 4 |
| Effective Citizenship | 4 |
| Aesthetic Engagement | 4 |
| Total | 32 |

Students wishing to receive grade equivalents for specific courses or an overall GPA equivalent must make a formal and separate request as the College does not normally produce these credentials. To accommodate these, Academic Support requests grade equivalents from each of the student's former faculty members. Having noted this, the qualitative feedback captured for each student tends to be sufficiently descriptive to allow the faculty to assign grades (personal communications). If the student has graduated with a degree and requests only a GPA equivalent, Academic Support requests the GPA equivalent from the alum's Dean or Associate Dean. That individual determines the GPA equivalent based on a careful review of the qualitative/quantitative feedback and the Statement of Evaluation (personal communication).

### *Student Success, Mobility, and Transfer*

Alverno's mission and focus involve preparing learners to enter the workforce and contribute to their communities in a manner in keeping with its Roman Catholic principles.[11] Specific data are not available to indicate whether the *Statement of Evaluation* contributes to mobility into the workforce; however, the

[11] https://www.alverno.edu/aboutalverno/missionhistory.php

College's overall approach appears successful. Using the NSSE results as evidence of achieving the College's mandate, 83% of students reported their College experience contributed to them acquiring job- or work-related knowledge and skills (Indiana University, 2015, page 4). In 2009, the then U.S. Secretary of Education lauded Alverno's education program:

> *"Alverno College, a Catholic women's college in Milwaukee, also requires a rigorous field experience in the public schools and has faculty and local principals assess videotapes of student teachers. Eighty-five percent of Alverno graduates are still in the classroom five years after graduation, an extremely high retention rate…I cite all these examples to point out that, with courage and commitment, our teacher preparation programs absolutely can provide dynamic and effective teacher preparation for the 21st century" (Duncan, October 22, 2009).*

From 1975 to 1985, the college conducted a 10-year longitudinal study which involved following students from freshmen year through to graduation and to five years after graduation. This study included in-depth interviews with alumni to augment the results. Published by Jossey-Bass in *Learning that Lasts*, the research and findings provide further evidence to validate the Alverno approach (2000). While more current, publicly available research is not available, Abromeit indicated the College distributes internal surveys to students, alumni, and employers to ensure continuous improvement and a tighter tie to the workforce (personal communication).

In terms of credit transfer, Abromeit acknowledged the challenges of supporting students interested in transferring or moving onto graduate studies when using only the *Statement* while at the same time emphasizing the value for enhanced engagement of students in their learning experience once grades are not an influencing factor (personal communication). To bridge the gap, however, the College is considering a policy to request faculty report grades along with the end-of-course reports on student achievement. While there is no intention to undermine or stop using the *Statement*, this implies that having access to grades along with the *Statement* may facilitate future transfer.

***Institutional Learning Outcomes or Equivalent***

A long history shapes Alverno's current approach which is described in further detail in the 2016 *Faculty Educators' Handbook* (Alverno, 2016). In the late 1960's and early 1970s, a financial crisis and a national focus on the meaning and value of college (liberal education in particular) prompted a former president, Sister Joel Read (served from 1968 to 2003), to ask faculty to explore questions about their discipline and student learning at the College (personal communications). After several years of investigation and dialogue, Alverno faculty took the lead in developing an abilities-based curriculum which focused on ensuring learning that offered students the skills (competencies) to put any knowledge gained to practical use (Marquette University, May 18, 2003). Sister Read received national and U.S. presidential recognition for her work at Alverno.

During this phase, President Read led an internal consultation in which she asked academic departments to address a series of questions, such as,

- *"What kinds of questions are being asked by professionals in your field that relate to the validity of your discipline in a total college program?*
- *How are you dealing with these problems in your general education courses, and in the work for a major in your field?*
- *What are you teaching that is so important that students cannot afford to pass up courses in your department?*

According to Abromeit, this candid questioning approach transformed Alverno's entire curriculum framework into a learner centric, outcomes-focused model. Out of this consultation, Alverno created and embedded into the curriculum eight 'Abilities' supported by six developmental levels through which students progress (i.e., from Beginner to Intermediate to Advanced); these represent the core elements of its competency and learning outcomes framework against which all programs are mapped (Alverno, 2017). Students proceed through these six levels in four years of study to obtain their degree. This framework has been subject to ongoing collective review and improvement since 1973.

The eight abilities include communication, analysis, problem solving, valuing in decision making, social interaction, developing a global perspective, effective citizenship, and aesthetic engagement. [12] Each ability and its corresponding levels are supported by detailed learning outcomes statements that provide clear learner expectations and guide rubrics and assessment. This highly developed and transparent framework aims to help students develop

- *"a sense of responsibility for one's own learning and the ability and desire to continue learning independently*
- *self-knowledge and the ability to assess one's own performance critically and accurately*
- *an understanding of how to apply knowledge and abilities in many different contexts" [sic] (Alverno, 2016).*

Refer to Appendix 3B for a full summary of the Alverno's Abilities.

***Accountability and Validation Processes***

Alverno leadership trains faculty to use their outcomes-based model of Abilities and levels in curriculum, pedagogy as well as assessment and summative validation of student learning. For example, when teaching a freshman level course, faculty are expected to ensure a student reaches a beginning developmental level using the detailed learning outcomes laid out in Alverno's framework. This approach is made the more effective because the curriculum design is laddered and scaffolded to ensure courses are appropriately placed within the program curriculum (personal communications).

The faculty embed a series of assessments and feedback opportunities into each course such that by completion, a student receives extensive indicators of their capacities and areas where improvement is needed. At the completion of each course, faculty reviews the course level feedback in the context of the course outcomes and then makes a judgment about the student's success in the course and related Abilities and levels. For designated courses, the faculty member also creates the summative statement of

[12] https://www.alverno.edu/aboutalverno/ataglance.php

the student's achievements relative to the expected outcomes in Abilities and levels. These are customized and captured electronically. Upon graduation, the faculty for the major and the faculty for the minor produce a summative statement of the student' s program achievements according to program ability-based outcomes. Academic Support edits the statements; Academic Affairs approves the wording; and the Registrar produces the final, official *Statement*. According to Abromeit, it takes approximately 45 minutes for faculty to create the initial program-level *Statement* (personal communications). The provision of many course-level *Statements*, according to Abromeit, is inadvisable because the result would be pages of qualitative commentary (personal communications). As a minimum graduation requirement, students must achieve two 'validations' in each Ability from two different courses in two different areas of study. This approach is supported by a matrix which students use to identify the courses assigned to each Ability and Level.

***Technology[13]***

Alverno *uses LiveText*,[14] an e-portfolio platform, to capture the course activities, assessments, and program outcomes. Students upload their own work and faculty may add formative and summative feedback within this system. Within five days of finishing a course, the faculty send a report to the Registrar's Office outlining the Abilities achieved and the levels demonstrated and whether the student successfully passed the course. The Registrar's Office transfers the information into the Student Information System (Alverno uses *Ellucian's Colleague* platform). The faculty track the courses from Levels 1 to 4 in *LiveText*. Levels 5 to 6 are program learning outcomes which are also tracked in *LiveText.*

***Governance***

A Board of Trustees maintains authority over all major decisions at Alverno including any broader policy changes (such as adoption or deletion of the eight Abilities with the associated levels) (Alverno, 2016). It executes its work through five policy committees one of which, Educational Affairs, would have been the lead committee to approve the competency framework. Any changes to the framework require input from the Faculty Senate, approval by the Board, and subsequent approval by the external accrediting bodies.

[13] Personal communications - The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.
[14] See https://www.alverno.edu/techserv/studenttechlinks/livetextstudentresources.php

# APPENDIX 3B – Alverno College's Eight Abilities and Levels

ALVERNO COLLEGE

## ABILITY-BASED LEARNING PROGRAM

Since the early 1970s, the Alverno College faculty have been developing and implementing ability-based undergraduate education. More recently, educators at every level — elementary, secondary, undergraduate, postgraduate, and professional — have become involved in an effort to redefine education in terms of abilities needed for effectiveness in the worlds of work, family, and civic community.

One of the greatest challenges to faculty in shaping an ability-based program is the tendency to think of the development of abilities in contrast to a mastery of subject matter or content, as if one precludes the other. Through our practice, we have learned that it is impossible to teach for abilities without a subject matter context. The distinctive feature of an ability-based approach is that we make explicit the expectation that students should be able to do something with what they know.

Few educators would argue with the proposition that a close reading of a philosophic text should have an impact on the thinking of students beyond merely grasping the meaning. The encounter with complex ideas should help develop the students' ability to reason and question and help them one day to think and act effectively in contexts removed from the original concern of the text. By making such expectations explicit and by clarifying steps one can take to develop cognitive and affective habits, we assist students in learning how to learn.

### Ability-Based Learning Outcomes

The specific abilities identified by our faculty as central to our approach to liberal arts and professional education are:

Communication
Analysis
Problem Solving
Valuing in Decision-Making
Social Interaction
Developing a Global Perspective
Effective Citizenship
Aesthetic Engagement

These are the most visible features of our learning program. However, it would be a fundamental misperception to see students' development and demonstration of these eight abilities as the primary outcome or end of an Alverno education. Our ultimate goal is the development of each student as an educated, mature adult with such personal characteristics as

- a sense of responsibility for one's own learning and the ability and desire to continue learning independently
- self-knowledge and the ability to assess one's own performance critically and accurately
- an understanding of how to apply knowledge and abilities in many different contexts

Essentially, our goal for students is independent lifelong learning, and the development and demonstration of specific abilities in disciplinary and interdisciplinary contexts are a means to that end. For example, our formal requirement that students develop specific abilities in one course context and then apply them to the subject matter of other courses encourages *every* student in the college to transfer learning independently because the explicit expectation makes *every* student aware of the possibility.

### Individual Abilities as Frameworks for Learning

In the educational program described above, individual abilities cannot be separated from each other or from the individual who performs them. There can be no effective social interaction, for example, without the ability to speak clearly and persuasively; one cannot engage aesthetically with works of art without a sensitivity to the values that underlie judgment.

But we make conceptual distinctions among the abilities in order to teach for them. Each ability provides a framework or a plan for students to work effectively with the subject matter of their courses. As students gain experience, they begin to draw upon various abilities they have learned and combine them in more complex ways.

*(Continued on back)*

*© Copyright 1973, 1980, 1983, 1985, 1988, 1991, 1992, 1993,1994, 1996, 2000, 2002, 2005, 2010, 2016. Alverno College Institute, Milwaukee, Wisconsin. All rights reserved under U.S., International and Universal Copyright Conventions. Reproduction in part or whole by any method is prohibited by law.*

*Reprinted with permission from Jeana Abromeit, Alverno College*

## ABILITIES AND DEVELOPMENTAL LEVELS

### 1. Communication: Speaking, Writing, Listening, Reading, Quantitative Literacy, Computer Literacy

***Beginning Levels:*** Uses self assessment to identify and evaluate communication performance

**Level 1** — Recognizes own strengths and weaknesses in different modes of communication

**Level 2** — Recognizes the processes involved in each mode of communication and the interactions among them

***Intermediate Levels:*** Communicates using discipline concepts and frameworks with growing understanding

**Level 3** — Uses communication processes purposefully to make meaning in different disciplinary contexts

**Level 4** — Connects discrete modes of communication and integrates them effectively within the frameworks of a discipline

***Advanced Levels in Areas of Specialization:*** Performs clearly and sensitively in increasingly more creative and engaging presentations

**Level 5** — Selects, adapts, and combines communication strategies in relation to disciplinary/professional frameworks and theories

**Level 6** — Uses strategies, theories, and technologies that reflect engagement in a discipline or profession

### 2. Analysis

***Beginning Levels:*** Accurately observes individual parts of phenomena and their relationship to one another

**Level 1** — Observes accurately individual parts of phenomena and their relationship to one another

**Level 2** — Draws reasonable inferences from observations of individual parts of phenomena and their relationship to one another

***Intermediate Levels:*** Uses disciplinary concepts and frameworks with growing discernment and transparency

**Level 3** — Perceives and makes relationships using disciplinary concepts and frameworks with growing understanding

**Level 4** — Analyzes structure and organization using disciplinary concepts and frameworks with growing understanding

***Advanced Levels in Areas of Specialization:*** Consciously and purposefully applies disciplinary frameworks to analyze complex phenomena

**Level 5** — Refines understanding of frameworks and identifies criteria for determining what frameworks are suitable for explaining a phenomenon

**Level 6** — Independently applies frameworks from major and minor discipline to analyze complex issues

### 3. Problem Solving

***Beginning Levels:*** Articulates and uses a process to solve a problem

**Level 1** — Articulates own problem solving process

**Level 2** — Identifies and uses elements of problem solving processes

***Intermediate Levels:*** Demonstrates increasing independence in implementing and evaluating disciplinary problem solving

**Level 3** — Implements a disciplinary problem solving process in a real or simulated context and evaluates the process and/or the solution

**Level 4** — Independently analyzes, selects, uses, and evaluates various disciplinary approaches to solve problems

***Advanced Levels in Areas of Specialization:*** Solves problems effectively in professional situations

**Level 5** — Collaborates effectively in designing and implementing potential solutions to complex disciplinary problems

**Level 6** — Independently adapts problem solving processes in addressing evolving professional situations, recognizing personal values and adhering to professional standards

### 4. Valuing in Decision-Making

***Beginning Levels:*** Explores the valuing process

**Level 1** — Identifies own and others' values and some key emotions they evoke

**Level 2** — Connects own values to behavior and articulates the affective, cognitive, spiritual and behavioral dimensions of this process

***Intermediate Levels:*** More precisely analyzes the role of groups, cultures, and societies in the construction of values and their expression in moral systems or ethical frameworks

**Level 3** — Analyzes reciprocal relationship between own values and their social contexts and explores how that relationship plays out

**Level 4** — Uses the perspectives and concepts of particular disciplines to inform moral judgments and decisions

***Advanced Levels in Areas of Specialization:*** Explores and applies value systems and ethical codes at the heart of the field

**Level 5** — Uses valuing frameworks of a major field of study or profession to engage significant issues in personal, professional, and civic contexts

**Level 6** — Consistently examines and cultivates own value systems in order to take initiative as a responsible self in the world

### 5. Social Interaction

***Beginning Levels:*** Learns frameworks and self assessment skills to support interpersonal and task-oriented group interactions

**Level 1** — Recognizes analytic frameworks as an avenue to becoming aware of own behaviors in interactions with diverse others and to participating fully in those interactions

**Level 2** — Gains insight into the affective and practical ramifications of one's interactions, in their social and cultural context, by observing others' examples, experiencing new situations, and applying analytic frameworks

*Intermediate Levels:* Uses analytic frameworks and self awareness to engage with others in increasingly effective interaction across a range of situations

**Level 3** — Increases effectiveness in group and interpersonal interaction based on careful analysis and awareness of self and others in social and cultural contexts

**Level 4** — Displays effective interactions in group and interpersonal situations, reflecting cognitive understanding of social and cultural contexts, and awareness of affective components of own and others' behavior

*Advanced Levels in Areas of Specialization:* Integrates discipline-specific frameworks with social interaction frameworks to function effectively with diverse stakeholders in professional roles

**Level 5** — Consistently and with increasing autonomy demonstrates effective professional interaction using multiple disciplinary frameworks to interpret behavior and monitor own interaction choices

**Level 6** — Uses leadership abilities to facilitate achievement of professional goals in effective interpersonal and group interactions

### 6. Developing a Global Perspective

*Beginning Levels:* Identifies what shapes own opinions and judgments with regard to global issues, and uses course concepts to broaden own perspective

**Level 1** — Explores one's understanding of the world's diversity and interconnection, identifies some of the sources of one's own knowledge and beliefs, and articulates own perspectives on issues with global dimensions

**Level 2** — Learns and uses concepts from a variety of courses to describe the world's diversity and interconnections

*Intermediate Levels:* Uses frameworks from multiple disciplines to deepen understanding of global issues from a variety of perspectives

**Level 3** — Selects and applies disciplinary frameworks in order to identify implications of the world's diversity and global interconnections within a particular context

**Level 4** — Draws on disciplinary frameworks to articulate a perspective markedly different from one's own on a topic with global dimensions, demonstrating awareness of the worldviews underlying that perspective as well as the likely implications of holding the perspective

*Advanced Levels in Areas of Specialization:* Uses selected discipline theories to analyze the connections between and among complex global systems

**Level 5** — Selects, adapts, and uses theoretical approaches from the major/discipline to analyze, evaluate, or generate a response to issues with global dimensions

**Level 6** — Integrates theoretical frameworks, both from within and beyond the major/discipline, to analyze, evaluate, or generate an independent approach to topics of global significance

### 7. Effective Citizenship

*Beginning Levels:* Identifies significant community issues and assesses ability to act on them

**Level 1** — Begins to assess one's own knowledge, skills, and other background relevant to thinking about and acting on community issues

**Level 2** — Applies concepts from the disciplines to identify and describe issues that affect communities as well as strategies to address the identified issues

*Intermediate Levels:* Works within both organizational and community contexts to apply developing citizenship skills

**Level 3** — Recognizes that effective citizenship is exercised in the context of society; learns to analyze individuals and organizations in terms of roles and structures to see how individuals work within organizations and how organizations coordinate with one another to achieve common goals

**Level 4** — Applies developing citizenship skills in service to a selected community by developing an action plan with criteria for evaluation

*Advanced Levels in Areas of Specialization:* Takes a leadership role in addressing organizational and community issues

**Level 5** — Uses discipline concepts, frameworks, and theories to identify, analyze, and recommend change in a political, social, or professional setting

**Level 6** — Develops a plan for effecting change in a political, social, or professional setting, modifies plan as a result of feedback, and attempts to implement the plan to the extent practicable

### 8. Aesthetic Engagement

*Beginning Levels:* Develops an openness to the arts

**Level 1** — Makes informed artistic and interpretive choices

**Level 2** — Articulates rationale for artistic choices and interpretations

*Intermediate Levels:* Refines artistic and interpretive choices by integrating own aesthetic experiences with a broader context of disciplinary theory and cultural and social awareness

**Level 3** — Revises choices by integrating disciplinary contexts

**Level 4** — Develops awareness of creative and interpretive processes

*Advanced Levels in Areas of Specialization:* Creates works of art and/or interpretive strategies and theories that synthesize personal preferences and disciplinary concepts

**Level 5** — Develops and expresses personal aesthetic vision

**Level 6** — Integrates aesthetic vision into academic, professional, and personal life

### Teaching and Assessing Student Abilities

In order to make these complex abilities teachable, we have articulated each one as a series of developmental levels corresponding to student progress across the college career, from general education (levels one through four) to specialized work in the majors and supporting areas of study (levels five and six). For each level of ability we have devised criteria for the ability being performed.

These criteria serve two purposes. They provide a student with a tangible goal for learning, and they give the faculty a standard for judging and certifying that the student has demonstrated the ability. These collegewide criteria are generic in the sense that they are not tied to specific courses. Each faculty member writes explicit performance criteria in language appropriate to the context of specific courses. But the common understanding on the part of faculty helps to ensure that the student recognizes that the same basic ability has relevance in multiple course contexts and that the student is refining each ability through multiple applications.

As a context for evaluating student demonstration of abilities, we have developed the concept of student assessment as a multidimensional process of judging the individual in action. Assessment is multidimensional, both in the sense that students have multiple opportunities to demonstrate specific abilities, and that individual assessments engage students in multiple ways — as writers, as speakers, as creators of artifacts.

In both course-based assessments and integrative assessments that focus student learning from several courses, we elicit samples of performance representing the expected learning outcomes of a course or program. Faculty and other trained assessors observe and judge a student's performance based on explicit criteria. Their diagnostic feedback, as well as the reflective practice of self assessment by each student, helps to create a continuous process that improves learning and integrates it with assessment.

### General Education

Each department emphasizes the abilities most closely related to its studies and takes responsibility for providing learning and assessment opportunities for those abilities. In beginning courses, students develop and demonstrate levels one and two of the abilities. They continue to advance through the levels within a coherent arrangement of courses. The distribution of learning and assessment opportunities among all general education courses in the humanities, fine arts, natural and behavioral sciences as well as the introductory courses in majors and supporting areas of study, assures students of multiple opportunities to demonstrate all eight abilities through level four. And since each course beyond the introductory level carries ability prerequisites as well as course prerequisites, students are assured of taking each course when they are ready to develop the levels of abilities emphasized there.

### Specialization

Each department has specified the integrated knowledge/performance expectations of advanced level undergraduate specialization in its major and has related those to the appropriate general abilities of the entire college curriculum. For example, English faculty have determined that one of the outcomes they expect for their majors is to "communicate an understanding of literary criticism, question its assumptions, and use its frameworks to analyze and evaluate works." The department has made explicit connections between this outcome and communication, analysis, valuing, and aesthetic response abilities at the advanced levels.

For a major in chemistry, students must "use different strategies and models of chemistry to analyze and synthesize chemical data" and "critique the data, strategies, and models of chemistry." The primary focus of these outcomes is level six of analysis — independent application of theory. But students must also draw upon their valuing ability to critique the underlying assumptions of the theoretical models, and they must be able to communicate their analysis and criticism effectively in different modes. In essence, students at the advanced level must be able to engage all of their abilities to be effective.

This brief overview represents a curriculum in the process of ongoing development. Over the years we continue to revise our sense of the meaning of the abilities. Our insights grow from our experience of teaching them and studying how our students develop them. We expect that our ability-based curriculum will always be a "work in progress" and that we will be able to serve as models of lifelong learners for our students.

Materials for further reading on teaching for outcomes across the curriculum, on student assessment, on ability-based curricula in major fields, and research and evaluation studies of the value, worth, and effectiveness of the curriculum are available from:

Alverno College Institute
PO Box 343922
Milwaukee, WI 53234-3922
414-382-6087
alverno.edu



Duklas
Cornerstone
Consulting

# APPENDIX 3C - Sample of Statement of Evaluation

**Alverno College**
**STATEMENT OF EVALUATION**

Student Name: ALVERNO, Laverna <Fake student> Student ID: xxxxxx

Laverna Alverno graduated from Alverno College with a major in English, a support area in religious studies, and an elective studies option. A student who chooses the elective studies option in lieu of a second support area completes a total of 18-21 credits from a variety of areas of study based on her individual interests.

**ENGLISH**

**Reads and interprets diverse cultural expressions in works of literature, film, and other media**

Throughout her studies as an English major, Ms. Alverno read and effectively interpreted authors from many different cultures and timeframes. For instance, in a course examining film adaptation, she demonstrated her abilities in applying formalist film terminology to film critiques, and she also blended her formalist analysis well with other critical frameworks, such as feminism and historicism. In another course, U.S. literature of the 1920s, she successfully analyzed several films from and about that period using various critical methodologies (including ethnicity) and historically informed critical judgment. In her major project in this course, on Dorothy West's novel *The Wedding*, she worked well in combining historical and race analysis and in extending her critique to the film of the novel. In an upper-level course on Japanese manga and film (anime), she further demonstrated her abilities by analyzing cultural aspects of many films and manga from Japan in terms of their cultural values, religious/spiritual aspects, and messages about transnational exchange with the United States.

**Communicates an understanding of literary criticism, questions its assumptions, and uses its frameworks to analyze and evaluate works**

Throughout an upper-level course on British Romanticism, Ms. Alverno performed at a high level in terms of applying and understanding certain critical methodologies. In her final presentation, she analyzed the character of Mary Shelley's Frankenstein, effectively using a biographical approach. After summarizing and tracing the origins of biographical criticism, she used biographical information from Mary Shelley's life with which to analyze the novel and the central character. Her evaluation, analysis, and presentation to the class were further aided by her creation of an iMovie that used a combination of text and images to convey historical, critical, and biographical information.

**Collaborates in aesthetic communities by articulating how literary studies affect professional choices and public life**

Ms. Alverno constructed her identity as a reader, writer, and literary critic throughout her upper-level coursework in English. She frequently looked back on her learning and education to create reflective pieces about her growth as a literary critic and as a writer in general. She fully participated in classes as mini-aesthetic communities, infusing her analysis of literature, film, manga, and other art forms with her understanding of contemporary cultural issues, including those of politics, religion, and issues from public life. For instance, in the upper-level course on American literature in the 1920s, she examined the legal and legislative background of Jim Crow and applied her learning to the slow efforts to integrate the country, especially as reflected in film, poetry, and fiction.

**Writes coherently and creatively, making conscious and sophisticated stylistic choices in language and structure**

Throughout her English major and the elective studies option, Ms. Alverno exemplified the abilities and performance associated with self-conscious and imagistic stylistic expression. She consistently wrote effectively in a number of different genres, including autobiography, essays, film, and well-designed blogs. She demonstrated strong communication skills throughout her work in English. These skills were consistently enhanced by a sense of enthusiasm and interest in learning about how to best use new digital technologies in communicating her messages and thinking.

**Engages personally, intellectually, and creatively in the expanding discourse of the discipline of English**

In addition to her academic abilities, Ms. Alverno worked very effectively in small groups to create, design, and present various in-class projects such as storyboards, blogs, PowerPoint presentations, and individual and group speeches. Whether through her analysis of religion in Henry David Thoreau's writings or the presence of Shintoism and Zen Buddhism in Japanese films, she conveyed her insight through cutting-edge technology and through traditional written assignments. Her interest and achievement in analyzing global writing (including comics or manga) and film parallels the expanding discourse or subject-realm of the field of English, as it evolves toward a more global or international context/focus.

*Reprinted with permission from Jeana Abromeit, Alverno College*

**RELIGIOUS STUDIES**

Ms. Alverno successfully met the outcomes for a support area in religious studies. She was a consistently engaged, self-reflective learner whose work was characterized by seriousness of purpose and informed application of theory to practice. She was an active participant and leader in group projects, and her writing and speeches were polished and insightful. The following examples from coursework and assessments are a few key indications of how she demonstrated the religious studies outcomes.

**Scriptural and theological interpretation**

Ms. Alverno successfully demonstrated the ability to analyze complex material using the insights of modern biblical scholarship to elucidate the use of imagery, theological concepts, expression of values, and historical and cultural perspectives that inform the biblical text and broader human values. She was able to apply this learning by applying the moral and ethical insights of these texts to her own experience and to current societal problems.

For example, in an advanced-level course on the biblical worldview, she demonstrated strong analytical and critical-thinking skills by close analysis of biblical texts and by integrating scholarly research to create her final assessment project on biblical women. She integrated sources from journal articles, commentaries, and rabbinical sources with her own observations and insights to provide an in-depth analysis of Miriam, including specific values associated with her character in ancient and contemporary contexts. She created a very engaging class presentation using several relevant technologies that highlighted her research findings and aesthetic images of Miriam. Her application emphasized inspirational values associated with her character in terms of family relationships and women in leadership roles. Her project demonstrated her ability to engage the ancient cultural contexts of the Bible and its interpretive history in Judaism and Christianity, and to make relevant applications to contemporary experience in light of her own values.

**Critical and metaphorical thinking**

The religious studies student has an ability to understand and engage with various expressions of identity, culture, and worldview. Ms. Alverno recognized how the beliefs and traditions of individuals and communities affect how they relate to current social, political, and environmental issues. In a course on myth and symbol, she came to learn that we are surrounded by stories that address the questions of human living as well as deep and abiding truths about the human condition, if we are able to move beyond the details of the stories and engage the symbolic language at the heart of story as myth. By engaging with stories as myths, we are able to reflect on our own lives and learn something about living.

Ms. Alverno demonstrated her own ability to interpret stories in this way through her individual and group work. In a small group, for example, she researched, interpreted, and presented an analysis of a Native American creation narrative for the class. The group's presentation explored how the stories and myths of a people can tell us a lot about their reflections on the big questions of human living. This exploration was also a way to engage with cultures and spiritualities quite different from one's own. In dialogue with classmates and in her individual work, she employed her understanding about story and symbol in an analysis of a contemporary novel as a way to see the ongoing task of mythmaking in our world. Through this work, she developed an ability to look at the big picture and to analyze the larger message of texts and situations.

**Religious pluralism**

Ms. Alverno showed her insightful understanding of people and cultures beyond her own. She competently explored the insights and values expressed in a range of religious traditions, recognizing the contributions they make in the quest for meaningful, ethical, and productive lives. She had a great passion for interfaith literacy and dialogue. In a course on religion in America, she kept a journal in which she reflected on what she learned about the various faith traditions alive in the United States, the most religiously diverse country in the world. She read, watched films and videos, and participated in discussions with people from different religions. She connected their stories to their faith and their actions in the world. She could see how the value commitments inherent in various religious traditions are connected to each other and to her own, and in this realization she saw opportunities for better connections between people and communities. She clearly understood that discrimination and violence are often rooted in ignorance. She recognized that bringing young people up with knowledge and experience of others who are different from them can go a long way to ending both discrimination and violence.

For a major assessment in this course, Ms. Alverno researched and gave a presentation to her peers on the Baha'i faith. She provided an excellent introduction to this religion, using information from various sources, statistics, images, and videos as a way to engage with this little-known community. Throughout her presentation, appreciative knowledge was central. She focused on the positive aspects of this religion for those who practice it, as well as on what she found interesting and exciting. She demonstrated great enthusiasm for this religion and explained to the class how this research had affected her. She clearly showed a commitment to interfaith engagement.

**Moral and ethical responsibility**

Ms. Alverno was able to critically analyze moral dilemmas in her professional and personal life by bringing her personal values, experiences, and learning into conversation with professional norms and guidelines in order to guide ethical decision making and to create new approaches to ongoing problems. She recognized that each moral decision is an opportunity to reflect upon larger societal and global issues and how we as a diverse society and global community can address them. In the course on religion in America, she continually reflected on the foundation of her own values. She was able to engage with and critically reflect upon her own moral upbringing and story—the appropriate beginning for

interfaith literacy and dialogue. She discovered that through interfaith dialogue, we learn about ourselves as well as others. In this learning, we find shared values and morals. These shared ideals can become the foundation for social interaction and social change. She realized that this foundation influences how we lead both our professional and civic lives. By better understanding others, we are able to be better and more respectful colleagues. We are able to improve our interactions and to help others grow in their own knowledge. There is a ripple effect. This spreads to our civic life, in that our knowledge becomes the foundation of our civic voice and our civic work. Ms. Alverno was a great advocate of pluralism, and worked to create this in the social and work environments in which she found herself.

**Professional integration of theological and spiritual practice**

Throughout her religious studies coursework, Ms. Alverno brought together her learning in this discipline with knowledge and skills from her major

***(rest of commentary deleted intentionally)***

STATEMENT OF REQUIRED LEARNING FOR A MAJOR IN ENGLISH

An Alverno College graduate with a major in English has demonstrated the ability:

- to analyze language, literature, film, and other media;
- to respond to literature of diverse traditions;
- to connect literary interpretations to public life; and
- to communicate creatively and effectively.

**STATEMENT OF REQUIRED LEARNING FOR A SUPPORT AREA IN RELIGIOUS STUDIES**

An Alverno College graduate with a support area in religious studies has demonstrated the ability:

- to engage in scriptural and theological interpretation that is consistent with hermeneutical theory (Scriptural and Theological Interpretation);
- through critical and metaphorical thinking, to respond analytically and aesthetically to stories, symbols, and rituals expressive of religious experience (Critical and Metaphorical Thinking);
- to critically explore the unique meanings and values expressed in various religious traditions (Religious Pluralism);
- to develop and articulate a personal moral and ethical stance responsive to the complexity of contemporary issues (Moral and Ethical Responsibility); and
- to articulate a personal theology based in core concepts, theories, and methods of the discipline, and to use an effective theory of practice appropriate to the professional role to which the student aspires (Professional Integration of Theological and Spiritual Theory and Practice).

**ELECTIVE STUDIES OPTION**

An Alverno College graduate who chooses the elective studies option takes the opportunity to pursue areas of particular interest to her.

*Reprinted with permission from Jeana Abromeit, Alverno College*

# APPENDIX 4 - Case Study: Brandman University[15]

***Institutional Background***

Located in Irvine, California, Brandman University serves approximately 12,000 primarily part-time adult learners across 26 campuses through 50 undergraduate and graduate degrees (Brandman, 2017a). The University is a private, non-profit institution offering certificates, continuing education, and associate, bachelors, and graduate degrees accredited by the WASC Senior College and University Commission (WSCUC, 2017). According to Dr. Laurie Dodge, Vice Chancellor of Institutional Assessment and Planning and Vice Provost, Brandman was part of Chapman University and one of its seven Colleges up until 2009 when it became part of the Chapman University system and thus fully autonomous (personal communications).[16]

Brandman's mandate involves delivering to a primarily older student population, a postsecondary education that embeds a "*career-oriented curriculum offering flexible and convenient schedules to accommodate the special needs of students balancing career and family obligations"* (Brandman, 2017a). To support its range of program offerings and to directly address this mandate, Brandman developed two competency-based degrees as part of the '*Brandman MyPath*' degree model[17] - the Bachelor of Business Administration (BBA) and the Bachelor of Science in Information Technology (BSIT). Students progress forward in these programs at their own pace for a lower cost than a regularly paced program (Brandman, 2017b).

***Alternative Credentials***

After creating the BBA, Brandman's first direct-assessment competency-based education program, and while creating the next one, the BSIT, Dr. Dodge and her team began developing a comprehensive student record (CSR) environment to showcase student learning across the full spectrum from admissions through to and beyond graduation (personal communications). This CSR includes learning both in and outside the classroom including that which might be found through volunteer or work experience, or external certification.[18]

[15] Information about Brandman University contained in this report is based on website reviews, an interview with Dr. Laurie Dodge, Vice Chancellor of Institutional Assessment and Planning and Vice Provost, and input from the Brandman Technology department.

[16] The Chapman University system consists of Chapman University and Brandman University (Chapman, 2017).

[17] To view a video of how *Brandman MyPath* works, see https://www.brandman.edu/mypath.

[18] Per Dr. Dodge, students pursuing traditional credit hour programs beyond the BBA and BSIT receive a traditional course-based transcript and the verified and unverified co-curricular experiences feature in their online portfolio either as a result of self-reporting or institutional data feeds; however, they do not receive badges or any other components related to competency-based education degree models (personal communications).

In 2016, Brandman joined the *Comprehensive Student Records Project* funded by the Lumina Foundation and co-led by the American Association of Collegiate Registrars and Admissions Officers (AACRAO) and NASPA – Student Affairs Administrators in Higher Education (AACRAO, August 23, 2016).

The Brandman comprehensive record is housed within a portal environment called "*CareerLink"* that operates much like an e-portfolio in that it is populated either by University data feeds or with information self-reported by students. As an example, a data feed from Brandman's student information system populates the University-validated portion of the record. Appendix 4B provides an example of this area of the portal. Due to the nature of the data and the supporting environment, it is possible to access more detailed explanations of the learning, results, or competencies by clicking through to the different levels (i.e., to detailed descriptions, criteria, and evidence). The University validated section related to a student's academic studies includes information on their academic program such as competencies and courses completed, institutional learning outcomes achieved, and any other university sanctioned certifications. It is through this section that students showcase their earned badges for each of the institutional learning outcomes.

