Welcome!
Welcome, Introductions & Opening Remarks – MC: Michael Sessa, PESC President & CEO

Welcome to Vancouver from Program Co-Chairs
- Ruth Blades, Executive Director, CATNS – CATNE; PESC Board of Directors, Secretary
- Monterey Sims, Director of Admissions & Evaluation, University of Phoenix; PESC Board of Directors, Vice Chair

Indigenous Land Acknowledgement
- Karen McCredie, Executive Director, EducationPlannerBC

Thank You Sponsors
- Jennifer Kim, Director of Membership Services, PESC

Introductions
- David Moldoff, CEO & Founder, AcademyOne; PESC Board of Directors, Chair

Why Are We Here?
- Michael Sessa, PESC President & CEO
INDIGENOUS LAND ACKNOWLEDGEMENT

PESC acknowledges that the October 2022 Data Summit will occur on the territory of the Coast Salish Peoples, including the territories of the Musqueam, Squamish, and Tsleil-Waututh Nations.

We are honoured to spend time learning, sharing and growing on these territories.
INTRODUCTIONS

➢ Name

➢ Organization

➢ PESC Madlib

Other than standards, what is PESC’s value?
Why Are We Here?

**Landscape:** Outside factors impede advancement of the mission at all levels, but may also create opportunities:

» The digital education ecosystem is complex and intricate; and *no* single law, product or service will be adopted by the tens of thousands of organizations supporting the decentralized infrastructure

» Systems and technology are correspondingly complex and disparate, and barriers must be overcome with integration and standardization if not prioritized

» Human and financial investment in the *status quo* can build resistance and self interest when technology changes fast and data exchange methods and standards are viewed as competition with proprietary approaches
Why Are We Here?

**Values**: A community platform or marketplace has incrementally grown, due to PESC’s focus, activities, experience and open, neutral, transparent environment and its attractiveness to those with the shared desire to:

» improve their technology and/or overall interoperability (and/or learn how to)

» increase the visibility of their technology, standards, systems, integrations, projects, pilots, etc. and/or seek support

» seek education, guidance and/or best practices on emerging technology, standards, systems, integrations, projects, pilots, etc.

» network and connect with others with similar interests or needs in an open, friendly environment

» explore new business ventures and partnerships in an open, trusted environment
**Why Are We Here?**

**Benefits**: At the core of the community platform and supported by Boards, Forums, Task Forces, User Groups, Workgroups, Data Summits, and Social Media:

- A direct line to policymaker and IT sectors at all levels, including subject matter experts and practitioners
- Connections to projects and user groups seeking to develop pilots and infrastructure and/or incubation support
- Established perception as the window and/or clearinghouse that is connected regardless of competitive factors
- High visibility and promotion of leaders and participants in Boards, Forums, Task Forces, User Groups, Workgroups and Data Summits
Words Matter – Pictures Matter

What is an Interoperable Learning Record?

To begin the discussion on ILMs, it is useful to consider Olivia Hale’s and a renaissance scenario. Olivia works as a secure job with opportunities for advancement. Looking at career sites online, she discovers that the field of registered nursing has strong employment prospects, excellent earnings potential, and pathways for promotion near where she lives. She uses CareerOneStop® to find an accredited nursing program that best meets her needs and is endorsed by the Commission on the Collegiate Nursing Education (CCNE) and/or the Accreditation Commission for Education in Nursing (ACEN), which is required for credential eligibility for employment as a Registered Nurse (RN). She enrolls in the program at State University.

During the program, Olivia not only works toward RN licensure eligibility, she also earns stackable professional, verified credentials along the way for part-time employment in the health sciences. More specifically, in addition to prescribed skills and procedures required for Certified Nursing Assistant (CNA) practice, she has also learned safety protocols, electronic records keeping, and communicating with people under stressful conditions that satisfy eligibility requirements for credentialing as a Certified Medical Administrative Assistant (CMA). Olivia can now gain access to entry-level employment in the clinical and administrative support aspects of her chosen profession, which reduces her need for federal financial aid.

As Olivia earns the stackable health science credentials, she adds them to her ILR, which is a private and secure digital application or interface available on her devices, analogous to a file cabinet, where she can manage all her data and records and also authorizes sharing. Olivia uses her ILR for multiple purposes as a permanent, verifiable set of records.

Olivia gives permission to make selected records available to others on her social media professional networking site, where employers’ systems use industry standard terms and credentials that allow them to search across multiple platforms for candidates with specific skills and proficiency. Very early in her RN degree program, Olivia is a candidate for a position at a local hospital.

In her job interview she is asked to talk about her relevant skills, including the work she did to achieve her CNA and CMMA credentials and the relevant badges that required skills such as communication, safety protocols, and electronic records systems. This sets her apart from other candidates, and she accepts a position at the hospital where her new manager is impressed by her strong clinical and administrative skills documented in the curated ILR she presented.

Olivia’s Director of HR has read research by SHRM that shows offering employees career mobility can result in better retention and less turnover. Because of this, Olivia’s manager offers her a promotion path building on Olivia’s goals and strengths, including a scholarship program for completion of her RN degree and license. Olivia now has the ability to focus even more diligently on her RN degree plan. Upon completion of her accredited RN program, the regulator will issue Olivia a digital academic credential that can be validated for RN license examination, which she completes successfully to become a state-licensed RN. Olivia is transferred to an administrative leadership position of a clinical unit employing her CNA & CMMA credentials and experience.

