Competency Based Education and Extended Transcripts

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Overview

• The Current Credentialing Marketplace
• Competencies and Academic Standards Exchange (CASE)
• Extended Transcript (eT)
• Credential Engine and New Credentialing Ecosystems
• Call to Action
The Problem:
The Credentialing Marketplace is a Confusing Maze
What do we mean by “Credentials”? 

• A documented award by a responsible and authorized body that has determined that an individual has achieved specific learning outcomes or attained a defined level of knowledge or skill relative to a given standard.

• Umbrella term that includes:
  • Educational degrees and certificates
  • Professional and industry certifications
  • Apprenticeship certificates
  • Licenses
  • Micro-credentials
  • Badges
  • Innovative emerging credentials
Current credentialing problems

Fragmented, multi-faceted, complex credentialing system that doesn’t work well for credential seekers, employers, or educators

Highly diverse and decentralized

Many actors:
- academic and training organizations
- industry groups
- occupational groups
- licensing boards
- accreditors, new types of quality assurance entities

Many types of credentials

- different purposes
- different quality assurance mechanisms
- different regulations
- different metrics for awarding credentials
- different value in different contexts

Public and employer policies struggle to keep pace with new developments
Characteristics of an improved credentialing ecosystem

- Learning-based and learner-centered
- All learning matters wherever it’s obtained
- All credentials are based on learning outcomes/competencies
- Credentials are portable, transferrable, transparent, useful, and easily understood by learners, employees, employers
- Credentialing pathways, including on-ramps, increase access and equity for all learners
- Helps learners, employees, and employers make informed choices about their investment in and value of the credentials they’re pursuing
- Helps employers better qualify employees and reduce recruiting time, employee turn-over, and cost of retraining
- Builds a competitive, highly skilled workforce
- Dynamic system – agility to be relevant in rapidly changing labor markets
Discussion
Coalition focused on CBE standards

IMS DIGITAL CREDENTIALS INITIATIVES

TECHNICAL INTEROPERABILITY PILOT (TIP)

COMPETENCY-BASED EDUCATION NETWORK

PUBLIC AGENDA

AACRAO

Lumina Foundation
Competency programs can provide a rich and descriptive understanding of what the learner knows and has demonstrated ...

The traditional systems of record (the SIS) are mostly incapable of producing such reports.
CBE EDTech Challenges

Programs NOT satisfied

- Many dirt roads
- Some dead ends
- Costly integrations
- Superficial differences
- Weak student experience
- No standard

Source: http://er.educause.edu/articles/2015/10/competency-based-education-technology-challenges-and-opportunities
Articulation Forms

- Offering hierarchy
- Associations
- Nomenclature
- Versions

- so many many sheets...
# Rubrics

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>4 Points</th>
<th>3 Points</th>
<th>2 Points</th>
<th>1 Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a plan for Investigation</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student turns in a written plan for investigation.</td>
<td></td>
<td>The plan is thorough</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of Materials</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student manages materials responsibly.</td>
<td></td>
<td>manages all materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collects the Data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student collects a sufficient number of data points to support the investigation and accurately records the data points.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Rubric Criterion Title**
- **Rubric Criterion Weight**
- **Rubric Criterion Description**
- **Rubric Criterion Level**
- **Rubric Criterion Level Score**
Competencies & Academic Standards Exchange (CASE)

Higher Education Digital Ecosystem

Competencies & Academic Standards Exchange (CASE) is used to transmit learning standards in a machine-readable format.

https://www.imsglobal.org/case
CASE – Program Outcomes

Bachelor of Science in Nursing (BSN)

- P01 Health Assessment
- P02 Safety and Quality Practices
- P03 Nursing Research and Informatics
- P04 Policy, Finance, and Regulations
- P05 Communication
- P06 Organizational and Systems Management
- P07 Health Promotion and Disease Prevention
- P08 Diversity
- P09 Professional Role
- P010 Global Accountability and Public Service

CASE Framework URL: https://sail-demo.edplancms.com/uri/7dd961b6-52b6-11e7-9ab2-7c1ef43d3d3d

Creator: Capella University Publisher: Capella University
Language: en
CASE - Associations

Bachelor of Science in Nursing (BSN)

PO5 Communication

Full Statement: Communication. Communicate effectively with all members of the healthcare team, including interdepartmental and interdisciplinary collaboration for quality outcomes.