Students receive a badge upon successful completion of a minimum of four scaffolded competencies related to one of the five institutional learning outcomes. For example, to be awarded the Applied Learning badge in BSIT,

> *"…students must master [the following] competencies in sequential order: 1) Interpersonal Communications; 2) Methods and Applications; 3) Creative and Critical Thinking; 4) Social Systems; 5) Organizational Dynamics, and, 6) Information Technology Capstone"* (Singer, D., Yang, H., Dodge, L., Saltzman, N., Zaker, S., Fall 2016).

Figure 2 illustrates an example of the badge received for Global Cultures (other examples of badges awarded for all the learning outcomes are provided in Appendix 4C). This credential is portable to other platforms outside the University portal such as LinkedIn. There is also a validated section for co-curricular experiences.

*Figure 2: Sample of a Brandman University Badge*


In a separate section, the student loads any work or experiences they feel demonstrates their accomplishments; work in this section is clearly marked as unverified. Examples of the kinds of activities a student might load into the portal include volunteer work or other citations.

The key strength of the e-portfolio option, according to Dr. Dodge, is the integration of material that crosses all aspects of a student's professional life,

both validated and self-reported (personal communications). This approach showcases all forms of learning experienced during a student's time at Brandman from formal, to non-formal, and informal.

***Institutional Learning Outcomes***

In 2008, when Brandman formally separated from Chapman University and became part of the Chapman University System (Chapman, 2017), the opportunity arose for reconsidering pedagogy, assessment strategies, and curriculum delivery. According to Dr. Dodge, Brandman's new status and external changes in higher education provided a new opportunity to rethink program design and delivery. The leadership sought to create a more relevant and unique educational experience for a primarily adult and mobile student market. The external factors inspiring the change included the growing prevalence of MOOCs, the re-emergence of competency-based education, and the significant advances in technology as a critical enabler to delivering more cost-effective education (personal communications). These factors shaped an ecosystem of opportunity that resonated with the Brandman community and caused the University to undergo a change process that addressed three key challenges: accessibility, affordability, and quality (personal communications).

When designing the new learning outcomes framework at Brandman, institutional leaders relied on sound external frameworks including the Lumina Degree Qualifications Profile (Lumina Foundation, October 2014) and the Association of American Colleges and Universities' (AAC&U) Liberal Education and America's Promise (LEAP) Essential Learning Outcomes (Singer, D., Yang, H., Dodge, L., Saltzman, N., Zaker, S., Fall 2016). Through consultation with employer advisory boards and a review of the *U.S. Department of Labor Occupation Information Network (O*NET)* database (Fall 2016), the University further refined its approach and ultimately created and embedded five institutional learning outcomes into all its senior level courses in every division (personal communications). These five include applied learning; civic engagement; innovation and creativity; integrated learning; and global cultures (Brandman, 2017c). Brandman identifies specific competencies for each of the BBA and the BSIT in its University Catalog; upon successful completion, these feature on the Comprehensive Student Record (2016-17).[19] Through curriculum mapping the faculty have identified specific competencies that are aligned to each institutional and program-level learning outcome (personal communications).

[19] A full listing of competencies for each of the Bachelor of Business Administration and the Bachelor of Science in Information Technology is available at https://www.brandman.edu/files/documents/academic-catalog-programs/2016-2017_Catalog_6_24_16_0.pdf (pages 151 to 160 and 164 to 169 respectively).

After establishing these, the faculty identified 'signature' assignments in each major that demonstrate student achievement of each institutional learning outcome. According to Dr. Dodge, faculty and employer engagement in the development process resulted in successful adoption and implementation of the competency-based education model with its defined learning outcomes, summative assessments, and use of a consistent rubric in every major (personal communications).

Further, other than the recently received funding for the new Comprehensive Student Record described earlier, Brandman, beginning in 2008, designed and implemented its learning outcomes and competency-based approaches without any additional outside funding (personal communication). The in-house changes also included implementing a new Learning Management System, and new approaches to faculty teaching and instructional design and assessment.

***Governance***

Moving to a competency-based model represented a significant structural change for the University; therefore, the University leadership engaged the governance bodies at Brandman from the beginning (personal communications). Senior champions included the Chancellor and Provost, with Board vetting and approval occurring throughout the project. Once institutional approvals were in place, the regional accrediting body called the WASC Senior Commission, reviewed and approved the initiative through its Substantive Change and Structural Change processes. Once the University secured regional accreditation approval, Brandman sought Title IV funding eligibility status and approval to participate in the federal student aid program offered by the U.S. Department of Education.

As a requisite of approval and accreditation, Brandman needed to create cross-walks to demonstrate how the competencies and learning outcomes relate to traditional terms and courses, and ensure that an environment was in place to support this translation. According to Dr. Dodge, these cross-walks benefit students who may wish to transfer in courses from other institutions as the information answers questions such as "*Do these transfer courses meet any of the competencies?*" (personal communications). For those that transfer out of the CBE program, cross-walk information helps them to articulate what credit courses they completed. As a result, it is possible for the University to produce a traditional transcript.

***System-Wide Supports***

Brandman is a member of the Competency-Based Education Network (CBE Network) which includes 30 colleges and universities and four public systems across 85 campuses in the U.S.; each member institution delivers competency-based education programs with associated

learning outcomes embedded in the curriculum (CBE Network, 2014-2017). Dr. Dodge serves as the chair of the Board of Directors.

The U.S. Department of Education approves CBE programs through the Direct Assessment process and recognizes only six American postsecondary institutions as eligible for Title IV funding within the CBE Network. Brandman is one of the Direct Assessment institutions.

To support financial aid application processing for institutions delivering competency-based education, [20] the CBE Network (CBEN) created a guide that serves as a comprehensive resource for financial aid practitioners and those contemplating competency-based education delivery (CBEN, 2016).[21] This resource provides detailed instructions on how to cross-walk competency-based education delivery to systems and structures that rely heavily on credit hours and term-based models. The capacity of CBE institutions to administer and deliver government financial aid to students using supporting tools that demystify the process illustrates the importance of a system-level approach. This joint effort by the government and CBEN has contributed significantly to the facilitation of student success and mobility.

As a further support to future CBE institutions and current members, the CBEN launched an online *Competency-Based Education Network Design Planner* in June 2016 (CBE Network, June 2016).[22] This tool provides resources to assist institutions with creating scalable models for delivery of curriculum that embeds learning outcomes.

Another foundational contribution to creating system-wide supports include the CBEN's recently drafted quality principles and standards for competency-based education programs that are "*designed to address, head on, the quality and intentionality of competency-based education (CBE) programs and how well these programs meet the needs of students and institutions"* (CBE Network, October 20, 2016). Currently available for public comment and intended to apply to any CBE program regardless of approach, the eight principles or standards are:

- *"Coherent, competency-driven program and curriculum design*
- *Clear, measurable, meaningful and complete competencies*
- *Credential-level assessment strategy with robust implementation*
- *Intentionally designed and engaged student experience*
- *Collaborative engagement with external partners*
- *Transparency of student learning*

[20] To learn more about U.S. federal student aid, visit https://fafsa.ed.gov/.
[21] To view the full guide, see http://www.cbenetwork.org/sites/457/uploaded/files/QuestionsFinancialAidProfessionalsShouldAskCBE_CBEN_2016.pdf.
[22] For access to the planning tool, see http://www.cbedesignplanner.org/.

- *Evidence-driven continuous improvement processes*
- *Demonstrated institutional commitment to capacity for CBE innovation"* (October 26, 2016).

Supporting rubrics are under development by CBEN with the goal to launch the new principles, standards, and rubrics in early 2017.

***Accountability and Validation Processes***

At Brandman, every course in the *MyPath* degree model for both the BBA and the BSIT leverages technology and delivers fully online modules (courses) providing ongoing and immediate capture of student assessment data (Brandman University, 2017d). As a core feature of the model, this capacity enables faculty and administrators to ensure reflection and continuous improvement to competency-based education delivery.

According to Dr. Dodge, the University also delivers accelerated programs outside of the two CBE degrees which involve 2.5 hours of in-person instruction supported by 2.5 hours of online instruction each week. The credit hour programs offer fully online and blended programs (2017d).

To support the diverse delivery modes and program structures, Brandman uses the unifying framework of the five institutional learning outcomes supported by program-specific learning outcomes and competencies for both the CBE programs and the credit-based programs. Table 1 provides a comparison between two different Schools at the University to illustrate the range of program-specific learning outcomes in place.

When designing rubrics, Brandman leadership examined the American Association of Colleges and Universities' (AA&CU) VALUE Rubrics and used this framework although with sufficient flexibility to allow faculty and program areas to adapt components as needed. Generally, the proficiency levels in place include Emerging/Not Progressing, Developing/Progressing, Proficient, and Exemplary.[23] Faculty apply the appropriate score for each summative assessment using this rubric when assessing each competency.

On an biennial basis, the University monitors the outcomes of the rubrics assessment for each program learning outcome and creates *Program Assessment Templates* to assist faculty with their reflective reviews and to aid them with implementing targeted improvements (Brandman University, 2017f; see Appendix 4D for a sample). These *Templates* provide details on several

[23] For an example of the dashboard and rubric mechanics required to support grading students' work in the LMS used at Brandman, see https://www.brandman.edu/files/documents/cii/LiveText_for_Faculty_Grading_Student_Submissions.pdf.

fronts to ensure that when faculty review their program, they do so considering the larger context. For example,[24]

> *"The Program Assessment Template includes data on student learning (e.g., rubric data for PLOs aggregated and disaggregated by delivery model and campus location), graduation and retention data, student opinion survey, and course quality" (2017f).*

*Table 1: Sample of Program Learning Outcomes at Brandman University*

| **School of Arts and Science: BA in Psychology Learning Outcomes** | **School of Arts and Science: BA in Liberal Studies** |
|---|---|
| *Written Fluency: Compose written arguments which are coherent, grammatically correct, and rhetorically aware.*<br>*Oral Fluency: Present effective, audience-appropriate oral presentations that develop and support a point.*<br>*Application of Theory: Connect psychological theory to real life applications.*<br>*Human Behavior: Examine psychological principles of human behavior from a historical perspective.*<br>*Research Methods and Statistics: Understand methodology and statistical techniques related to behavioral science research.*<br>*Scientific Writing: Apply appropriate methods of scientific writing in APA format.*<br>*Life Span Development: Understand and apply the major theories related to the entire lifespan from conception through childhood, adolescence, young adulthood, middle-age, and late adulthood.*<br>(Brandman, 2017e) | *Program Learning Outcomes (Subject Matter Preparation)*<br>*Educational Perspectives: Analyze the relationships between education, self, society and nature*<br>*Child Development: Apply theories of social, emotional, cognitive, and physical development to learning and teaching.*<br>*Research: Create an applied research project*<br>*Subject Matter Knowledge: Apply subject matter knowledge in an educational context*<br><br>*Program Learning Outcomes (Multiple Subject Credential)*<br>*Focused Inquiry: Examine classroom, school and the community contexts in preparation for making instructional decisions.*<br>*Positive Learning Environment: Develop and utilize classroom management strategies that support student learning and encourage positive social interaction.*<br>*Instruction: Design differentiated instruction based on the needs of students.*<br>*Assessment: Utilize a variety of assessment data to inform instruction.*<br>*Collaboration: Collaborate with families, colleagues, and community agencies, and use community resources to support students' development and learning*<br>*Clinical Practice: Apply subject matter pedagogical skills in authentic settings and continually reflect on and evaluate the effects of decisions and actions on others.*<br>(Brandman, 2017e) |

[24] For further details on Brandman's program review process, see https://www.brandman.edu/assessment/program-review.

### *Technology*[25]

The University currently uses two Learning Management Systems: *Blackboard*[26] for credit hour and *Sagence Learning*[27] for the Brandman *MyPath* competency-based education programs. For credit hour programs, the University utilizes *LiveText*[28] as the educational portfolio platform; for Brandman *MyPath* (competency-based programs), the University utilizes *TenLegs*[29][5] as the comprehensive student record and career portfolio platform. It is currently being piloted for the Brandman *MyPath* program.

Brandman stores summative assessment scores in the student information system which is part of the Ellucian suite of products called *Banner Student.*[30] To do this, the in-house information technology team built a course shell to capture competencies which are then assignable to individual students. This enhancement required Brandman to implement commercial middleware to provide real-time connectivity between the student information system and learning management system (LMS).

The middleware orchestrates the creation and distribution of badges through *Credly*.[31] *Parchment*[32] handles request for transcripts and the new comprehensive student record for both credit hour and competency-based programs. Per Dr. Dodge, the commercial middleware connects these systems and ensures interoperability which, in turn, enables student and faculty support and data analytics as well as personalized communications (personal communications).

### *Student Mobility and Transfer*

New students transfer coursework into a CBE program based on the University's cross-walk of courses to competencies. The dual transcript which includes the competency transcript (CSR) and a credit-hour transcript, facilitates a Brandman student's ability to transfer competencies to other institutions. Further, the portfolios students create remain accessible to them for a total of five years which includes at least one year beyond graduation. As a result, if a student were to transfer to another institution, the comprehensiveness and depth of information available regarding the student's accomplishments and the information on the competencies and outcomes achieved, all of which are embedded in the comprehensive student record,

---

[25] Personal Communications- The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.
[26] For more information on Blackboard: http://www.blackboard.com/learning-management-system/blackboard-learn.aspx.
[27] For more information on Sagence: http://www.sagencelearning.com/.
[28] For more information on LiveText: https://www.livetext.com/.
[29] For more information on TenLegs: http://www.tenlegs.com/.
[30] For more information on Banner Student: http://www.ellucian.com/Software/Banner-Student/.
[31] For more information on Credly: https://credly.com/.
[32] For more information: http://www.parchment.com/.

would likely be very helpful to admissions and transfer assessment staff at subsequent institutions.

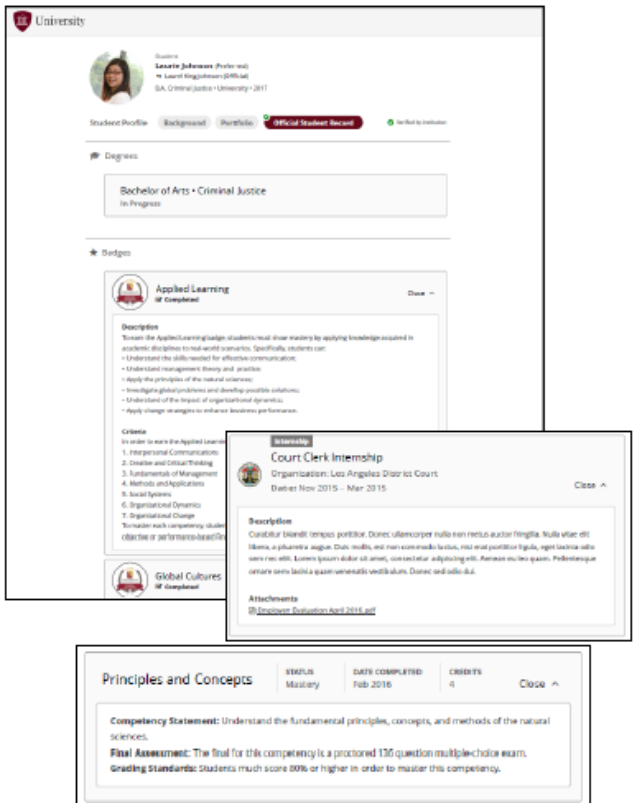
The motivations for Brandman to build these competency-based degrees and create badging capacity and portals showcasing institutionally validated and self-reported student work included a commitment to improve the quality of education and education delivery; provide affordable education; and facilitate transition into the workforce for its graduates (Brandman, March 27, 2014). The benefits of leveraging competency-based education and creating understandable, comprehensive, and accessible records to showcase this work hold promise. As these new credentials at Brandman are in the very early stages of implementation, it is premature to assess their effectiveness in relation to enhanced mobility into the workforce; however, the intentional alignment to externally validated learning outcomes frameworks, rubrics, and workforce related insights informed by employer advisory boards suggests potential for enhancing transitions into the workforce.

# APPENDIX 4B – Example of a Brandman Comprehensive Student Record

## CSR- University Verified

**Artistic Mock Up**

BRANDMAN University
CHAPMAN UNIVERSITY SYSTEM




### University Verified Documents

- ❑ Degrees, badges, certifications & experience, and competencies
- ❑ Official records synced automatically with Student Information System (Banner)
- ❑ Summary view with click to open metadata
  - -Description
  - -Criteria
  - -Evidence
- ❑ Externally shareable links & printable

### CSR Tailoring

- ❑ Ability to create multiple versions tailored for unique career fields or educational needs
- ❑ Distinct externally shareable links

### Verification Workflow

- ❑ Submission of external certifications and experience for university verification

*Reprinted with permission by Dr. Laurie Dodge*

# APPENDIX 4C – Brandman University Digital Badges provided to Students


*Reprinted with permission by Dr. Laurie Dodge*

# APPENDIX 4D – Sample of Rubric and Aggregated Analytics used at Brandman

**Program Learning Assessment Results**
**BA in Liberal Studies**
Fall Collection
(Fall 1 2011, Fall 2 2011, Winter 2012, Spring 1 2012, Spring 2, 2012 Summer 2012, Fall 1 2012, Fall 2 2012)

**Aggregated Results**[1, 2, 3]

| PLO 1 - Constitutional Governance (POSU-343) | | | | | | | | n= 76 |
|---|---|---|---|---|---|---|---|---|
| Rubric Criterion | Exemplary | | Proficient | | Developing | | Emerging | |
| *Content Accuracy* | 65.8% | 50 | 27.6% | 21 | 5.3% | 4 | 1.3% | 1 |
| *Writing, Organization, and Written Communication* | 38.2% | 29 | 40.8% | 31 | 18.4% | 14 | 2.6% | 2 |
| *Application of Theory* | 23.7% | 18 | 59.2% | 45 | 14.5% | 11 | 2.6% | 2 |
| *Documentation Format and Academic Integrity* | 35.5% | 27 | 34.2% | 26 | 23.7% | 18 | 6.6% | 5 |
| Average Performance Levels | 40.8% | | 40.5% | | 15.5% | | 3.3% | |

| PLO 2 - Multiculturalism (COMU-315) | | | | | | | | n= 290 |
|---|---|---|---|---|---|---|---|---|
| Rubric Criterion | Exemplary | | Proficient | | Developing | | Emerging | |
| *Project Alignment to Instructions* | 65.2% | 189 | 29.0% | 84 | 5.5% | 16 | 0.3% | 1 |
| *Understanding of Theory and/or Critical Concepts* | 62.8% | 182 | 30.0% | 87 | 6.2% | 18 | 1.0% | 3 |
| *Clarity of Argument/Position* | 54.8% | 159 | 38.3% | 111 | 6.2% | 18 | 0.7% | 2 |
| Average Performance Levels | 60.9% | | 32.4% | | 6.0% | | 0.7% | |

| PLO 3 - Child Development (PSYU-323) BLENDED COURSE SECTIONS[4] | | | | | | | | n= 84 |
|---|---|---|---|---|---|---|---|---|
| Rubric Criterion | Exemplary | | Proficient | | Developing | | Emerging | |
| *Understanding of Theory and/or Critical Concepts* | 57.1% | 48 | 29.8% | 25 | 11.9% | 10 | 1.2% | 1 |
| *Application of Theory* | 52.4% | 44 | 32.1% | 27 | 15.5% | 13 | 0.0% | 0 |
| *Content Accuracy* | 73.8% | 62 | 17.9% | 15 | 6.0% | 5 | 2.4% | 2 |
| *Writing and Organization* | 45.2% | 38 | 42.9% | 36 | 8.3% | 7 | 3.6% | 3 |
| *Match with Assignment* | 58.3% | 49 | 29.8% | 25 | 9.5% | 8 | 2.4% | 2 |
| Average Performance Levels | 57.4% | | 30.5% | | 10.2% | | 1.9% | |

| PLO 3 - Child Development (PSYU-323) ONLINE COURSE SECTIONS[4] | | | | | | | | n= 213 |
|---|---|---|---|---|---|---|---|---|
| Rubric Criterion | Exemplary | | Proficient | | Developing | | Emerging | |
| *Understanding of Theory and/or Critical Concepts* | 43.7% | 93 | 31.5% | 67 | 17.8% | 38 | 7.0% | 15 |
| *Application of Theory* | 47.9% | 102 | 27.2% | 58 | 17.4% | 37 | 7.5% | 16 |
| *Content Accuracy* | 63.8% | 136 | 27.2% | 58 | 6.6% | 14 | 1.9% | 4 |
| *Writing and Organization* | 52.6% | 112 | 36.6% | 78 | 9.9% | 21 | 0.9% | 2 |
| *Match with Assignment* | 65.7% | 140 | 20.2% | 43 | 9.9% | 21 | 4.2% | 9 |

Source: Brandman University. (Fall 2012-13). Program Learning Assessment Results. Irvine, California: Author. Retrieved April 19, 2017 from https://www.brandman.edu/files/documents/assessment/BALBST-2012-2013-Fall-Collection.pdf

# APPENDIX 5 - Case Study: Elon University[33]

***Institutional Background***

Elon is a private postsecondary institution offering a non-profit liberal arts education to a total student population of 6600+ and credentials up to and including doctoral level studies. Located in Elon, North Carolina, the University delivers a range of program offerings including arts and sciences, education, business, law, communications, and health sciences. In 2017, U.S. News and World Report awarded Elon first place ranking in the following categories: Regional Universities South, Best Undergraduate Teaching, and Most Innovative Schools.[34] Elon embraces student focused practices, learner centred pedagogy and experiential education – all of which are deeply embedded in the institutional culture and serve as the backdrop that inspires the various institutional innovations, including in registrarial service delivery and credentialing. It is accredited by the Southern Association of Colleges and Schools (www.sacs.org). Further details on Elon's history are documented in George Keller's *Transforming a College: The Story of a Little-Known College's Strategic Climb to National Distinction*.

***Alternative Credentials***

For the purposes of this study, Elon University's contributions to alternative credentials include two examples:

- the *Visual Elon eXperiential Profile (Visual EXP)* launched in May 2016; [35] and,
- the *Elon Experiences Transcript* (called "*EET*" or "*Gold"* transcript) which is Elon's original co-curricular record launched in 1994 and, since 2013, distributed with the traditional academic transcript; it is a text-based, flat file that outlines achievement of co-curricular and experiential experiences.[36]

Appendices 5B and 5C provide examples of each of these credentials.

Given Elon University's historical focus on experiential learning both in and outside the classroom, the new credentials represent ground-breaking approaches for depicting achievement of learning outcomes in a manner that appears to be resonating with employers

[33] Information on Elon University contained in this report is based on a site visit by the researchers and a variety of interviews with administrative and academic leadership and students conducted to support this study. Appendix 1 provides details on the people interviewed for this project. The authors wish to extend gratitude to Dr. Rodney Parks and to Jesse Parrish for their support of this research and for providing permission for the inclusion of this summary in the final published report.

[34] http://colleges.usnews.rankingsandreviews.com/best-colleges/elon-university-2927

[35] The *Visual EXP* represents the same experiential learning activities as on the *EET*; however, the material is dynamically structured with a pleasing graphical display and interactive features that allow the user to drill down into increasing levels of detail. Innovations of this nature result from Elon's access to a Lumina grant as part of the AACRAO and NASPA partnership to advance creation of comprehensive learner records within the United States. More details regarding this initiative are available online at the AACRAO site (aacrao.org).

[36] This document represents Elon's original foray into alternative credentialing.

and other third parties. These credentials identify, validate, and integrate faculty and department learning expectations across the five institutionally approved categories of experiential learning. This type of credential provides students and third parties an interesting and comprehensive institution-wide approach to presenting student learning achievements.

In addition to the above, Elon offers students the following capstone institutional credentials:

- A traditional academic transcript with courses and credits noted;
- A unique record for high school students who attend Elon during the summer months (called the "Elon Academy Transcript");[37]
- A traditional paper diploma; and,
- An electronic diploma (called the "CeDiploma").[38]

These credentials are not the focus of this study.

***Student Mobility and Transfer***

Early indicators suggest Elon's experiential credentials are facilitating prior learning and transition to subsequent institutions and third parties such as employers. Jesse Parrish, Assistant Registrar at Elon, indicated students do not always recall or value the experiential opportunities undertaken during their studies (personal communications). Therefore, the experiential transcript, which evidences student learning through experience that is either embedded in an existing course, coded as a unique course and validated by faculty and staff throughout a student's time at Elon, or captured through co-curricular exposure, becomes a dynamic and comprehensive portfolio with utility beyond Elon. For employers, students leave with a credential that demonstrates the amalgam of the experiences undertaken. For subsequent institutions, providing validated credentials crossing both curricular and co-curricular learning appear to be resulting in additional recognition, whether to support prior learning, admission, or transfer credit assessment. While anecdotal, two Elon students interviewed for this study validated these points (Fryer, J., Shaw, M.).

A recently completed study by the Elon Registrar's Office indicates that employers and graduate admissions officers value the newly created *Visual EXP* transcript (Parrish, J., Fryer, J., Parks, R., 2017). Approximately 80% of the 140+ respondents to Elon's survey indicated that the transcript differentiates Elon applicants; 72% noted that it provides useful information to inform the hiring process; and, 42% suggested that it would increase access to the interview process (pages 7-8). This early research is promising.

[37] For further information on the Elon Academy Transcript, see https://www.elon.edu/e-net/Article/137533.
[38] For further information on the CE Diploma, see https://www.elon.edu/CeDiploma/

***Institutional Learning Outcomes or Equivalent***

Understanding the entire Elon approach is critical to appreciating the full value of the alternative credentials. To receive an undergraduate degree from Elon, students must fulfill the experiential learning requirement (called "*ELR*") by accumulating at least two units of experiential learning; successful completion of these units represents a threshold graduation requirement, an expectation formally embedded in every discipline since 2002 and reflective of the University's long-standing commitment to experiential education. Five categories of experiential learning exist: research, internship, study abroad/study USA, leadership, and service learning. In *Expanding the Academic Record: Revolutionizing Credentials for Today's Employers*, Parrish, Fryer, and Parks (2017) suggest the categories of learning provide:

> *… a significant variety of [learning] opportunities, whether local or abroad, general or specific to a field of study, lasting a week or an entire semester. Regardless, each experience is overseen by one or more faculty mentors and is designed to espouse the tenets of a traditional liberal arts education. Participation in these experiences exposes students to concepts, theories, and methods that are synthesized into the curriculum, and their mentors help them make connections between the two. The combination can be transformative, producing graduates that can think critically and solve problems based on prior experience (pages 3 to 4).*

Elon students explore the five categories noted above through structured learning opportunities that include preparation, execution, reflection, and guided mentoring.

> *By engaging students in opportunities that integrate knowledge and experience, the ELR fosters an understanding and life-long appreciation for learning. Students engage in a process that includes preparation, action, and reflection to develop the habits of mind required to learn effectively from experience and the commitment to put knowledge into action as responsible global citizens (Elon University, 2016a).*

Experiential learning at Elon is measured in units, the weighting of which varies for each experience. The examples in Table 2 are featured on the traditional academic transcript, the *EET*, and the *Visual EXP*, although with more depth and breadth shared when published on the latter two documents.

*Table 2: Overview of Weighting and Type of Elon University Experiences for which Credit is Granted to fulfill Graduation Requirements (adapted form Elon, 2016-17)*

| Category | Experience | Weighting |
|---|---|---|
| Global education | Study abroad | 4 or 8 credit hours of study abroad equals 1 or 2 units respectively |
| Undergraduate Research | In-class course focused on providing research experience[39] | 1 credit hour equals 1 unit |
| Undergraduate Research | Summer Undergraduate Research Program | 2 units |
| Service Learning | Designated service learning course | 1 unit |
| Service Learning | Pre-approved service learning experience mentored by the Kernodle Center | 1 to 2 units (40 hours plus per unit) |
| Leadership | Pre-approved leadership experience mentored by the Center for Leadership | 1 to 2 units (40 hours plus per unit) |
| Leadership | Designated ELR leadership course | 1 unit |

While the *Visual EXP* and the original *EET* provide the complete record of a student's experiential learning activities, the traditional academic transcript contains evidence of those that cross both the academic and co-curricular realm; therefore, the accomplishments are noted twice although are differently represented - once on the academic transcript as an experiential learning requirement (i.e., as an "*ELR*" course or part of a course) and again on the *Visual EXP* and the *EET* as an activity within one of five categories of learning noted above.

An example where this might occur is when undergraduate research is embedded in a course or there is an internship associated with a course or program. Examples where learning experiences bridge both the curricular and co-curricular realm occur in the service learning, undergraduate research, internships, and global education categories. On the traditional transcript, experiential learning in these four categories is coded as a course (for example, where research was undertaken) along with the term, year, and grade, leaving out any of the rich explanation of the depth and breadth of the experience. Alternatively, the experiential transcripts provide additional details that begin to reflect the comprehensiveness of the experience.

***Accountability and Validation Processes***

A federated accountability and validation model best describes Elon's approach to cataloguing and verifying the learning experiences of students. Academic faculty across the institution and or qualified and trained staff in departments aligned with each of the experiential learning categories support and verify ELR experiences. The Registrar's Office validates the final credentials and provides the leadership, facilitation, and tools to ensure support for Elon community members.

[39] For further information on a sample course see http://www.elon.edu/e-web/academics/undergraduate_research/499.xhtml.

The above accountability and validation framework holds true whether the learning experience results within or as part of a classroom or program or outside of the classroom. The relevant departments that validate the experiences outside the classroom include the Kernodle Center for Service Learning and Community Engagement, the Office of Student Involvement, the Isabella Cannon Global Education Center, the Office of Undergraduate Research, and Elon's Student Professional Development Center.

Rigorous oversight supports these experiences. Using undergraduate research as an illustrative example, students must be registered at the second-year level or higher, have approval of a Faculty Mentor and Department Chair, present a minimum 3.0 GPA, and have completed departmental prerequisites. Further, university ethics approval must be obtained prior to proceeding with any research, if appropriate. The Council on Undergraduate Research uses the following definition to describe this category:

> *An inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline (Elon University, 2016b).*

To recognize the role of faculty members, Elon expanded this definition in 2006 (i.e., the Elon Undergraduate Research Program Advisory Committee) to the following:

> *Undergraduate Research and Creative Endeavors include activities undertaken by an undergraduate student with significant faculty mentoring that:*
>
> 1. *Lead to new scholarly insights and or creation of new works;*
> 2. *Add to the discipline; and*
> 3. *Involve critical analysis of the process and or outcome of the activities.*
>
> *Quality undergraduate research and creative activity result in a product that has potential for peer-reviewed dissemination in the form of presentations, publications, exhibitions or performances (2016b).*

The stated purpose of the course model approach is to provide a means for the student to receive credit and "*for compensating faculty who mentor such students*" (2016b).

***Creating Visually Appealing and Accessible Credentials***

The look and functionality of the *Visual EXP* is unique to Elon (see Appendices 5B and 5C); this approach to presenting experiential learning achievement represents a priority focus in the design of the credential. The Elon University Registrar, Dr. Rodney Parks, aspired to create a visually appealing document that outlined a student's exposure to experiential learning across the five categories in a manner that would resonate with third parties, particularly future employers (personal communications). The transcript dynamically resizes depending on the experiences a student completes; the number of categories displayed also recalibrates

depending on which learning experiences students pursue. For example, if they never pursue study abroad activities, that category would not appear on the credential.

*Figure 3: Elon's Visual EXP*

The *Visual EXP* pictured above in Figure 3 presents student achievement in a short, two-page format. It showcases the categories and within each, the student activities (presented chronologically), the years, and the terms (e.g., "spring"). For example, "Special Olympics" would fall within the category of "Service Learning". For each of the five categories, the *Visual EXP* displays the overall number of hours or terms (i.e., "55 hours" of Service Learning or "8 terms" of undergraduate research). The record does not include any proficiency levels or grades.

The *Gold* experiential transcript, which is the original Elon co-curricular record, contains the categories (e.g., "Service Learning"), the specific types of experience (e.g., "Elon Service Day"), the years and terms in which the experiences were completed, and the number of hours completed per specific experience. As with the *Visual EXP*, no final results are coded on the record.

The academic transcript identifies which courses contain an ELR component. Grades are assigned to the courses.

***Technology***[40]

Elon utilizes different technology providers and platforms to house the student data and support the delivery of the various credentials to students and other third parties. The five categories and the ELR related experiences, whether delivered within or outside of courses, and evidence that a student partook of an ELR experience are stored within the student information system which, in Elon's case, is *Ellucian's Colleague* platform. The data is extracted each day into two complementary text files – one with student information, one with experiential information – which are uploaded in tandem to the "*Vext"* platform. This platform, custom-

[40] Personal Communications - The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.

built by a contracted programmer using funds awarded by the Lumina grant, is used to create the *Visual EXP*.[41]

In collaboration with Campus Technology Support, Dr. Rodney Parks slightly customized the *Colleague* system to support this work. Use of an outside vendor (i.e., *Parchment)* facilitates online ordering of individual or catenated PDF transcripts and *Visual EXP* documents.

Elon also uses *SmartCatalog IQ's* online catalog system. This system has the capability to store course-specific learning outcomes, but the institution has not yet adopted the use of this functionality. Consequently, learning outcomes are not featured on any of Elon's credentials. However, Dr. Parks is considering this type of enhancement as an area of focus for the future. As another example of future innovations, the Registrar plans to extend institutional capacity to provide just-in-time access for academic and student affairs advisors to the full array of experiences and studies undertaken by each student (personal communications). This level of transparency and access promises to facilitate high impact retention counselling for students by advisors of all types across the institution.

***Governance***

The Elon University Registrar and Assistant Registrar rely on an Advisory Board called the *Experiential Education Advisory Committee*, which is a body of cross-campus experts who guide the Registrar's Office when developing credentialing enhancements and featuring achievement of experiential learning outcomes. This group helps to establish the direction and standards that guide assessment frameworks and the capture, presentation, validation, and delivery of the transcripts. According to Dr. Parks, there are no standards available across North America for guiding development of these types of initiatives; hence, the value of this internal committee (personal communications).

***Supporting High Impact Advising***

The intention of these credentials and supporting platforms such as *Colleague* include providing students and Elon staff with the necessary tools to plan the breadth and depth of learning experiences and shape how students present themselves upon graduation. Regular communication about the credentials to students and the staff community at Elon, and to other institutions and allied organizations represents an essential component of the Registrar's Office outreach strategy. In addition to maintaining websites for students, staff, and other institutions that explain the experiential transcripts, the Registrar's Office visits sections of the mandatory first-year seminar course called "*Elon 101*" to provide information about these credentials and emphasize their eventual utility. They also use this venue to ensure students appreciate what employers are looking for, the value of experiential education, and the merits of accessing, chronicling and validating high impact experiences. Further, the staff work with advisors and the Student Professional Development Centre to extend usage and knowledge about the

[41] Further information is available online at http://www.elon.edu/e-web/students/elon_experiences/otherins.xhtml

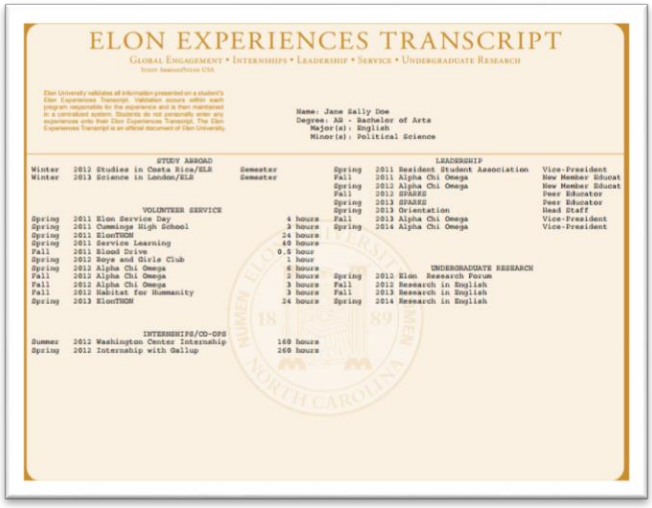
credentials as potential tools to leverage and enhance advising conversations with students at high impact moments.