During her next performance review, the hospital provides digital, verifiable information to Olivia about the skills she has learned and demonstrated on the job, including her recent work in an Emergency Department setting. Olivia’s ILR gives her control over verified records of her achievements across contexts and pathways to her future career advancement goals to benefit her employer and patients.

9 The patents and trademarks named in this scenario are fictitious. Visit https://www.evernote.com/t/copyright.html for more information.

11 SHRM. (2019). The social capital of professional networking sites: potential for attracting top talent. Washington, DC: SHRM.
# Access & Ease-of-Use

How many standards support Amanda throughout her lifetime?

<table>
<thead>
<tr>
<th>Amanda’s Data ('My Lifelong Data')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Reasons (Use/Business Cases)</td>
</tr>
<tr>
<td>Education PK12 Postsecondary</td>
</tr>
<tr>
<td>Citizenry Community Service Leadership</td>
</tr>
</tbody>
</table>
4.2 EID Logical Component

The primary use case presented here is just one of many.

Self-Sovereign Wallet EID Scenario: "When a learner achieves an outcome, an issuer asserts a cryptographically signed credential that can be held in any standard digital wallet app to control verifiable presentation to a relying party in any jurisdiction. The relying party can determine verifiable trust and crosswalk equivalence without the need of data sharing agreement."

IEEE EID Recommended Practices Framework

There are two core features of this new model that build on prior work and advance the global learning and talent marketplace:

1. Learner-centric. By design, issue, holder, and reviewer can all be in separate networks, exchanging over the Internet without peer to peer or institutional agreements needed.
   - Enabling the holder to cross networks enables the learner and their adult guardian to control access to personal records issued from multiple lifelong services through explicit, targeted, temporary consent.
   - Enabling the reviewer to cross networks enables an open marketplace for learning and talent at a global scale.

2. Exchangable. Verifiable Credentials for education and talent are made exchangable through explicit recommended record structures and schemas based on DIDs, CLS, PESC, and EUPaus Learning Model."
Grace’s Path to Success

Information is critical to support California student success all along the way.

Students’ pathways to success are increasingly varied. But no matter the path, students must make choices that shape their future options and opportunities — and they should have the information to make these decisions in time. California’s students and their families deserve information that can put them down the right pathway to get them where they want to go.

Grace needed information to help her navigate the right path to reach her goals. Successful transitions are impossible without data to help guide students and their families all along the way. California’s students deserve no less than Grace.

More than ever, students’ paths to success are varied. Successful transitions along this journey are impossible without the tools and information to help guide students and families all along the way.

Source: Data Quality Campaign - dataqualitycampaign.org
Brookings Institute

“Digital credentials are precisely what they sound like—the digital equivalent of a paper document, such as a transcript or certificate, that signifies the completion of an educational process.”


I agree and respectfully disagree.

“Credential” referring to physical access – do you have clearance?

https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN17425_P25_2_13_Admin_FINAL.pdf
DUO does so much more than pay out student finance! This is also how DUO manages My Diplomas. Here you can download a digital extract of your diploma data yourself. Paper diplomas have become superfluous. Use the extract for your application. Wondering if your diploma is in it? Check mijndiplomas.nl.

Or watch the animation of My diplomas: https://lnkd.in/eSrZaw-d

#eindexamen #afstuderen #ditismbo #mbo #diploma #geslaagd #afgestudeerd #studentenleven #dienstuitvoeringonderwijs #duostudent #mijndiplomas #gefeliciteerd #vlag #feest #toekomst #volgendestap #student #diplomauitreiking #examen #cv #vakantie #vwo #havo #vmbo #gymnasium #atheneum #vo #hbo #universiteit
Whose language are you speaking?
We need clarity. We should keep things simple.

- Certificate, Degree, Diploma, Course, Transcript

*Why do these terms need another name?*

- Skills, competencies, learning outcomes (expected or actual), qualifications

*Terms that are vague and subjectively defined based on who you ask.*

From this point on – become a healthy, data advocate and skeptic
PESC PLEDGE

I ______ (state your name)
Promise to abide by PESC’s values
And serve as a beacon and a rock
For students, learners and my colleagues
Openly and transparently in co-opetition
So help me PESC!
A Thriving, Digital Ecosystem Requires Sustainable Standards and Common Infrastructure

### PESC PartNers

- AACRAO
- apereo
- ARUCC
- Access4Learning Community
- Common Education Data Standards
- Credential Engine
- OSU
- DITERA
- Groningen Declaration
- erasmus without paper
- Hi Open Standards
- National Forum on Education Statistics
- SHEEO
- T3 Innovation Network

### PESC Approved Standards

- Academic College Transcript
- Academic High School Transcript
- Academic Credential & Experiential Learning
- Academic ePortfolio
- Admissions Application
- EDI – Electronic Data Interchange
- Education Course Inventory
- Education Test Score Reporting
- PDF Attachment
- Student Financial Aid (Grants, Loans, Servicing)
Break!

