The Future of the Academic Record and how Technology, and AACRAO, and how all of you are Intertwined.

Mark McConahay
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Indiana University
Vice President Information Technology, AACRAO
About AACRAO

A non-profit, voluntary, professional association made up of more than 11,000 members who represent approximately 2,600 institutions from more than 40 countries.
Upcoming Meetings

28th Annual SEM Conference
November 11 – November 14, 2018 – Washington, DC

AACRAO on the Road
March 14 – March 15, 2019 – Florida International University

2019 Annual Meeting
March 31 – April 3, 2019 – Los Angeles, CA

2019 AACRAO Technology & Transfer Conference
July 14 – 16, 2019 – Las Vegas, NV
AACRAO Workgroups/Projects

Veteran’s Reporting
Student Identity
Beyond/Ban the Box
Student Success
Admissions Career Path
State and Regional Associations
GDPR
The Traditional Academic Transcript

- **Laudable Traits of the “Transcript”**
  - Chronological Ledger
  - Governance (Academic Value)
  - Fundamental Standard: Credit Hour
    - The Carnegie Unit
      - Courses
      - Awards
      - Summary Statistics
  - Validity and Integrity
  - Institutional Imprimatur
  - Interoperability (at least in HE)
  - TRUST
The Traditional Academic Transcript

- **External Trends**
  - BA minimum Career Credential
  - Grade Inflation
  - State/Federal Accountability
  - Labor Market and Professional Skills
    - Hard/Soft Skills
  - *Differentiation?*
## Expanded Grade Context Record

### A1990s Attempt to Differentiate!

### Indiana University

**Grade Context Record**

<table>
<thead>
<tr>
<th>Name: SAMPLE, R. STUDENT</th>
<th>Student No: 002-77-7772</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address: 3071 CINCINNATI</td>
<td></td>
</tr>
<tr>
<td>High School: ANDERSON HS</td>
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</table>

<table>
<thead>
<tr>
<th>Degree/Title</th>
<th>Dept</th>
<th>Gr</th>
<th>IR</th>
<th>W</th>
<th>Other</th>
<th>Total Grades</th>
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<tbody>
<tr>
<td>POL1 400</td>
<td>6.0</td>
<td>A+</td>
<td>927</td>
<td></td>
<td></td>
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<tr>
<td>CRIMINAL JUSTICE</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
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<tr>
<td>THE WAR IN VIETNAM</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CRIME IN THE NEW AMERICAN CITY</td>
<td>100</td>
<td>100</td>
<td></td>
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**Undergraduate GPA Summary**

<table>
<thead>
<tr>
<th>GPA Hrs.</th>
<th>GPA Points</th>
<th>GPA</th>
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<tbody>
<tr>
<td>100</td>
<td>42.0</td>
<td>4.2</td>
</tr>
</tbody>
</table>

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**Academic Objective**

As of Second Semester of 1990

**Bloomington Campus**

- Arts & Sciences
- Bachelor of Arts

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**End of Record**

**Registrar:**

T. O'Guday, Registrar
Technology Trends

- **Technology Trends**
  - Digital Records
    - Auto processing->ERPs->Cloud SaaS
    - ->Multi-Tenet
  - Connectivity
  - EDI/Trusted Networks
  - Digital Documents
  - Electronic Document Authentication
    - Adobe PKI standards
  - Badges/Certificates/micro-credentials
  - XML/Semantic Web
  - Public Ledger
  - Labor Market Consumption
The Traditional Academic Transcript Demand Trends

- **Diminished Demand**
  - Degree Verification Agency(ies)
  - Digital Record Exchange (EDI/XML)
  - Electronic rendering
    - Digital Signatures/PKI
    - Fewer Copies
    - Social Media (LinkedIn)
  - Other Credential Providers
  - Lack of Fidelity
  - Inability to Differentiate
The Need for More

- The Rise of Alternative Records and Institutional Attestation
  - Competency Based Education
  - Engagement and Experiential Learning
    - Community Engagement
    - UG Research
    - Leadership
  - Co-Curricular Records
    - Value of Participation
  - MOOCs/Badging
  - Learning Outcomes/Course Descriptions/Syllabi/Learning Artifacts
  - Non-Chronological Presentation
  - Course/Engagement Attestation
The Credential Conundrum

Higher Education Institutions

Regulated
- Degrees
- Certificates
- Majors
- Minors

Branded
- Teach Outs
- Experiential and Engaged Learning
- Co-Curricular Learning
- MOOCs-Professional Certs
- Accelerated Pathways

Unregulated
- MOOCs
- Bootcamps
- Badges
- Certifications
- Skills

Other Providers
The Consumer Conundrum

Regulated
- Degrees
- Certificates
- Majors
- Minors

Unregulated
- MOOCs
- Bootcamps
- Badges
- Certifications
- Competencies
- Skills