According to Dr. Parks, the pervasiveness of experiential learning opportunities throughout the curriculum and beyond result in many students easily exceeding the required number of experiential learning units (personal communications). The *EET* and *Visual EXP* records provide a meaningful way to showcase this engagement.

# APPENDIX 5B - Sample of Experiential Transcript – the "Gold Transcript" from Elon University

The *Gold* transcript provides a summary of experiential outcomes achieved across five functional areas: research, internship, service, global education, and leadership. The credential is produced in both paper and PDF and is transmitted at a student's request. The institution has the capability to send this credential as XML, but due to a lack of transfer standards in the past, Elon does not currently have any XML exchange partners and does not exercise this option.

Page 1



ELON EXPERIENCES TRANSCRIPT

GLOBAL ENGAGEMENT • INTERNSHIPS • LEADERSHIP • SERVICE • UNDERGRADUATE RESEARCH

Elon University validates all information presented on a student's Elon Experiences Transcript. Validation occurs within each program responsible for the experience and is then maintained in a centralized system. Students do not personally enter any experiences onto their Elon Experiences Transcript. The Elon Experiences Transcript is an official document of Elon University.

Name: Jane Sally Doe
Degree: AB - Bachelor of Arts
Major(s): English
Minor(s): Political Science

STUDY ABROAD

| | | | |
|---|---|---|---|
| Winter | 2012 | Studies in Costa Rica/ELR | Semester |
| Winter | 2013 | Science in London/ELR | Semester |

VOLUNTEER SERVICE

| | | | |
|---|---|---|---|
| Spring | 2011 | Elon Service Day | 4 hours |
| Spring | 2011 | Cummings High School | 3 hours |
| Spring | 2011 | ElonTHON | 24 hours |
| Spring | 2011 | Service Learning | 40 hours |
| Fall | 2011 | Blood Drive | 0.5 hour |
| Spring | 2012 | Boys and Girls Club | 1 hour |
| Spring | 2012 | Alpha Chi Omega | 6 hours |
| Fall | 2012 | Alpha Chi Omega | 2 hours |
| Fall | 2012 | Alpha Chi Omega | 3 hours |
| Fall | 2012 | Habitat for Humanity | 3 hours |
| Spring | 2013 | ElonTHON | 24 hours |

INTERNSHIPS/CO-OPS

| | | | |
|---|---|---|---|
| Summer | 2012 | Washington Center Internship | 160 hours |
| Spring | 2012 | Internship with Gallup | 260 hours |

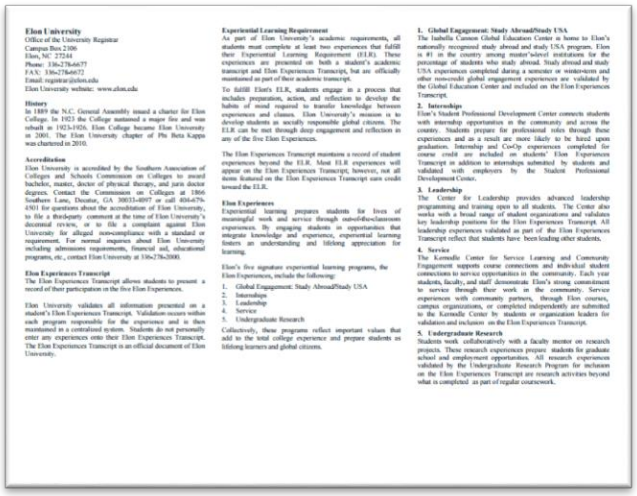
LEADERSHIP

| | | | |
|---|---|---|---|
| Spring | 2011 | Resident Student Association | Vice-President |
| Fall | 2011 | Alpha Chi Omega | New Member Educat |
| Spring | 2012 | Alpha Chi Omega | New Member Educat |
| Fall | 2012 | SPARKS | Peer Educator |
| Spring | 2013 | SPARKS | Peer Educator |
| Spring | 2013 | Orientation | Head Staff |
| Fall | 2013 | Alpha Chi Omega | Vice-President |
| Spring | 2014 | Alpha Chi Omega | Vice-President |

UNDERGRADUATE RESEARCH

| | | | |
|---|---|---|---|
| Spring | 2012 | Elon Research Forum | |
| Fall | 2012 | Research in English | |
| Fall | 2013 | Research in English | |
| Spring | 2014 | Research in English | |

Page 2



**Elon University**
Office of the University Registrar
Campus Box 2100
Elon, NC 27244
Phone: 336-278-6677
FAX: 336-278-6672
Email: registrar@elon.edu
Elon University website: www.elon.edu

**History**
In 1889 the N.C. General Assembly issued a charter for Elon College. In 1923 the College sustained a major fire and was rebuilt in 1923-1926. Elon College became Elon University in 2001. The Elon University chapter of Phi Beta Kappa was chartered in 2010.

**Accreditation**
Elon University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award bachelor, master, doctor of physical therapy, and juris doctor degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097 or call 404-679-4501 for questions about the accreditation of Elon University, to file a third-party comment at the time of Elon University's decennial review, or to file a complaint against Elon University for alleged non-compliance with a standard or requirement. For normal inquiries about Elon University including admissions requirements, financial aid, educational programs, etc., contact Elon University at 336-278-2000.

**Elon Experiences Transcript**
The Elon Experiences Transcript allows students to present a record of their participation on the five Elon Experiences.

Elon University validates all information presented on a student's Elon Experiences Transcript. Validation occurs within each program responsible for the experience and is then maintained in a centralized system. Students do not personally enter any experiences onto their Elon Experiences Transcript. The Elon Experiences Transcript is an official document of Elon University.

**Experiential Learning Requirement**
As part of Elon University's academic requirements, all students must complete at least two experiences that fulfill their Experiential Learning Requirement (ELR). These experiences are presented on both a student's academic transcript and Elon Experiences Transcript, but are officially maintained as part of their academic transcript.

To fulfill Elon's ELR, students engage in a process that includes preparation, action, and reflection to develop the habits of mind required to transfer knowledge between experiences and classes. Elon University's mission is to develop students as socially responsible global citizens. The ELR can be met through deep engagement and reflection in any of the five Elon Experiences.

The Elon Experiences Transcript maintains a record of student experiences beyond the ELR. Most ELR experiences will appear on the Elon Experiences Transcript; however, not all items featured on the Elon Experiences Transcript earn credit toward the ELR.

**Elon Experiences**
Experiential learning prepares students for lives of meaningful work and service through out-of-the-classroom experiences. By engaging students in opportunities that integrate knowledge and experience, experiential learning fosters an understanding and lifelong appreciation for learning.

Elon's five signature experiential learning programs, the Elon Experiences, include the following:

1. Global Engagement: Study Abroad/Study USA
2. Internships
3. Leadership
4. Service
5. Undergraduate Research

Collectively, these programs reflect important values that add to the total college experience and prepare students as lifelong learners and global citizens.

**1. Global Engagement: Study Abroad/Study USA**
The Isabella Cannon Global Educators Center is home to Elon's nationally recognized study abroad and study USA program. Elon is #1 in the country among master's/level institutions for the percentage of students who study abroad. Study abroad and study USA experiences completed during a semester or winter/term and other non-credit global engagement experiences are validated by the Global Education Center and included on the Elon Experiences Transcript.

**2. Internships**
Elon's Student Professional Development Center connects students with internship opportunities in the community and across the country. Students prepare for professional roles through these experiences and as a result are more likely to be hired upon graduation. Internship and Co-Op experiences completed for course credit are included on students' Elon Experiences Transcript in addition to internships submitted by students and validated with employers by the Student Professional Development Center.

**3. Leadership**
The Center for Leadership provides advanced leadership programming and training open to all students. The Center also works with a broad range of student organizations and validates key leadership positions for the Elon Experiences Transcript. All leadership experiences validated as part of the Elon Experiences Transcript reflect that students have been leading other students.

**4. Service**
The Kernodle Center for Service Learning and Community Engagement supports course connections and individual student connections to service opportunities in the community. Each year students, faculty, and staff demonstrate Elon's strong commitment to service through their work in the community. Service experiences with community partners, through Elon courses, campus organizations, or completed independently are submitted to the Kernodle Center by students or organization leaders for validation and inclusion on the Elon Experiences Transcript.

**5. Undergraduate Research**
Students work collaboratively with a faculty mentor on research projects. These research experiences prepare students for graduate school and employment opportunities. All research experiences validated by the Undergraduate Research Program for inclusion on the Elon Experiences Transcript are research activities beyond what is completed as part of regular coursework.

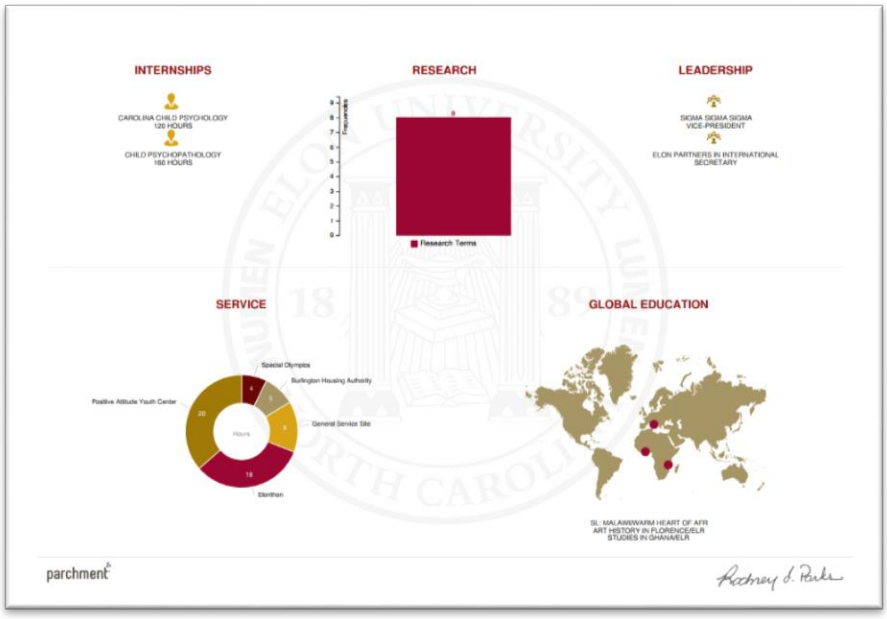
## APPENDIX 5C – Sample of Experiential Transcript – the "Visual Experiential Profile – Visual EXP" from Elon University

Launched in Spring 2016 to the Class of 2016 graduates, this credential chronologically depicts experiential outcomes achieved across the same five functional categories as the *Gold* transcript; however, this is accomplished in a more visually appealing manner. It represents an alternative to the traditional academic transcript and the *Gold* transcript and is provided to students along with their diploma at graduation. Students can also order this document as an interactive PDF. Further, if a student only achieves outcomes within a subset of categories, the images in the *Visual EXP* resize to ensure the document's visual integrity is maintained. Currently, this credential cannot be distributed via XML; however, it is transmitted as a PDF. The development was led by the Registrar, Dr. Rodney Parks, with support from institutional partners, a third-party vendor corporation (Parchment), and a consultant.

More information about the *Visual EXP* is available online: http://www.elon.edu/E-Net/Article/132343

Page 1


*Reprinted with permission by Dr. Parks, Elon University*




*Reprinted with permission by Dr. Parks, Elon University*

# APPENDIX 6 - Case Study: La Cité[42]

***Institutional Background***

Located in Ottawa, Canada, La Cité[43] is Ontario's largest publicly funded, French-language college offering 140 programs and credentials including certificates, diplomas, advanced diplomas, and baccalaureate degrees. Approximately 5,000 students study in programs such as administration, applied science, apprenticeship, construction and mechanics, electronics, health sciences, media, social sciences, and more.

La Cité's mission emphasizes an outcomes focus that amplifies a tie to its unique French-language mandate in that it seeks to create a skilled, committed and creative workforce capable of contributing to the economic, cultural, and social development of French Ontario and society more generally.

> *« Dans un milieu de vie francophone, La Cité forme une main-d'œuvre compétente, engagée et créative, capable de contribuer au développement économique, social et culturel de l'Ontario français et de la société »* (La Cité, 2017).

It furthers this commitment through its values of excellence, boldness, trust, and integrity.

> « *Excellence - La qualité indéniable de la programmation, de l'enseignement, de l'accompagnement et des services résulte d'une responsabilité partagée envers l'amélioration continue.*
>
> *Audace - La Cité ose remettre en question ses pratiques et proposer des façons innovantes de relever les défis de l'heure.*
>
> *Confiance - Le respect et l'ouverture d'esprit soutiennent la création des diverses communautés de travail dans un climat de confiance propice à la collaboration.*
>
> *Intégrité - La Cité valorise l'honnêteté, le professionnalisme et l'imputabilité individuelle et collective.* » (April 22, 2013, page 4)

These commitments represent critical drivers for La Cité's focus on transforming the learning environment and its distinct approach to showcasing student curricular and co-curricular successes and competency achievement (personal communications). Of relevance in this context is La Cité's commitment to establishing a tighter knit between curriculum and employer requirements. According to Chantal Thiboutot, Directrice principale, Planification institutionnelle et de l'imputabilité, La Cité strives to enhance the value of their students in the labour market and to answer the questions, "*Are students mastering what they should be in all*

[42] Information about La Cité contained in this report is based on a site visit by the researchers with administrative and academic leadership to support this study on April 11, 2017. Appendix 1 provides the interview list for this project.
[43] http://www.collegelacite.ca/

*their programs*?" and "*Is what we say we are teaching, actually occurring*?" (personal communications, April 11, 2017).

***Alternative Credential***

The focus of this study is La Cité's credentialing efforts aimed at creating what the leadership refers to as a "*Graduate Profile*." When fully launched, it will be the primary, student-facing environment for capturing and reflecting capstone achievements and faculty assessed and verified artifacts across both curricular and co-curricular learning experiences. The *Graduate Profile* constitutes a record of student achievement which is not intended to replace but to complement the academic transcript. The initiative represents a holistic approach for capturing, assessing, authenticating, and showcasing student achievement of institutional learning outcomes. The efforts emerge as a result of the institution's focus on living their mission and values. Moreover, it takes inspiration from the transformative learning work occurring at the University of Central Oklahoma (personal communication).

As a point of clarification, the *Graduate Profile*, while providing a lasting record of achievement, should not be interpreted as a document; instead, it is a custom-built e-portfolio which will capture and showcase student artifacts that demonstrate students' summative learning across both the curricular and co-curricular realms. Further, the program is informed by an institution-wide competency/learning outcomes framework (personal communications). Summative achievement will be awarded through the distribution of badges. As the status of the technology component of the project is still being developed, the leadership may decide to augment the types of credentials - beyond badges - allocated to students. This may include, as one example, providing recognition at the point of graduation (personal communications).

***Institutional Learning Outcomes***

According to Ms Thiboutot, La Cité began a consultation and review process approximately two years ago focused on identifying what more the College needed to do to enhance its commitments to students and the workforce (personal communication). As a fundamental expectation from the Ontario provincial government, all Ontario college programs must ensure programs consistently meet three standards: providing general education, and essential employability and vocational skills with the latter two expressed in terms of learning outcomes (Ministry of Advanced Education and Skills Development - MAESD, 2017). La Cité undertook two lines of inquiry to assist them in their review of the relevance and value of their overall institutional program; one was a survey of employers' expectations and the other a systematic analysis of the competencies embedded in the MAESD standards for each of their academic programs (personal communications). Insights from this work revealed gaps and corresponding opportunities for the College to define overarching institutional competencies expected of all graduates, regardless of their program of study.

At the direction of La Cité's Board, the College settled upon four core competencies (called "tenets"): Creative Capacity; Engagement; Bilingual Capacity; and a Spirit of Initiative and Enterprise. According to Claude Masse, La Cité's Director of Information Technology, the opportunity to showcase achievement of these competencies helps to provide employers with demonstrable evidence of what a student is able to do upon graduation, a capacity somewhat absent from traditional diplomas or transcripts (personal communications).

The College is currently in the process of weaving the four tenets into both the curriculum and the co-curricular programming through a separate but connected curriculum review project (personal communications). For this, La Cité is engaging in a mapping exercise to align the four tenets to existing courses and programs.

As a first step, the leadership team plans to conduct a year long, campus-wide inventory exercise to identify where and in which courses faculty are providing the core competencies/tenets and at what level of proficiency. In the summer of 2017, they further intend to identify which courses provide at least one activity at the Exposure level for each tenet. Simultaneously, select pilot projects will roll out to implement the full competency model in 5 or 6 academic programs.

As this work represents an essential component of the program on the curriculum side, this context is relevant to the *Graduate Profile*.

***Accountability and Validation Processes***

Based on the University of Central Oklahoma (UCO) proficiency model, the College adopted three proficiency levels to measure progression in each of the competencies; these levels include Exposure, Integration, and Transformation. Exposure might result from a student enrolling in a certificate program or a co-curricular activity. Integration involves a next level of reflection and engagement. Transformation speaks to experiences that, from the student's perspective, transformed their lives for the better. Awarding of badges for each of the levels within each of the competencies/tenets means each student might conceivably receive a total of twelve badges during their time at the College.

As the project remains in its developmental phases at La Cité, specifics regarding the proficiency levels are still emerging; however, the concepts being explored include ensuring the student is the driver whose self-reflections on these transformative experiences will be subject to review by institutional leadership before a badge is awarded (personal communications).

While in the early stages, the leadership is examining the existing curriculum to identify what programs or courses are reflecting the four tenets and at which proficiency level. The plan includes ensuring at least Exposure in each of the four tenets is evident and to close any gaps the emerge from the review. For example, if a program does not provide Exposure in at least one of the four tenets, they will be expected to add a relevant and related activity. Eventually, the goal is to ensure Exposure and Integration are minimally represented in all programs. It

should be noted that the Transformation level is not specifically represented in the curriculum, but rather is the responsibility of the highly motivated individual students to demonstrate.

***Governance***

As noted above, the La Cité Board played an instrumental role in establishing the mandate to develop the *Graduate Profile* and, along with senior leadership, will need to approve the final version. Further, senior leadership and the Board approved the four tenets and the focus on competency based learning.[44] The project team led by Chantal Thiboutot includes specialists with expertise in curriculum mapping, information technology, project management, faculty, and curriculum design. The project team reaches out or seeks the Registrar's involvement when needed. For select aspects of the project, faculty led the development particularly in the areas of curriculum mapping and developing the rubrics for the four tenets.

***Technology[45]***

Unlike the University of Central Oklahoma, La Cité is building a custom platform to provide e-portfolio functionality for the *Graduate Profile* using proprietary coding. Although the College uses a vendor Learning Management System (LMS), the new system will have the capacity to receive relevant data and student artifacts from any LMS and allow a student to push their work and badges into other external platforms such as LinkedIn. Currently, the technology leverages institutional servers; however, the capacity exists to store the *Graduate Profile* in the cloud. Students will be presented with a dashboard to manage their *Profiles* which will be layered over a database.

***Student Mobility and Transfer***

Given the infancy of the project, it remains premature to determine whether successfully achieving the different levels within the four tenets results in enhanced transition into the workforce. However, the employer research informed the rationale for moving in this direction at the very outset of the project with strong validation provided by the College's Board. This represents a potential future area of research for La Cité after full implementation of the Graduate Profile.

The goals for the project are mindful of supporting transfer into other institutions and exploring how best to facilitate transfer; however, this represents an area of future exploration (personal communications). It does appear that the *Graduate Profile* e-portfolio might provide benefits to credit assessment practices such as prior learning especially if students demonstrate and share the transformational work. La Cité's plan includes providing life-long access to the *Graduate*

[44] La Cité is not implementing competency-based education; rather, they are seeking to implement a competency-based framework to facilitate competency-based learning focused on the four tenets.

[45] Personal communications - The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.

*Profile* e-portfolio for their graduates; therefore, this would be an interesting area of future exploration.

# APPENDIX 7 - Case Study: Loma Linda University[46]

**Institutional Background**

Loma Linda University, located in Loma Linda, California, is a faith-based institution with a large teaching hospital and over 150 health science programs such as nursing, medicine, dentistry, pharmacy, physical therapy, radiology, biology, anatomy, criminal justice, earth science, geology, and social policy and social research, and more. Credentials offered include associate degrees; bachelor's, master's, and doctoral degrees; and, certificates and diplomas (both postsecondary and post-baccalaureate) (Loma Linda University, n.d.a.). Approximately 4500 students study at Loma Linda of which approximately 75% are seeking a master's or professional credential; transfer students represent 100% of the student body (Seheult, E., Williams, R., Dunn, D., 2016).

The University is accredited by the Western Association of Schools and Colleges (WASC) Senior College and University Commission (WSCUC) and several other bodies in the U.S. including health-related accrediting organizations given its medical focus (Loma Linda University, 2016-17).

The University believes strongly in local and international community engagement and mission outreach, and embeds service learning and health-related experiential learning into its programming as core elements of its faith-based focus (Loma Linda University, n.d.b.). This context sets the stage for the institution's alternative credentials as Loma Linda leadership wanted to create a record that honoured the unique learning experiences that occur outside the classroom (personal communications).

***Alternative Credentials***

In addition to the academic transcript which lists courses, grades, and credit weights, it is possible for students to order a *Loma Linda University Experience Transcript* (see Appendix 7B). The purpose of the latter credential is to collect and showcase experiences outside the classroom that reflect the University's faith-based mission. The document's legend makes this intention explicit:

> *"As a faith-based Academic Medical Complex, Loma Linda University's mission is to further the healing and teaching ministry of Jesus Christ "to make man whole." Therefore, the LLU Experience programs are designed to help students develop*

[46] The information regarding Loma Linda University resulted from website reviews and an interview with Erin Seheult, Director, University Records, and Dr. Rick Williams, Vice President Enrollment Management & Student Services. The authors of this research study are grateful to both for participating in this study and providing permission to include this material in the final report. More information on Loma Linda University is available online at http://home.llu.edu/.

*leadership skills and integrate professional health care careers with the University's worldwide mission"* (*Loma Linda University Experience Transcript*, 2016).

Loma Linda does not refer to the 'outside the classroom' experiences as co-curricular activities unlike other institutions. Rather, it is important to note, select activities that Loma Linda deems appropriate for the *Experience Transcript* are sometimes considered by other institutions to be curricular experiences directly related to academic learning. One example includes research where students undertake involved and supervised quantitative and or qualitative studies including at the graduate level; in some instances, the student wins external or internal grants to pursue this research. As a unique feature and unlike other institutions, the Loma Linda *Experience Transcript* is available to both undergraduate and graduate students.

The content of the Experience Transcript is similar to other institutions although in Loma Linda's case, it looks somewhat similar to the academic transcript (see Appendix 7C). It lists the activities undertaken, provides an explanation of what each involved, the date range when the activities occurred, and, in some instances, the number of hours. Activities are grouped in categories that include Leadership, Mission, Research, Volunteer (with the number of hours noted per position), Publications and Presentations, Work in LLUH experiences (e.g. employment in the University's health units), and Awards and Honors. If a student does not engage in any activities under a certain category, it is not displayed on the transcript. The Experience Transcript is signed by Dr. Rick Williams, Vice President Enrollment Management & Student Affairs. In contrast, Erin Seheult, the Director of University Records signs the academic transcript.

Research conducted outside of a course or dissertation provides an illustrative example of how the process works. Students who participate in a research study that they wish to be reflected on their co-curricular record submit a request through an online form. This request is sent to the Primary Investigator (PI) (usually a faculty member) for verification and validation. The type of activities might include supporting the research process; authoring or contributing to a paper; delivering a presentation; new research techniques learned; or it might involve working with a supervisor in the affiliated hospital (who might be adjunct faculty or a physician). Once verified, the activity is published to the *Experience Transcript*, not the academic transcript. The entire process, according to Dr. Williams, is workflow driven and online (personal communication).

In select although rare circumstances, the activity may be published in some fashion in both the academic transcript and the *Experience Transcript*. An example where this occurs is with the medical student rotations and other forms of practice-based duty that represent a fundamental component of the discipline focus. In situations like this, the academic transcript might contain a course noting the medical rotation whether delivered in the U.S. or abroad; the *Experience*

*Transcript* would describe the nature of the rotation. Having noted this, most appear on one or the other credential (personal communications).

Unlike the academic transcript, placing an activity on the *Experience Transcript* will only occur at the request of a student as they curate the experiences featured by submitting the request through the online form (personal communications). This approach allows the student to customize the record as appropriate to the ultimate intended use such as for seeking a residency position in a hospital, targeting an employer, or applying to a future postsecondary institution.

Students order their transcripts through an online, third-party provider (Parchment). They can order the academic transcript, the *Experience Transcript*, or both at the same time.

***Governance***

In the case of Loma Linda, the central Senate or Board did not mandate creation of the *Experience Transcript*. Dr. Williams functioned as the senior champion. In his role, he oversees the registrarial area and student affairs; therefore, he developed and implemented the initiative with the help of a small team that included IT and the Deans of Students from the various schools. While true that this was built on years of relationships with key people in the schools, the workflow is so intuitive and takes only seconds to complete that buy-in was a moot point. Formal approval was not needed to move forward with the initiative. According to Dr. Williams, securing support from faculty and validators in this process was accomplished by having face-to-face conversations with key administrators to describe the value to the student and the ease of the process (personal communications). Many saw the benefit immediately and were willing to be part of the process to provide this important service to the students (personal communications).

***Technology***[47]

Loma Linda created the *Experience Transcript* system; the project leadership considers the initiative a 'low budget' project (Seheult, E., Williams, R., Dunn, D., 2016). The student information system (Banner) is the central repository for all the activities. The University's IT personnel created the customized programming to build the workflow and any cross-walk translation tables including to the third-party vendor that supports the ordering and distribution components (Parchment).

[47] Personal communications - The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.

***Institutional Learning Outcomes or Equivalent***

As noted above, activities are grouped under seven categories within the *Experience Transcript* - Leadership, Mission, Research, Publications and Presentations, Awards and Honors, Work at LLUH, and Volunteer opportunities. The legend in Appendix 7B outlines definitions for each. Leadership opportunities might include holding positions such as student council president, residence assistant, and other similar roles. Mission refers to international missions organized through the Students for International Mission Service ("SIMS") office and might include group or individual opportunities or some form of health-related rotation. Research provides an opportunity for a student to delve deeper into a topic or initiative in further detail and many LLU students work with LLUH researchers on projects that do not show up on an academic transcript. Sometimes these activities are embedded in courses; however, the academic transcript provides no vehicle to feature specific research projects and techniques; hence, the value of referencing the opportunity in the *Experience Transcript*. The *Experience Transcript* includes Awards and Honors if a student receives these while enrolled at Loma Linda University and they were awarded for a student-related activity. It is important that the LLU program be aware of the award or honor to validate it was received. Volunteer experiences include working in local hospitals (six are included in the Loma Linda University Medical Center) or in the local community through Loma Linda's Community Academic Partners in Service ("CAPS") program. Another category may also appear on the *Experience Transcript* called "Work"; however, the only allowable activities in this grouping include ones occurring within Loma Linda University Health. As such, both paid and volunteer activities are included in the *Experience Transcript*. In all instances, the experiences are validated by a trained faculty, physician, or administrative staff member.

Embedded in the Loma Linda University academic curriculum are eight institutional learning outcomes to which all programs are mapped (Loma Linda University, 2017). These are clustered under categories called Wholeness, Critical Thinking, Communication, Diverse World, Technology, Values, Collaboration, and Life-long Learning. The categories on the *Experience Transcript* do not directly refer to the institutional learning outcomes as the focus and purpose noted previously was to honour the 'outside the classroom' activities in keeping with Loma Linda's faith-based mission. Of further interest, although not documented on the *Experience Transcript,* select courses at Loma Linda are designated as Service Learning (SL) in that students, as part of the curriculum, participate in community-based activities to deepen the experiential learning process and further the reflective opportunities to expand one's understanding of circumstances different from their own (Loma Linda University, April 18, 2016). Showcasing these on the *Experience Transcript*, similar to the Research category of activities, seems a natural and likely next extension for the University.

### *Accountability and Validation Processes*

In these early stages of development of the *Experience Transcript*, Loma Linda has not implemented a rubric or any other type of proficiency level assessment. However, and as previously noted, approval of an activity is not an automatic process. In fact, verifiers could reject a student's request (personal communication). The process provides an opportunity for the activity lead or Primary Investigator to request revisions or reject the activity if there are any concerns.

### *Student Mobility, and Transfer*

Loma Linda colleagues interviewed for this project indicated employers, particularly physicians responsible for selecting students for residency, find the Loma Linda model helpful as a supplement to resumes (personal communications). Students actively participated in the creation of the *Experience Transcript* including the testing; they expressed ongoing enthusiasm for the project and saw its relevance to facilitate transition into the workforce and other institutions. As the *Experience Transcript* contains validated detailed information about experiences, including hours and or duration, it seems to hold promise for enhancing transition into the workforce.

One item identified above involved the choices surrounding which activities are considered relevant to the program of study and whether they appear on the *Experience Transcript* versus the academic transcript. If the learning experience is published on the former document, a future institution that normally includes that category of learning in its academic transcripts might discount the LLU learning experience when assessing transfer credit or admission. As a result, how an institution defines learning opportunities and determines what goes on an academic transcript versus documents such as the *Experience Transcript* might have downstream implications for students. Currently, the LLU *Experience Transcript* is not intended to identify potential transfer credit but rather to provide a deeper glimpse into the experiences the student had while at LLU, somewhat like an 'authenticated resume', thereby providing a more well-rounded picture of the student to show real-life skills learned (personal communications). Since these types of alternative credentials are new, understanding the local context, principles, and standards behind what an institution categorizes as co-curricular versus curricular learning represents an area of future study.

# APPENDIX 7B – Sample of Loma Linda University Experience Transcript

LOMA LINDA UNIVERSITY
Experience Transcript
LOMA LINDA, CALIFORNIA 92350

Page 1

Issue Date: 12-APR-2016 18:06

***-**-0025

Record of: Seheult, Erin Michelle  Birthdate: August 16  LLU ID: 8812896

THE NAME "LOMA LINDA UNIVERSITY" IS PRINTED IN WHITE TYPE ACROSS THE FACE OF THIS 8.5 X 11 INCH RECORD

A SECURITY STATEMENT APPEARS WHEN PHOTOCOPIED

**LEADERSHIP**

dec 2015 - dec 2015 **Residence Assistant (RA)**
Assisted residence in lindsay hall dormitory. performed room check every night. covered the front desk as needed. coordinated with the deans to ensure a safe and enjoyable living environment.

jul 2014 - aug 2014 **Class of 2013 Student Representative**
school of public health, global health department - voice of students during faculty meetings

jul 2016 - jul 2017 **LLUSA Executive Vice President**
chairperson of the general assembly of leaders (GAL). promoted events and meetings that represent all eight schools on the loma linda university campus.

jul 2017 - jun 2018 **LLUSA President**
chief executive officer and principal representative and spokesperson for the loma linda university student body. worked with sponsors to be aware of all the resources that are available to the students for planning events.

jul 2017 - jun 2018 **Resident Assistant**
female resident assistant (RA) aiding residents with their needs and problems. helped foster a safe environment for residents. liaison between residents, roommates, and resident dean.

**MISSION**

dec 2015 - dec 2015 **Mission Trip to Russia**
went door-to-door in the community in preparation for a seminar in pushkin, russia. worked with the children's program and assisted with pathfinder activities in the main service.

jul 2014 - jul 2014 **Belize Student International Missions (SIMS) Trip**
held health clinics in Belize and taught mothers and children about proper and healthy nutrition.

**RESEARCH**

dec 2015 - dec 2015 **Authentic Leadership and Knowledge Sharing**
Business management: performed a quantitative study to determine if a relationship exists between authentic leadership traits and knowledge sharing behaviors.

oct 2014 - dec 2014 **Map Your World - Google Nexus Tablet Grant**
ltu school of medicine: grant awarded six tablets to work on a multi-platform project focusing on teenage and adverse pregnancy outcomes in the inland empire.

**VOLUNTEER**

dec 2015 - dec 2015 **Candy Striper (30 hours)**
played with, held, and fed babies in the children's hospital.

jan 2017 - jan 2017 **Stop Hunger Now (5 hours)**
Assisted in packaging over 10,000 meals for people and countries in need.

**AWARDS & HONORS**

dec 2015 - dec 2015 **Spiritual Life Award**
Received acknowledgement or intentionality or integrating daily work with spiritual life.

********** END OF TRANSCRIPT **********

In accordance with USC 438 (6) (4) (B) (The Family Educational Rights and Privacy Act of 1974) you are hereby notified that this information is provided upon the condition that you, your agents or employees, will not permit any other party access to this record without consent of the student. Alteration of this transcript may be a criminal offense.

REJECT DOCUMENT IF SIGNATURE BELOW IS DISTORTED

ERIN SEHEULT
AVOW:9527605
CERTIFIED ELECTRONIC PDF

Rick E. Williams, PhD
Vice President of Enrollment Management

LOMA LINDA UNIVERSITY

To be valid, this POSTALBOXX™ field must display address and colored background.

OFFICIAL TRANSCRIPT INCLUDES GOLD SIGNATURE WITH A GOLD BACKGROUND
A BLACK AND WHITE TRANSCRIPT IS NOT AN ORIGINAL

*Reprinted with permission of Loma Linda University.*

## Back of Loma Linda Experience Transcript - Legend

**Loma Linda University**
Offices of Student Affairs & University Records
11139 Anderson Street
Loma Linda, CA 92354
Phone: 909-558-4508
Email: registrar@llu.edu
Website: www.llu.edu/students

**History of Loma Linda University**

Loma Linda Campus
1905 to 1961 College of Medical Evangelists
1961 to present Loma Linda University

Loma Linda School Changes
1954 - 2005 Graduate School
2005 to 2012 School of Science and Technology
2012 to present School of Behavioral Health

La Sierra/Riverside Campus
1922 to 1924 La Sierra Academy
1924 to 1927 La Sierra Academy and Normal
1927 to 1939 Southern California Junior College
1939 to 1967 La Sierra College
**1967 to 1990 Loma Linda University**
1990 to 1995 Now La Sierra University, but students may elect to receive a diploma from LLU until 9/95 if enrolled at the time of the separation

**Accreditation**
Western Association of Schools and Colleges (WASC) Regional Accrediting Association of Seventh-day Adventist Schools, Colleges, and Universities
Professional schools and curricula by respective national accrediting organizations

**Loma Linda University Experience Transcript**
As a faith-based Academic Medical Complex, Loma Linda University's mission is to further the healing and teaching ministry of Jesus Christ "to make man whole." Therefore, the LLU Experience programs are designed to help students develop leadership skills and integrate professional health care careers with the University's worldwide mission.