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Data Summit
Unlocking the Power of Student Data

25th Anniversary
PESC

OCTOBER 26-28, 2022
VANCOUVER
www.pesc.org
WEDNESDAY OCTOBER 26, 2022

EQUITY, DIVERSITY, INCLUSION & GENDER IDENTITY

BRYANT FAUST
ASSOCIATE DEAN & REGISTRAR
JOHNS HOPKINS UNIVERSITY
SCHOOL OF MEDICINE

MELANIE GOTTLIEB
EXECUTIVE DIRECTOR
AACRAO

FELICIA PEREZ
MANAGING DIRECTOR
INFORMATION AS PRODUCT PROGRAM
NATIONAL STUDENT CLEARINGHOUSE

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What is Diversity, Equity and Inclusion?

• **Diversity**: The “who” and “what” of all characteristics of each individual. Elements of diversity define the range of human differences.

• **Equity**: Intentional creation of fairness by providing people with support to compensate for differences between individuals. Equity is the ACTION that we take in order to achieve Equality.

• **Inclusion**: The GOAL – being welcomed, valued, respected and heard
Diversity:
Being invited to the party without having to chase the invitation

Equity:
Having the music to dance and not being judged for your dance moves

Belonging:
The state of being an essential part of something

Inclusion:
Being able to attend the dance without any barriers or access issues
DEI Progress: Lived Name

University of California Policy Change (effective December 2023):

- Allow students to specify a lived name, at any time for any reason
- Most staff on UC Campuses will have access ONLY to the specified Lived Name

Implementation:

- National Student Clearinghouse will allow schools to provide a file with both lived name and legal name.
- Having both names, allows future matching on either Lived or Legal name.
- UC will provide academic documents with the LIVED name and the Clearinghouse will continue to comply with reporting to NSLDS with the LEGAL name.
WHERE WE’VE BEEN AND WHERE WE’RE HEADING!

CO-CHAIRS:
CATHY VAN SOEST & DOUG HOLMES

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Agenda

➢ Introductions

➢ A brief history of CanPESC

➢ Recent initiatives and accomplishments

➢ Future directions
A brief history of CanPESC

- **Late 1980’s** Task Force
- **Early 1990’s until today** SPEEDE Committee
- **1997** Established
- **2011** CanPESC launched
- **1990’s – 2001** EDI Task Force
- **2013** MOU
- **2014** discusses GDN
- **2016** GDN Project
- **2020** MyCreds
Data exchange bridges built along the way!

PSI Transcript/Acks (BC to ON) 2003 – 2014 (EDI) 2014 (XML)

HS Transcript/Req (BC to ON) 2021 (XML)

HS Transcript/Req (BC to AB) 2022 (XML)

* Additional HS Transcript exchanges with SK, AB, ON, NS in discussion
Recent initiatives and accomplishments

- Standards of Practice: “Tip Sheet” v1.0
- Common Digital Layout: Operational!
- GEO Code: ~50% Canadian High Schools Codified!
  - BC, ON and NS (6 more underway)
Future directions

➢ CDL: French labels
➢ Standards Upgrade Pathway: White Paper
➢ GEO Code: Additional High Schools and PSIs
➢ New “Parking Lot”
IF YOU’RE INTERESTED IN JOINING CONTACT CATHY & DOUG!
THANK YOU!

Cathy van Soest
Director, Client Relations
E: cathy.vansoest@educationplannerbc.ca

Doug Holmes
Manager, eTranscripts
E: doug@ouac.on.ca
DATA EXCHANGE IN CANADA
CHALLENGES & OPPORTUNITIES

RUTH BLADES
EXECUTIVE DIRECTOR
CATNS - CATNÉ

HEATHER LANE
EXECUTIVE DIRECTOR
OUAC

KAREN MCCREDIE
EXECUTIVE DIRECTOR
EducationPlannerBC

MARC PROVENCHER
PRESIDENT & CEO
OCAS

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The leaders of Canada’s provincially based data hubs and application centres will affirm their organizations’ key areas of focus and discuss the challenges and opportunities they face in expanding electronic data exchange across the country.

Highlights will include changing vocabulary to meet the needs of non-binary learners, the never-ending battle to migrate away from paper documents to electronic, and inter-provincial exchange of high school records.

Recognizing that PESC and CanPESC will play a vital role in finding the best solutions that meet the needs of learners, institutions, and the organizations that support them, the Canadian hubs and centres will share their perspectives on the future of data exchange in Canada.
Questions & Answers
THANK YOU!

DATA EXCHANGE IN CANADA

CHALLENGES & OPPORTUNITIES

RUTH BLADES
EXECUTIVE DIRECTOR
CATNS - CATNÉ

HEATHER LANE
EXECUTIVE DIRECTOR
OUAC

KAREN MCCREDIE
EXECUTIVE DIRECTOR
EDUCATIONPLANNERBC

MARC PROVENCHER
PRESIDENT & CEO
OCAS

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The T3 Innovation Network has grown to more than 500 organizations working together to change the way we provide, access, and use educational and workforce data by using advanced technologies like AI, blockchain, and others to create an open and decentralized public-private data ecosystem. The T3 Network looks to:

➢ Define what a competency-based lifelong learner record should be so that all learning counts, no matter where it takes place.
➢ Modernize technology and advance data standards to achieve seamless sharing of data throughout a person’s education and career pathway.
➢ Empower individuals with a validated record of their skills and competencies in a way that all employers can understand.

