Thinking About Quality for Digital Credentials

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The Rise of Non-Degree Credentials

Rapidly changing labor market

Increased need for lifelong learning, just in time training

Proliferation of different types of NDCs
Many Adults Hold NDCs

In 2016, a total of 27 percent of adults reported having a nondegree credential—a postsecondary certificate, a certification, or a license. (NCES 2017)
# Types and Definitions of Non-Degree Credentials

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub baccalaureate credit certificates</td>
<td>Credential awarded by an educational institution for completion of a subbaccalaureate credit educational program, usually less than one year in length (short-term and long-term credit)</td>
</tr>
<tr>
<td>Non-credit certificates</td>
<td>Credential awarded by an institution (educational or workplace) for completion of a noncredit educational program</td>
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<tr>
<td>Apprenticeship</td>
<td>Credential awarded after completion of structured educational and workplace program based on industry and occupational standards.</td>
</tr>
<tr>
<td>Industry certification</td>
<td>Credential awarded by an industry body or governmental agency for demonstration of skills typically via examination based on industry or occupational standards.</td>
</tr>
<tr>
<td>Occupational or professional licensure</td>
<td>Credential awarded by a governmental agency for demonstration of skills in a specific occupation and sometimes also completion of an educational program; often required to work in an occupation.</td>
</tr>
<tr>
<td>Badges, microcredentials</td>
<td>Credential awarded for completion of a short program of study or demonstration of a targeted set of skills; these are newly emerging and are still being developed.</td>
</tr>
</tbody>
</table>
What Do We Know About NDCs?

• Awarded by a wide range of organizations
  • Colleges, industry groups, unions, government, etc.

• Awarded based on a variety of criteria
  – Course completion, work experience, examination, etc.

• Learning occurs in many locales
  – At school, at work, informally

• Data is located in many sources
  • State data systems, industry data, national surveys
“The Wild West”

• Understanding quality of NDCs is incredibly difficult.
• There is no single system, set of standards or mechanism to help workers, employers, policymakers, and educational institutions define quality or measure it.
• Understanding which NDCs are quality varies by:
  – Geography
  – Industry
  – Consumer
What is a “Quality” NDC?

• Quality from who’s perspective
  • Credential holder vs. employer vs. educational institution vs. policymaker
  • Potential tension in goals
  • Equity implications

• Potential variation based on context, e.g. industry, occupation, labor market, organization

• Conceptual framework can be a guide and a diagnostic tool
Key Elements of Non-Degree Credential Quality

- *Credential design*. This element includes numerous features, usually decided on by the credential grantor, that define what a credential represents in terms of the competencies it marks and how it seeks to do so.

- *Competencies*. These are the skills and knowledge that the credential aims to represent.

- *Market Processes*. This term refers to the ways that a credential comes to be recognized and have currency in the world.

- *Outcomes*. The accumulation of competencies represented by credentials are expected to generate outcomes of value, typically in terms of the educational, employment, and social advancement of individuals, employers, and society.
Conceptual Model of Non-Degree Credential Quality

**Figure 1: Conceptual Model of Non-Degree Credential Quality**

**Credential Design**
- Content relevance
- Instructional process
- Assessment process
- Stackability and portability
- Transparency
- Accessibility and affordability

**Competencies**
- Demonstrated competencies including general knowledge, specialized skills, personal skills and social skills

**Market Processes**
- Transparency initiatives
- Awareness of credential and/or credential grantor
- Endorsements and validations
- State regulations
- Employer hiring policies and practices
- Educational institutions' recognition of learning

**Outcomes**

**Individual**
- Employment
  - Job attainment
  - Promotion
  - Wage gains
  - Retention
- Educational
  - Stacking of additional credentials
  - Completion of academic degree(s)
- Social
  - Improved health and well-being
  - Greater civic involvement
  - Intergenerational benefits

**Societal**
- Employer
  - Employee pipeline
  - Better retention
  - Higher skills and productivity
  - Increased diversity
- Society
  - Better public safety
  - Increased efficiency
  - Reduced inequality
  - More civic engagement
Credential Design

- Competency relevance
- Instructional process
- Assessment process – initial and ongoing
- Stackability and portability
- Transparency
- Accessibility and affordability
Competencies

- Demonstrated competencies
  - Including general knowledge, specialized skills, personal skills, and social skills
Market Processes

- Transparency initiatives
- Awareness of the credential and/or the credential grantor
- Endorsements or validations
- State regulation
- Employer hiring practice and politics
- Educational institutions recognition of learning
Outcomes

- Individual economic outcomes
- Individual educational outcomes
- Individual social outcomes
- Employer outcomes
- Societal outcomes
Implications for Policy and Practice

• Need to….  
  – Create awareness of non-degree credential quality and how to measure it. 
  – Collect better information on non-degree credential quality and outcomes. 
  – Develop and promote systems to assess non-degree credential quality. 
  – Promote and understand the use of data on non-degree credential quality. 