The LLU Experience provides a rich environment for students to be involved in leadership, international mission service, research, employment, and volunteer opportunities. The Loma Linda University Experience Transcript is meant to capture a meaningful record of the student's experience outside of the classroom.

All Loma Linda University students receive an academic transcript. In addition, students can elect to develop their own Loma Linda University Experience Transcript. The information on the Experience Transcript is not duplicated on the academic transcript.

The Loma Linda University Experience Transcript allows students to present a record of their participation in validated non-course LLU Experiences. The responsible LLU entity or program validates information presented on the Experience Transcript. All validated information is then maintained in a centralized system. The Loma Linda University Experience Transcript is an official document of Loma Linda University.

**Signature Learning Experiences**
Loma Linda University's six signature learning experiences include the following:

1. Leadership
2. Mission
3. Research
4. Volunteer
5. Work (LLUH Entities Only)
6. Awards & Honors

Collectively, these programs reflect important values that add to the total university experience and prepare students to be competent health care professionals.

**1. Leadership**
Leadership opportunities include such things as class officer, club officer, and residence hall resident assistant (RA).

**2. International Mission**
International mission experiences are organized through Students for International Mission Service (SIMS). These can include individual mission trips, group mission trips, and international elective rotations.

**3. Research**
This area gives students an opportunity to document the specifics of research experience(s), some of which could be included in coursework listed on the academic transcript.

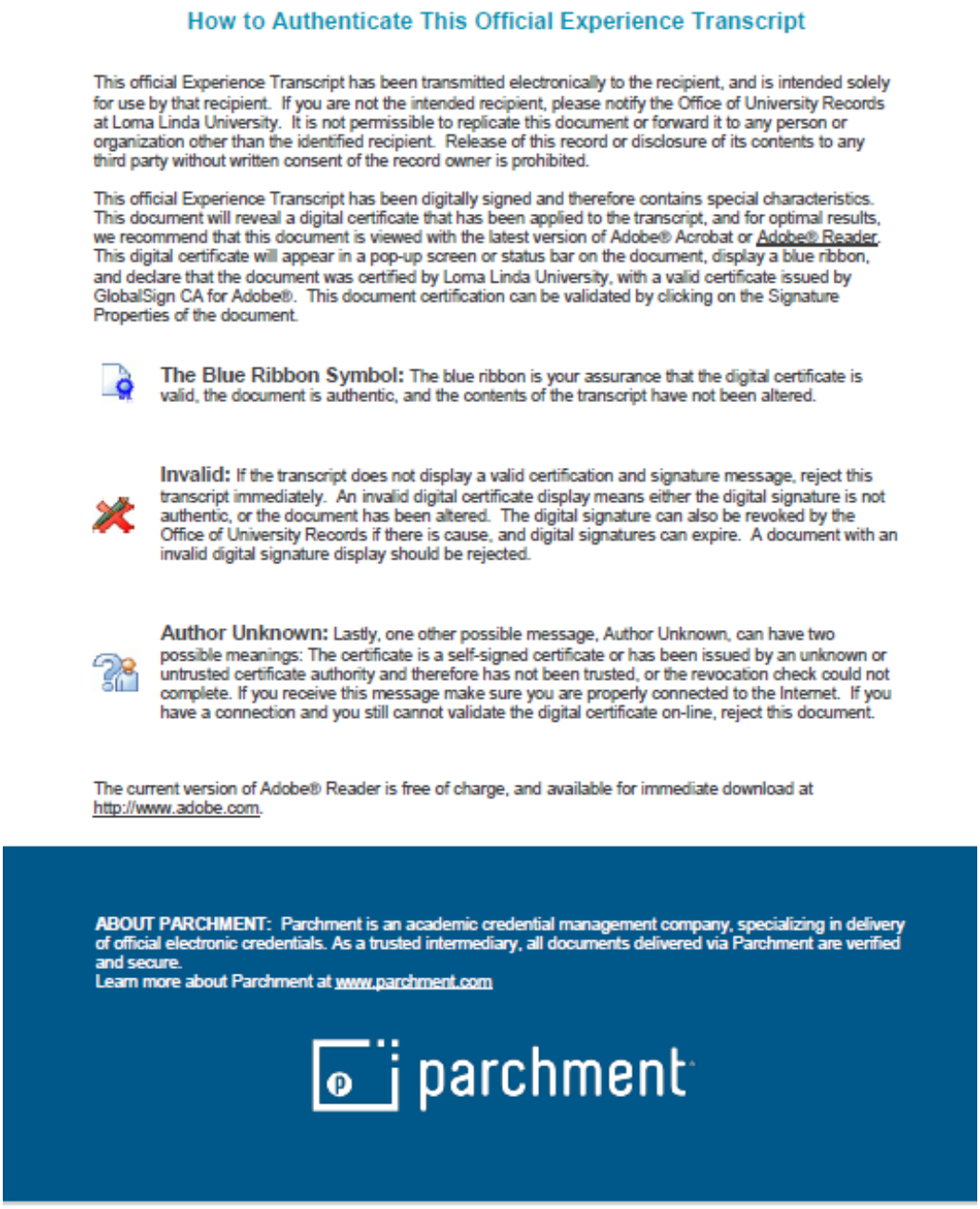
**4. Volunteer**
Loma Linda University believes strongly in the importance of volunteering. As a result, Community Academic Partners in Service (CAPS) was created, which provides a wide variety of volunteer experiences in the local community. Additionally, many students volunteer in the six hospitals that make up Loma Linda University Medical Center.

**5. Work (LLUH Entities Only)**
While many students may work outside of the University, only those work experiences at a Loma Linda University Health (LLUH) entity are validated on the Experience Transcript.

**6. Awards & Honors**
Professional awards and honors are validated if received from the University, or from a professional entity related to their degree program while a student at the University.

*Reprinted with permission from Loma Linda University.*

**Validation Seal – sent with Transcripts**



## How to Authenticate This Official Experience Transcript

This official Experience Transcript has been transmitted electronically to the recipient, and is intended solely for use by that recipient. If you are not the intended recipient, please notify the Office of University Records at Loma Linda University. It is not permissible to replicate this document or forward it to any person or organization other than the identified recipient. Release of this record or disclosure of its contents to any third party without written consent of the record owner is prohibited.

This official Experience Transcript has been digitally signed and therefore contains special characteristics. This document will reveal a digital certificate that has been applied to the transcript, and for optimal results, we recommend that this document is viewed with the latest version of Adobe® Acrobat or Adobe® Reader. This digital certificate will appear in a pop-up screen or status bar on the document, display a blue ribbon, and declare that the document was certified by Loma Linda University, with a valid certificate issued by GlobalSign CA for Adobe®. This document certification can be validated by clicking on the Signature Properties of the document.

**The Blue Ribbon Symbol:** The blue ribbon is your assurance that the digital certificate is valid, the document is authentic, and the contents of the transcript have not been altered.

**Invalid:** If the transcript does not display a valid certification and signature message, reject this transcript immediately. An invalid digital certificate display means either the digital signature is not authentic, or the document has been altered. The digital signature can also be revoked by the Office of University Records if there is cause, and digital signatures can expire. A document with an invalid digital signature display should be rejected.

**Author Unknown:** Lastly, one other possible message, Author Unknown, can have two possible meanings: The certificate is a self-signed certificate or has been issued by an unknown or untrusted certificate authority and therefore has not been trusted, or the revocation check could not complete. If you receive this message make sure you are properly connected to the Internet. If you have a connection and you still cannot validate the digital certificate on-line, reject this document.

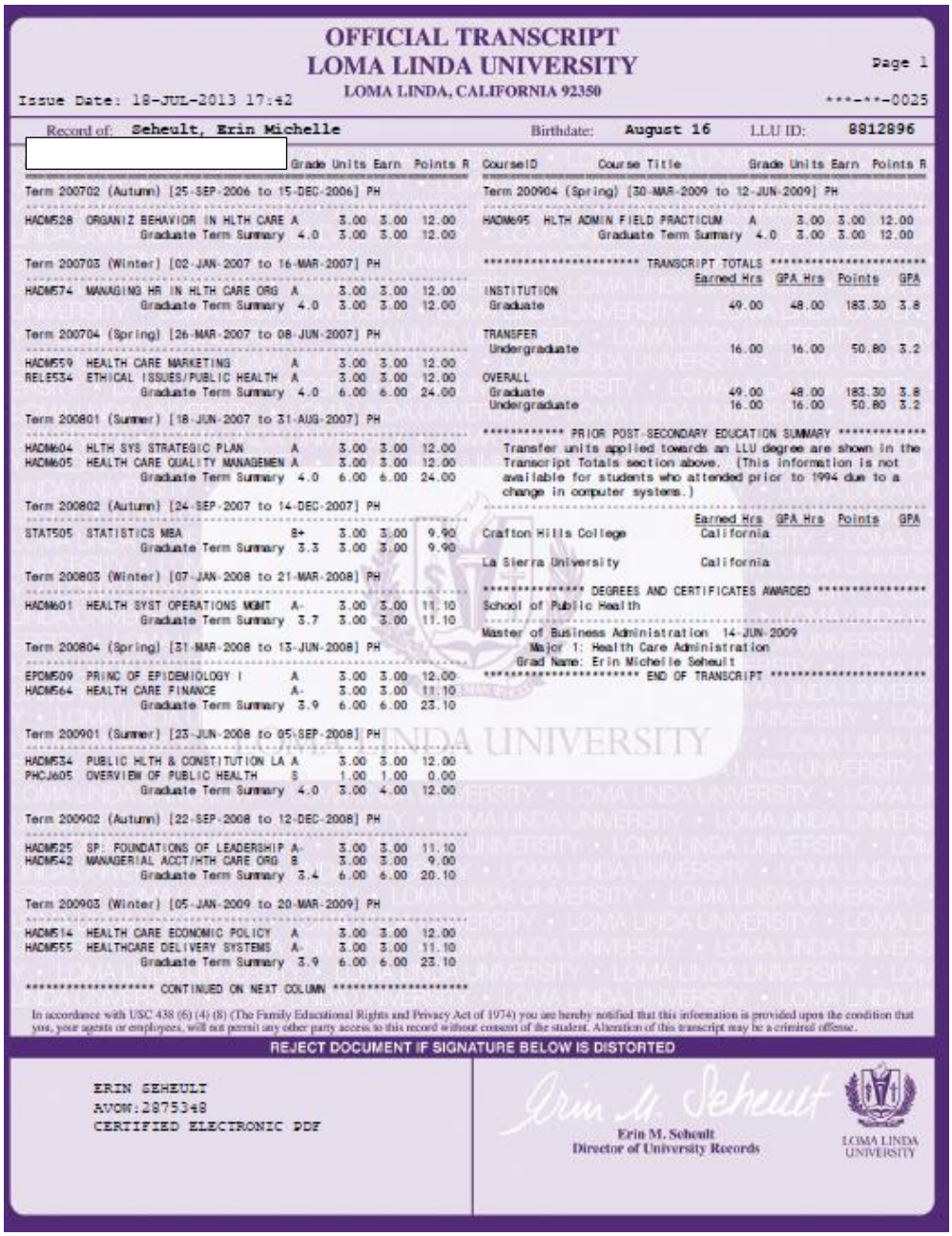
The current version of Adobe® Reader is free of charge, and available for immediate download at http://www.adobe.com.

**ABOUT PARCHMENT:** Parchment is an academic credential management company, specializing in delivery of official electronic credentials. As a trusted intermediary, all documents delivered via Parchment are verified and secure.
Learn more about Parchment at www.parchment.com

parchment

*Reprinted with permission from Loma Linda University.*

# APPENDIX 7C – Sample of Traditional Academic Transcript from Loma Linda University



**OFFICIAL TRANSCRIPT**
**LOMA LINDA UNIVERSITY**
LOMA LINDA, CALIFORNIA 92350

Page 1

Issue Date: 18-JUL-2013 17:42 ***-**-0025

Record of: Seheult, Erin Michelle Birthdate: August 16 LLU ID: 8812896

[redacted]

| | | Grade | Units | Earn | Points | R |
|---|---|---|---|---|---|---|
| Term 200702 (Autumn) [25-SEP-2006 to 15-DEC-2006] PH | | | | | | |
| HADM528 | ORGANIZ BEHAVIOR IN HLTH CARE | A | 3.00 | 3.00 | 12.00 | |
| | Graduate Term Summary | 4.0 | 3.00 | 3.00 | 12.00 | |
| Term 200703 (Winter) [02-JAN-2007 to 16-MAR-2007] PH | | | | | | |
| HADM574 | MANAGING HR IN HLTH CARE ORG | A | 3.00 | 3.00 | 12.00 | |
| | Graduate Term Summary | 4.0 | 3.00 | 3.00 | 12.00 | |
| Term 200704 (Spring) [26-MAR-2007 to 08-JUN-2007] PH | | | | | | |
| HADM559 | HEALTH CARE MARKETING | A | 3.00 | 3.00 | 12.00 | |
| RELE534 | ETHICAL ISSUES/PUBLIC HEALTH | A | 3.00 | 3.00 | 12.00 | |
| | Graduate Term Summary | 4.0 | 6.00 | 6.00 | 24.00 | |
| Term 200801 (Summer) [18-JUN-2007 to 31-AUG-2007] PH | | | | | | |
| HADM604 | HLTH SYS STRATEGIC PLAN | A | 3.00 | 3.00 | 12.00 | |
| HADM605 | HEALTH CARE QUALITY MANAGEMEN | A | 3.00 | 3.00 | 12.00 | |
| | Graduate Term Summary | 4.0 | 6.00 | 6.00 | 24.00 | |
| Term 200802 (Autumn) [24-SEP-2007 to 14-DEC-2007] PH | | | | | | |
| STAT505 | STATISTICS MBA | B+ | 3.00 | 3.00 | 9.90 | |
| | Graduate Term Summary | 3.3 | 3.00 | 3.00 | 9.90 | |
| Term 200803 (Winter) [07-JAN-2008 to 21-MAR-2008] PH | | | | | | |
| HADM601 | HEALTH SYST OPERATIONS MGMT | A- | 3.00 | 3.00 | 11.10 | |
| | Graduate Term Summary | 3.7 | 3.00 | 3.00 | 11.10 | |
| Term 200804 (Spring) [31-MAR-2008 to 13-JUN-2008] PH | | | | | | |
| EPDM509 | PRINC OF EPIDEMIOLOGY I | A | 3.00 | 3.00 | 12.00 | |
| HADM564 | HEALTH CARE FINANCE | A- | 3.00 | 3.00 | 11.10 | |
| | Graduate Term Summary | 3.9 | 6.00 | 6.00 | 23.10 | |
| Term 200901 (Summer) [23-JUN-2008 to 05-SEP-2008] PH | | | | | | |
| HADM534 | PUBLIC HLTH & CONSTITUTION LA | A | 3.00 | 3.00 | 12.00 | |
| PHCJ605 | OVERVIEW OF PUBLIC HEALTH | S | 1.00 | 1.00 | 0.00 | |
| | Graduate Term Summary | 4.0 | 3.00 | 4.00 | 12.00 | |
| Term 200902 (Autumn) [22-SEP-2008 to 12-DEC-2008] PH | | | | | | |
| HADM525 | SP: FOUNDATIONS OF LEADERSHIP | A- | 3.00 | 3.00 | 11.10 | |
| HADM542 | MANAGERIAL ACCT/HTH CARE ORG | B | 3.00 | 3.00 | 9.00 | |
| | Graduate Term Summary | 3.4 | 6.00 | 6.00 | 20.10 | |
| Term 200903 (Winter) [05-JAN-2009 to 20-MAR-2009] PH | | | | | | |
| HADM514 | HEALTH CARE ECONOMIC POLICY | A | 3.00 | 3.00 | 12.00 | |
| HADM555 | HEALTHCARE DELIVERY SYSTEMS | A- | 3.00 | 3.00 | 11.10 | |
| | Graduate Term Summary | 3.9 | 6.00 | 6.00 | 23.10 | |

********** CONTINUED ON NEXT COLUMN **********

| CourseID | Course Title | Grade | Units | Earn | Points | R |
|---|---|---|---|---|---|---|
| Term 200904 (Spring) [30-MAR-2009 to 12-JUN-2009] PH | | | | | | |
| HADM695 | HLTH ADMIN FIELD PRACTICUM | A | 3.00 | 3.00 | 12.00 | |
| | Graduate Term Summary | 4.0 | 3.00 | 3.00 | 12.00 | |

********** TRANSCRIPT TOTALS **********

| | Earned Hrs | GPA Hrs | Points | GPA |
|---|---|---|---|---|
| INSTITUTION | | | | |
| Graduate | 49.00 | 48.00 | 183.30 | 3.8 |
| TRANSFER | | | | |
| Undergraduate | 16.00 | 16.00 | 50.80 | 3.2 |
| OVERALL | | | | |
| Graduate | 49.00 | 48.00 | 183.30 | 3.8 |
| Undergraduate | 16.00 | 16.00 | 50.80 | 3.2 |

********** PRIOR POST-SECONDARY EDUCATION SUMMARY **********

Transfer units applied towards an LLU degree are shown in the Transcript Totals section above. (This information is not available for students who attended prior to 1994 due to a change in computer systems.)

| | Earned Hrs | GPA Hrs | Points | GPA |
|---|---|---|---|---|
| Crafton Hills College | California | | | |
| La Sierra University | California | | | |

********** DEGREES AND CERTIFICATES AWARDED **********

School of Public Health

Master of Business Administration 14-JUN-2009
Major 1: Health Care Administration
Grad Name: Erin Michelle Seheult

********** END OF TRANSCRIPT **********

In accordance with USC 438 (6) (4) (B) (The Family Educational Rights and Privacy Act of 1974) you are hereby notified that this information is provided upon the condition that you, your agents or employees, will not permit any other party access to this record without consent of the student. Alteration of this transcript may be a criminal offense.

REJECT DOCUMENT IF SIGNATURE BELOW IS DISTORTED

ERIN SEHEULT
AVON:2875348
CERTIFIED ELECTRONIC PDF

Erin M. Seheult
Director of University Records

LOMA LINDA UNIVERSITY

*Reprinted with permission from Loma Linda University.*

# APPENDIX 8 - Case Study: Ryerson University[48]

***Institutional Background***

Ryerson University is a public university located in Toronto, Canada offering 62 undergraduate and 55 graduate programs. Forty-three thousand students attend the University studying at the baccalaureate, masters, and doctoral level in a range of areas including engineering, arts, commerce, architectural science, science, design, technology, health administration, health science, nursing, social work, urban and regional planning, fine arts, interior design, and digital media. Its mission includes

> *"…[T}he advancement of applied knowledge and research to address societal need, and the provision of programs of study that provide a balance between theory and application and that prepare students for careers in professional and quasi-professional fields. As a leading centre for applied education, Ryerson is recognized for the excellence of its teaching, the relevance of its curriculum, the success of its students in achieving their academic and career objectives, the quality of its scholarship, research and creative activity and its commitment to accessibility, lifelong learning, and involvement in the broader community" (Ryerson, 2017).*

Ryerson maintains a long-standing commitment to delivering experiential education and developmental programming for student services.

***Alternative Ways of Supporting Student Learning Outside the Classroom[49]***

Ryerson University represents an example of a Canadian institution that delivers a *co-curricular program* that will, when fully launched, result in a learner-curated e-portfolio as the record of achievement rather than a Co-Curricular Record. This flows from its focus on supporting student development.

Over the past decade, several Canadian postsecondary institutions have developed co-curricular records to reflect student activities and, at times, achievements.[50] Some of these validate the learning using staff and faculty; others provide student curated and validated records. While it is possible for students to produce a Co-Curricular Record of their Ryerson activities, that credential is not emphasized nor a priority focus of the program.

---

[48] Information about Ryerson University contained in this report is based on a site visit by the researchers and interviews with administrative leadership conducted to support this study. See Appendix 1 for a list of the interviewees. The research extends thanks to the Ryerson team for agreeing to participate in this project, for reviewing this case, and for providing permission to include this material in the final report.

[49] The information on the "*Level Up*" program is attributed to Kaitlyn Taylor-Asquini's presentation on the program, November 17, 2016.

[50] For a list of Canadian institutional co-curricular examples, visit the following site: http://guide.pccat.arucc.ca/en/creating-a-competency-based-student-record.html.

The Ryerson program is called "*Level Up*" and is led by the Executive Director of Student Affairs, John Austin. While the focus of this study is on credentials that document achievement of *academic* learning outcomes, the Ryerson example provides a unique model across the typology of options that emphasizes student validated and curated co-curricular learning experiences. Therefore, it is included in this study to represent an alternative for capturing and curating artifacts of student learning.

***Ryerson's 'Level Up' Program***

Figure 4 provides an overview of Ryerson's '*Level Up*' program which emerged over a two-year period through consultation with the university community. Ryerson's Co-Curricular Committee provided further guidance. The program is currently in pilot mode with a plan to fully launch in September 2017.

The structure of '*Level Up*' encourages students to participate at any point, create and track their experiences, collect their learning artifacts, and develop the personal capacity to share their own story (Ryerson, 2017). It embeds student development concepts and theories in that the program aspires to aid students in self-discovery through learning about themselves, reflecting on their work, and helping them make meaning out of their own experiences. '*Level Up*' facilitates skills development both on and off campus and, secondarily, provides supports to help students with future career development. The program appears to triangulate learning between student engagement, skills development, and personal reflection on co-curricular experiences with a focus on supporting personal growth opportunities and mobility beyond Ryerson.

*Figure 4: Ryerson University's "Level Up" Program*


*Source: Taylor-Asquini, K. (2016). Level Up: Ryerson University's Co-Curricular Recognition Program, reprinted with permission*

In Level 1, students take the Clifton StrengthsFinder assessment[51] which is an instrument that identifies their 34 top strengths. Participants further narrow the focus to five core strengths and through participation in Ryerson workshops, explore and reflect on these in relation to their work with others. Essentially, the workshops help students reflect on experiences and situations in the context of their strengths. The theoretical framework for StrengthsFinder is based on *Positive Psychology*; a theory that "*encompasses an approach to psychology from the perspective of [encouraging] healthy, successful life functioning*."[52]

According to Kaitlyn Taylor-Asquini, Developer of Leadership Curricula and Programming for Ryerson's Office of Student Affairs, Level 2 introduces students to a range of learning themes or competency areas relevant to future employers that frame their personal self-development experience (personal communication). These include communication, community engagement, data and analysis, digital literacy and technical aptitude, innovation and enterprise, leadership, personal development and wellbeing, project management, and teamwork and collaboration. Each of these themes emerged from consultation with employers, staff and students, and a review of the following theoretical frameworks (personal communications):

- The Council for the Advancement of Standards for Higher Education (CAS) Learning and Development outcomes (2009)

[51] For more details on StrengthsFinder, see https://www.gallupstrengthscenter.com/.
[52] http://strengths.gallup.com/help/general/125522/personality-theory-Clifton-StrengthsFinder-based.aspx.

- The Conference Board of Canada Employability Skills matrix (2017)
- Arthur Chickering's 7 Vectors Theory (2007)

Appendix 8C contains more details on each of these frameworks. In Level 2, students identify co-curricular activities that will help prepare them for their future and begin the process of exploring their community through the lens afforded by these themes.

In Level 3, students focus on developing five theme areas. During this phase, they create and record artifacts of their work in an online e-portfolio (see an example in Appendix 8B). Further, they explore four methods of reflection informed by a focus on Kolb's Experiential Learning Module,[53] to summarize their learning through reflection, and apply at least five '*Level Up'* competencies to their experiences.

Level 4 involves helping students learn how to curate and 'tell' their story in readiness for further personal career development. In this Level, they identify four learning artifacts or experiences for sharing; summarize five examples of experiential learning; identify four external platforms appropriate for sharing their story (e.g., LinkedIn); and articular three areas for personal growth during their time at Ryerson.

***Self-Curated Accountability and Validation***

In the Ryerson model, students curate and validate their own experiences as part of a holistic approach to learning that involves discovery, personal reflection, feedback, and recognition of their own competencies and strengths. Philosophically, the program supports and celebrates a student-led journey that is intended to maximize engagement, relevance, and ultimately, self-authorship. Plans to align the '*Level Up'* program with other Ryerson initiatives will further extend its influence and effectiveness. Examples of its potential reach include providing students access to *CareerBoost*[54] and the Ryerson job opportunities platform, and Career Services for up to five years after graduation. As part of the '*Level Up'* program, students manage their own self-discovery and portfolio development with support and guidance provided at each of the Levels. Validation emerges from student's personal reflections and or feedback from others such as from other students, administrative staff, employers, or faculty. In many ways and according to John Austin, the validation model is similar to LinkedIn's approach to testimonials (personal communications). The concept is theoretically nested in a commitment to student development which is supported by theory.

***Where Student Mobility meets Student Development Theory***

Given the pilot nature of the Ryerson '*Level Up'* program, success metrics were not available at the time of this research study. However, other research and student development theory indicate programs such as Ryerson's contribute to overall student mobility by enhancing

[53] For more information on Kolb's approach see https://www.simplypsychology.org/learning-kolb.html.
[54] http://www.ryerson.ca/career/about-us/CareerBoost/

competencies that cut across disciplines and that influence self-esteem. The '*Level Up'* program objectives, according to Austin and Taylor-Asquini, include ensuring students are positioned to do the following (personal communications):

- *"describe their personal development during their time at Ryerson.*
- *identify at least five (5) co-curricular experiences that have prepared them for their future.*
- *explain their process for reflecting on personal experiences.*
- *illustrate the impact of their co-curricular experiences through storytelling.*
- *discuss a variety of ways that their life and campus experiences contribute to their personal development [sic]."*

***Technology[55]***

*StrengthsFinder by Gallup Inc*.[56] is the first 'tool' leveraged to deliver a component of the '*Level Up'* program at Ryerson. Students opt into the online assessment which is widely available and accessible for any individual or organization to use. To expose them to co-curricular guided experiences, Ryerson leverages their *ConnectRU* portal.[57]

The '*Level Up'* program team uses the institutional Learning Management System (LMS) to support Ryerson's management of each of the Levels and the assessment and progression for students. According to Ryerson, the advantages to using a LMS to capture and track achievement of the Levels include the ability to code outcomes, rubrics and assessments, and provide feedback and access to the existing LMS student portfolio feature to capture their artifacts (personal communications).

***Student Mobility and Transfer***

The Ryerson *'Level Up'* program is primarily focused on enhancing transition into the workforce. Given the pilot nature of the program, it is too early to determine its effectiveness. Having noted this, the program is firmly rooted in established student development theory which provides frameworks and research to support the Ryerson approach.

Of relevance to this research study, the goal of the Ryerson *'Level Up'* program does not explicitly include supporting transition into other institutions through the transfer of credit or prior learning assessment. Its co-curricular focus, use of student curated and validated artifacts and testimonials, and the production of an optional e-portfolio underscore this flexibility of purpose. For that reason, this exemplar does not represent a close fit with other exemplars in this research study. However, it does represent an option on the typology for consideration and

[55] Personal communications - The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.
[56] http://www.strengthsfinder.com/home.aspx
[57] https://connectru.ryerson.ca/

represents an interesting, holistic, theoretically informed approach to support student achievement of learning outcomes outside the academic classroom.

# APPENDIX 8B – Sample Screenshot of Student E-portfolio at Ryerson


*Reprinted with permission from Ryerson University*

# APPENDIX 8C – Student Development Information

Council for the Advancement of Standards for Higher Education (CAS) Learning and Development Outcomes (2009)

- Through consultation with more than 40 associations including the Canadian Association of College and University Services (CACUSS), CAS identified six domains into which learning outcomes are embedded: knowledge acquisition, construction, integration and application; cognitive complexity; intrapersonal development; interpersonal competence; humanitarianism and civic engagement; and practical competence. Compliance with CAS standards require institutional student services programs identify "*relevant and desirable learning from specific domains, assess that … learning, and articulate how [these] contribute to domains not specifically assessed*" (page 2). According to CAS, these domains provide maximum flexibility to institutions to define programming in alignment with unique institutional missions and map comfortably to other learning outcomes frameworks such as the Association of American Colleges and Universities' (AAC&U's) LEAP, the National Association of Student Personnel Administrators (NASPA) and American College Personnel Association (ACPA), and the Degree Qualifications Profile (DQP) (page 3).

Conference Board of Canada Employability Skills Matrix (2017)

- The Conference Board of Canada Employability Skills matrix provides learning outcomes across three skills domains - fundamental skills, personal management skills, and teamwork skills. Fundamental skills within the matrix include the capacity to communicate, manage information, use numbers, and think and solve problems. Personal management skills focus on the capacity to engage in continuous learning and work safely, demonstrate positive attitudes and behaviours, and be responsible and adaptable. Team work skills include the ability to work with others and participate in projects and tasks.

Arthur Chickering's 7 Vectors of Student Development (2007)

- Chickering outlined seven developmental domains with associated sub-competencies to address the evolution of student development. According to Chickering, these vectors involve
    - developing competence which encompasses intellectual, physical and manual, and interpersonal competence;
    - managing emotions by developing awareness and subsequently learning how to self-regulate;
    - moving through autonomy towards independence, self-sufficiency and mutual respect;

- developing mature interpersonal relationships through enhancing tolerance and capacity for intimacy;
- establishing identity by enhancing sense of and comfort with oneself (e.g., appearance, in response to feedback from others, self-esteem, self-acceptance, etc.);
- developing a sense of purpose (i.e., intentionality, goal clarification, persistence, etc.); and,
- developing integrity.

# APPENDIX 9 - Case Study: Stanford University[58]

***Institutional Background***

Located in Stanford, California, Stanford University considers itself a leading teaching and research university (Stanford, February 27, 2017a) and is ranked third in the world in the 2016-17 Times Higher Education World University Rankings (THE Times Higher Education World University Rankings, 2016-2017). Set up as a trust with corporate powers in accordance with California State laws (February 27, 2017b), Stanford offers the full range of academic programming with a comprehensive, research focus. Approximately 18,700 undergraduate and graduate students study at the University in programs within seven schools; namely, business, earth sciences, education, engineering, humanities and sciences, law, and medicine. Stanford is accredited by the WASC Senior College and University Commission (WSCUC) (Stanford University, February 27, 2017b).

The University opened in 1891 as a co-educational, non-denominational institution with a founding grant from the Stanford family, a beginning which sets it apart from other private institutions started at that time. The Founding Grant specified the university's objective "*is to qualify its students for personal success, and direct usefulness in life*" and "*to promote the public welfare by exercising an influence in behalf of humanity and civilization*" (February 27, 2017c). According to Tom Black, Associate Vice Provost for Student Affairs and University Registrar, its location near Silicon Valley on the former farm of the founding family and the nature of its current student body are such that today it attracts and promulgates an environment where technological innovation inspires creativity (personal communications). The student body is energetic and, according to the Registrar, often represents the main impetus behind the work involved in creating alternative credentials (personal communications).

The Stanford institutional learning philosophy also drives experiments with various credentialing initiatives aimed at "*closing the pedagogical loop*"; these serve to deepen individual student reflection and understanding of their learning (personal communications). According to the Registrar, these initiatives and the Stanford philosophy are consistent with liberal arts undergraduate education. As an example, the Scholarship Record described below was informed by the Study of Undergraduate Education at Stanford (SUES) which

[58] The information regarding Stanford University resulted from website reviews and an interview with Tom Black, Mei Hung, software developer in Student and Academic Services, Sameer Marella, Senior Director, Student, HR & Middleware Systems, Dr. Helen L. Chen, Designing Education Lab, Department of Mechanical Engineering, Office of the Registrar, Student and Academic Services and the Registrar's Office staff involved in IT and credentialing. The authors of this research study are grateful to the Registrar and the entire team for participating in this study and providing permission to include this material in the final report. More information regarding Stanford University is available online at https://www.stanford.edu/about/.

recommended exploring how learning experiences could be structured around cognitive capacities rather than disciplines-based sampling (Helen L. Chen, personal communications).

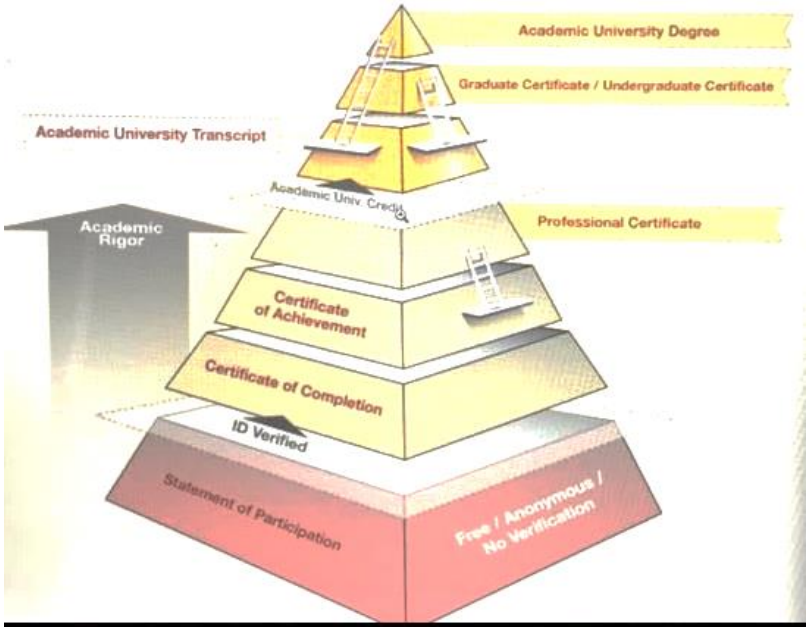
***Alternative Credentials***

Stanford produces an academic transcript much like other postsecondary institutions in North America. In addition, the Registrar developed a suite of options by leveraging enabling technology with the goal of providing students with meaningful, accessible, and validated credentials. When beginning the process of clarifying the local institutional credential eco-system, the Registrar conducted a survey of faculty to identify the current array of credentials distributed to students; his research revealed over 100 Stanford credentials exist each of which hold different meaning and represent different levels of learning (personal communications). For example, a program area might create and distribute a certificate to denote completion of an array of specific courses. Another might distribute a certificate of participation or a professional certificate.

To situate these, in 2016, Carissa Little and Robert Prakash of the Stanford Center for Professional Development drafted a framework (Figure 5) that articulates the different types of credentials and associated approval authority as part of Stanford's Credential Mapping Project (2016). At the base are credentials called *Statements of Participation* which are free and unauthenticated, and distributed across the Institution to represent participation in local events. According to Tom Black, these are not reviewed by the cognizant committees of the Faculty Senate, thus creating a formal governance gap; the Registrar's Office accepts that local authority is appropriate for certifying and approving these learning activities, inasmuch as they are not on the official record (personal communications). The Certificate of Completion, the Certificate of Achievement, and the Professional Certificate represent the next level. Each of these involve some form of academic rigour, formal assessment of student's work, and have meaning in the context of credentialing related to Stanford's approved array of certificate and degree offerings. An example would be in Continuing Education where a student completes an array of courses and, through a sequential process, grows their expertise in a focused manner. Another example might include some sort of program-specific success. These credentials are typically signed by a program, Faculty, or School chair and may be distributed at any point including at Convocation. The next level are those institution-wide credentials such as the transcript which is signed by the Registrar and the Diplomas which are signed by the University Chair of the Board of Trustees, the President, and the School Dean. These credentials are summative and require the highest level of validation and authentication given the reputational impact on the Stanford brand. Little and Prakash's initial framework represents a starting point for ongoing exploration, iteration, and refinement. For example, Dr. Chen reports enhanced recognition for a more nuanced perspective on credentials for degree-seeking and non-degree-seeking students (personal communications).