Data Standards United (DSU), a partnership among standards bodies and standards stakeholders, looks to support major initiatives including the work and efforts of the T3 Innovation Network. PESC, PESC members and organizations in DSU, are engaged and participating in T3. DSU also looks to support additional major initiatives including shared infrastructure, the JSON-LD Transcript development, and the Resume Standard development, among others.
If We Build It, They Will Come?

Building the e Transcript Gateway in Iowa

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Project Goals

• Improve efficiency for high schools and colleges
  • High schools
    • Transcripts in PDF format can be automatically generated from the SIS
    • Transcripts can be transmitted electronically
  • Colleges
    • Standardized transcript eliminates district-by-district variation
    • Receiving the data feed eliminates the need for data entry

• Make data available for research
Partnerships

• Forming the necessary partnerships required enthusiastic champions from multiple agencies
  • Iowa State University
  • Board of Regents
  • Iowa Department of Education: Community Colleges and K12
  • Cedar Labs
  • With support from Iowa College Aid and Iowa Workforce Development

• Funding
  • Staff time and resources from each partner
  • FY2019 SLDS Grant
Challenges

• Unique transcript elements
  • Standardized GPA
  • Standards-based grading
  • Admission eligibility
Universal Iowa High School Transcript

Student:

Name: Jones, Simon F III
State ID: 123456
Preferred Name: Jones, Simon F III
Birth Date: 09/04/1999

Student Mailing Address:
160 Main St, Apt #101
Des Moines, IA 50309

District/Building Information:
District Name: Des Moines Independent Comm School District
Building Name: Des Moines Central Campus High School
District/Building Number: 1737 / 0185
High School Code: 325196
Contact Phone: (515) 555-1213

School Year: 2004-2005
Semester Type: Fall
Credits: 5
Grade Level: 9th
Class GPA: A

School Year: 2005-2006
Semester Type: Fall
Credits: 4
Grade Level: 10th
Class GPA: A

School Year: 2006-2007
Semester Type: Fall
Credits: 4
Grade Level: 11th
Class GPA: A

School Year: 2007-2008
Semester Type: Fall
Credits: 4
Grade Level: 12th
Class GPA: A

Summary:

GPA: 7.90
Wgted GPA: 8.30
Wgted Class Rank: 15

Standardized Tests:

SAT Total: 1500
Math: 780
Reading: 770
Writing: 750

ACT Composite: 27
English: 26
Science: 25
Math: 28
Reading: 28
Writing: 29

Your Current Regents Admission Index (RAI) Score:

286.5

16.5 years of core courses: 82.5

Iowa public colleges and universities to which your current academic record qualifies for admission:

- Iowa State University
- University of Northern Iowa
- University of Iowa
- Iowa State University
- Des Moines Area Community College

Note: There may also be independent Iowa colleges and universities to which you qualify for admission. For further information, please refer to www.collegeboard.org.
Iowa eTranscript Gateway: How it works

- Create approved account
- Search for students
- Receive transcript information from Cedar Labs
- Send transcript information to recipients
Lessons Learned

• Patience and flexibility are essential
• Fully committed partners and enthusiastic champions are key
• Good communication and organization is important
• Building on existing technology worked better than trying to start from scratch
Looking into the Future

• Pilots
  • Fall 2022: PDF Transfer
  • Winter 2022: PESD High School Transcript
Data Standards United

A Standardized Infrastructure?
Why Don’t Standards Groups Develop and Use a Standardized Infrastructure?

• Not the Priority
• Pushback
• Perceives Limits Choice
• It is Hard Work
Advantages of Standardizing Infrastructure?

- It paves the way for plug-and-play interoperability.
- It empowers meaningful quality control (i.e. certification).
- It accelerates development.
- It allows choice.
- It provides clarity.
- It breaks down barriers.
- It better enables decision-making.
What Would be the “Big Picture” Benefits?

• Less Development and More Reuse

• Creates a Bigger Tent

• Few Barriers Between Sectors

• Quality AND Control

• Local to Global
The globally used **Standardized Infrastructure** defines the transport and messaging functionality over the “wire” where payloads are securely exchanged—no matter the payload/data model. The standardized Infrastructure has been third-party ‘load tested’ and results show ‘data bottlenecks’ are not being seen. Without over-stressing a performance load test, over 200 million data objects were sent in an hour! [https://bit.ly/A4LEdDataTesting](https://bit.ly/A4LEdDataTesting)
Shared Infrastructure - “R³”

**Rationale**
- It paves the way for plug-and-play interoperability.
- Quality and control
- It accelerates development and reuse
- It allows choice.
- It provides clarity.
- It breaks down barriers between sectors
- It enables decision-making

**Requirements**
- Identify data needs to be moved (payload) over the wire
- Ideally the “payload” is represented in XML and/or JSON
- The infrastructure leverages a REST based approach to data exchange
- With minor development changes, is easy and already used internationally

**Real World**
- One Roster / IMS LTI
- IA Dept of Education using PESC Transcript
- Common Education Data Standards
- National Photographers
- Medbiquitous
- Ed-Fi
- Chamber / T3 JEDx
- HR Open
Questions & Answers

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Flexibility: What might that look like?