• States are currently developing quality measures that draw from elements of this framework.
Existing Systems for Assessing NDC Quality

• Educational Institutions
  – Prior learning assessment
  – Competency-based learning
  – Beta Credential Framework
  – Quality Assurance Commons for Higher and Postsecondary Education

• States
  – Quality standards
  – Eligible Training Provider List (ETPL)
  – Sector Strategies
  – State-Wide Longitudinal Data Systems (SLDS)

• National efforts
  – Credential Engine
  – ANSI standards for certificate programs, continuing education

• Accreditation
Digital Credentials
# CCCS Technical Math Badges

<table>
<thead>
<tr>
<th>Badge Category</th>
<th>Skills</th>
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<tbody>
<tr>
<td>Essential Geometry Mastery</td>
<td></td>
</tr>
<tr>
<td>Essential Statistics Mastery</td>
<td></td>
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<tr>
<td>Systems of Equations Skills</td>
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<tr>
<td>Math- Angles &amp; Triangle and Geometric Concepts Skills Badge</td>
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</tr>
<tr>
<td>Math- Essential Trigonometry Mastery</td>
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<tr>
<td>Formulas and Variation Skills</td>
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<tr>
<td>Math-Algebraic Functions Skills Badge</td>
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<tr>
<td>Math-Circles &amp; Polygons Perimeter &amp; Circumference and Area Skills Badge</td>
<td></td>
</tr>
<tr>
<td>Equations and Formulas Skills</td>
<td></td>
</tr>
<tr>
<td>Math-Essential Finance Mastery</td>
<td></td>
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<tr>
<td>Essential Math Mastery</td>
<td></td>
</tr>
<tr>
<td>Math-Exponential and Logarithmic Functions Skills Badge</td>
<td></td>
</tr>
<tr>
<td>Math-Exponents, Roots, Powers of 10 &amp; Scientific Notation Skills Badge</td>
<td></td>
</tr>
<tr>
<td>Math-Finance, Simple and Compound Interest Skills Badge</td>
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<tr>
<td>Math-Fundamental Concepts and Operations of Algebra Mastery</td>
<td></td>
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<tr>
<td>Graphing Skills</td>
<td></td>
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<tr>
<td>Ratio, Proportion &amp; Percent Mastery</td>
<td></td>
</tr>
<tr>
<td>Ratio, Proportions, and Percent Skills</td>
<td></td>
</tr>
<tr>
<td>Solving Quadratic Equations Skills</td>
<td></td>
</tr>
<tr>
<td>Statistics Mean, Median, Mode and Probabilities Skills</td>
<td></td>
</tr>
<tr>
<td>Math-Trig Functions, Sine, Cosine &amp; Tangent Skills Badge</td>
<td></td>
</tr>
<tr>
<td>Math-Units &amp; Systems of Measurement Skills Badge</td>
<td></td>
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<tr>
<td>Vectors Skills</td>
<td></td>
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<tr>
<td>Math-Volume of Geometric Solids Skills Badge</td>
<td></td>
</tr>
</tbody>
</table>
Quality in Badging: Using the Framework

- **Making the credential**
  - Variety of players, higher ed, industry and others
  - Are they industry relevant?
  - Are they stackable and portability?
  - What is the instructional process?
  - How are skills and competencies assessed?
  - Are they accessible and affordable?

- **Competencies**
  
  "verification data and evidence of skill attainment to the badge image file, hard-coding the metadata"

  (Perea, Chieppo, and Woodmansee, n.d.)
Quality in Badging: Using the Framework

- **Market Processes**
  - Awarding institution or body
  - Design of the badge
  - Awareness in higher ed, among employers among earners
  - Spread of the badge
  - Endorsement
  - Recognition of learning in higher education pathways
  - Employer interest and hiring, retention, promotion
  - Integration of the badge in comprehensive learner records – future

Outcomes
Quality in Badging: Using the Framework

• Outcomes
  – How many microcredentials are there?
  – Who has them and what are people using them for?
  – Data on outcomes is a challenge – educational and labor market
  – Credentials designed to be stacked and latticed
  – Employer data could be very useful
  – Other outcomes that could be of interest – milestone, momentum point, lifelong learning.
Walmart Example
For More Information, Contact Us.

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