This credential model brings clarity to protocols for handling credentials, particularly those at the institution-wide level to ensure they are considered high quality by external third-parties. This model is easily applicable and transportable to any North American institution and serves as a guide to inform how to implement a credential. It sets the stage for the Stanford Registrar's more detailed efforts to streamline and extend the University's credentials.

*Figure 5: Stanford's Credential Validation Framework by Carissa Little and Robert Prakash, Stanford Center for Professional Development (2016)*

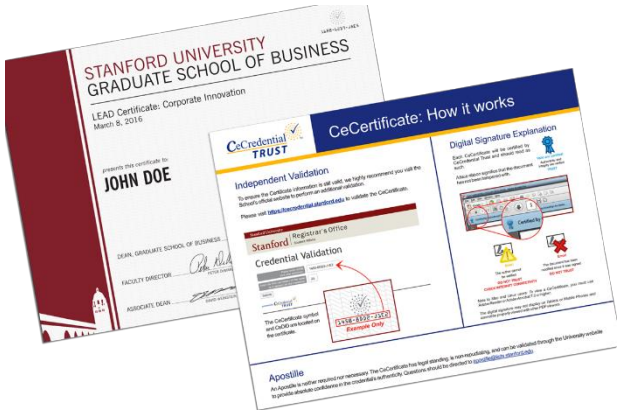



*Reprinted with permission from Tom Black, Stanford University.*

Stanford innovated alternate credentials on four different fronts (personal communications) and is now experimenting with Blockchain as a mechanism to deliver truly portable, authenticated credentials without having to go through a third-party issuance vendor (personal communications).

**Extended Diploma** - The Stanford University Registrar's Office created an extended certificate for its executive level continuing education LEAD program in business. Through this electronic certificate which is a non-academic certificate of completion, students and third parties such as future employers enter a unique ID into a Registrar-hosted website to access detailed information on courses and achieved learning outcomes. This provides the reader of the electronic credential more information about the learning when reviewing the student's work. Figure 6 provides a thumbnail example; Appendix 9B contains a larger version.

*Figure 6: Stanford's Lead Certificate*




*Reprinted with permission from Tom Black, Stanford University*

***"Scholarship Record"*** – Currently in pilot mode, the electronic '*Scholarship Record*' represents another credentialing innovation at Stanford. In testing the *Scholarship Record* with students, the Registrar's Office came to appreciate the value of making learning outcomes visible (personal communications). The catalytic inspiration for this project emerged from the Study for Undergraduate Education at Stanford (SUES) and resulted from a desire to move away from discipline-based sampling of courses to achieve breadth in favour of an approach that centres on cognitive capacities (Stanford, January 2014). The *Scholarship Record* presents information that demonstrates a student's fulfillment of the University's General Education requirement, called "*WAYS*" at Stanford, that is sorted by cognitive capacities and learning outcomes. *WAYS* is a Breadth Requirement that is defined as "*Ways of thinking, Ways of doing"* and is intended to cultivate essential cognitive capacities through General Education Electives (January 2014).

The *WAYS* initiative also sets out a system of approval which requires that *WAYS* courses align with one or several specified learning outcomes. As such, the requirement is built on capacities rather than disciplines, and Stanford provides supporting tools, information, and guidance. To illustrate the thoughtfulness of the *WAYs* approach and its alignment with outcomes, descriptions of each *Way of Thinking and Way of Doing* consist of four components:

> *"[F]irst, an explicit rationale for each Way; second, an Essential Elements section, that describes those features of courses the board has found to be particularly important in determining whether a course is a good fit for a particular Way, third, a brief discussion of how students might fulfill each requirement and finally, a set of example learning outcomes (i.e., course goals) that might result from courses modeling a*

*particular Way…. The rationale for each Way is intended to provide motivation for the capacity we want students to develop, and to explain why it is important. Therefore, every course registered under a particular Way should be clearly aligned with its rationale. The course would not, however, need to satisfy all of the example learning outcomes offered for that Way" [sic] (Stanford, January 2014).*

For each *WAYS* area, a student must successfully complete (i.e., achieve a C-) one to two courses for a total of 11 to fulfill the breadth expectations. The *WAYS* Guide outlines the learning outcomes potentially met for each of the courses (January 2014).[59] Course selection for *WAYS* is determined by a faculty member demonstrating the course's alignment with the *WAYS* rationale and some, if not all, the learning outcomes. These learning outcomes align with eight cognitive capacities which are outlined in Table 3 (January 2014).

Students select from several elective options as over 2000 courses have been '*WAYS certified*' across a range of subjects and disciplines (Stanford University, n.d.a.). The academic transcript features the final course grade and the *Scholarship Record* showcases achievement of the *WAYS* requirements. This *Record* provides students with a comprehensive tool to help them reflect and articulate their learning beyond simply a grade.

*Table 3: Stanford's Eight Cognitive Capacities (from the Ways Faculty Guide, January 2014)*

| Cognitive Capacities | ***Focus*** | Required Courses* |
|---|---|---|
| **Aesthetic and Interpretive Inquiry** | *Courses provide significant experience in the use of interpretive or philosophical modes of inquiry to explore and understand cultural objects (e.g., art, literature, theatrical works, etc.) or the means of their apprehension (e.g., the mind, beliefs, etc.) as appropriate.* | **Two** |
| **Scientific Method and Analysis** | *Courses focus on an understanding of the objects, processes and phenomena of natural science.* | **Two** |
| **Social Inquiry** | *Courses focus on probing questions that are of a social nature; for example, pertaining to social arrangements, human behavior, and forms of social, political and economic organization.* | **Two** |
| **Applied Quantitative Reasoning** | *Courses complement Formal Reasoning (FR) courses, providing a focused experience in inferential and inductive reasoning. Students actively apply these methods of reasoning through direct manipulation of data, models, software, or other quantitative experience.* | **One** |
| **Creative Expression** | *Courses offer students significant opportunities to study the creative process and at the same time acquire the requisite skills to "practice" creative expression themselves through a combination of instruction and mentoring.* | **One** |
| **Engaging Diversity** | *Courses have a rigorous analysis of diversity as a constituent element across social and cultural domains. ED courses show how diversity is produced, understood, and enacted.* | **One** |
| **Ethical Reasoning** | *Courses spend a majority of the time understanding ethical theories or frameworks and, in some cases, applying such frameworks to particular policy domains or cases.* | **One** |
| **Formal Reasoning** | *Courses spend a majority of course time on instruction in rigorous logical and deductive reasoning.* | **One** |

** Students are required to complete a total of 11 courses.*

[59] To view this Guide, see https://stanford.app.box.com/v/ways-faculty-guidance.

***Notation in Cardinal Service*** - The third credential type is called a "*Notation*" which is formally approved by Stanford's Senate. Currently, Stanford produces the *Notation in Science Communication* and the *Notation in Cardinal Service*. The *Notation in Science Communication* is entirely course based and involves a student creating a summative electronic portfolio of their work in five courses which are assessed by faculty. The *Notation in Cardinal Service* crosses both curricular and co-curricular learning.

It represents a way of validating and communicating the completion of public service work that is considered a "*distinctive feature of a Stanford education*" (personal communications). Students choose from a variety of public and community service opportunities, ranging from on-campus courses to off-campus research to community-based leadership projects which, upon completion, are showcased on the *Notation in Cardinal Service*; more than 500 service opportunities a term in length (Stanford, n.d.b.) and 100 courses (called *"Cardinal Courses*") include this form of learning (Stanford University, n.d.c.). This approach legitimizes and supports Stanford's focus on embedding engaged service learning in the student experience across both curricular and co-curricular experiences.

The Framework supporting the *Notation in Cardinal Service* was developed by the University's Community Engaged Learning (CEL) office and launched in 2015 (Stanford, n.d.d.).[60] Stanford publishes specific characteristics of *Cardinal Courses* (Stanford, n.d.c.); design guidelines (Avila-Linn, C., Rice, K., Akin, S., n.d.a.); rubrics; and sample learning outcomes to assist faculty when constructing their courses. *Cardinal Courses* and service opportunities must conform to these characteristics which are set forth in the Stanford Haas Centre for Public Service – Principles of Ethical and Effective Service (Stanford University, 2014). At a high level, examples include requirements regarding structure (e.g., each course must encompass a full, 8-week term), and reflection and engagement activities. Each course or activity requires that students engage in the pre-field preparatory programs, cohort activities, faculty advising sessions, and reflection activities during and after the service experience (Stanford University, n.d.e.). According to the Registrar, future enhancements will encourage that assessment occurs by tenured faculty supported by the defined learning outcomes and rubrics (personal communications).

To apply for the *Notation in Cardinal Service*, students must complete an application available from the Haas Center and submit a 2000+ word integration statement that both describes the experience and indicates how the experience contributed to their '*intellectual and civic development and provided opportunities to apply knowledge and skills to resolve or deepen their understanding of public issues'* (Stanford, n.d.b.). A critical requirement includes the need to reflect in their statement a commitment to Haas Center's Principles for Ethical and Effective Service (Stanford University, 2014). These include reciprocity and learning through partnership,

[60] More details on the Cardinal Service led by the Haas Center for Public Service at Stanford is available at https://haas.stanford.edu/.

clear expectations and commitments, preparation, respect for diversity, safety and wellbeing, reflection and evaluation, and humility.

***Cognitive Skills Stamps*** - Stanford is also exploring Cognitive Skills Stamps to allow the credentialing of cognitive capacities (Heymach, C., 2016).

***Governance***

*WAYS* courses embedded in the *Scholarship Record* require approval from Stanford's University Senate and a rigorous review process by the Breadth Governance Board, and the general quality process (Stanford, January 2017, page 2). The *Scholarship Record* showcases the WAYS breadth requirement and reflects learning outcomes achievement resulting entirely from course work; however, it is not formally approved as a credential by the Stanford governing bodies. According to Dr. Helen L. Chen, this document is intended for student use to help them reflect on their general education learning experience (personal communications). Anecdotal feedback from a Stanford survey indicated students found this document helpful; one student expressed an enhanced sense of empowerment as a result of reviewing the achieved learning outcomes (personal communication). According to Dr. Chen, this type of document holds potential value to deepen and facilitate advising conversations (personal communication).

In contrast, the Senate approved the "*Notation*" designation; therefore, the credential bears the Stanford seal. The *Notation in Cardinal Service* is housed within the Haas Centre for Public Service under the Vice Provost of Student Affairs; therefore, it bears the signatures of the Vice-Provosts Undergraduate Education and Student Affairs. As a result of this Senate approval, the *Notation* is coded on student transcripts.

***Technology***[61]

According to Tom Black, the Registrar's Office increasingly serves a central coordinating and systems role for these different credentialing initiatives (personal communications). Their objectives include supporting students, teaching excellence, and Stanford's academic vision; harnessing information technology in a cost-effective manner; and ensuring sufficient integration and interoperability with student information and registrarial systems (personal communications). Principles of best practice and ensuring scalable data exchange are equally evident within the Stanford registrarial team.

The technology eco-system currently supporting the various credentialing needs at the University includes the student information system which captures the student record data; Adobe Reader which provides a secure, blue ribbon means to view official transcripts; an external transcript distribution provider which transmits transcripts to specific bodies such as

[61] Personal communications - The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.

the Law School Admission Council (i.e., the National Student Clearinghouse); the main student portal called "*MyAxess*" which serves as a gateway and curator of the different platforms at the University; and an external provider that provides capacity to distribute secure, portable, and certified electronic diplomas.

Specifics are as follows:

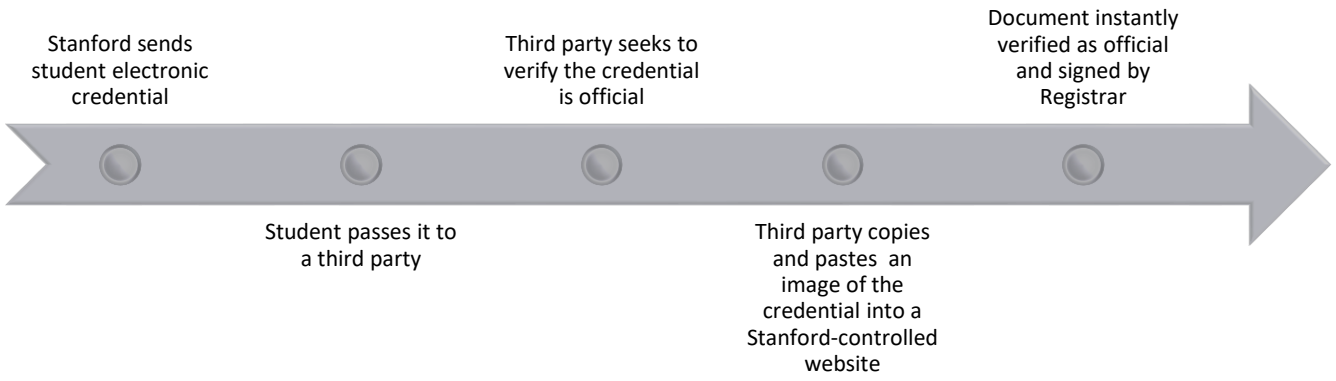
- Stanford's student information system (*PeopleSoft*), which is the primary environment for capturing student data.
- *LifeRay* for the main student services portal called "*MyAxess*" portal within integrates all the different platforms across the University.[62]
- Adobe Reader which allows students to read and authenticate electronic PDF transcripts ordered via email, through a form submission, or through the student portal (i.e., *MyAxess*). A blue-ribbon symbol appears in the view window when authenticating the transcript which signals official status (Stanford University, n.d.f.).
- Students are also able to order transcripts and send them through third parties or have their credentials verified via the National Student Clearinghouse.[63]
- CeCredential Trust™ of Paradigm Inc. provides signed, secure, portable, certified electronic credentials.[64] Stanford distributes diplomas including the Lead Certificate through this system.

For distributing electronic transcripts to students, Stanford, through the Registrar, is experimenting with Blockchain as a cost saving measure (personal communications). To achieve this, Stanford is developing the capacity to verify both the credential and the Registrar's signature through an online, secure environment using Blockchain coding. Figure 7 provides a high-level overview of the process. In this model, the student curates their own official credentials from the point of first receipt and beyond in that they do not need to contact their former institution again to continuously order separate official documents. Although this rarely happens, the Registrar could revoke the validation of the electronic document if necessary. In that circumstance, when a third party went to validate the credential in the website, it would be rejected. As a result, while the student truly owns and curates their credential, the institution owns the authentication through the institutionally specific Blockchain coding. This is scalable in that the same website URL is used by any Stanford student. In this reality, if an

[62] More information on Liferay is available at https://www.liferay.com/
[63] More information on the National Student Clearinghouse is available at http://www.studentclearinghouse.org/about/what_we_do.php
[64] Information on CeCredential Trust™ is available at https://secure.cecredentialtrust.com/#

institution wanted to use badges or a Cognitive Skills Stamp[65] to authenticate learning, the Blockchain could be coded to achieve the same result.

*Figure 7: Stanford's Process Flow to Validate Authenticity of Document*




***System Wide Supports***

According to the Registrar, the internal Stanford community and or students and their needs drove these different initiatives; however, the Registrar is working with external organizations and vendors to activity improve the data exchange eco-system. For example, the Registrar worked very closely with the Post-secondary Electronic Standards Council (PESC) to create XML standards for common credential data exchange.[66] Recently launched and due to the efforts of the PESC Credentialing Task Force chaired by Tom Black with co-chairs Joellen Shendy, Associate Vice Provost and Registrar at University of Maryland University College and Alex Jackl, CEO and founder of Bardic Systems, data exchange XML standards now exist for a *Common Credential for Certificates, Degrees, and Diplomas*. The importance of this initiative cannot be understated; XML standards now exist for exchanging customized learning outcomes statements, rubrics, and detailed course information between different institutions (PESC, March 31, 2017). Stanford, through the Registrar, is also a member of the Lumina funded *Comprehensive Student Records Project* coordinated by the American Association of Collegiate Registrars (AACRAO) and NASPA – Student Affairs Professionals (AACRAO, 2017).

[65] Stanford is exploring Cognitive Skill Stamps through their Senate with the support of the Registrars' Office to recognize achievement of academic skill sets (Stanford November 2, 2016; Tom Black, personal communications).
[66] For information on PESC, refer to pesc.org. For more information on XML, refer to the electronic exchange section of the national ARUCC PCCAT Transcript and Transfer Guide at guide.pccat.arucc.ca.

### *Student Mobility and Transfer*

The impetus for the credentialing efforts at Stanford did not include enhancing transfer; however, according to the Registrar, a consideration included supporting student transition into the workplace (personal communications). Another central focus involved showcasing and reflecting on the essence of what makes up a Stanford educational experience in both curricular and co-curricular learning which then drove certain credentialing decisions such as those related to the *Scholarship Record* and the *Notation of Cardinal Service*. To ensure continuing relevance, the Registrar continues to explore alternate technology options and Stanford is planning a future survey of students aimed at determining how students see quality of the fit in learning outcomes to courses (personal communications).

The Stanford Registrar is very focused on student data exchange and enhancing the international ecosystem of data standards as the next level imperative to support Stanford credentialing initiatives. Ensuring other institutions and employers understand and are poised to receive these new electronic credentials remain critical priorities for the mobility of the University's graduates. As such, Tom Black is an active member of the international Groningen Declaration community which is, as of December 2016, a registered declaration under Dutch law (personal communications). It represents a consortium of like-minded individuals, organizations, institutions, and associations from around the world who are intent on creating large-scale capacity to securely exchange verifiable and trusted student data to enhance student mobility.[67] He is also the co-chair of the Post-Secondary Electronic Standards Council's Credentialing Task Force,[68] and an active participant in the Lumina funded AACRAO-NASPA *Comprehensive Student Records Project*. PESC recently acknowledged Tom Black with an award for his contributions to the credentialing eco-system and student mobility (PESC Data Summit, October 2016).

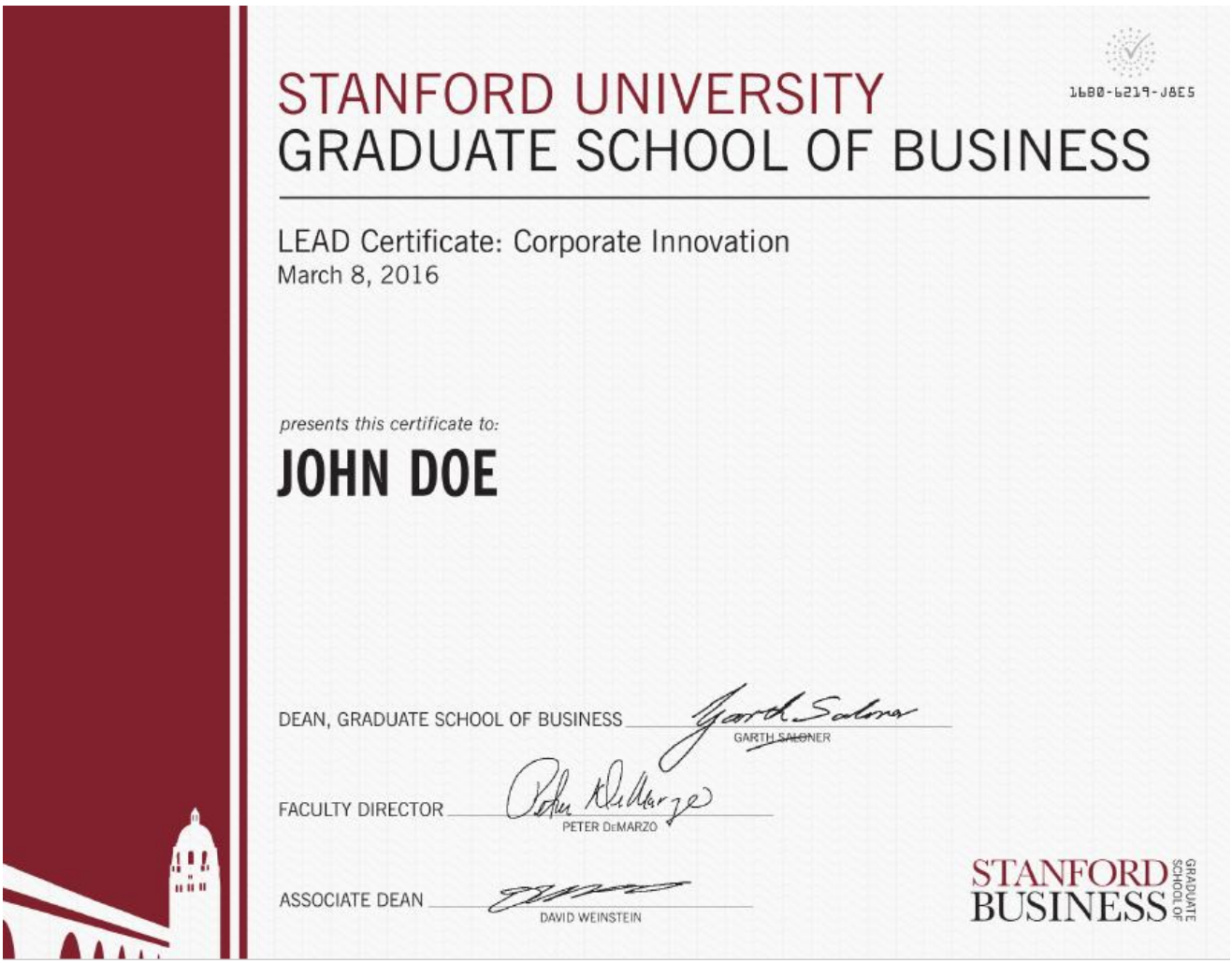
The opportunity to realize the full gains for student mobility and transfer of the campus level focus on learning outcomes, competencies, and credentialing requires a direct link to data exchange and best practice informed standards. Therefore, the work of people like Tom Black, PESC, AACRAO and NASPA, the Lumina Foundation, EMREX, the Australia and New Zealand *MyEquals* credential sharing project, and associations such as those noted above remain

[67] For more information on the Groningen Declaration, refer to http://www.groningendeclaration.org/. The Association of Registrars of the Universities and Colleges of Canada (ARUCC) is very active in the Groningen initiative and have led the Canadian interest in this area through a national task force and consultation process in partnership with the Pan-Canadian Consortium on Admissions and Transfer (PCCAT) and CanPESC. More details on this project are available online at www.arucc.ca.

[68] CanPESC, a Canadian affiliate of the American PESC organization, is active in national discussions and activities surrounding data exchange and student mobility. This group is co-chaired by Leisa Wellsman from the Ontario Universities' Application Centre (OUAC) and Cathy Van Soest from EducationPlannerBC.

essential to success. In Canada, associations such as ARUCC, the Pan-Canadian Consortium on Admissions and Transfer, and CanPESC along with the provincial organizations are equally important partners in this work. Ensuring credentials that are thoughtfully constructed, well understood, trusted, verifiable, and aligned with institutional goals, and yet capable of facilitating transition either into the workforce or to other institutions remain paramount considerations.

## APPENDIX 9B – Sample of the Lead Certificate



STANFORD UNIVERSITY
GRADUATE SCHOOL OF BUSINESS

1680-6219-J8E5

LEAD Certificate: Corporate Innovation
March 8, 2016

*presents this certificate to:*

**JOHN DOE**

DEAN, GRADUATE SCHOOL OF BUSINESS — GARTH SALONER

FACULTY DIRECTOR — PETER DEMARZO

ASSOCIATE DEAN — DAVID WEINSTEIN

STANFORD GRADUATE SCHOOL OF BUSINESS

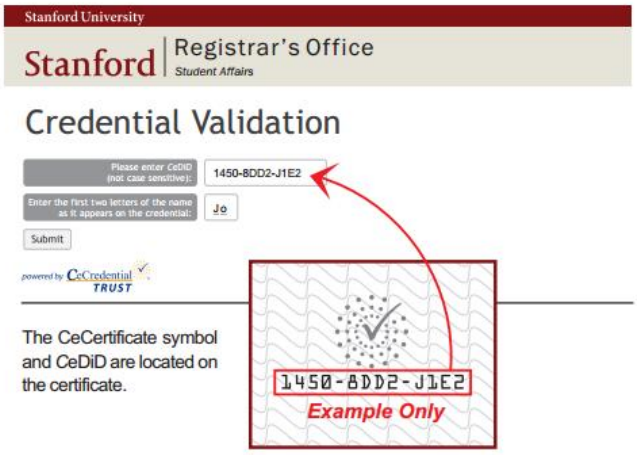
*Reprinted with permission from Tom Black, Stanford University*

# CeCertificate: How it works

## Independent Validation

To ensure the Certificate information is still valid, we highly recommend you visit the School's official website to perform an additional validation.

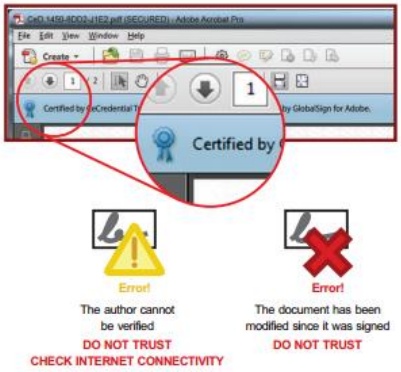
Please visit https://cecredential.stanford.edu to validate the CeCertificate.




## Digital Signature Explanation

Each CeCertificate will be certified by CeCredential Trust and should read as such.

A blue ribbon signifies that the document has not been tampered with.


*Note to Mac and Linux users: To view a CeCertificate, you must use Adobe Reader or Adobe Acrobat 7.0 or higher.*

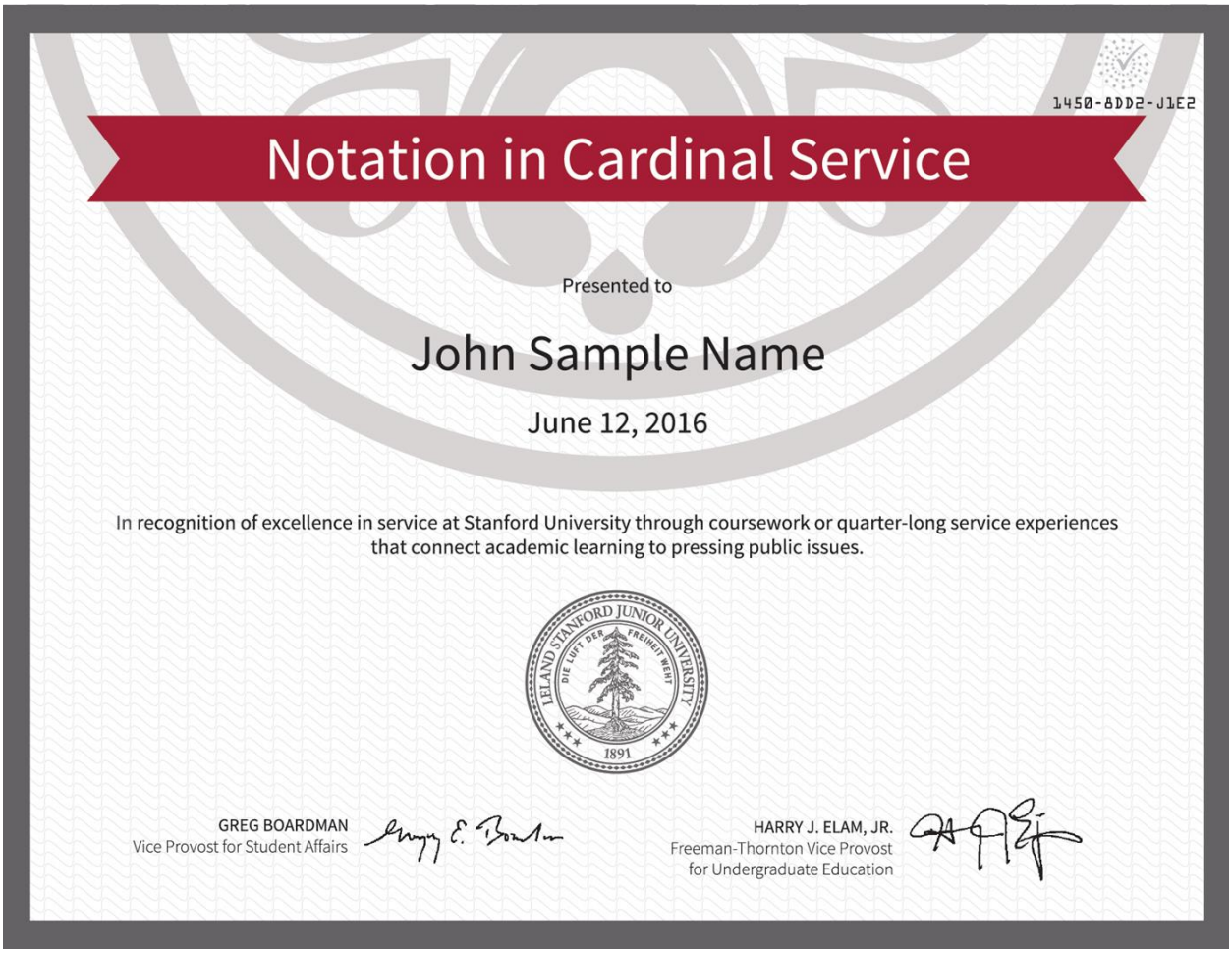
*The digital signature may not display on Tablets or Mobile Phones and cannot be properly viewed with other PDF viewers.*

## Apostille

An Apostille is neither required nor necessary. The CeCertificate has legal standing, is non-repudiating, and can be validated through the University website to provide absolute confidence in the credential's authenticity. Questions should be directed to apostille@lists.stanford.edu.

*Reprinted with permission from Tom Black, Stanford University*

# APPENDIX 9C – Sample of Stanford's Notation of Cardinal Service




*Reprinted with permission from Tom Black, Stanford University*

# Appendix 10 - Case Study: University of Central Oklahoma[69]

***Institutional Background***

Located in Edmond, Oklahoma, the University of Central Oklahoma is a publicly funded master's comprehensive institution offering more than 100 undergraduate and 70+ graduate programs to 17,000 students. Programs available for study include business, education and professional studies, fine arts and design, liberal arts, mathematics and science, and forensic sciences. UCO is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools.

In the late 90s, UCO leadership found several ad hoc initiatives underway that were attempting to enhance student success. While helpful, these different projects lacked an overarching organizing framework. Consultation and discussion led the University to transformative learning as the organizational construct to reflect the common intent behind these various initiatives. It was in that context in 2006 that UCO began a transformational change of its education delivery which renewed and enhanced the University's focus on student success and experiential learning. These efforts resulted in a new mission statement:

> *"At the University of Central Oklahoma, we are guided by the mission of helping students learn by providing Transformative Learning experiences so that they may become productive, creative, ethical and engaged citizens and leaders contributing to the intellectual, cultural, economic and social advancement of the communities they serve."*
>
> *[A definition]…Transformative Learning is a holistic process that places students at the center of their own active and reflective learning experiences. Transformative Learning:*
>
> - *develops beyond-disciplinary skills and*
> - *expands students' perspectives of their relationships with self, others, community and environment" (UCO, 2016).*

In 2012, the provost of the day mandated a newly hired Executive Director of the Center for Excellence in Transformative Teaching and Learning, Dr. Jeff King, to implement the transformative learning initiative and embed experiential education across the University. The "*STLR*" evolved from this context.

[69] Information about the University of Central Oklahoma contained in this report is based primarily on website reviews and an interview with Dr. King, Executive Director of the Center for Excellence in Transformative Teaching and Learning. The authors wish to extend gratitude to Dr. King who reviewed this material and provided permission for its inclusion in the final published report.

### *The 'STLR' Transformation Initiative*[70]

To create a tangible transformation learning initiative, the University recognized the need to create a group of skills, abilities, and values (per Dr. King, what other institutions often call 'learning outcomes'). Through consultation, six tenets or institutional learning outcomes emerged – discipline knowledge; global and cultural competencies; health and wellness; leadership; research, creative and scholarly activities; and service learning and civic engagement. Then began the process of securing campus-wide support after which administration engaged in an exercise of mapping activities to each tenet. From 2006 to 2012, campus-wide effort occurred to enhance community understanding and support for this work. From February to April 2012, Dr. King began to design the *Student Transformative Learning Record ("STLR"),* created a project implementation team, and submitted the first ultimately unsuccessful external grant application.

Based on this work, UCO received, in September 2014, $7.8M from the Department of Education. This came with a mandate to develop a scalable and replicable solution for implementation of the new student record. In Fall 2015, UCO joined the Lumina Foundation-funded *Comprehensive Student Record Project* coordinated by the American Association of Collegiate Registrars and Admissions Officers (AACRAO) and the NASPA – Student Affairs Administrators in Higher Education, becoming one of several U.S. postsecondary institutions stewarding the creation of innovative student records (King, J., Kilbourne, C., Walvoord, M., 2015; AACRAO, n.d.).

The first *STLR* pilot rolled out between the Fall 2014 and Spring 2015 and included 14 classes and approximately 10 tenet-associated student affairs events. With the arrival of the full grant funding, a broader rollout became possible resulting in the inclusion of the entire Fall 2015 freshman class. As a result, by June 2019 all UCO undergraduate students will graduate having experienced four years of transformative learning opportunities.

### *Alternative Credentials*

In the interest of creating an enduring record for students, UCO developed the *Student Transformation Learning Record (STLR)* a sample of which is available in Appendix 10B. It is a document for students that tracks verified learning experiences within and beyond the academic program across five tenets; the sixth tenet, discipline knowledge, is not included in the *STLR* as this learning is documented in the traditional academic transcript. Faculty and staff verify all the *STLR* learning activities.

Proficiency Levels assigned to each completed activity are defined as Exposure, Integration, and Transformation which are allocated as appropriate to each student's *STLR* achievements. Under each tenet, the *STLR* provides graphic symbolic representation of levels completed by a student

[70] More information on the *UCO STLR* initiative is available online at: http://www.uco.edu/stlr and in the following NASPA Journal: King, J. (Spring 2017). Operationalizing a Process for Cocurricular Learning: A Case Study. Journal: Leadership Exchange, Vol. 15, Issue 1, Spring 2017. Washington, D.C.: NASPA Foundation.

followed by a list, in chronological order, of activities completed and the level achieved for each. It is possible for a student to complete several activities within each of the levels; however, after being awarded eight Exposures, six Integrations, and one Transformation, the amounts are captured numerically rather than graphically on the *STLR*.

UCO chose a developmental approach, not a threshold model which means students are not required to achieve a certain number of *STLR* activities. As a result of this asset-based system, students decide what is ultimately displayed on their *STLR*; however, no matter what is published, each activity will have been vetted, assessed, and assigned an appropriate level of proficiency.