1. **Service Name (Object Name):** For any Service/Object, its name MUST be defined and unique within the current scope.
   2. Example JSON: `{"StudentPersonal":{}}`

2. **Resource Name (ID):** Where a Service/Object can be found MUST be specified. We suggest using version one of the universally unique identifiers (UUID) scheme:
   1. Example JSON: `{"StudentPersonal":{"RefId":"e199fd0e-cbf5-11ec-9d64-0242ac120002"}}`
   2. Example Path: `/StudentPersonals/e199fd0e-cbf5-11ec-9d64-0242ac120002`

3. **Collections:** The standardized infrastructure can move actual data with each service call
   1. Example JSON: `{"StudentPersonals":{"StudentPersonal":{}}}`
   2. Example Path: `/StudentPersonals`

4. **Binary Data:** The standardized infrastructure is designed to move text but can include a picture but it should be Base64 Encoded and included in a data element along with the rest of the document and its metadata
   1. Encoded Example: `VGhpcyBpcyBub3QgYSBwaWN0dXJlIQ==`
Privacy: The result of common expectations!

Here is the data we will give you and details on how we want it treated

Here is how we have treated the data and details on how we can prove it to you

Increased interoperability without the inclusion of privacy requirements = increased RISK. Both data sharing and privacy parameters must be identified and communicated.
Scalability: Twenty-five years of lessons learned.

<table>
<thead>
<tr>
<th></th>
<th>Total Records</th>
<th>Records /Second</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIF 2 Infrastructure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mock SIS</td>
<td>1,063,119</td>
<td>295</td>
</tr>
<tr>
<td>Digester</td>
<td>19,697</td>
<td>5</td>
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<tr>
<td><strong>Hybrid</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mock SIS</td>
<td>1,063,119</td>
<td>295</td>
</tr>
<tr>
<td>Digester</td>
<td>1,311,408</td>
<td>364</td>
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<tr>
<td><strong>SIF Infrastructure 3.4</strong></td>
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<td></td>
</tr>
<tr>
<td>Mock SIS</td>
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</tr>
<tr>
<td>Digester</td>
<td>375,188,400</td>
<td>104,219</td>
</tr>
</tbody>
</table>


Note that these load test results were achieved using Oracle Labs technology. Real-world results may vary, depending on the capabilities of the technology implemented in your use case.
THANK YOU!

Skills Based Hiring, Data Standards United & PESC

Taylor Hansen
Executive Director
Policy & Programs
U.S. Chamber of Commerce Foundation

Andrew Cunsolo
Senior Director
Product Management
Jobvite

Alex Jackl
CEO & Founder
Bardic Systems

John Lovell
Technology Director
A4L Community

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Thursday October 27, 2022

Skills, Competencies & Micro Credentials

What Does It All Mean & Why Should I Care?

Doris Savron
Vice Provost – Colleges, Assessment, and Curriculum
University of Phoenix

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Agenda

- Highlight insights driving the skills, competencies, and micro credential conversations
- Discussion of fundamental elements for skills aligned experience
- Discussion on key stakeholders and enablers
- Leveraging the power of data
- Discussion on problems still to be solved from lessons learned
Market Insights Driving Change

➢ Prioritization of skills-based hiring vs degree is on the rise with 23% of employers making change in that direction; 39% exploring move to that direction (Gallagher, 2018)

➢ Pressure on higher education providers to use universal language with employers and make visible through a comprehensive student learner record capturing both skills acquired in their program, certificate, or professional development courses and those they earned through other education providers or prior life experiences (PLA/CLA)

➢ Employers struggling with retaining and finding talent and questioning the value of degrees
Market Insights Driving Change

➢ Time starved student expectations of limiting activities they perceive to be useless or irrelevant, needed to re-focus work on program/certificate maps down to single skill units in courses (including general education courses) while cross walking with accreditor/regulator expectations

➢ Students are expecting for the price of the degree to get something more than a degree in a broad major, they want concrete outcomes (skills and competencies, digital credentials) that will lead to specific jobs and they don’t want to wait until the end of degree to get that next or better job

➢ Employers do not want badges without authentic evidence – authentic skills assessments are critical in curriculum to support badges
Fundamental Elements for Skills Aligned Experience

➢ Curriculum maps
➢ Course design
  ➢ Real-world, employer-worthy deliverables (authentic assessment)
  ➢ Capturing and storing learners' acquisition of a skill
➢ Visibility of skills and relevance to students
➢ Visibility of skills and metadata behind the assessments for employers
➢ Digital credentialing
Key Stakeholders

- Deans, Faculty
- Enrollment (Admissions) Advisors and Academic Counselors
- Instructional Designers
- Employers/Workforce Solutions Team
- Industry Advisory Councils
- Badging Partner
- Technology (Product Teams), Infrastructure including Learning Management System (LMS)
- Data Teams
Key Enablers

➢ Technical infrastructure and standards
  ➢ Program learning outcomes, course learning outcomes, badging outcomes, student achievements
➢ Learning management system and course design
➢ Data infrastructure
Power of Data

- Evaluate effectiveness of curriculum design
- Evaluate program effectiveness
- Evaluate student progress and potential needs for support services
- Enables product teams to build key career tools
- Match students to employers
- Leverage data for marketing collateral on website and campaigns
Problems Still to Be Solved

- Comprehensive Learner Record infrastructure
- Employer collaboration and identification of their skills needs, systems infrastructure for matching
- Badging vision and infrastructure
- Student’s understanding of the data and how to leverage for career progression
Questions & Answers
THANK YOU!