Education Level: BA
Type: Program Outcome

Has Part
- Communicate in a manner that is consistent with expectations of nursing professionals
- Explain the principles and practices of highly effective interdisciplinary collaboration
- Communicate in a manner that is scholarly, professional, and consistent with the expectations of a nursing professional

Is Child Of
- Document: Bachelor of Science in Nursing (BSN)
CASE – Course Competencies

BSN-FP4001 - Orientation to Baccalaureate Nursing

- Evaluate scholarly nursing literature that supports evidence-based nursing practice
- Explain ways to promote safe, quality, evidence-based care to populations and communities in health care environments
- Identify information management tools and technologies to monitor and improve outcomes
- Communicate in a manner that is consistent with expectations of nursing professionals

Full Statement: Explain ways to promote safe, quality, evidence-based care to populations and communities in health care environments

Education Level: BA

Type: Competency

Is Part Of

- PO2 Safety and Quality Practices: Incorporate concepts of patient safety, clinical management, and quality improvement to improve patient outcomes
- PO7 Health Promotion and Disease Prevention: Apply and incorporate a basic understanding of the concepts of health promotion and disease prevention as a means of improving health at the individual, population, and community level
- PO8 Diversity: Incorporate a holistic, caring, culturally appropriate nursing approach that contributes to the wellness and health of individuals, groups, and vulnerable populations

Is Related To

- KN2 Level Two Data Credentials Framework
CASE – Beta Credentials Framework

Beta Credentials Framework

- Knowledge
  - KN1 Level One
  - KN2 Level Two
  - KN3 Level Three
  - KN4 Level Four
  - KN5 Level Five
  - KN6 Level Six
  - KN7 Level Seven
  - KN8 Level Eight
- Skill
  - SP1 Level One
  - SP2 Level Two
  - SP3 Level Three
  - SP4 Level Four
  - SP5 Level Five
  - SP6 Level Six
  - SP7 Level Seven
  - SP8 Level Eight
- Personal Skill
  - PE1 Level One
  - PE2 Level Two


CASE Framework URL: https://sait-demo.edplan.cms.com/url/4448665a-4a11-11e7-bab9-aadc4a9ba033

Creator: Lumina Foundation Publisher: Lumina Foundation

Language: en

Adoption Status: Draft

Export
Discussion
What problem are we solving?

What does 3 CH of B in "BUS STATISTIC" mean?

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS 203</td>
<td>Introduction to Software</td>
<td>Fall</td>
<td>A</td>
</tr>
<tr>
<td>CSS 204</td>
<td>Programming for CSS</td>
<td>Winter</td>
<td>A</td>
</tr>
<tr>
<td>MATH 111</td>
<td>Calculus I</td>
<td>Spring</td>
<td>B</td>
</tr>
<tr>
<td>MATH 112</td>
<td>Calculus II</td>
<td>Fall</td>
<td>B</td>
</tr>
<tr>
<td>STAT 200</td>
<td>Introduction to Statistics</td>
<td>Winter</td>
<td>A</td>
</tr>
</tbody>
</table>

(Continued on the next page...)
Old versus New Transcript

- Paper Based → Digital
- Static → Dynamic
- Activities/Time → Capabilities / Skills
- Rigid Structure → Flexible Data Model
An Extended Transcript

IMS members, collaborating with members of the Competency-Based Education Network, The American Association of Collegiate Registrars and Admissions Officers, and National Association of Student Personnel Administrators designed a **new standardized achievements record called eT**, for extended transcript.

The eT achievement record complements credentialing validation efforts such as the Credentials Engine\(^{(c)}\) while filling a critical need for **learning organization data standards**.
What is eT?

eT is a common format for storing the variety of learner achievements in a consistent digital structure, ideal for web display, web search and other data-based activities.

eT supports:

• Competencies
• Courses
• Assessments
• Career-ready skills
• Co-curricular, Internships and volunteerism
• Degrees, certificates and micro-credentials
What is eT?

Skills gaps and mismatches are resulting in missed employment opportunities for learners young and old.

Institutions’ competency-based learning programs are increasingly designed to focus on the needed skills......

But **scalable, digital communication** of a learner’s verified knowledge, skills and abilities remains a problem to be solved.
3 eT Project Phases

Phase I
Design an eT achievements record
Share with learners through engaging web displays

Phase II
Connect achievements with employers through secure, anonymized candidate search SkillsCenter™

Phase III
Provide learner with their own portable Personal Achievement Record in a secure, open form

We started here
Extended Transcript Prototype


https://demo-cbl.difference-engine.com/extended-transcript
Pilot Purpose & Parameters

Purpose
• Gather student feedback on the extended Transcript (eT) document, content and usage

Parameters
• Approximately 2,000 Graduate Students enrolled in the New Learning Model Format
• Students have access to the eT from December 13, 2016 to March 31, 2017 (Fall 2016, and Winter 2017)
• Students access their eT through their classroom
MASTER OF BUSINESS ADMINISTRATION
Organizational Leadership

Organize document or presentation clearly in a manner that promotes understanding

- Present material in clear and/or logical order appropriate to task
- Articulate thesis and purpose clearly
- Create thesis and purpose fully
- Distinguish clearly between main points and supporting details
- Support thesis and purpose fully
- Transition smoothly and develop connections from point to point

Create and employ multimedia supports, visual aids and/or documents appropriate to the needs of the project, the message and the audience

- Create coherent progress from introduction through conclusion
- Create neat, clear, and professional document and/or multimedia aids
- Demonstrate clear, relevant connection between visual/multimedia aids and speech, when appropriate
- Format document and citations properly
- Provide accurate graphics that fairly depict the information, when appropriate

Multiple pieces of evidence are needed to master a competency. For the pilot, it's only for the course(s) a student is enrolled in for Fall, so all will show as in progress.