The *STLR* is visually pleasing and very crisply outlines the learning outcomes achieved by a student. The back of the *Record* provides a legend that explains each of the Tenets and the proficiency levels to allow for easy interpretation either by the student or third parties. According to Dr. King, the high-level view in the legend specifically targets employers, who indicated in surveys their desire for this simplified approach. These "*abstract descriptions*" of the rubrics, though, are not the full, detailed rubrics used to assess student achievement in tenet areas.

The *STLR* includes a link at the bottom on the front page to the student's self-curated e-portfolio which collates summative capstone artifacts of their work. Sample e-portfolios provided for this study and contained in Appendices 10C and 10D demonstrate the way in which the students use the e-portfolios to position their talents and showcase their work, philosophy, goals, and resume.

Successful fulfillment of the tenets also results in the awarding of badges which will be fully portable to other platforms such as the student curated e-portfolio or LinkedIn. In addition, students participate in an Honor Cording Ceremony prior to their graduation ceremony where, in recognition of their *STLR* achievements, they are awarded a special colour-coded cord matched to the colour associated with the tenet(s) in which students have attained the highest badge level. Because *STLR* is an evidence-based process, authentic assessment using the rubrics for each tenet determines when a student has achieved the top-level badge (see Appendix 10E). While it's possible that across four years of engagement with *STLR* a student might achieve the top level in each of the five tenet areas, that has not yet happened in UCO's experience.

***Student Success, Mobility, and Transfer***

Early indicators suggest the *STLR* initiative is contributing significantly to retention, engagement, and student success. According to Dr. King, demonstrable evidence exists of extremely positive increases in retention and graduation rates, particularly for underrepresented, low income, first generation students which represent two thirds of UCO's student population (personal communications). In an unpublished study of incoming students'

Advanced Placement (AP) and Grade Point Averages (GPA), UCO found increases in retention specifically among higher risk, lower income, and first generation students (personal communications). Early indicators also suggest a direct correlation to increased university-level GPAs as students mentored by faculty outside the classroom in research, creative, and scholarly activities (one of the *STLR* tenets) are reportedly experiencing a 95% graduation rate (UCO, July 27, 2016).

There are also emerging indications that the *STLR* initiative is enhancing mobility into the workforce. As the program is not yet in its fourth year, the opportunity to conduct a full assessment of its contributions to mobility is pending; however, several publicly available videos provide testimonials asserting the utility and success of the *STLR* initiative.[71] As one example, an employer who sits on the *STLR Employer Advisory Board,* stressed the value of the *STLR* and the supporting student curated portfolio as tools to help students better articulate, reflect on, and showcase their learning experiences, and engage more fully in the university experience. After participating in select mock interviews, he reported *STLR* students from UCO showcased their work and learning experience more effectively than students who had not participated in *STLR* activities (UCO, February 17, 2017).

The UCO initiative did not specifically design the *STLR* to facilitate transfer between institutions; therefore, targeted data regarding potential success in this area is unavailable. However, it seems reasonable to conclude that having access to summative work through an e-portfolio and the *STLR* containing evidence of validated proficiency and achievement in clearly defined competency areas might have utility for students when showcasing their efforts to other institutions.

***Institutional Learning Outcomes or Equivalent***

UCO's mission statement embeds a commitment to four pillars of strategic thinking: Transformative Learning, Student Success, Place (a reference to its role as a major regional university), and Value (UCO, Mission and Vision, 2017). With respect to the last pillar, UCO traditionally serves low income, first generation students and mature adult learners. As a result, a core delivery requirement of UCO is to provide low cost, flexible education.

With respect to Transformative Learning, the six supporting tenets articulate specific learning outcomes (University of Central Oklahoma, September 1, 2016). An examination of one of these, the Global and Cultural Awareness Tenet, illustrates UCO's outcomes-based approach wherein twelve competences are articulated. These include global self-awareness; perspective taking; cultural diversity; personal and social responsibility; understanding global systems; and applying knowledge to contemporary global contexts. For global self-awareness, the learning outcome statement outlines the expectation that a student "*Effectively addresses significant*

[71] To access these UCO videos, visit https://www.youtube.com/channel/UCD_kuweaWry1sWzwxDae4_Q.

*issues in the natural and human world based on articulating one's identity in a global context*" (UCO, n.d.).[72]

***Accountability and Validation Processes***

UCO employed a modified version of the American Association of Colleges and Universities' (AA&CU) VALUE Rubrics to inform the *STLR* rubrics used to assess each tenet. Again, using Global Competence as one example, the proficiency levels include:

- *"Not Achieved – The student is strongly ethnocentric and sees no value in looking outside his home country*
- *Exposure – The student is just beginning to engage the idea of her- or himself as a global citizen and is open to learning about her- or himself and others through a cultural lens.*
- *Integration – The student has experimented some with getting outside of his/her country through travel or study, and has had some insights about how knowledge about people across the globe helps her/him to better comprehend what goes on in the world.*
- *Transformation – The student is knowledgeable about global issues and welcomes interactions that challenge her/him to self-reflection about her/his place in the global future" (University of Central Oklahoma, May 2016).*

Training for faculty and staff focus on understanding the rubrics and using them to guide development of activities and related assessments that are tied to learning outcomes expectations. Of interest, faculty are provided release time and a stipend to attend the training and participate in *STLR* mentoring activities. Once trained, they submit a proposal to tag course assignments, other events, independent projects, or supervision of student groups undertaking *STLR* activities (UCO, Faculty/Staff FAQs, January 2, 2017). While not mandatory, the *STLR* project goal is to have "*at least one STLR-tagged assignment in every course by the end of the federal grant currently supporting much of STLR [which is September 2019]"* (January 2, 2017). Projects that result in paid work for students are also eligible for STLR consideration if approved.

***Technology[73]***

UCO leverages the institutional LMS platform to capture and manage *STLR* activities and support the online e-portfolio environment used for storing and curating student work. According to King, when developing the technology infrastructure for the *STLR* program, their LMS required significant reprogramming to apply the tenets across activities and courses

[72] For all the learning outcome statements for each tenet, see http://sites.uco.edu/central/tl/files/stlr/SLOs_Web.pdf.
[73] Personal communications - The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.

(personal communications). On the co-curricular side, UCO creates a pseudo course shell into which rubrics and levels are assigned. Students load artifacts demonstrating their learning upon completion of a *STLR*-approved project or activity. Subsequently, the faculty or staff mentor conducts an assessment and assigns a Level (Exposure, Integration, or Transformation) within the LMS after which the student may load the result to their personal e-portfolio.

Some Exposure Level events require only evidence of attendance which UCO supports using another system. Students swipe their UCO Student ID card upon entering the activity that results in automatic logging of the activity within the student's *STLR.* To access this system, staff or student leaders use portable iPads fitted with an attachment that provides card swipe sleds. This approach facilitates immediate capture and loading of activities to the *STLR*. These co-curricular *STLR* engagements at the Exposure level are also ultimately captured into the LMS so that all *STLR* data are housed together.

UCO's student information system (SIS) captures and stores student demographic, grading, course, and scheduling information. The SIS provides UCO with the capacity to conduct data analytics and tie the *STLR* participation back to student demographic and academic data.

The *STLR* is distributed to students or third parties using an external vendor issuance platform. For the latter, students have the option to choose a PDF electronic record which then provides a live link to their personal e-portfolio. Through that system, it is possible to order a traditional transcript, the *STLR*, or both documents together. To accommodate this, access to the e-portfolio through the LMS remains active at no cost to the student for up to two years after graduation; subsequent extensions cost a nominal amount per year. If students wish, it is possible for them to move their artifacts to LinkedIn, Squarespace, or other web platforms.

***Institutional Staffing***

The *STLR* Project implementation team consisted of people from across the University; this included from 14 to 19 people at any given time. The team relied upon specialists in eLearning, campus support services, student affairs, student leadership, academic technology, teaching and learning, communications, equity and inclusion, and institutional assessment. The project team also included faculty.[74] Currently, a *Transformative Learning Steering Committee* supports

[74] Full project team: Barnes, Ann: Senior Director, Human Resources; Barnett, Rhonda: Coordinator, Center for eLearning and Connected Environments; Dodd, Bucky: Exec. Dir. Center for eLearning and Connected Environments; Glasgow, Laura: Residence Hall Director; Green, Mitchell: Apps Admin III eLearning – IT; Hynes, Sharra: Assoc VP Student Affairs; Jarrett Jobe, Executive Director, Student Leadership Programs; Keesee, Amanda: Coordinator of Academic Technology – IT; Kilbourne, Camille: STLR Assistant Director; King, Jeff: Exec. Dir., Center for Excellence in Transformative Teaching & Learning & STLR Grant P.I.; Nobles, Adrienne: Assistant Vice President University Communications; Stanley, Cole: Assistant Vice President Diversity, Equity, & Inclusion; Verschelden, Cia: Executive Director Institutional Assessment; Walvoord, Mark: STLR Assistant Director; Watkins, Sonya: Assistant VP Information Technology; Weidell, Charleen: Assistant Dean, College of Fine Arts and Design; Willard, Nicole: UCO Library Archivist; Wimmer, Brenton: STLR Assistant Dir for Assessment; Wullstein, Kathryn: Assistant Director Tech Resource Center - IT

the project and approves whether a project or activity becomes part of the *STLR* family and record (UCO, January 2, 2017).

According to Dr. King, project success directly benefitted from the quality of the project team, the access to external funding, and the support from three vice presidents (personal communications). Further, faculty engagement and interest in enhancing teaching excellence proved instrumental.

To sustain the current model, staffing support requires 50% of the Executive Director's time, 100% of time from three full-time assistant directors and, to a lesser extent, part-time support from one other staff member. Training faculty involves six hours of time (two three-hour time slots) and focuses on explaining the rubric, how to use it for *STLR* activities, and how to associate an existing assignment to one of *STLR* tenets. After the first three hours of training, faculty are required to assign a *STLR* tenet to one of their course assignments within the LMS. Allocation of the faculty stipend occurs at two points: after the completing the training and after implementing a *STLR*-assigned project in one of their classes. The assignments, once completed, must be loaded to the LMS.

While *STLR* staffing may appear challenging within a budget - 3.5 full-time equivalency - UCO has a model in place for institutionalizing all these costs (personal communications). Further, the Fall 2015 to Fall 2016 first-year student retention results indicate the model will work according to Dr. King. Given UCO's size, a 1% retention improvement year-to-year across the entire university will recoup $1.3M in otherwise lost revenue because additional returning students pay their tuition and course fees (personal communication). Total institutionalization of *STLR*, including all personnel, requires substantially less than one-half of one percent in recouped revenue. UCO will continue all *STLR* operations after the end of the grant by designating recouped revenue from improved retention to permanent *STLR* funding. Data analytics capacity already in place has the ability to identify what percentages of retention improvement owed to what interventions, and early *STLR* results among targeted subpopulations shows fall-to-fall improvements ranging all the way up to 18% (personal communications).

# APPENDIX 10B - Sample of the Student Transformative Learning Record ('STLR')

100 N. University Drive
Edmond, OK 73034
FICE – 003152

UNIVERSITY OF
Central Oklahoma

Office of Enrollment Services
124 Nigh University Center
(405) 974-3741
FAX (405) 974-3841

## Student Transformative Learning Record

### Global and Cultural Competencies

| Transformation | Integration | Exposure |
|---|---|---|
| Keen sense of cultural self and an identity as a global citizen has emerged. | Developing sense of cultural self; and relation to the global community. | Beginning awareness of cultural self; openness to learning. |

### Health and Wellness

| Transformation | Integration | Exposure |
|---|---|---|
| A holistic view of health and wellness for self and community is articulated and practiced. | A developing holistic view; some application to self and community with some ability to evaluate own behavior. | Beginning awareness and understanding of health and welness; initial attempts at personal change. |

### Leadership

| Transformation | Integration | Exposure |
|---|---|---|
| Leadership knowledge and skill are applied effectively to community or campus issues. | Leadership is developing; knowledge and skills are applied at a basic to intermediate level. | Leadership skills are being tried out with increasing understanding. |

### Research Creative and Scholarly Activities

| Transformation | Integration | Exposure |
|---|---|---|
| The "why" and the "how" of research and creation are grasped and show in work. | Relevant inquiry about research and creative process & skills are developing. | Skills in research and the creative process are developing; ideas are beginning to emerge. |

### Service Learning and Civic Engagement

| Transformation | Integration | Exposure |
|---|---|---|
| Deep engagement in the community, both through learning and helping. | Awareness of community issues and the importance of engagement. | First experiences in volunteering and civic interest. |

The Student Transformative Learning Record is an accurate reflection of the named student's transformative learning achievements at the University of Central Oklahoma. Information provided in the student's e-portfolio is not curated by the university and is therefore not an official representation of the student's work while enrolled at the university.

ACCREDITATION:
The University of Central Oklahoma is accredited by the Higher Learning Commission/North Central Association of Colleges and Schools as a bachelor's and master's degree granting institution.

NAME CHANGE HISTORY:

| | | | |
|---|---|---|---|
| 1890 | Territorial Normal School | 1939 | Central State College |
| 1904 | Central State Normal School | 1971 | Central State University |
| 1919 | Central State Teachers College | 1990 | University of Central Oklahoma |

*Reprinted with permission from Dr. Jeff King, University of Central Oklahoma*

STLR STUDENT TRANSFORMATIVE LEARNING RECORD

University of Central Oklahoma
100 North University Drive
Edmond, OK 73034

The purpose of this record is to provide a visual representation of this student's achievement in the University of Central Oklahoma's (UCO) Tenets of Transformative Learning.
This student's educational experience at UCO has resulted in achievements at the exposure, integration or transformation level as indicated below.
See the key on the back of this document for short descriptions of what these levels of learning indicate with regard to student knowledge and experience.
These experiences have been assessed and validated by trained faculty and professional staff members at the University of Central Oklahoma.

## Leadership

Transformation ▶
Integration ▶▶▶▶
Exposure ▶▶▶▶

1
4
4

- Organizational Comm. Capstone - Capstone Project/Reflection - Spring 2016 - Transformation
- Fundamentals of Speech - Passions Speech Reflection - Fall 2012 - Integration
- Conflict and Negotiation in Org - Case Study Reflection - Fall 2014 - Integration
- Corporate Training/Consulting - Training Design Artifact - Fall 2014 - Integration
- Interviewing Practices - Mock Interview - Spring 2016 - Integration
- Internship: Recruiting, Event Planning, and Marketing Strategies - Fall 2015 - Exposure
- Ted x UCO - Event Participant - Fall 2015 - Exposure

## Service Learning and Civic Engagement

Transformation ▶▶
Integration ▶▶▶
Exposure ▶▶▶▶

2
3
4

- Integrated Knowledge Portfolio Project (IKPP) - Fall 2015 - Transformation
- Internship: Recruiting, Event Planning, and Marketing Strategies - Fall 2015 - Transformation
- Success Central - Service Learning Activity Reflection Paper - Fall 2012 - Integration
- MLK Day of Service - Event Participant - Spring 2016 - Exposure

## Research Creative and Scholarly Activities

Transformation ▶
Integration ▶▶▶
Exposure ▶▶▶▶▶▶▶▶▶▶

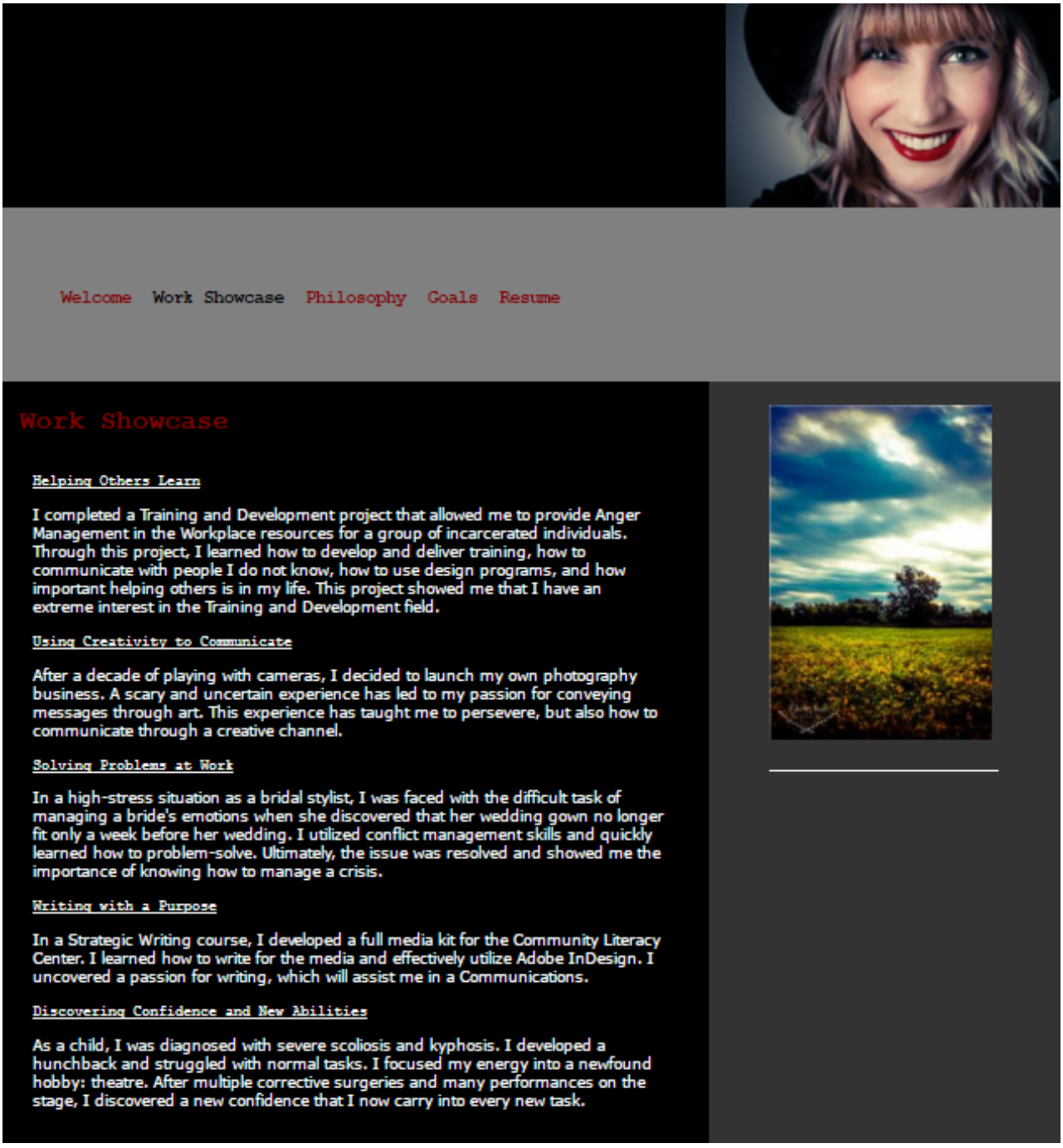
1
3
10

- Intro to Organizational Comm. - Reflection Paper - Summer 2014 - Transformation
- Specialized Publications - Research Project Paper - Fall 2014 - Integration
- Media Production - Media Artifact - Fall 2015 - Integration
- Major Quest - Event Participant - Fall 2015 - Exposure
- General Biology - The Decline of Bees Film - Spring 2013 - Exposure
- LA Symposium - Event Participant - Spring 2016 - Exposure
- Internship: Recruiting, Event Planning, and Marketing Strategies - Fall 2015 - Exposure

View EPortfolio - Clicking the provided link will open the student's portfolio in your computer's browser: http://bit.ly/2kKowru

*Reprinted with permission from Dr. Jeff King, University of Central Oklahoma*

# APPENDIX 10C – Example of a STLR Student E-Portfolio - UCO




*Reprinted with permission from Dr. Jeff King, University of Central Oklahoma*

# APPENDIX 10D – Sample of a Student's STLR E-Portfolio - UCO


Welcome Work Show Case Philosophy Resume

**Analytical Thinking and a Drive for Results**

Analytical Thinking Gets Vertical

**Effective Communication**

Building Teamwork and Relations Through Feedback

**Integrity in Decision Making**

A Semester Off, A Lifetime On

## Analytic Thinking Gets Vertical

### Overview

December 2014, I accepted the offer to join in on an afternoon of climbing at Oklahoma City's local climbing gym, Rockdown. My life was changed, and I finally found an activity where I could pair my analytical and physical abilities in order to literally "problem solve" (climbing boulder problems). While I found an immediate interest in climbing, learning technique and understanding when to apply certain climbing methods provided to be areas of opportunities throughout my new interest. Over the last year, I have learned to utilize forethought, analyze the variables in front of me, and implement planning and strategy through my growth as a climber. Consistent practice has allowed me to utilize my competencies not only within my practice as a climber, but throughout my decision making and action planning in both my role as a student and worker.

### Skills and Insights Gained

**Analytical Thinking:** Building my competency as a climber involves employing strong analytic skills. Before beginning any climb (indoor or outdoor), I look below a long detailed look at the route ahead of me. I study my variables: what type of rock is present, the different shape of holds, and the style of climbing. I must understand how long the route is, and what type of energy it will require in order to be climb effectively. Not until I am able to understand all variables of a climb, am I able to proceed confidently and strategically.

**Planning and Strategy:** As I enjoy trying challenging routes, it is rare I succeed on my first try. Sustained practice and planning goes in to many of the routes that I "project" (focus on specifically for a period of time). After analyzing the variables and understanding the obstacles I face on projected climb, I proceed to implement strategies that will provide for the best response. Many of the routes I choose take time, so being able to find adaptability and sustained efforts within my strategies has been learning area of key importance.

**Enjoying a Challenge:** Rock climbing is meant to be hard, and the more I find myself improving the more of a challenge I look for. Pursuing a hobby in rock climbing influenced me to recognize that I seek out challenges and opportunities for growth. Once I finish a route with a particular "grade" or difficulty, I begin to look for something that will present me with that next step. I find this personal attribute to not only be present in my interest in climbing, but in my choice of career and educational endeavors.

### Lessons Learned

As I get older, I can only hope my body allows me to continue my climbing endeavors, however, the strengths mental strengths I have gained from my newest lifestyle choice have supplemented my personal growth as much as the physical components. Repetitive application of analytical thinking and planning and strategy through climbing has reinforced my ability to practice these behaviors throughout my studies, employment, and overall lifestyle decision-making.

As I have begun choosing graduate schools, these skills have prompted me to look at what variables will strengthen and weaken my perspective schools choices. I pay attention to cost/benefit, chance of long-term success, and any plausible obstructions in my path to graduate study. At work, I am better able to focus on the different variables that construct the problems I am presented with, in order to better understand the body of a situation. From there I am able to plan and execute the best strategy from an objective perspective.

Throughout my educations, analytical thinking has helped me develop research projects and design such as my research project regarding Chivalry and Female Attractiveness as well as combine combine classroom research to correct write my own Duchenne Smile Study Report during my junior year. Moving forward, I will be able to utilize these skills as I pursue a career in research and consulting. Understand different dynamics of a particular organization will guide my research, and help me to understand what factors influence behavior within organizations; just as strategic planning and recognition of factors such as skill-set and climbing style have aided me throughout my climbing practice.

*Reprinted with permission from Dr. Jeff King, University of Central Oklahoma*

# APPENDIX 10E – Sample of Rubric used for a STLR Tenet - UCO

STLR Rubric and Badge Level Descriptions

STLR STUDENT TRANSFORMATIVE LEARNING RECORD

| Tenet | Transformation | | Integration | | Exposure | | NOT Achieved | |
|---|---|---|---|---|---|---|---|---|
|  Global & Cultural Competencies | Global:<br>• The student sees her- or himself as a global citizen, positioned in a specific country but part of a greater whole.<br>• The student is knowledgeable about global issues and welcomes interactions that challenge her/him to self-reflection about her/his place in the global future. | Cultural:<br>• The student demonstrates well-developed traits that support her/his sense of multiculturalism, e.g., awareness of her/his cultural self, flexibility, adaptability, inclusivity, creativity, and self-reliance as s/he willingly engages with cultures different than her/his own. | Global:<br>• The student has a developing sense of her- or himself as a global citizen.<br>• The student has experimented some with getting outside of her/his country, through travel or study, and has had some insights about how knowledge about people across the globe helps her/him to better comprehend what goes on in the world.<br>• The student can sometimes articulate his positionality within the world community. | Cultural:<br>• The student is beginning to understand her/his cultural self and engage with others in understanding cultures different than her/his own.<br>• Although still sometimes hesitant, the student has begun to appreciate how her/his cultural background informs the way s/he sees the social environment and others.<br>• The student has begun to understand that other people experience their lives from a vantage point of their culture. | Global:<br>• The student has never been out of her/his home country and has not perceived her- or himself as being a part of an entity larger than her/his community, state/province, and country.<br>• The student is just beginning to engage the idea of her- or himself as a global citizen and is open to learning about other countries and cultures. | Cultural:<br>• The student has little sense of her/his cultural self but is not resistant to understanding her- or himself in that way.<br>• The student has had limited experience with people who have cultures different than her/his own and is open to learning about her- or himself and others through a cultural lens. | Global:<br>• The student is strongly ethnocentric and sees no value in looking outside of his home country. | Cultural:<br>• The student has no sense of her/his cultural self and no awareness that there are people who have cultures different than hers/his. |
|  Health & Wellness | • The student personifies a holistic view of health and wellness (physical, spiritual, emotional, intellectual, environmental, financial, occupational, and social) and can articulate its meaning to others.<br>• Student demonstrates commitment to care of self and/or others.<br>• The student exhibits behaviors that demonstrate a change in perspective in fostering and sustaining a healthy community and natural environment. | | • The student exhibits an understanding of concepts for health and well-being and has begun to integrate at least one of the eight dimensions of wellness into their overall health and well-being.<br>• Student participates in activities that demonstrate life balance, wellness, and maintenance of a healthy lifestyle.<br>• The student can determine the need for change to improve their own health and wellness and/or the well-being of their community and natural environment. | | • The student has a basic awareness and understanding of at least one of the eight dimensions of wellness (physical, spiritual, emotional, intellectual, environmental, financial, occupational, and social).<br>• Student is aware of the importance of activities that foster health and wellness, but may have minimally incorporated behaviors into personal lifestyle.<br>• Student has had a basic introduction to issues around the community and their natural environment. | | • The student is not engaged in any health and wellness activity or studies, and shows no interest in these areas. | |

May 2016

| Tenet | Transformation | | Integration | | Exposure | | NOT Achieved | |
|---|---|---|---|---|---|---|---|---|
|  Leadership | • The student can identify the leadership styles and philosophies of peers and effectively use this knowledge to create teams and workgroups.<br>• The student is cognizant of community needs and aligns her/his efforts to serve and meet those needs. | | • The student articulates a personal philosophy of leadership.<br>• The student acknowledges that individuals may display leadership differently and recognizes that leadership is not a position or title but centers on the ability to influence the community (world). | | • The student may have never considered her- or himself as a leader but is open to the potential and understands that each person has the ability to serve as a leader.<br>• The student may have begun to develop an awareness of her or his own personal values and how they differ from those of others.<br>• The student interacts with others who are considered leaders and may adopt the mindset of serving as a leader with a position or title in limited experiences or activities. | | • The student believes that s/he does not have the potential to serve as a leader and seems unwilling to explore the opportunities presented. | |
|  Research, Creative & Scholarly Activities | Research:<br>• The student has gone beyond mere ability to properly define the problem and identify correct methods of investigation.<br>• Student uses proper methodology and tools as the matter-of-course starting point, then critically applies a meta-view of similar research to compare and contrast potential research designs, selecting the best match to discover the answer s/he is seeking in the research<br>• Uses new research slants, tools, or processes, including qualitative and mixed-methods. | Creative Activities:<br>• Student displays a unique artistic vision--more than mere competent execution (although competent execution is required).<br>• The artistry is made tangible in the work of art.<br>• The artistic statement made in the work can be explicated by the artist in a cogent description of the piece, its theme(s), and the intent in creating the piece. | Research:<br>• The student begins to contextualize the research project within a disciplinary context and widens the search for relevant information.<br>• The student asks more questions to frame both the problem & the hypothesis and considers a broad array of potential intervening variables.<br>• For qualitative research, the student can employ a rudimentary coding scheme to categorize responses.<br>• The student works independently of instructor on at least some aspects of the research and takes care to ensure data integrity. | Creative Activities:<br>• The student demonstrates competency of execution, ensuring an enjoyable experience for the audience, while not necessarily accomplishing the goals or vision s/he had in mind.<br>• The explanation of vision lacks clarity and, most importantly, a crystallized, easily understood description of what was intended with the work of art.<br>• The student is still "finding her/his voice" and how to express it uniquely. | Research:<br>• Student is at the beginning engagement level with good research. Planning the research is not thorough and the research design may be mismatched to the problem.<br>• The student does not thoroughly test hypotheses nor seek corroboration of findings or validation of research design and process.<br>• Student does not look for potential intervening variables and may jump to conclusions.<br>• For qualitative research, the student understands how qualitative research differs from quantitative but cannot design or implement a qualitative research project.<br>• Student requires extensive guidance at every/most stage(s) of the project. | Creative Activities:<br>• The artistic vision is unfulfilled,<br>• The creative work lacks cohesion,<br>• And/or, the creative process is incompletely executed, lacking depth. | Research:<br>• The student has never done a research project that required the formulation of a hypothesis and the process of supporting or disproving that hypothesis. | Creative Activities:<br>• The student is a beginner at the college level and does not comprehend the basic elements of the creative process.<br>• The student is unable to combine technical skills with tools of composition / creativity in order to fulfill an artistic vision. |

May 2016

*Reprinted with permission from Dr. Jeff King, University of Central Oklahoma*

# Appendix 11 - Case Study: University of California San Diego[75]

***Institutional Background***

Located in La Jolla, California within San Diego County, the University of California San Diego (UC San Diego) is a publicly funded research institution offering more than 175 undergraduate majors and 117 graduate programs to approximately 36,000 students. Program areas available include arts and humanities, biological sciences, engineering, physical sciences, business, global policy and strategy, medicine, oceanography, pharmacy and pharmaceutical sciences, and the social sciences (UC San Diego, n.d.a). The University considers itself unique in that it follows the Oxford and Cambridge models where the student community members become part of one of six undergraduate colleges, each with their own general education requirements, from which they eventually graduate (UC San Diego, n.d.b). These smaller communities provide a local 'home', residences, and programming to support students while studying at UC San Diego. The University is accredited by the WASC Senior College and University Commission (WSCUC).

UC San Diego has an impressive standing in external recognition and rankings. As indicators of its world renown stature, UC San Diego ranked 41st in the Times Higher Education World University Rankings (2016-17), 14th in the 2016 Academic Ranking of World Universities (ShanghaiRankings Consultancy, 2016), and 17th in the Center for the World University Rankings (2012-2017). It considers itself one of the "*top 15 research universities in the world*" (UC San Diego, n.d.b.). It was also recently designated as a Changemaker Campus in 2017 by Ashoka U, which highlights its commitment to social innovation (UC San Diego, n.d.b.).

***UC San Diego's Strategic Planning Initiative[76]***

Although officially established in 1960, UC San Diego engaged in its first strategic planning process in 2012 with the arrival of Chancellor Pradeep Khosla (UC San Diego, n.d.c.). Also in 2012, the Executive Vice Chancellor, Academic Affairs Suresh Subramani established the Education Initiative, an initiative aimed at ways to further support the intellectual, academic, and social development of undergraduate and graduate students. The Education Initiative became integrated into the Campus Strategic Plan.

A campus-wide consultation with over 10,000 people resulted in five overarching goals with the first being of direct relevance to this program and the credentialing initiatives at UC San Diego:

[75] The material for UC San Diego resulted from website reviews and interviews with Cindy Lyons, Interim Registrar, and Kimberly Elias, Engaged Learning Tools Coordinator. The authors are grateful to both for reviewing this material and providing permission to include it in this report.

[76] More information on the UC San Diego Strategic Plan is available online at: http://plan.ucsd.edu/.

> *"Goal 1 - Delivering an educational and overall experience that develops students who are capable of solving problems, leading, and innovating in a diverse and interconnected world" (UC San Diego, n.d.d.).*

Enhancing transfer pathways, improving and expanding academic programs, and creating a comprehensive official student record that includes an enhanced electronic transcript and a Co-Curricular Record represent examples identified in the UC San Diego strategic plan designed to implement the first goal (n.d.d.). The expressed intention of the credentialing work included showcasing campus engagement and skill development. According to Cindy Lyons, Interim Registrar, the new comprehensive official record, which officially launched fall 2016, is a direct result from the strategic plan consultation process (personal communications).

These efforts align with UC San Diego's mission and vision, which emphasize a transformative focus:

> *"Our Mission - UC San Diego is transforming California and a diverse global society by educating, by generating and disseminating knowledge and creative works, and by engaging in public service.*
>
> *Our Vision - We will align our efforts to be a student-centered, research-focused, service-oriented public university" (UC San Diego, n.d.d.).*

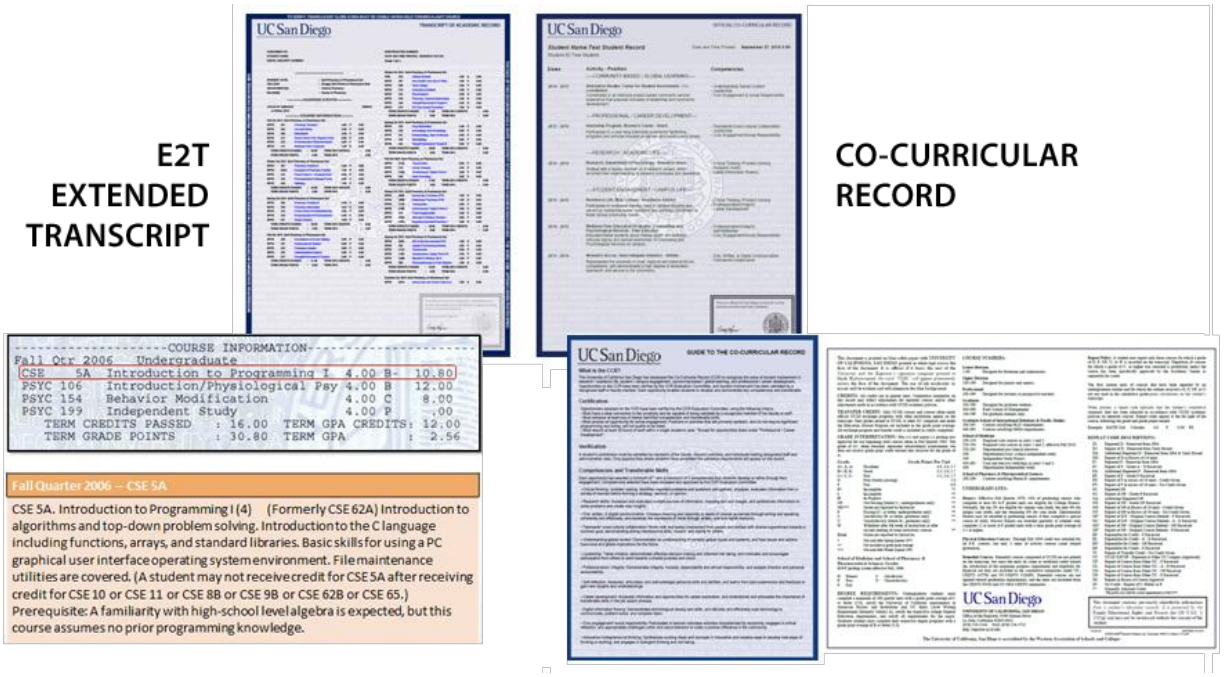
***Integrated Credentials***

Through the strategic planning process and Education Initiative, the then serving Registrar, Bill Haid, worked with other campus leaders to lead a process to innovate the university's credentials to better reflect the learning on campus (UC San Diego, May 2, 2016). The *Student Educational and Experiential Record System (SEERS) Steering Committee* (later renamed *Engaged Learning Tools Steering Committee*) led the process in creating a suite of tools, which include: a searchable database of opportunities called the *Research Experience Applied Learning (REAL) Portal;* an enhanced electronic transcript (*E2T*) with embedded hyperlinks to additional information; a validated Co-curricular Record (CCR) that captures experiences and skills beyond the classroom; and an electronic, student controlled portfolio (*Portfolium*). This array of tools captures and showcases learning across the entire student experience.