SKILLS, COMPETENCIES & MICRO CREDENTIALS
WHAT DOES IT ALL MEAN & WHY SHOULD I CARE?

DORIS SAVRON
VICE PROVOST – ACADEMIC COLLEGES
UNIVERSITY OF PHOENIX

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APPENDIX
Higher-ed and discipline benchmarking, conversations with colleagues, faculty, review of academic literature, vetting ideas with advisory council.

**Academic Leaders: Visioning**

College & Stakeholder Conversations
programmatic accreditor requirements. Process for program design that involves market research and ROI, faculty councils.

**Aligned Job Titles**

Ids for educational programs (CIP) and aligned to occupation codes (SOC). Based on CIP/COC identify appropriate job titles.

**Advisory Council**

Each College has a minimum of one industry council, seek input on degrees, trends, and skills/gaps we need to address.

**Pre-Map Work – Program Creation**

- Academic Leaders: Visioning
- College & Stakeholder Conversations
- Aligned Job Titles
- Advisory Council
- EMSI - Economic Modeling Data

Based on CIP/COC identify appropriate job titles.
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<th>Assessment?</th>
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<td><strong>BADGE TYPE</strong></td>
<td>Milestone Badge</td>
<td>Academic Badge</td>
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<td>EVIDENCE TYPE</td>
<td>Attend event, Informal Milestone (Dean's List)</td>
<td>Demonstrate Skill or Apply Skill in Some Way.</td>
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<td>LEVEL OF EVIDENCE</td>
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<td>Measurable and Quantifiable. Aligned to Evidence that is Portable and Sharable. Could support early entry into career field.</td>
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<td>Celebration</td>
<td>Skill</td>
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Student Insights

Value of Badge

• 70% - understand the professional benefit
• 66% - believe badging will help with advancing their career
• 68% - worked harder in the course because of the ability to earn a badge
• 75% - believe it will be easier to communicate their skills to potential employers with the badge
• 83% - thought it was easy to claim their badge
• 73% - are eager to start their next course (because of badges)
• 80% - have a strong desire to complete their program (because of badges)

Badge Sharing with Employers or Potential Employers

• 58% will share
• 28% want to share but they don’t know how
• 15% won’t share – mainly because they don’t need them for their current position
Agenda

- Introductions
- Overview of MyCreds™ and Digitary by Parchment
- Why are we focusing on open standards?
- How we unlock the power of student data
- Next Steps for MyCreds™
- Questions and Answers
ARUCC MyCreds™

• What is MyCreds™?
  • 24/7 virtual credential platform & digital exchange for digitized documents and credentials
  • Shared service
  • Regional, national, and international connectivity

• What does MyCreds™ support?
  • Inbound admissions; support letters to help learners access funding, student authorizations, and other govt support; transition support to jobs and regulatory bodies
  • Outbound: Transcripts, parchments, badges, micro-credentials, letters, degrees, diplomas, certificates, etc
<table>
<thead>
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<th>ARUCC MyCreds™</th>
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<tbody>
<tr>
<td><strong>Incorporated</strong></td>
</tr>
<tr>
<td>• Not-for-profit under ARUCC</td>
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<tr>
<td><strong>Sector owned</strong></td>
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<tr>
<td>• MyCreds™ and MesCertif™</td>
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<td><strong>National participation</strong></td>
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<tr>
<td>• Colleges + Universities</td>
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<tr>
<td><strong>Nationally supported</strong></td>
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<tr>
<td>• Partners include: Pan-Canadian Council on Admissions and Transfer (PCCAT), Canadian University Council of Chief Information Officers (CUCCIO), Canadian Postsecondary Electronic Council User Group (CanPESC)</td>
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<tr>
<td><strong>Sector supported</strong></td>
</tr>
<tr>
<td>• Endorsed by our: Colleges and Universities, Credential evaluation organizations, Governments</td>
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</table>
ARUCC MyCreds™ Governance Structures

- ARUCC Board
- ARUCC MyCreds™ Steering
- ARUCC MyCreds™ Strategic Advisory Board
- ARUCC MyCreds™ Registrars Group
- ARUCC MyCreds™ Deputy Registrars group

- ARUCC MyCreds™ Communications Working Group
- ARUCC MyCreds™ Integrated Working Group
  - ARUCC MyCreds™ Banner User Group
  - Technical MyCreds™ Community group

MyCreds™ strategic plan
Partnerships

Higher Education Community

Government

Not-for-profit sector leadership

Industry

Registrarial sector leadership organizations

Universities’ Canada
Colleges and Institutes Canada
DIACC
ID Lab
Regulatory bodies

Core service providers:

Federal Treasury Board
Ontario
Nova Scotia
Government owned regulatory bodies

Student Information System providers
Other nodes
MyCreds™ is growing

In Canada

At scale in Ontario, Alberta, Newfoundland, Saskatchewan, and soon, Nova Scotia

• Attracting government participation and/or grant funding
• Attracting industry and trades participation

Overall

Canada and internationally as part of the Digitary by Parchment Network

• 3M+ learners worldwide
• 10M+ documents
• Canada is 13% of the world network and growing

“We are very happy with how MyCreds has been working for us and our students. As a next step, we are excited to expand our usage in the coming months with additional document types as will build out our institutional adoption of digital verifiable solutions to support learners.”
Mark Hilgersom, registrar, Lethbridge College

An award
Winning Not-for-Profit Solution
**Organization Portal**
- **Issuing**
  - Secured access for institutions to issue and manage documents for learners
  - Only digitally signed (certified) documents are accessible to learners through the learner portal
- **Receiving**
  - Secure access for institutions to receive documents from anywhere in Digitary’s worldwide network including access to embedded XML data from issuing institutions such as CSSD in China

**Learner Portal**
- Portal for learner access to their certified documents

**Transcripts**
- Badges
- Parchments
- Confirmation letters
- Micro-credentials
- Awards
- & more…
Extending the Digitary platform and Innovating our Credentials
Why are we focusing on open standards?