Graded Assignments

Document can be printed in a print friendly format
How many students accessed the eT?

• The eT has been available to approximately 2,000 students for 11 weeks

• The eT has been accessed 1,100 times in those 11 weeks

• 31% of unique students accessed the eT
Why?

“I think it makes the bigger picture of what the student is accomplishing clearer, and describes how each project and course build on each other.”

“Instead of a graduate saying I walked away from college with an X GPA, I can take this and say this is what I am capable of doing.”

“It puts things into perspective.”

Of survey respondents recommend that UMUC provide the eT to all students
Discussion
# 3 eT Project Phases

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<td>Share with learners through engaging web displays</td>
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We are here now
Competency-based Education

- **Competency-based degree progression by demonstrating mastery**
- **Online skill-focused credentials**
- **Strong, proactive “wrap-around” advising/mentoring/tutoring**
- **Competency-based credentials, verified by employers**
- **Quality based on existing faculty and departments**
- **Authentic assessments proving proficiency**
- **Recognizes and leverages that learning happens everywhere ~ prior learning & experiences, free and traditional coursework, etc.**
- **Aimed at non-traditional, returning students**
- **Credentials can be completed in just days or weeks**
BACHELOR OF ARTS
Associate Of Arts & Science

PSY 202 - Introductory Psychology
Semester: January 2015  Credits: 3  Grade: A

Competencies (6 complete, 6 total)

- Explain the basic methods of research used by psychologists and the reasons for these.  Mastery
- Apply knowledge of physiology to human abilities and limitations.  Mastery
- Apply basic concepts from development, personality, and social psychology to real-life situations.  Mastery

More...

BIOL 141 - Heredity
Semester: April 2015  Credits: 3  Grade: B

Competencies (14 complete, 14 total)

- Describe genetics as a discipline.  Mastery
- Explain the role cell components, cell division, and stem cells play in cellular reproduction.  Mastery
BACHELOR OF ARTS
Associate Of Arts & Science

PSY 202 - Introductory Psychology
Semester: January 2015  Credits: 3  Grade: A
Competencies (6 complete, 6 total)

☑ Explain the basic methods of research used by psychologists and the reasons for these.
☑ Apply knowledge of physiology to human abilities and limitations.
☑ Apply basic concepts from development, personality, and social psychology to real-life situations.
☑ Apply principles of learning and memory theory to everyday life.
☑ Articulate various dimensions of the nature-nurture question that underlies much of psychology (i.e., Why do people do the things they do?)
☑ Apply basic theoretical perspectives to real-world problems.

BIOL 141 - Heredity
Semester: April 2015  Credits: 3  Grade: A
Web-based employer recruiting platforms are granted controlled access to the institution’s SkillsCenter via an endpoint (URL), making eT-based achievement records searchable. Students opt-in to the program. Personally identifiable information is blocked from access until the student accepts with recruiter’s contact request.

Issued credentials can also be recorded in a permanent ledger using BlockCerts™ and subsequently verified for validity and trust, critical for high stakes credentials.

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Discussion
Credential engine
Credential Engine

- **Credential Transparency Description Language (CTDL)** – metadata
- **CTDL Editor** – transforms institution’s credential and quality assurance information to CTDL and publishes it to the Registry
- **Credential Engine Registry** – services and metadata repository and competency registry
- **Credential Finder Search App** – search for credentials and explore information about them and the institutions

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Credentials Addressed by Credential Engine

Credential Registry includes all kinds of credentials, credentialing organizations, quality assurance bodies, competency frameworks.

- Apprenticeship
- Badge
- Certificate
- Certification
- Degree
- Diploma
- License
- Micro-Credential
Moving to a Web of Linked Data for Credential Ecosystems

• The Web is moving from a web of “linked documents” to “linked data.”
• Google, job, and travel aggregators use common terminology (metadata) that has been accepted as web standards (e.g., Schema.org).
• Using consistent metadata for key features of credentials, the Credential Registry enables job seekers, learners, workers, and employers to search for and compare credentials, just as travel apps are used to compare flights, rental cars, and hotels.

The web is moving to Linked Data. Don’t get left off the map!

from CredentialEngine.org
Credential Engine and IMS Global

- Harmonizing technologies and standards through:
  - People and dialogue - get involved in both!
  - Shared use cases and workflows
  - Terms and metadata definitions
  - Linked data
Credentialing Ecosystems

- **Credentialing Organizations**
  - Issue credentials to learners, packaged as IMS Extended Transcripts and/or Open Badges
  - Register their credentials in the registry

- **Credential Earners**
  - Reference CR
  - Find recognized credentials to achieve
  - Use recognized credentials in hiring and promotion processes

- **Employers / Industry**
  - Use recognized credentials in hiring and promotion processes

- **Quality Assurance Entities**
  - Accredit, approve, endorse, recognize credentials and/or credentialing organizations
  - Register their credentials in the registry

**Credential Registry**
Discussion