Figure 8 provides a thumbnail of the credentials offered by UC San Diego (a larger version is available in Appendix 11). UC San Diego's Enhanced Electronic Transcript (E2T) is, in many ways, a typical transcript in that it provides course titles, grades, and credit weights; however, it is in an electronic format which represents its true value. Any type of learning that results in earned credits is represented on this document. The blue font in the E2T in Figure 8 represents hyperlinks. If a student, employer, or staff at a subsequent institution clicks on the hyperlink for

a course, the detailed course description, the instructors name and email, and the grade distribution for the course section appear. Noted below the E2T Transcript in Figure 8 is an example of the course details that appears via the hyperlink. Future enhancements to the electronic version may include: providing links to theses and dissertations, and highlighting high impact practices and the instructor's name and biography.

*Figure 8: Alternative Credentials at UC San Diego*




Along with their transcript, students can now request their official validated Co-Curricular Record (CCR). The CCR highlights student activities and competency achievements during their time at the University. Opportunities are then categorized under four sections on the record:

- Community-Based / Global Learning
- Professional / Career Development
- Research / Academic Life
- Student Engagement / Campus Life (UC San Diego, 2017)

Activities are listed under the category along with the position and a description of the experience and the competencies mastered. Competencies – from a list of twelve provided by the University - are assigned to each activity such that if a student participates and completes the experience, the student is considered to have developed or refined the competency. A staff or faculty validator adds the activity to students' CCR once they complete the requirements of the activity.

Certifiable co-curricular activities or opportunities include internships, volunteerism, opportunities to engage in research, student organization and leadership, athletics, committee work, student government, and special projects made available to students. Up to three competencies are attached to each activity. If students complete the opportunity, the experience and competencies associated are added to their CCR

Students order either the *E2T* alone, or the *E2T* and CCR, electronically. As an alternative, mailing the documents remains an option; however, the hyperlink capacity is lost. The Registrar signs both records to provide institution-wide validation.

Bill's efforts with the Engaged Learning Tools, along with his leadership in the Registrarial community, resulted in him winning an Honorary Membership Award from the American Association of Collegiate Registrars and Admissions Officers (AACRAO).

***Governance***

There are two groups that govern the *Engaged Learning Tools (ELT*s). The *CCR Evaluation Committee* meets monthly to review and approve co-curricular opportunities and provide oversight of the CCR implementation. The *ELT Steering Committee* then acts as the overarching body with oversight for developing and implementing the *REAL Portal, E2T* and CCR, and the supporting e-portfolio. Both committees include representation from a variety of areas within the University, including the Registrar's Office, the newly launched Teaching + Learning Commons, Career Services, Student Affairs, faculty, students, and other campus leaders. The Engaged Learning Tools Specialist, a staff member in the Teaching + Learning Commons, acts as the chair of the two committees and works with campus partners to further implement and communicate the tools.

***Technology[77]***

The four tools are supported by different vendors, while working closely with the university information technology department. UC San Diego works with the vendor Notch8[78] for the REAL Portal noted above, and Portfolium[79] as the electronic portfolio to store and showcase curricular and co-curricular student artifacts and activities. This provides the front-facing public access for the student; a repository for capturing relevant artifacts; and a framework tool for highlighting proficiency in skills and competencies. UC San Diego then works with *Orbis Communications Inc*.,[80] a Canadian vendor that hosts the CCR platform to store and validate

[77] Personal communications - The researchers did not assess the various platforms used by the institutions. All information about technology was provided by the institutions. Those interested in more information should contact the institutions and vendors directly.
[78] For more information about *Notch8*, see http://www.notch8.com/.
[79] For more information about *Portfolium*, see https://portfolium.com/.
[80] For more information about *Orbis Communications Inc.*, see https://www.orbiscommunications.com/.

student involvement in co-curricular activities. Students order their official credentials through Parchment[81] which is the platform that supports distribution of the credentials to third parties and students. If a student is looking to request their academic transcript with the CCR, they order it directly through Parchment; a single file is created with signatures from the Registrar on official university paper. UC San Diego does not distribute Cognitive Skills Stamps or badges.

UC San Diego leveraged the course calendar to populate *E2T* information, and is responsible for creating the full PDF with the contextual data and hyperlinks, which then Parchment produces. The *E2T* can be sent electronically to a list of partners that have electronic receiving capability, but students can also request the document be sent to themselves, and then email it out to various end users—including employers.

***Institutional Learning Outcomes or Equivalent***

According to Kimberly Elias, UC San Diego's competency framework was informed by the Association of American Colleges & Universities (AAC&U) VALUE Learning Outcomes (n.d.), the Council for the Advancement of Standards (CAS) in Higher Education, and the WASC Senior College and University Commission (WSCUC) Core Competencies which include writing, oral communication, quantitative reasoning, information literacy, and critical thinking (WSCUC, June 2014). For the latter, WASC requires evidence of actual achievement in these competencies as part of its accreditation requirements. This last requirement provided UC San Diego the incentive to implement the CCR and the *E2T* with links to more details about the courses (personal communications). UC San Diego also included other competencies that came out of institutional conversations, including digital information fluency.

The following represent the list of competencies used to frame and guide the *Engaged Learning Tools*, including related assessment of activities for the CCR (UC San Diego 2017).

- *"Critical thinking/problem solving: identifies important problems and questions and gathers, analyzes, and evaluates information from a variety of sources before forming a strategy, decision, or opinion.*
- *Research ability: accesses and evaluates multiple sources of information, including text and images, and synthesizes information to solve problems and create new insights.*
- *Oral, written, & digital communication: conveys meaning and responds to needs of diverse audiences through writing and speaking coherently and effectively, and develops the expression of ideas through written, oral and digital mediums.*

[81] For more information about *Parchment*, see http://www.parchment.com/.

- *Teamwork/cross-cultural collaboration: works with and seeks involvement from people and entities with diverse experiences towards a common goal, demonstrating strong interpersonal skills, respect, and dignity for others.*
- *Understanding global context: demonstrates an understanding of complex global issues and systems, and how issues and actions have local and global implications for the future.*
- *Leadership: takes initiative, demonstrates effective decision making and informed risk taking, and motivates and encourages participation from others to work towards a shared purpose and vision.*
- *Professionalism/integrity: demonstrates integrity, honesty, dependability and ethical responsibility, and accepts direction and personal accountability.*
- *Self-reflection: assesses, articulates, and acknowledges personal skills and abilities, and learns from past experiences and feedback to gain new insights and understandings.*
- *Career development: accesses information and opportunities for career exploration, and understands and articulates the importance of transferable skills in the job search process.*
- *Digital information fluency: demonstrates technological literacy and skills, and ethically and effectively uses technology to communicate, problem-solve, and complete tasks.*
- *Civic engagement/social responsibility: participates in service/volunteer activities characterized by reciprocity, engages in critical reflection, and appropriately challenges unfair and unjust behavior to make a positive difference in the community.*
- *Innovation/entrepreneurial thinking: synthesizes existing ideas and concepts in innovative and creative ways to develop new ways of thinking or working, and engages in divergent thinking and risk taking." (UC San Diego, 2017)*

***Accountability and Validation Processes***

As mentioned, a minimum of one and a maximum of three competencies can be associated to an opportunity for it to be CCR eligible. Criteria for inclusion of an opportunity on the Co-Curricular Record include: the establishment of a link to the university; ensuring the experience can be validated; enhancement of at least one of the twelve competencies; facilitation of active engagement by the students; and the requirement of 30 hours of work each academic year per student (with some exceptions) (personal communications).

An instructor, program, or area of the University requesting to include an activity must submit an explanation of how each student will meet the chosen competencies through the experience to the *CCR Evaluation Committee*. This Committee includes representatives from across the University such as the Teaching+ Learning Commons, the Registrar's Office, Career Services, the Graduate Division, the Academic Integrity Office, Student Health & Well-being, and others. The

Committee also includes representatives from the faculty, and the undergraduate and graduate student associations (UC San Diego, 2017). Figure 9 illustrates the material used to market and support this process.

*Figure 9: UC San Diego's Sample Communications Materials distributed to Faculty, Staff, and Student Leaders*




The Committee reviews the rationale and approves the competency(ies) after which the activity is inputted into the database. The experience and competencies are documented on a student's CCR once the student completes the requirements (UC San Diego, 2017). Figure 10 represents an example of how the learning is reflected on the CCR. For co-curricular experiences, students develop specific competencies outlined above by attempting and completing an activity (UC San Diego, n.d.e.). Currently, UC San Diego does not utilize proficiency levels or a rubric.

*Figure 10: UC San Diego's Sample Representation of a CCR Activity on the CCR (2017)*

| Dates | Activity - Position | Competencies |
|---|---|---|
| | ----COMMUNITY-BASED / GLOBAL LEARNING---- | |
| 2014 - 2015 | **Alternative Breaks, Center for Student Involvement - Co-coordinator**<br>Coordinated in an intensive project-based community service experience that explored concepts of leadership and community development. | - Understanding Global Context<br>- Leadership<br>- Civic Engagement & Social Responsibility |
| | ----PROFESSIONAL / CAREER DEVELOPMENT---- | |
| 2015 - 2016 | **Internship Program, Women's Center - Intern**<br>Participated in a year-long internship experience facilitating programs and services focused on gender and social justice issues. | - Teamwork/Cross-Cultural Collaboration<br>- Leadership<br>- Civic Engagement/Social Responsibility |

### *Student Success, Mobility, and Transfer*

Student development theory and aligning to the new institutional Strategic Plan and Education Initiative informed the efforts of UC San Diego's *Engaged Learning Tools* task force and the development of the e-portfolios, the *E2T*, and the CCR.

At the time of this research, no data was available to indicate whether UC San Diego's efforts with these various tools and credentials facilitated student success, mobility, and transfer; however, the project is still in the early stages of implementation and launch. Having noted this, the *E2T* does achieve a goal of enhancing access to more details regarding courses beyond the title, grade, and credit weighting. Of course, the assumption is that receiving institutions have the capacity to receive an electronic transcript.

The stated intention of the CCR includes demonstrating "*the value of engaging in opportunities beyond the classroom, and to help students reflect on and articulate the skills they developed*" (UC San Diego, 2017). The CCR augments a student's resume, professional certifications, and volunteer efforts to facilitate access to career pathway opportunities. As the Registrar institutionally validates and signs the final Record, UC San Diego suggests to students that it will facilitate admission into other institutions and the workforce (2017).

The UC San Diego CCR approach does not include assigning levels of achieved proficiency through use of a rubric; rather, the verifier is tasked with confirming the student engaged in the activity which is then affiliated to formally approved institutional level competencies on the Record distributed to the student and third parties. For the student, having a verified document that confirms they engaged in specific activities and then supporting it with evidence of their work accessible through the online portfolio might have utility if a future institution embedded prior learning assessment practices in their admissions processes.

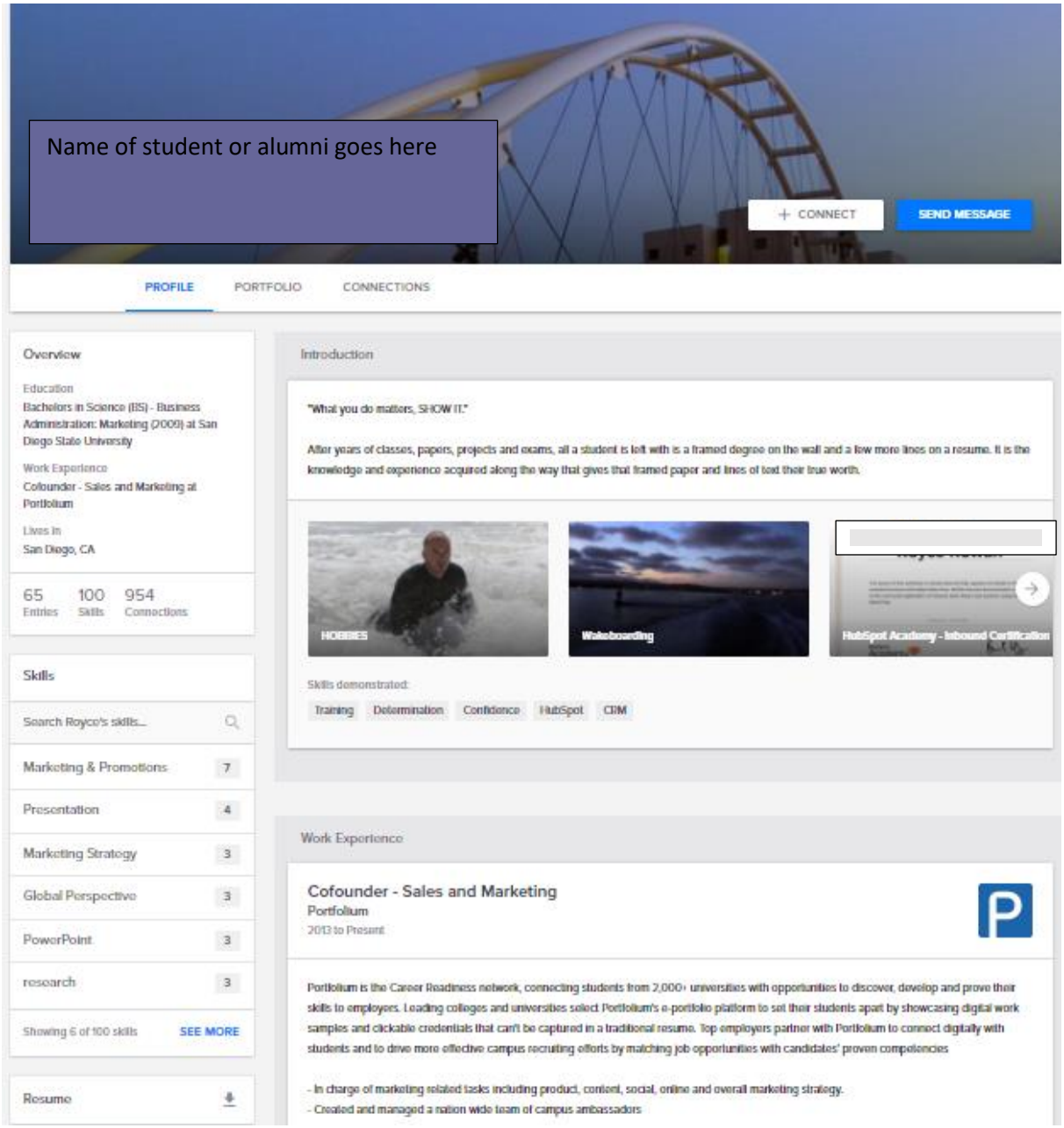
According to Elias, UC San Diego alumni have full and continuous access to *Portfolium* after graduation through a personal URL which they can publish on a resume or application. Appendix 11B showcases an example. Since the entire project also ties into providing career supports to facilitate transition to the workforce, validating its success in this area would be an interesting focus for future research.

As one example of recent research, Elias conducted a quantitative research study in 2014 focused on exploring perceptions of co-curricular engagement and the role of the CCR in the hiring process (Elias, 2014).[82] Using data from a survey to employers sourced from the University of Toronto Career Services database, Elias concluded from the findings that employers do not fully understand the value of co-curricular experiences, due in part to a lack of adequate articulation by students of the skills they developed in co-curricular activities. According to Elias, tying competencies to activities on an official record provides comprehensive information about the experiences which then serves as an aid to reflection and communication in the hiring process (personal communications).

As with other institutions examined for this study, the full array of tools and credentials at UC San Diego represents a comprehensive approach to presenting student achievements.

[82] See the full study conducted by K. Elias at http://www.kimberlyelias.ca/.

## APPENDIX 11B – Sample of an Alumni Portal




*Reprinted with permission from Kimberly Elias, UC San Diego*

# APPENDIX 12 - National Survey Findings

## Methodology

To capture a broader understanding of practices, expert advice, and institutional capacities, the project incorporated a national online survey targeting registrars at Canadian postsecondary institutions.[83]

The project team distributed the online survey through the listserv of the Association of Registrars of the Universities and Colleges of Canada (ARUCC). Supplemental distribution occurred to four provincially-based registrarial associations which, in one case, includes members from the territories.[84] Although the primary focus was primarily publicly funded or assisted institutions, private postsecondary institutions received the participation invitation if they maintained membership in any of the targeted associations; six provided responses.

Members of the Ontario Council on Articulation and Transfer (ONCAT), the Research Working Group of ARUCC, and the Canadian Post-secondary Education Standards Council (CanPESC) reviewed the questions and provided insights to inform survey development. The instrument included questions that permitted free-form qualitative and closed-ended responses (see Appendix 13 for a copy of the survey). Select opinion type questions used the five-point Likert scale (i.e., 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree', 'strongly disagree'). While not all questions required a response, some did which likely resulted in a completion rate of 82%.[85] In addition, the rules coded into the survey deliberately triaged next stage questions presented to respondents. For these reasons, the findings include the 'n' count for each question. As nomenclature emerged as a critical consideration throughout this study, the survey contained specific definitions which are embedded in the survey questions in Appendix 13.

Supporting communications for the survey included advising registrars in advance at provincial and national association meetings and conferences, and distributing launch and reminder emails. These efforts resulted in an overall response rate of 42% (71 out of 168 postsecondary institutions).[86]

---

[83] One response per institution was requested. In the one instance two responses were provided by the same institution; the registrar identified which response remained relevant. The second response was deleted.

[84] Specifically, to the following organizations: Atlantic Association of Registrars and Admissions Officers (AARAO); Western Association of Registrars of the Universities and Colleges of Canada (WARUCC); Ontario University Registrars' Association (OURA); Ontario College Registrars, Admissions, & Liaison Officers (CRALO).

[85] Survey testing revealed the response timeframe was typically 10 minutes for those with no active institutional engagement in alternative credentialing and upwards of 30 minutes for those that did. This information was made transparent to participants in supporting communication.

[86] Total potential respondents include all Canadian publicly funded postsecondary institutions and those privates that are recognized within their province and maintain membership in organizations such as the BC Council on Admissions and Transfer or AUCC. Six private institutions completed the survey; their responses are included throughout.

## Survey Objectives

The survey objectives included identifying the current state of credentialing and transcription activities; any plans for additional changes; the nature and characteristics of learning outcomes embedded in curriculum; the long-term access, if any, provided for graduates to capstone credentials; and expert advice to inform best practice recommendations. Table 4 provides more details.

*Table 4: Question Topic Areas explored in the National Survey*

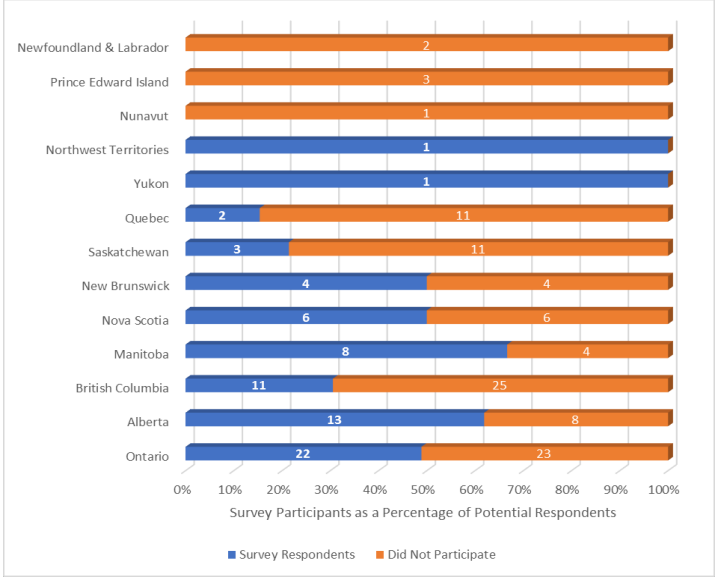
| Survey Topic | Areas Explored in Survey |
|---|---|
| **Credential types distributed to students** | Types distributed to students; linkages in place, if any, to transcripts and or diplomas; the accountable role or area; and the types of learning documented within each credential (i.e., curricular, co-curricular, a blend). |
| **Alternative credentialing or transcription activities** | Alternative credentialing and or transcription activities being explored; which role or department is leading the effort; and the intentions regarding documenting the type of learning and linking to the existing transcript or diploma. |
| **Status and nature of institutional learning outcomes** | Status of learning outcomes; levels available (i.e., module, course, program, institutional or general); and whether the information is machine-readable (a prerequisite for effective electronic data, transcript, and or diploma exchange). |
| **Academic learning outcomes achievement provided to individual students through a diploma or transcript** | Whether capstone academic learning outcomes achievement results are provided to individual students; drivers and proof of success; how the institution is storing the information; and what information remains available to students when they leave their institution. |
| **Expert advice** | Key activities needed prior to implementing alternative credentials; how to develop capacity; whether, in their opinion, alternative credentials would improve student ability to move into other institutions or the workforce; and what type of information related to alternative credentials would improve the transfer credit assessment process for administrators. |

## Core Findings

### Respondents by Region

Figure 11 provides a regional breakdown of responses to the national survey. In absolute numbers, Ontario submitted the largest number of responses (22) followed by Alberta (13) and British Columbia (11); however, the participation rate is provided for each region.[87] Six private institutions participated in the survey (Manitoba = 2; Alberta = 3; BC = 1); therefore, Figure 11 includes private institutions for those provinces. If private schools are excluded, participation for these provinces changes to 45% for Alberta (13/29), 75% for Manitoba (6/8 publicly funded participants), 45% for Nova Scotia (5/11), and 40% for BC (10/25) respectively.

*Figure 11: Provincial Participants in the National Survey*

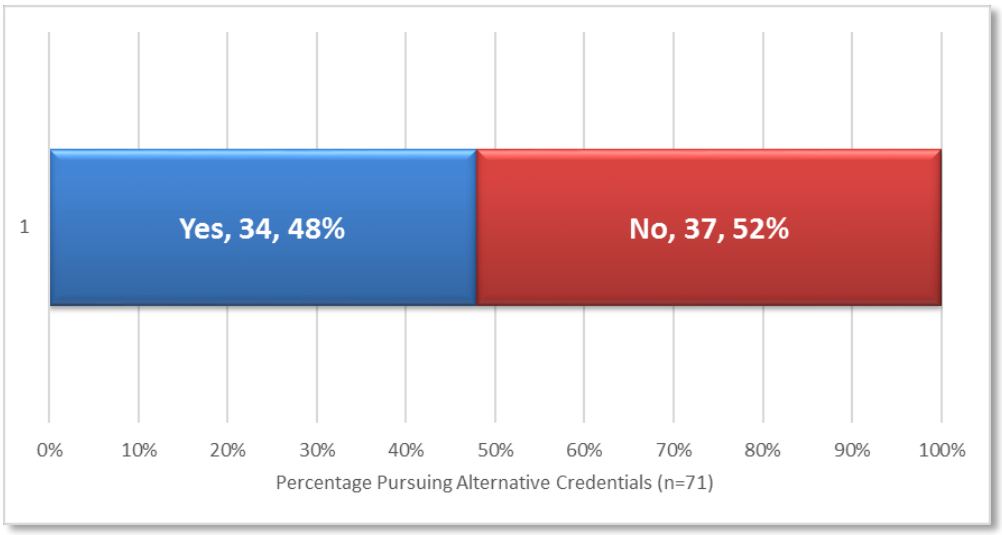



[87] Sources for total number of institutions: Alberta (http://advancededucation.alberta.ca/post-secondary/institutions/public/); British Columbia (includes all member institutions of BCCAT; http://www.bccat.ca/system/psec); Manitoba (include religious institutions; http://www.edu.gov.mb.ca/ald/uni_coll.html); New Brunswick (universities: http://www2.gnb.ca/content/gnb/en/departments/post-secondary_education_training_and_labour/Skills/content/Institutions/Universities.html; colleges: http://www2.gnb.ca/content/gnb/en/departments/post-secondary_education_training_and_labour/Skills/content/Institutions/PublicColleges.html); Newfoundland & Labrador (https://www.cicic.ca/1192/Postsecondary-education-in-Newfoundland-and-Labrador/index.canada); Northwest Territories (https://www.cicic.ca/1188/Postsecondary-education-in-the-Northwest-Territories/index.canada); Nova Scotia (https://www.mynsfuture.ca/universities-colleges); Ontario Ministry of Advanced Education and Skills Development (Retrieved from https://www.ontario.ca/page/go-college-or-university-ontario/); Prince Edward Island (https://www.cicic.ca/1167/Postsecondary-education-in-Prince-Edward-Island/index.canada); Quebec (Université du Québec system counted as one; CEGEPs excluded; http://www.bci-qc.ca/en/members/); Nunavut (https://www.cicic.ca/1183/Postsecondary-education-in-Nunavut/index.canada); Saskatchewan (does not include federated, affiliated or private career colleges; Retrieved from https://www.saskatchewan.ca/residents/education-and-learning/universities-colleges-and-schools/post-secondary-institutions)

## Current State: Canadian Alternative Credentialing Activity

Figure 12 indicates that 48% (34/71) of the Canadian institutional respondents reported their institution currently provides students with alternative credentials to showcase summative learning in addition to the traditional transcript or diploma.

*Figure 12: Percentage of Canadian Institutions distributing Alternative Credentials*




Of the 34 respondents who indicated 'Yes', 33 provided additional details which are noted in Table 5. Wording in the survey restricted identification of verifiers to specific individuals who provide the "final" verification.

If an institution provides alternative credentials, the findings indicate that certificates, co-curricular records, and co-curricular portfolios represent the most prevalent formats to showcase student learning beyond the transcript or diploma. Two respondents reported that the learning showcased in the alternative credential is student-verified which might indicate a commitment to student-generated and controlled representation of learning in alternative credentials – something evident in select exemplar case studies. A very small number (3 respondents) reported their institution distributes unverified badges, co-curricular records, and or co-curricular portfolios.

---

*With respect to alternative credentials, Canadian respondents typically distribute certificates, co-curricular records, and co-curricular portfolios with senior officials verifying the learning. Cognitive Skill Stamps, Badges, comprehensive student records, and other forms of credentialing remain less common.*

---

*Table 5: Alternative Credentials Currently distributed to Students by Canadian Postsecondary Institutions*

| Credential Type | Verifying Department | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total institutions | Faculty member | Registrar | Program Department Head or Chair | Dean (or designate) | Student affairs lead | Vice President/ President (or designate) | Student verified | Other | Unverified | Not applicable | Total Responses |
| **Badges** | 3/33, 9% | 0 | 0 | 1 (3%) | 0 | 1 (3%)* | 1 (3%)* | 0 | 0 | 1 (3%) | 30 (91%) | 33 |
| **Co-curricular records** | **23/33, 73%** | 0 | 1 (3%) | 1 (3%) | 0 | 15 (46%) * | 1 (3%)* | 0 | 5 (15%) | 1 (3%) | 10 (30%) | 33 |
| **Co-curricular portfolios** | 12/33, 36% | 1 (3%) | 0 | 3 (9%) | 0 | 3 (9%) | 1 (3%) | 2 (6%) | 1 (3%) | 2 (6%) | 22 (67%) | 33 |
| **Micro credentials** | 2/33, 6% | 0 | 0 | 0 | 1 (3%) | 0 | 0 | 0 | 0 | 1 (3%) | 31 (94%) | 33 |
| **Comprehensive student records** | 9/33, 27% | 1* (3%) | 8* (24%) | 0 | 1* (3%) | 0 | 0 | 0 | 0 | 1 (3%) | 24 (73%) | 33 |
| **Certificates** | **19/33, 58%** | 1 (3%) | 14 (42%) | 4 (12%) | 4 (12%) | 0 | 0 | 0 | 0 | 0 | 15 (46%) | 33 |

Further questioning revealed institutions are distributing the following:

- Co-Curricular Badges for co-curricular achievements (two respondents);
- Co-Curricular Records reflecting a blend of curricular and co-curricular achievement (two respondents);
- Co-Curricular Records reflecting only co-curricular achievements (20 respondents);
- Comprehensive Student Records reflecting only curricular learning (seven respondents); and,
- Certificates reflecting only curricular achievement (15 respondents), co-curricular learning (three respondents), and a blend (one respondent).

How an institution defines curricular learning versus co-curricular learning emerged as a nuance throughout this project which may explain some of the above findings. For example, some institutions appear to define experiential learning as co-curricular and unrelated to the program or classroom setting whereas others define these learning experiences as curricular and therefore reference them on an academic transcript. This finding has downstream implications for students.

In addition to the above, institutions present co-curricular learning through widely divergent credential mechanisms. Examples shared by respondents include online e-portfolios, branded PDFs, non-credit certificates of completion, a formal co-curricular record, badges; one

respondent indicated co-curricular learning is represented through a vocational educational workbook.

*What is considered a curricular experience versus a co-curricular experience appears to differ from institution to institution which impacts credentialing and transcription of learning. This situation could result in downstream implications for students in the areas of transfer and or mobility.*

## Planned Future State

Twenty-six (26) out of 69 respondents (38%) indicated their institutions intended to explore creation of alternative credentials. Table 6 illustrates the high-level findings. Co-curricular records, co-curricular portfolios, and certificates remain prominent; however, there appears to be an emerging interest in creating comprehensive student records.

*Table 6: Canadian Postsecondary Plans for Alternative Credentials*

| Credential Type | Verifying Department | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total institutions | Faculty member | Registrar | Program Department Head or Chair | Dean (or designate) | Student affairs lead | Vice President/ President (or designate) | Student verified | Other | Unverified | To be determined | Not applicable | Total Responses |
| **Badges** | 6/18, 33% | 1 (6%) | 2 (11%) | 0 | 0 | 1 (6%)* | 1 (6%)* | 0 | 0 | 0 | 2 (11%) | 12 (67%) | 18 |
| **Co-curricular records** | **21/24, 88%** | 2 (8%) | 9 (38%) | 1 (4%) | 2 (8%) | 8 (33%) * | 3 (13%)* | 1 (4%) | 0 | 0 | 8 (33%) | 3 (13%) | 24 |
| **Co-curricular portfolios** | **12/18, 67%** | 2 (11%) | 1 (6%) | 1 (6%) | 1 (6%) | 5 (28%) | 1 (6%) | 0 | 0 | 0 | 4 (22%) | 6 (33%) | 18 |
| **Micro credentials** | 3/15, 20% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 (20%) | 12 (80%) | 15 |
| **Comprehensive student records** | **9/17, 53%** | 2 (12%) | 5 (30%) | 1 (6%) | 1 (6%) | 1 (6%) | 2 (12%) | 0 | 0 | 0 | 3 (18%) | 8 (47%) | 17 |
| **Certificates** | **9/17, 53%** | 1 (6%) | 7 (42%) | 1 (6%) | 2 (12%) | 1 (6%) | 1 (6%) | 0 | 0 | 0 | 1 (5%) | 8 (47%) | 17 |

** Respondents could choose more than one response.*

The comparison between current state and planned future state outlined in Table 7 suggests the occurrence of incremental exploration of alternative credentials. Further probing revealed three respondents plan to notate or reference co-curricular activities within the academic transcript; however, all 12 respondents indicated the new artifact would be separate from the transcript or diploma.

*Table 7: Comparison between Current and Planned Activities for Alternative Credentials at Canadian Institutions*

| Credential Type | Curricular (academic/ vocational) achievements within a program | | Co-curricular achievements (outside the classroom) | | A blend of both Curricular and Co-curricular achievements | | To be determined | | No/Not applicable | | Total Responses (Current; Planned) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Current | Planned | Current | Planned | Current | Planned | Current | Planned | Current | Planned | |
| **Badges** | 0 | 1 (6%) | 2 (6%) | 2 (13%) | 0 | 0 | NA | 3 (19%) | 30 (94%) | 10 (63%) | 32; 16 |
| **Co-curricular records** | 0 | 2 (10%) | 20 (63%) | 11 (52%) | 2 (6%) | 1 (5%) | NA | 7 (33%) | 10 (31%) | 4 (19%) | 32; 21 |
| **Co-curricular portfolios** | 2 (6%) | 1 (6%) | 5 (16%) | 3 (18%) | 4 (13%) | 2 (12%) | NA | 5 (29%) | 21 (66%) | 6 (35%) | 32; 17 |
| **Micro credentials** | 0 | 0 | 0 | 0 | 0 | 0 | NA | 3 (21%) | 32 (100%) | 12 (86%) | 32; 14 |
| **Comprehensive student records** | 7 (22%) | 4 (25%) | 0 | 1 (6%) | 0 | 1 (6%) | NA | 3 (19%) | 25 (78%) | 8 (50%) | 32; 16 |
| **Certificates** | 15 (47%) | 3 (19%) | 3 (9%) | 3 (19%) | 1 (3%) | 2 (13%) | NA | 3 (19%) | 15 (47%) | 7 (44%) | 32; 16 |

## Course and Learning Outcomes Information – Storage and Access

The research team learned through consultation that institutions sometimes embed learning outcomes in detailed course outlines. Plus, access to course outlines to enhance transfer assessment decisions emerged as a persistent challenge and issue throughout the project consultations. Therefore, the survey explored these areas to better understand current practices and to capture expert advice to support creation of alternative credentials.

### Storage of Detailed Course Information

Institutions appear to store detailed course information in more than one place and in more than one format which suggests that if learning outcomes are embedded within courses, corralling this material would be a necessary step. As an illustration of the findings, 47%, 27 of the respondents reported storing detailed course information in either the institutional Learning Management System or the Student Information System; 29% (17) store this information in the institutional Course Management System; and 33% (19) leverage PDF files. Interestingly, 35% (20) are also storing the information in the online calendar, word documents, SharePoint storage, in custom systems that support calendar production, and in various formats within program departments. Table 8 provides the overview for these findings.