- National data interoperability of transcripts and credentials to promote learner mobility and efficiencies for institutions
- International data interoperability of credentials to promote global learner mobility
- Portability and comparability of micro-credentials for institutions, learners and industry partners
- Expansion of use cases beyond our own post-secondary ecosystem
National data interoperability

Challenges

• Lack of consistently applied standards across the country limits inter-provincial exchange

Opportunities

• CanPESC working group focusing on Standards Upgrade Pathways
  • White paper looking at various strategies for upgrading to newer PESC XML standard versions
• MyCreds next steps to promote national Recommended Implementation Practices for:
  • Transcripts (PESC College Transcript and High School Transcript)
  • Academic Credentials (PESC Academic Credentials and Experiential Learning)
• MyCreds is establishing a micro-credential Recommended Implementation Practice for use nationally but with alignment to work that has been done in the EU and NZ
  • Micro-credential data structure for delivery as a Verifiable Credential
International data interoperability

Challenges

• Differing standards and technologies in use internationally

Opportunities

• The Digitary platform already transforms PESC standards to Digitary Learner Profile to enable translation to and from other standards
• MyCreds currently piloting issuance of Verifiable Credentials (VCs) using Self Sovereign Identity (SSI) technologies
  • Ontario Virtual Skills Passport project in partnership with MATTR Global to deliver Verifiable Credentials from the MyCreds platform.
  • Planning for a pilot project in collaboration with the Federal Government and EU for Academic Credentials to enable translation from PESC standards to European Verifiable Credential initiatives
• Participation in the W3C + Jobs for the Future (JFF) Interoperability Plugfest (Nov. 14th)
Portability and comparability of micro-credentials

Challenges

• Institutions are looking for guidance on how to represent their micro-credentials as data and how learners can most effectively utilize them

Opportunities

• Expand institutional use of micro-credentials on MyCreds
  • Badges as IMS Open Badges
  • Micro-credential parchments as PDF, PDF/XML and Verifiable Credentials

• Verifiable Credentials (VCs) using Self Sovereign Identity (SSI) technologies
  • Ontario Government funding support to promote micro-credentials use through the Ontario Virtual Skills Passport Project
  • Explore interoperability with Ontario Govt VC Wallet Strategy through our partner, MATTR Global
Expansion of use cases beyond post-secondary ecosystem

Challenges

• Determine how education sector Verifiable Credentials can be leveraged in combination with Verifiable Credentials from other sectors
• Third party verifiers for employment

Opportunities

• Ontario Virtual Skills Passport project and employers for third party verifications using Self Sovereign Identity (SSI) technologies and Verifiable Credentials (VCs)
• Communication and acceptance of digital technologies among employers, professional associations and application centres.
How we unlock the power of student data

- Third Party Verification back to source
- Ability to consume PDF and XML

Read-only Learner Portal to access and share documents and now through integration with MATTR, Learners can claim as a Verifiable Credential.
Verifiable Credentials using Self Sovereign Technologies

An enhanced verification model:
✓ Critical interoperability and portability enabler
✓ Standard lightweight data model
✓ Cryptographically reliable
✓ Decentralized status mechanisms
✓ Flexible proof mechanisms
✓ Advanced proof formats – selective disclosure

Enables verifiers to confirm the issuing organization and integrity of the credential through cryptographic proof mechanisms

Source: Verifiable Credentials Data Model v1.1 - https://www.w3.org/TR/vc-data-model/
Turning Micro-credentials into Verifiable Credentials (VCs)
Turning Traditional Credentials into Verifiable Credentials (VCs)

**Development of a standardized data structure for micro-credentials**

- Feedback from institutions that micro-credentials follow structures that they are familiar with based on existing PESC standards
  - PESC College Transcript is widely used by institutions in BC, Alberta, Ontario and Nova Scotia
  - PESC Academic Credential and Experiential Learning was reviewed and has influenced the micro-credential structure
- A draft micro-credential structure has been established based on input from participating institutions and existing MyCreds governance working groups
- Data elements from the EU and NZ micro-credential standards have also been mapped
- A subset of the micro-credential structure has been scoped for the pilot Verifiable Credential
Interoperability and Portability
Next Steps for MyCreds™

National promotion of standards use and data delivery/consumption

• Promote issuing documents with PESC standard data through existing MyCreds governance groups (ARUCC MyCreds™ Integrated Working Group, Registrar’s user groups, Technical user group, and SIS based user groups) and provincial government funded opportunities

• Develop and communicate Recommended Implementation Practice guides for each of the existing PESC standards at the national level
  • PESC College Transcripts
  • PESC High School Transcripts
  • PESC Academic Credentials
  • Micro-credentials
Next Steps for MyCreds™