Reg-Unregulated
- MOOCs-Professional Certs - Branded
- Accelerated Pathways
- Teach Outs
- Experiential and Engaged Learning

Higher Education Institutions

Non-Accredited Providers

Trust, Fidelity
The Comprehensive Learner Records (CLR) project and data integration

1. AACRAO and NASPA joined forces in 2015 to explore the future of digital student records
   - $1.5 Million Lumina Grant

2. Initial project allowed 12 institutions to develop models of these records
   - Learning outcomes
   - Competency-based education
   - Learning outside the class
The Comprehensive Learner Records (CLR) Project

Goals

i. Accelerate creation of comprehensive learner record.

ii. Develop framework for the development of these records.

iii. Document the operational and policy considerations

iv. Directly assist 12 institutions to develop:
   - Competency-based education
   - Learning outcomes for programs/majors/degrees
   - Co-Curricular learning records/outcomes

v. Provide record models for other institutions
The Comprehensive Learner Records (CLR) Co-Curricular Records (Elon)
The Comprehensive Learner Records (CLR)  
Co-Curricular Records (IUPUI)

IUPUI Experiential and Applied Learning Record

Student Information
- Name: <Student Primary Name...>
- Student ID: <StudentID>

Summary of IUPUI Achievements

<table>
<thead>
<tr>
<th>Diversity</th>
<th>Global</th>
<th>Internship</th>
<th>Leadership</th>
<th>Research</th>
<th>Service</th>
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<tbody>
<tr>
<td>2 Semesters</td>
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<td>2 Semesters</td>
<td>2 Semesters</td>
<td>2 Semesters</td>
<td>2 Semesters</td>
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</table>

Achievement Timeline

<table>
<thead>
<tr>
<th>2013 and Before</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<tr>
<td>Spring</td>
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<td>Spring</td>
<td>Spring</td>
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<td>Pharmaceutical Research - Topic: &lt;Research Topic&gt;</td>
<td>Li's Seminar Research</td>
<td>&lt;Research Topic&gt;</td>
<td>Sam H. Jones Community Service Scholar</td>
</tr>
<tr>
<td>Sam H. Jones Community Service Scholar</td>
<td>Alternative Break Participants - &lt;Campus Service&gt;</td>
<td>&lt;Campus Service&gt;</td>
<td>&lt;Campus Service&gt;</td>
</tr>
<tr>
<td>Information Technology Intern - Fall</td>
<td>&lt;Campus Service&gt;</td>
<td>&lt;Campus Service&gt;</td>
<td>&lt;Campus Service&gt;</td>
</tr>
</tbody>
</table>

IUPUI Principles of Co-Curricular Learning

- Core Communication
- Integration of Knowledge
- Understanding Society & Culture
- Critical Thinking
- Interpersonal Development

AACRAO
Advancing Global Higher Education
The Comprehensive Learner Records (CLR)
Co-Curricular Records (IUPUI)

Diversity
- Coordinator - Disability Awareness Week, Indianapolis IN - 80 Hours
- Diversity Experience Title that takes up a really whole lot of room on page
- Some experience, Indianapolis Indiana - 50 Hours
- Multicultural Leadership Empowerment Program
- 40 Hours
- Community Service Title that takes up a really whole lot of room on page
- Indianapolis, Indianapolis IN - 80 Hours
- <city, state/province/territory, country> - 2 Semesters

Global Engagement

Leadership
- Fraternity Treasurer, Phi Delta Theta IUPUI, Indianapolis IN USA - 4 Semesters
- Fraternity Vice President, Phi Delta Theta IUPUI, Indianapolis IN USA - 2 Semesters

Research Hours
- 155
- 55
- Family, School, Community Undergraduate Research Institute
- Some Other Research Program
- Multidisciplinary Undergraduate Research Institute
- Some Other Research Program
- Community Service Scholars
- Co-Coordinator

Service Hours
- 255
- 195
- Alternative Break Trip Leader
- Community Service Scholars
- Official record page 2 of 2 created on <mm/dd/yyyy> for <student name> <student ID>
The Comprehensive Learner Records (CLR)
Competency Based Records
The Comprehensive Learner Records (CLR) eCertificates
The Comprehensive Learner Records (CLR) Project

Major Findings

I. Learning Frameworks
   I. Governance and Culture

II. Lifelong Access to Student Record
   I. Student Lockers

III. Standardization of Record and Data Formats
   I. Diploma (PESC)
   II. CLR (IMS Global)
   III. Competencies (CASE)

IV. Data integration
   I. Culture for Change
   II. Identification of Repositories
   III. Resources
The Comprehensive Learner Records (CLR) Project II

Goals of Second Lumina Grant

i. CLR Traction and Scale
   i. 150 Institutions
   ii. Address Standardization Issues

ii. Address Competency Based Education Challenges
   ii. Identify and Resolve Issues
   iii. Publish Guidance
   iv. Establish Standards

iii. Data Integration Issues
   ii. Identify Issues
   iii. Publish alternative methodologies

iv. Degree Audit and Experiential Learning
   ii. How can Degree Audit tools be utilized for Experiential requirements
So What Makes Data Integration So Difficult?