*Table 8: Current State of Storage of Detailed Course Information at Canadian Postsecondary Institutions*

| Storage Method | Count, % (n=58*) | Examples |
|---|---|---|
| **Learning Management System** | 27, 47% | Desire2Learn (9 responses)<br>Moodle (8 responses)<br>Blackboard (7 responses)<br>Canvas (1 response)<br>'COMMs' (1 response)<br>Populi (1 response) |
| **Student Information System** | 27, 47% | Ellucian (13 responses; mostly Banner)<br>Custom/'Homegrown' platform (4 responses)<br>Blackbaud (2 responses)<br>PeopleSoft (2 responses)<br>Datatel (1 response)<br>Oracle (1 response)<br>Unit 4-EMS (1 response)<br>CampusVue (Academic Calendar; 1 response)<br>Populi (1 response) |
| **Course Management System** | 17, 29% | Custom/'Homegrown' (5 responses)<br>1 response for each of the following: Calendar Navigator, Course Leaf, COMMs, Datatel, Framemaker, Blackbaud, Infosilem, Moodle, Terminus, Kuali Curriculum Management, Desire2Learn, Decision Academic |
| **PDF** | 19. 33% | Various locations - federated |
| **Other** | 20, 35% | Online calendars and or program websites (some HTML tagged; not machine readable), word documents, SharePoint, home grown, within each department in various formats |
| **Don't know** | 2, 3% | |

**Respondents could choose more than one option.*

## Access to Detailed Course Information, Learning Outcomes, and Student Work Artifacts

Access to detailed course information, learning outcomes, and work artifacts created by students is a significant issue and barrier to entry for alternative credentialing and a problematic hurdle for transfer assessment whether during or after the admission process. The national survey revealed the following findings:

- Only 29% (17/58) indicated detailed course information exists in a machine-readable format.
    - 40% (23/58) indicated course information is not available in a machine-readable format, and 31% (18/58) reported not knowing the answer to this question.
- Eighty-five percent (49/58, 85%) indicated student mobility to other institutions and into the workforce would or might be improved if students were provided with detailed course information after leaving an institution (would be improved = 50%, 29; might be improved = 35%, 20).
    - Most of the respondents indicated having access to this type of information would facilitate transfer credit assessment and student mobility.

    - One respondent suggested this type of detailed information would not be necessary if a province adopted a model similar to the BCCAT transfer system.
    - Five percent indicated no improvement would occur (3, 5%); 10% indicated 'not sure/don't know' (6, 10%).
- Eighty-two percent (48/58, 82%) indicated student mobility to another institution or into the workforce would or might be improved if students had access to evidence of successful achievement of learning outcomes (would be improved = 24, 41%; might be improved = 21, 41%).
    - Two percent (1, 2%) indicated 'no' with no explanation; 16% (9) responded 'don't know'.
    - Those that responded in the affirmative indicated having this information would be valuable for the transfer assessment process and when transitioning to employment.
    - Those that supported 'possible' improvements provided different competing views on whether providing learning outcomes information would improve transfer assessment and transition to the workforce. Select individuals suggested the information should be formatted to ensure it is easy to read for third parties. Two people indicated it would improve transfer assessment but not mobility into the workforce. Four people indicated further research would be helpful to ascertain if employers would need and use this type of information.
- Twenty-three percent (13/57, 23%) indicated learning outcomes are embedded in course outlines while 63% (36/57) indicated learning outcomes are separately captured (8/57, 14% indicated this was not applicable).
- Seventy-eight percent (45/58, 78%) do not provide student access to artifacts of their individual work stored within Learning Management Systems or within the institutionally supported e-portfolio after students leave their institutions.
    - Thirteen percent (8/58, 13%) provide or are planning to provide access to student created artifacts stored in institutional Learning Management Systems (5, 9% reported this as no applicable).
    - Twelve percent (7/58, 12%) provide or are planning to provide access to student created artifacts stored in institutionally supported e-portfolios.

- Table 9 provides an overview of the specifics of the challenge from another perspective. While 69% (40) reported their institution provides access to course information via publicly available online calendars, the level of detail is often insufficient to facilitate transfer assessment. Eighty-six (50/58, 86%) indicated course outlines are provided to students during their classes. Most institutions do not provide access to course information from the existing diploma or transcript (86% and 95% respectively); however, a small number appear to be doing so for the diploma which represents an innovative credentialing approach (10%). Twenty-one percent (12, 21%) reported their institution provides access to publicly available course outlines which is helpful.

In the final analysis, accessing detailed course and or learning outcomes information represents a significant challenge. Since this type of information remains essential to ensure equitable transfer credit assessment for students, this barrier represents a problem.

*Table 9: Access to Detailed Course Information at Canadian Postsecondary Institutions*

| Does your institution provide access to the following information? | Yes | Planning this for future | No | Don't know | Total Responses |
|---|---|---|---|---|---|
| **Publicly available online calendar or website information** | 40 (69%) | 2 (3%) | 15 (26%) | 1 (2%) | 58 |
| **Course outlines/syllabi provided to students when they took their classes** | 50 (86%) | 1 (2%) | 5 (9%) | 2 (3%) | 58 |
| **Hyperlinks to course information from the existing diploma** | 6 (10%) | 1 (2%) | 50 (86%) | 1 (2%) | 58 |
| **Hyperlinks to course information from the existing transcript** | 0 | 1 (2%) | 55 (95%) | 2 (3%) | 58 |
| **References within the transcript legend indicating where to obtain additional course information** | 2 (3%) | 2 (3%) | 52 (90%) | 2 (3%) | 58 |
| **Within a personalized online e-portfolio for graduates** | 0 | 2 (3%) | 55 (95%) | 1 (2%) | 58 |
| **Publicly available course outlines/syllabi** | 12 (21%) | 4 (7%) | 41 (71%) | 1 (2%) | 58 |
| **Password protected course outlines/syllabi provided after graduation** | 5 (9%) | 2 (3%) | 50 (86%) | 1 (2%) | 58 |

## Status of Learning Outcomes

Given the focus of this research study, understanding the status of learning outcomes at institutions represented a necessary line of questioning in the survey.

Eighty-seven percent (52/60) of the respondents reported learning outcomes exist at their institution. Of those, 51 respondents provided further details (see Figure 13 for specifics).

Most respondents reported that course- (94% 48/51) and program-level learning outcomes (86%, 44) are the most common while modular (27%, 14) and institutional or general learning outcomes (39%, 20) are less prevalent. For the five respondents remaining in the 'Other' category, their institutions are in the process of establishing learning outcomes.

---

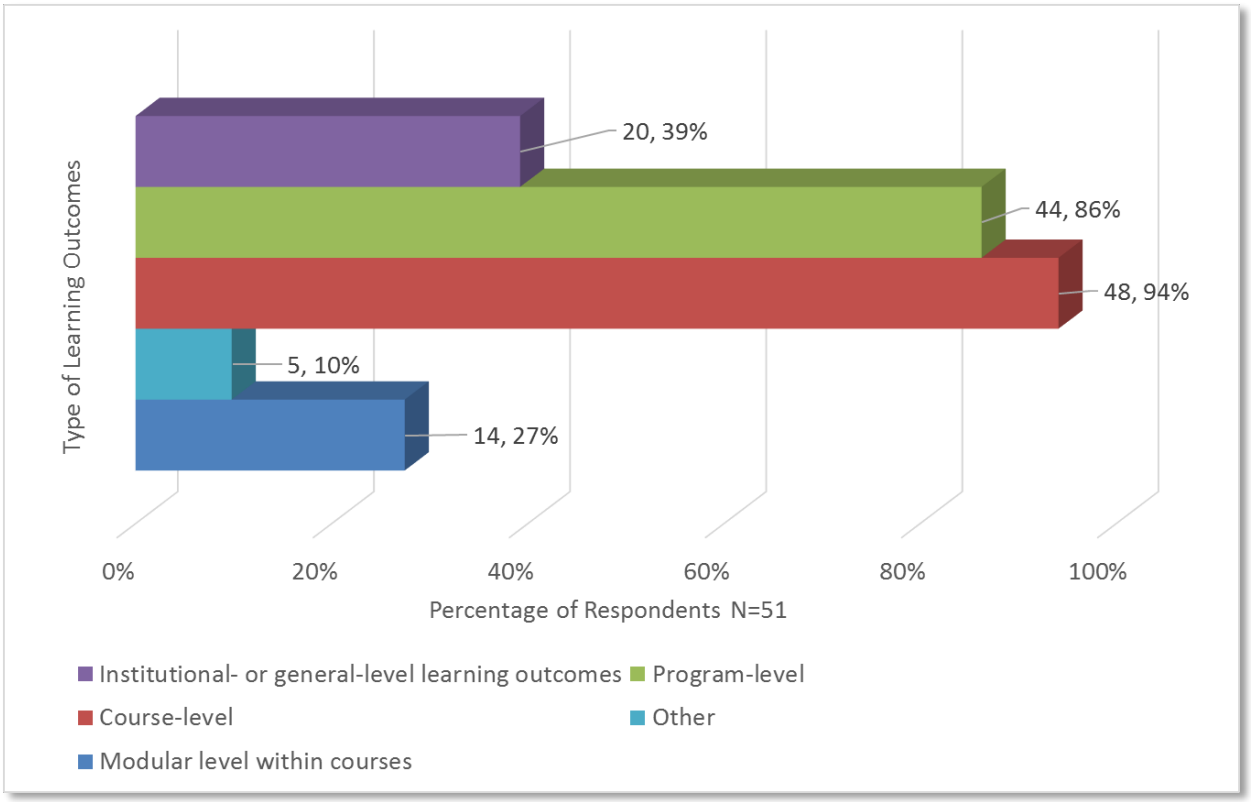
*While 87% of responding institutions in the national survey have learning outcomes in place, particularly at the course and program levels, only 14% store the information in a machine-readable format. This situation represents a significant barrier that impedes assessment of transfer credit and the creation of alternative credentials.*

---

Only 14% (7/51) indicated learning outcomes at their institution exist in a machine-readable format while 55% (28) reported this was not the case, and 34% (16) were unsure. These findings are relevant in that machine-readable data is a necessary precursor to creating alternative credentials. Embedding learning outcomes in transcripts or linking the information

to electronic credentials would be a significant challenge; without machine-readable data, it is extremely difficult to exchange or provide online access to information in a scalable, portable, or easily accessible manner. With respect to course- and program-level learning outcomes, the largest grouping, 92% (46 for program learning outcomes, 47 for course learning outcomes), indicated it is not possible to access this information through a diploma or transcript (access is being provided for a small number - 3, 6% to course learning outcomes; 4, 8% to program learning outcomes).

*Figure 13: Status of Learning Outcomes at Canadian Postsecondary Institutions (n=51)*




Having noted the above, 37% (19/51) reported their institutions are actively seeking to provide students access to this information. Nineteen institutions provided additional details. Examples reported include providing notations on student transcripts (i.e., 'three courses equal one Community Service Learning citation'); developing system capacity to capture and eventually publish learning outcomes; publishing information on program websites; and distributing co-curricular badges.

## Supporting Student Mobility

Twenty-two (22) respondents provided insights for how alternative credentials might support future student mobility. For example, they suggested those creating alternative credentials

should consider the potential for these documents to facilitate assessment of transfer credit and or prior learning recognition given the diversity of postsecondary institutional recognition policies. Some suggested these credentials might support developing capacity across institutions to map learning outcomes. Conversely, one participant suggested these types of credentials would be meaningless for future transfer consideration.

At minimum, respondents indicated credentialing of this nature should consider potential future data capture and exchange capacity to enhance the opportunities for students.

When asked why their institutions are pursuing credentialing learning outcomes on a transcript or diploma, 45% (20/44) of the respondents indicated these initiatives would help support student transition into the workforce. Thirty-two percent (32%, 14) suggested these activities would help support transition into other institutions, and 43% (19) indicated they didn't know the rationale for their institution's efforts in this area. Twenty-five percent (25%, 11) indicted other reasons drove these initiatives such as encouraging student engagement; supporting curriculum and pedagogy; designing high impact learning experiences in select programs; ensuring mobility into the workforce; supporting student mobility; and enhancing student capacity to reflect on and articulate their learning experience.

When asked if evidence exists that providing access to learning outcomes would improve mobility either into the workforce or other institutions, three respondents indicated providing access to the learning outcomes (even by publishing them online) enhances transfer credit assessment practices at institutions to which a student subsequently applies.

## Improving Transfer Credit Assessment

Survey participants provided responses to the question, 'Would transfer credit assessment be improved for administrators if they had access to any of the following?' With respect to access to extended or complementary credentials, 47% (27) respondents offered no opinion; 38% (22) agreed or strongly agreed; and 16% (9) disagreed with this statement (see Table 10). The majority agreed or strongly agreed that access to detailed course descriptions (52/58, 90%) and course outlines or syllabi (53/58, 91%) would improve transfer credit assessment.

*Table 10: What is Needed to Improve Transfer Credit Assessment?*

| Transfer Credit Assessment would be improved if there was access to the following information: | Strongly Agree | Agree | Neither Agree or Disagree | Disagree | Strongly Disagree | Total Responses |
|---|---|---|---|---|---|---|
| **Extended or complementary credentials for each student that provide more information than a course name and title** | **10 (17%)** | **12 (21%)** | **27 (47%)** | 9 (16%) | 0 | 58 |
| **Detailed course descriptions** | **27 (47%)** | **25 (43%)** | 5 (9%) | 1 (2%) | 0 | 58 |
| **Detailed course outlines or course syllabi** | **39 (69%)** | **14 (24%)** | 3 (5%) | 2 (3%) | 0 | 58 |

Survey respondents provided insights on whether access to learning outcomes would improve transfer assessment for administrators. As Table 11 illustrates, 91% agreed or strongly agreed that improvements would occur with the addition of course learning outcomes and 81% agreed or strongly agreed that improvements would occur if a tool existed to compare learning outcomes. In contrast, 21% neither disagreed or agreed that institution-wide learning outcomes would result in improvements. These findings validate the belief that more details on learning outcomes at the course level would improve transfer assessment; however, it appears that perceived usefulness of learning outcomes diminishes the farther away these are from the course level. One might argue that these findings speak specifically to the challenges associated with assigning transfer credit at the course level when provided with only a course title, credit weighting, and a grade.

*Table 11: Does Access to Learning Outcomes Information Improve Transfer Credit Assessment?*

| Access to the following types of learning outcomes information would improve transfer credit assessment. | Strongly Agree | | Agree | Neither Agree or Disagree | Disagree | Strongly Disagree | Total Responses |
|---|---|---|---|---|---|---|---|
| **Course learning outcomes** | **24 (41%)** | | **29 (50%)** | 4 (7%) | 1 (2%) | 0 | 58 |
| **Program learning outcomes** | **6 (10%)** | | **33 (57%)** | 14 (24%) | 5 (9%) | 0 | 58 |
| **General learning outcomes** | **7 (12%)** | | **14 (24%)** | **31 (53%)** | 6 (10%) | 0 | 58 |
| **Institution-wide learning outcomes** | 3 (5%) | 12 (21%) | **31 (53%)** | 12 (21%) | 0 | 58 | |
| **A tool to compare learning outcomes between institutions (at the course, program, and or institutional level)** | **21 (36%)** | **26 (45%)** | 8 (14%) | 3 (5%) | 0 | 58 | |

## Best Practice Advice for documenting Achievement of Learning Outcomes

Sixty-three percent (63%, 45/71) provided expert opinion on what must be in place to ensure successful implementation of documenting individual student level achievement of learning outcomes on credentials including transcripts. As a first order priority, approximately half of these respondents emphasized the importance of defining and implementing agreed upon learning outcomes whether across an institution or within programs that are widely understood and accessible. Some suggested this must be at the program or the course level. One respondent suggested the Ontario college system's *Program Standards* which embed learning outcomes might be a potential model to explore.

The challenge of achieving this first order priority is best framed by the following anonymous comment:

> *It's not just a matter of building beautifully nested learning outcomes, but it's also about helping instructors and students understand how to work with them and what they mean.*

Other components of successful implementation of alternative credentials that respondents highlighted include developing assessment and measurement standards, transcription

standards, and sector-wide adoption. On the operational side, respondents amplified the need for scalable, system data capture and exchange capacity.

### Conducting Risk Assessment

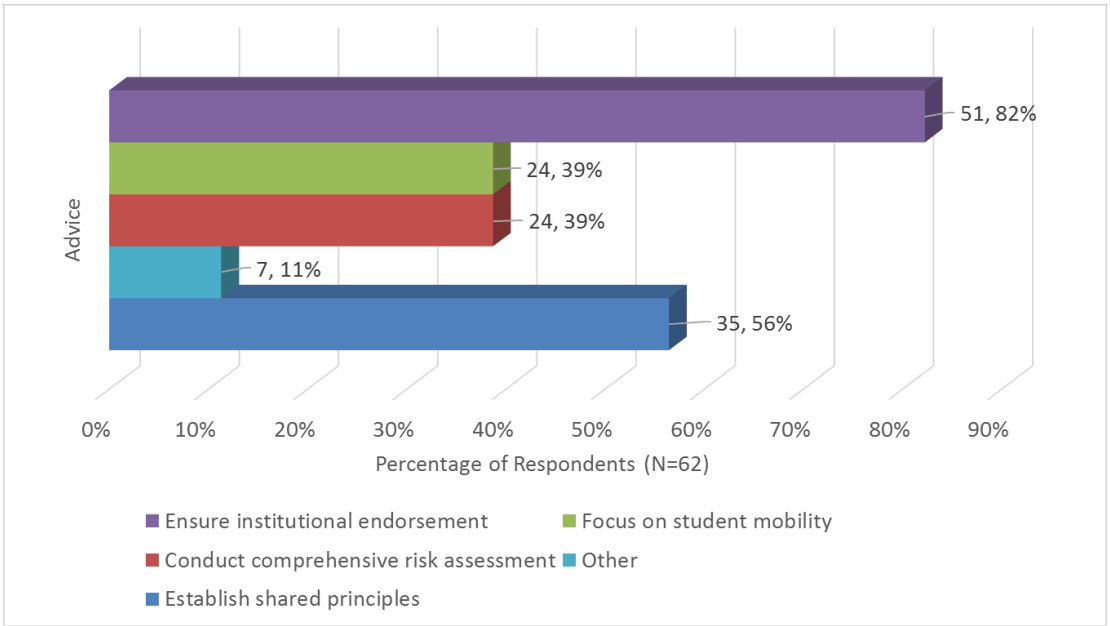
Twenty-one (21) respondents outlined several suggestions to guide risk assessment frameworks when creating alternative credentials.

1. Consider usefulness, resources and system implications, and return on investment, particularly for students
2. Avoid undermining the academic transcript and existing credentials
3. Consider implications of fraudulent copying and related reputational impacts
4. Ensure rigorous quality oversight and validation protocols; consider the implications of validating activities not stewarded or overseen by the institution (if applicable)
5. Ensure existence of established learning outcomes and consistency of evaluation
6. Assess the impact on downstream consumers of the credential (employers, other institutions, allied associations, government); ensure clarity and coherence for these third parties

## Overall Best Practice Advice

Figure 14 highlights the best practice advice the Canadian registrarial community provided to those institutions considering the creation of alternative credentials. At the highest level, Canadian registrars suggested those implementing alternative credentials should seek senior-level endorsement (82%, 51/62), establish shared principles (56%, 35/62), maintain a focus on student mobility (39%, 24/62), and conduct a thorough risk assessment (39%, 24/62).

*Figure 14: Canadian Registrarial Advice for Creating Alternative Credentials*



Thirty-five (35) respondents outlined several suggestions to augment the high-level recommendations. These align with the advice received in the workshops held across-Canada and the findings from other jurisdictions, and serve as a beginning checklist.

**Checklist – Best Practice Advice for Creating Alternative Credentials**

- ☐ Avoid undermining the academic transcript and diploma
- ☐ Ensure understandable alternative credentials supported by a coherent framework to enhance clarity and consistency across an institution
- ☐ Assess the impact of the alternative credential on downstream consumers (employers, other institutions, allied associations, government); ensure clarity and coherence for these third parties
- ☐ Ensure the process for creating alternative credentials…
    - Focuses on students in a way that ensures equitable recognition of alternative learning experiences rooted in a student's gender identity, racial, cultural, or religious affinity;
    - Embeds a commitment to proactive collaboration between and within institutions;
    - Supports outcomes such as consistent approaches to transfer credit assessment; and,
    - Considers implications for inter-institutional evaluation of the credentials (i.e., avoids institutional idiosyncratic approaches).
- ☐ Align alternative credentials with the institutional mission by…
    - Establishing clarity on the parameters to be consistently applied across the institution;
    - Ensuring a shared understanding of the learning outcomes; and
    - Reflecting and supporting strategic academic plans.
- ☐ Ensure all institutions (or a sufficient cohort) are on board and thought is given to shared criteria/guidelines, whether provincial or national, to determine which elements should be eligible for inclusion on an alternative credential including how the learning/skill would be reflected.
- ☐ Consider carefully defining content in alignment with principles and priorities (what should and should not appear on document) - Examples: provide learning outcomes definitions; focus on leadership, service, and academic excellence; document the minimum number of hours students engage in each activity; present and align activities with institutional or program outcomes; integrate experiential and co-curricular activities; establish common nomenclature
- ☐ Consider implications of fraudulent copying and related reputational impacts
- ☐ Maintain rigorous quality oversight and validation protocols and consider the implications of validating activities not stewarded or overseen by the institution (if applicable)

**Future Research:**

As this survey represents an initial foray into understanding, from a registrarial point of view, Canadian efforts in this area, monitoring changes over time would further enhance understanding of the credentialing opportunities emerging for students. It would also be helpful to capture other perspectives on this emerging field through additional surveys.

# APPENDIX 13 - Survey Questions

**Credential and Transcript Research Study**

This survey seeks to identify the following: Canadian registrarial information and expertise related to alternative forms of transcription and credentialing student learning; institutions that have or are exploring creation of a comprehensive learner record; and, what linkages exist (or might exist) between credentials and transcripts to detailed course information, learning outcomes, and student mobility (including transfer). The report is intended for use by registrars as it will seek to identify a typology of options and North American exemplars active in this area. The survey results will be published on the ARUCC website and the final study will be published by the funder, the Ontario Council on Articulation and Transfer (ONCAT).

**RESPONSE DEADLINE:** One institutional response to the survey, preferably by the registrar or designate, is requested by February 24.

**SURVEY COMPLETION TIMING**: Approximately 5-10 minutes (For those at institutions actively creating alternative credentials, the survey will take 30 minutes to complete. This study is being funded by ONCAT. Individual responses will remain anonymous; only aggregate or anonymized responses will be included in the final report. Permission will be requested of individual institutions if specific mention to showcase exemplar efforts is made in the final report.

Questions regarding this survey should be directed to Joanne Duklas, Researcher and Consultant, Duklas Cornerstone Consulting, jduklas@cogeco.ca

Institutional Information and Contact Details

To assist with understanding the context for your responses, please identify the name, type, and province for your institution. The survey results will be anonymized for inclusion in the final report.

Name of Institution

Institution's Province or Territory

- ○ Alberta
- ○ British Columbia
- ○ Yukon
- ○ Northwest Territories
- ○ Nunavut
- ○ Prince Edward Island
- ○ New Brunswick
- ○ Nova Scotia
- ○ Newfoundland and Labrador
- ○ Ontario
- ○ Saskatchewan
- ○ Manitoba

- ○ Quebec

Institution Type

- ○ University
- ○ College
- ○ Polytechnic Institute
- ○ Other _____

Does your institution currently provide students alternative methods beyond the transcript or diploma to showcase the learning they ultimately achieved at your institution whether in or outside of the classroom?

Examples might be comprehensive learner records, certificates, badges, e-portfolios of their work, co-curricular records, etc.

- ○ Yes
- ○ No

Definition: “Comprehensive learner record" for the purposes of this study refers to any type of artifact created by an institution to reflect the full array of individual student achievement milestones. It takes many forms and includes examples such as a transcript, a diploma, a competency-based document, or some other document or way of presenting student achievement. It provides a validated and authenticated method to recognize the full range of student learning at an institution (see also AACRAO & NASPA initiative for information on their definition and project aacrao.org).

Which of the following does your institution CURRENTLY distribute to students?

Check all that apply and identify which position provides the FINAL verification the student successfully completed the learning experience. For example, for transcripts, the Registrar provides the FINAL verification even though each faculty member verifies the learning at the course level.

| | Faculty member | Registrar | Program Department Head or Chair | Dean (or designate) | Student affairs lead | Vice President/President (or designate) | Student verified | Other | Unverified | Not applicable |
|---|---|---|---|---|---|---|---|---|---|---|
| Badges | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Co-curricular records | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Co-curricular portfolios | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Micro credentials | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comprehensive student records | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Certificates | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Identify which of the following categories of learning are included in these different examples.

Check all that apply.

| | Curricular (academic/vocational) achievements within a program | Co-curricular achievements outside the classroom | A blend of both Curricular and Co-curricular achievements | Not applicable |
|---|---|---|---|---|
| Badges | ☐ | ☐ | ☐ | ☐ |
| Co-curricular records | ☐ | ☐ | ☐ | ☐ |
| Co-curricular portfolios | ☐ | ☐ | ☐ | ☐ |
| Micro credentials | ☐ | ☐ | ☐ | ☐ |
| Comprehensive student records | ☐ | ☐ | ☐ | ☐ |
| Certificates | ☐ | ☐ | ☐ | ☐ |

Do any of these link in some way to the transcript or diploma?

Check all that apply.

☐ Yes; please provide details... _____

☐ No; it replaced the former transcript or diploma.

☐ No; it is stand alone and separate from the existing transcript or diploma; identify the type of document.... _____

Is your institution currently exploring an alternate method beyond the transcript or diploma to showcase the learning students have achieved at your institution whether in or outside of the classroom?

Examples might be comprehensive learner records, certificates, badges, e-portfolios of their work, co-curricular records, etc.

○ Yes

○ No

Which of the following is your institution PLANNING to create for students?

Check all that apply and identify which position will provide the FINAL verification the student successfully completed the learning experience. For example, for transcripts, the Registrar provides the FINAL verification even though each faculty member verifies the learning at the course level.

| | Faculty member | Registrar | Program Department Head or Chair | Dean (or designate) | Student affairs lead | Vice President/President (or designate) | Student verified | Other | Unverified | To be determined | Not applicable |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Badges | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Co-curricular records | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Co-curricular portfolios | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | ☐ | ☐ | ☐ | ☐ | ☐ |
| Micro credentials | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comprehensive student records | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | ☐ | ☐ | ☐ | ☐ | ☐ |
| Certificates | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | ☐ | ☐ | ☐ | ☐ | ☐ |

Identify which of the following categories of learning will be included in each of these different examples.

Check all that apply.

| | Curricular (academic/vocational) achievements within a program | Co-curricular achievements (outside the classroom) | A blend of both Curricular and Co-curricular achievements | To be determined | No/Not applicable |
|---|---|---|---|---|---|
| Badges | ☐ | ☐ | ☐ | ☐ | ☐ |
| Co-curricular records | ☐ | ☐ | ☐ | ☐ | ☐ |
| Co-curricular portfolios | ☐ | ☐ | ☐ | ☐ | ☐ |
| Micro credentials | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comprehensive student records | ☐ | ☐ | ☐ | ☐ | ☐ |
| Certificates | ☐ | ☐ | ☐ | ☐ | ☐ |

Is there a plan for any of these initiatives to be linked in some way to the transcript or diploma?

Check all that apply. Make sure to identify what type of artifact is being developed and what is being planned.

☐ Yes, there will be a link; please describe.... _____

☐ It will replace the existing transcript or diploma; please describe... _____

☐ No; it will be stand-alone and separate from the existing transcript or diploma; please describe... _____

☐ To be determined

☐ Not applicable

If an institution was to create alternative credentials or ways of transcripting academic learning, identify which of the following should be paramount considerations when creating alternate methods to document a student's academic learning.

Check all that apply.

☐ Establishing shared principles; examples include.... _____

- ☐ Conducting a comprehensive assessment of risks; examples include.... _____
- ☐ Ensuring a focus on student mobility; examples include... _____
- ☐ Ensuring the institutional Senate, Council, or other key leadership group endorses the initiative
- ☐ Other, please specify... _____

Does your institution currently have identifiable learning outcomes in place whether at the course, program, or institutional level?

- ○ Yes
- ○ No

Definition: “Learning outcomes" means the summative articulation of what all students are expected to know, be and do as a result of their study whether at the course, program or institutional level. Learning outcomes are measurable statements of student knowledge (what successful students should know) and skills (what successful students should be able to do) expected upon graduation (Lennon et al, 2014).

Identify the level of learning outcomes in place.

Check all that apply.

- ☐ Module-level learning outcomes within courses
- ☐ Course-level learning outcomes
- ☐ Program-level learning outcomes
- ☐ Institutional- or general-level learning outcomes
- ☐ Other, please specify... _____

Are the learning outcomes stored in a machine-readable format (e.g., XML)?

- ○ Yes
- ○ No
- ○ Don't know

Credentialing or Transcription of Learning Outcomes

North American institutions have implemented or are exploring learning outcomes to improve teaching excellence, facilitate transfer, provide evidence of quality, satisfy accreditation expectations, and more. Some have also implemented credentialing or transcription innovations to provide demonstrable evidence at the student level of learning outcomes achievement. The following questions are intended to identify the nature of Canadian institutional efforts in the areas of credentialing or transcripting student learning outcomes achievement.

At your institution, is it possible for students to directly access any of the following information through a diploma or transcript?

An example might be through a hyperlink to detailed course descriptions on an electronic transcript.

| | Yes, currently provided | Planning to add | Don't know | No/Not applicable |
|---|---|---|---|---|
| Module learning outcomes within a course | ☐ | ☐ | ☐ | ☐ |

| | | | | |
|---|---|---|---|---|
| Course learning outcomes | ☐ | ☐ | ☐ | ☐ |
| Program learning outcomes | ☐ | ☐ | ☐ | ☐ |
| Institutional or general learning outcomes | ☐ | ☐ | ☐ | ☐ |

Is your institution exploring ways to provide individual students with information indicating they have successfully achieved specific learning outcomes?

Indicate 'yes' if you have already implemented something. Examples might include notations in a transcript, learning outcomes achievement badges, etc.

- ○ Yes; please explain what you are doing and how _____
- ○ No/Not that I am aware of

Are these initiatives to credential or transcript successful achievement of learning outcomes intended to improve student mobility between institutions or into the workforce?

Check all that apply

- ☐ Yes, into the workforce
- ☐ Yes, between institutions
- ☐ Doing this for other reasons; please explain _____
- ☐ Don't know

If applicable, what evidence does your institution have that providing access to a student's learning outcomes achievement will improve mobility?

Leave blank or indicate 'no evidence available' if such is the case.

Definition: "Student mobility" is defined as the ability of an individual to move into the workforce or from one institution to another aided by trusted, verifiable documents such as official academic transcripts and diplomas, and by established inter-institutional partnerships, transfer systems, agreements, and pathways (adapted from the ARUCC PCCAT Transcript and Transfer Guide, December 2015).

In your opinion, what must be in place before it is possible to reflect achievement of learning outcomes within or as a complement to transcripts or diplomas?

Storage of Course Information

As some North American institutions are experimenting with linking to specific course information (and potentially learning outcomes) from a transcript or a diploma, the following questions are intended to identify what course information storage systems are in use in Canada, whether learning outcomes are embedded in the descriptions, and whether this information facilitates mobility.

Where is detailed course information (i.e., more than course name and title) stored at your institution?

Complete all that apply.

- ☐ Learning Management System; provide name of platform… _____
- ☐ Student Information System; provide name of platform… _____
- ☐ Course Management System; provide name of platform... _____
- ☐ Stored in PDF format
- ☐ Don't know
- ☐ Other, please specify... _____

Is the course information (i.e., more than a course name and number) in a machine-readable format (e.g., XML)?

- ○ Yes
- ○ No
- ○ Don't know

Is information on learning outcomes embedded in course descriptions at your institution?

- ○ Yes
- ○ No (separately captured)
- ○ Not applicable

Student Access After Leaving Institution

The following questions are intended to understand what is accessible to students after they leave your institution.

Where do former students access detailed course information (i.e., more than a course name and number) AFTER they finish studying at your institution?

Please respond to every example.

| | Yes | Planning this for future | No | Don't know |
|---|---|---|---|---|
| Publicly available online calendar or website information | ○ | ○ | ○ | ○ |
| Course outlines/syllabi provided to students when they took their classes | ○ | ○ | ○ | ○ |
| Hyperlinks to course information from the existing diploma | ○ | ○ | ○ | ○ |
| Hyperlinks to course information from the existing transcript | ○ | ○ | ○ | ○ |
| References within the transcript legend indicating where to obtain additional course information | ○ | ○ | ○ | ○ |
| Within a personalized online e-portfolio for graduates | ○ | ○ | ○ | ○ |
| Publicly available course outlines/syllabi | ○ | ○ | ○ | ○ |
| Password protected course outlines/syllabi provided after graduation | ○ | ○ | ○ | ○ |

Are there any other ways not mentioned in the previous question that former students access their former course information after they finish studying at your institution?

If not, leave this question blank and proceed forward in the survey.

Does your institution provide former students direct access to any of the following learning artifacts after they leave your institution?

Check all that apply.

| | Yes | Planning to provide access | No | Not applicable |
|---|---|---|---|---|
| Artifacts of their individual work stored within the institutional Learning Management System | ☐ | ☐ | ☐ | ☐ |
| Artifacts of their individual work stored within an institutionally supported E-portfolio(s) | ☐ | ☐ | ☐ | ☐ |

In your opinion, would student access to detailed course information provided AFTER leaving your institution improve their ability to move to another institution or into the workforce?

- ○ Yes; please explain... _____
- ○ Possibly; please explain.... _____
- ○ No; please provide rationale... _____
- ○ Not sure/Don't know

Definition: "Student mobility" is defined as the ability of an individual to move into the workforce or from one institution to another aided by trusted, verifiable documents such as official academic transcripts and diplomas, and by established inter-institutional partnerships, transfer systems, agreements, and pathways (adapted from the ARUCC PCCAT Transcript and Transfer Guide, December 2015).

In your opinion, would providing student access to evidence of their successful achievement of learning outcomes improve their ability to move to another institution or into the workforce?

- ○ Yes; please explain... _____
- ○ Possibly; please explain.... _____
- ○ No; please provide rationale... _____
- ○ Not sure/Don't know

What is your level of agreement with the following statement: “The transfer credit assessment process would be improved for administrators if they had access to…"

| | Strongly Agree | Agree | Neither Agree or Disagree | Disagree | Strongly Disagree |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Extended or complementary credentials for each student that provide more information than a course name and title | ○ | ○ | ○ | ○ | ○ |
| Detailed course descriptions | ○ | ○ | ○ | ○ | ○ |
| Course learning outcomes | ○ | ○ | ○ | ○ | ○ |
| Program learning outcomes | ○ | ○ | ○ | ○ | ○ |
| General learning outcomes | ○ | ○ | ○ | ○ | ○ |
| A tool to compare learning outcomes between institutions (at the course, program, and or institutional level) | ○ | ○ | ○ | ○ | ○ |
| Detailed course outlines or course syllabi | ○ | ○ | ○ | ○ | ○ |
| Institution-wide learning outcomes | ○ | ○ | ○ | ○ | ○ |

Are you aware of any other institutions exploring alternate forms of credentialing or transcripting learner achievements?

○ Yes

○ No

If possible, please provide the institution's name, location, and details.

Are there any final comments you would like to share to inform the research for this project?

If none, move forward in the survey.

Contact information of person completing survey

As a reminder, information collected for the survey will be anonymized. Your personal contact information will only be used in cases where the researchers require clarification on any of the responses.

Name

Title

Email