**National promotion of standards use and data delivery/consumption**

- Deliver an accessible central repository of information about each institution’s implementation on MyCreds
  - Document types issued together with formats (PDF, PDF/XML, Verifiable Credential) and compliance with PESC standard version numbers
  - Availability of Open Badges
  - Institution specific data definitions for issued documents
  - Institution receiving capability (PDF, PDF/XML)

- Continue our discussions with the provincial hubs and application centres:
  - Include OAUTH integration to enable application centres to include verified documents from our world-wide network into their application processes (similar to our integration with CollegeNet in the US)
Next Steps for MyCreds™

Continual feedback and evolution of the standards

• Micro-credential implementation practices
  • Input from institutions on micro-credential data
  • Alignment with micro-credential standard work from EU and NZ

• Contribution to the evolution of existing standards
Next Steps for MyCreds™

Expansion of the Verifiable Credential capabilities using open standards

- Micro-credential use cases
- Academic Credentials
- Integration/exchange with EU Verifiable Credential initiatives
- Interoperability with other Verifiable Credential Wallets
- Other Digital Identity and Verifiable Credential ecosystem partnerships
THANK YOU!

Bert van der Geest
Regional Director

Bert.vdG@Digitary.net

OCTOBER 2022
Data Summit
Unlocking the Power of Student Data

OCTOBER 26-28, 2022
Vancouver
www.pesc.org
— Founder Awards —
2022

AACRAO & Ellucian

Recognized for continuous, annual PESC Membership and successful, continual election to the PESC Board of Directors

honored in 2022 at PESC’s 25th Anniversary

— Outstanding Service Awards —
2022

Kristi Blbaum
Ascendium Education/NASLA

Doug Falk
National Student Clearinghouse

Doug Holmes
OUAC

David K. Moldoff
AcademyOne

Michael Morris
ACT

Susan McCrackin
College Board, rfd.

Rick Skeel
Ellucian

Francisco Valines
Florida International University

OCTOBER 2022
Data Summit
Unlocking the Power of Student Data

OCTOBER 26-28, 2022
VANCOUVER
www.pesc.org
In looking back over PESC’s 25-year history, I will reflect on how PESC started – along with a review of the people that made it happen and what PESC has been striving to achieve.

- What is PESC’s mark of achievement?
- What is PESC’s footprint?
- Is PESC more than the ‘transcript’ in all its formats?
- What is PESC’s role in financial aid?

As we prepare for PESC’s 57th convening, this session will cover these topics and include a few of the best stories from over the years. Then long-time PESC leaders will join in to discuss what’s next.

- What is the future of data standards?
- What is the future of PESC?
- What are the roles of government and foundations in the ecosystem?
PESC Unpublished

All work, artifacts, documents and proposed candidate standards
From groups and initiatives that
Either stopped or were not continued
Due to lack of funding

Coming Soon...
Unlocking the Power of Student Data
October 2022 Data Summit | Vancouver

Groups & Initiatives

Boards
- PESC Member-Based Groups
  Governing the PESC Mission, the Standards Process, and Policies and Procedures Manuals
- Board of Directors
- Change Control Board
- Seal of Approval Board
- Technical Advisory Board
- Gender Identity Task Force
- JSON-LD Task Force
- Microcredentials Task Force
- Student Aid Task Force

Task Forces
- Free and Open Groups with PESC Member Co-Chairs
  Studying and Researching Emerging and Strategic Topics

User Groups
- Free and Open Groups with PESC Member Co-Chairs
  Managing Multiple Long-Term Projects and/or Services
- CanPESC User Group
- EdExchange User Group
- GEO Code User Group

Workgroups
- Free and Open Groups with PESC Member Co-Chairs
  Developing PESC Approved Standards
- JSON-LD Transcript Workgroup

PESC Groups include education leaders and experts spanning policy, practice and technology working together through PESC in ‘coopetition’ - that is ‘cooperation among competitors’.

PESC Group meetings are held regularly weekly, monthly and/or quarterly by webinar; while they convene in-person at April and October Data Summits.

PESC Group participation is available to representatives of PESC Member organizations (in good standing); and free and open for all interested parties in the student and learner ecosystem.

ALL PESC GROUPS look to:
- Focus on one common cause or interest
- Foster collaboration across educational sectors to solve industry-shared problems
- Strive to bring much needed clarity and coherence to the education ecosystem
- Educate and inform on current initiatives and emerging best practices impacting technology and standards
- Promote innovative, collaborative solutions that employ automated, reusable and sustainable technologies and standards.

Join PESC!
www.pesc.org
UNLOCKING THE POWER OF STUDENT DATA
OCTOBER 2022 DATA SUMMIT | VANCOUVER
PESC Finances
# Unlocking the Power of Student Data

**October 2022 Data Summit | Vancouver**

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### Unlocking the Power of Student Data
#### October 2022 Data Summit | Vancouver

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**Notes:**
- DC: Data Conference
- VC: Virtual Conference
- PS: Poster Session
- BM: Breakout Session

**Dates:**
- March 2022: 4-7
- April 2022: 11-15
- June 2022: 18-22
- July 2022: 20-24
- October 2022: 27-28

**Sponsors:**
PESC, AACRAO A + T, ARUCC, NASFAA, GDN,educause