People

Shared Use Case(s)

Cross-institutional Buy-in

Staff Capacity and Bandwidth

Registrar

Academic Affairs

Institutional Research

Student Affairs
Meanwhile – on the Demand Side

**USCCF T3 Innovation Network**

I. Improve Talent Marketplace and ecosystem
   - Web 3.0 (Semantic Web, AI, etc.)
   - Distributed Ledgers (Blockchain)

II. Leverage Technology

III. Improve Interoperability
   - Competencies and credentialing Standards
Work Group 3

**Fundamental Challenge:**
Assessing fit of competencies within and between employers, education and training providers/credentialing organizations and learners.

- Course Catalogs
- Websites
- Assessment Blueprints and Handbooks
- Badging Systems
- Student Information Systems
- ...

- Job Profiles, Descriptions and Listings
- Training and Assessments
- Credentials Issued
- Performance Information
- ...

- Learners (Students & Workers)
- Education/Training Providers and other Credentialing Organizations
- Employers

- resumés
- Profiles
- Portfolios
- Learner Records
- ...

Strength of Fit
Student Self-Sovereignty

Credential is from Learner College, is the Learner’s Is Unchanged (Immutable), Is Verifiable Is TRUSTED

Learners (Students & Workers)

Disintermediation

Credential
So – What is a Credential?

Courses
- Description
- Learning Outcomes
- Syllabus
- Learning Artifact
- Assessment Rubric

Competencies
- Description
- Learning Outcomes
- Syllabus
- Learning Artifact
- Assessment Rubric

Engagement Activities
- Description
- Learning Outcomes
- Learning Artifact
- Assessment Rubric
## Current Landscape

<table>
<thead>
<tr>
<th>Governance</th>
<th>Academic Transcript</th>
<th>Co-Curricular Transcript</th>
<th>Competency Transcript</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Source</td>
<td>SIS</td>
<td>SIS/Other</td>
<td>SIS/Other</td>
</tr>
<tr>
<td>Units</td>
<td>Courses/Programs/Hours</td>
<td>Experiences/Engagements/Activity</td>
<td>Competencies/Completions</td>
</tr>
<tr>
<td>Details</td>
<td>Titles/Grades/GPAs</td>
<td>Descr/Assessment Learning Outcomes</td>
<td>Assessments Achievements</td>
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<tr>
<td>New Features</td>
<td>Descriptors/Syllabi/Learning artifacts/etc. New summary Stats</td>
<td>Meta-data/Learning Artifacts</td>
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</tr>
<tr>
<td>Awards</td>
<td>Certificates Degrees</td>
<td>Certificates “Achievements”</td>
<td>Certificates Degrees</td>
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<tr>
<td>Rendered</td>
<td>Chronological Ledger</td>
<td>Chronological Ledger Visual</td>
<td>Chronological</td>
</tr>
<tr>
<td>Modality</td>
<td>Printed eDoc (PDF) eCert/Badge</td>
<td>Printed eDoc (PDF) ??</td>
<td>Printed eDoc (PDF) eCert/Badge</td>
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<tr>
<td>Standards</td>
<td>EDI/XML Credit Hours</td>
<td>??</td>
<td>??</td>
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<tr>
<td>Characteristics</td>
<td>Academic Value Attestation/Trust Brand and Source Integrity (Immutable) Interoperability (in HE)</td>
<td>Academic Value Attestation/Trust Brand and Source Integrity (Immutable)</td>
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<td>Limitations</td>
<td>Obscurity (beyond HE) Fidelity Inflexibility Indivisibility</td>
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 Is Unchanged (Immutable), Is Verifiable
 Is TRUSTED

Learners
College

Learners
(Students & Workers)

Disintermediation

- eCertificates
- Competencies
- CLRs
- Diplomas
- Courses
- Engagements
- Transcripts
Resolving the Credential Conundrum

Standards

I. Expanded Core Academic Record
   a) Learning Outcomes, competencies, syllabi, descriptions, requirements, etc.
   b) Learning Artifacts -> Differentiation

II. Redefine fundamental currency
   a) Each course/engagement/etc. render as credential
   b) Include meta-data defining unit
      a) E.g., Learning outcomes
   c) Student specific assessments/artifacts
   d) Element Standards
Resolving the Credential Conundrum

Standards and Protocols

III. Integrity and Trust
   a. Security and Trust

IV. Interoperability
   a) Identity Issues
   b) Aggregation (by learner and consumer)
   c) Platforms/Protocols - Supply and Demand side

V. Roadmaps
   a) Authority
      Accredited, Regulated, Signatory
   b) Certificates -> Badges
   c) Learner outcomes -> skills
The Future of the Academic Record and how Technology, and AACRAO, and all or you are Intertwined.

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