

February 26, 2018

Background Draft for Opening a New Category of OER

Subject: Open Occupational Course Standards (OCS) Project & Open Training Resources (OTR)

This document prepared by the National Laboratory for Education Transformation (NLET) proposes a collaborative project to create open occupational course standards to govern the creation, storage, transportability, archiving, discovery and re-use of open occupational courses and programs created primarily by U.S. community colleges, training providers, publishers, employers and government agencies. This project will also create a new category or Open Education Resources (OER) called Open Training Resources (OTR).

This work is part of the recommendations of a Department of Labor Sub-Award provided to NLET by the SkillsCommons, www.skillscommons.org, to investigate the ability to make occupational course and program holdings in the SkillsCommons subject to deep discoverability through machine learning, natural language processing and other data science methods.

While this work is on-going, NLET has begun defining the underlying problems to overcome so that open occupational courses and programs can be shared easily and efficiently. Such courses and programs will promote skill development to meet occupational labor needs, and provide avenues to employment or better employment for millions of Americans who remain unemployed or underemployed.

The purpose of the proposed collaboration is to:

- Establish a category or subcategory of open educational resources (OER), Open Training Resources (OTR), focused on occupational courses, training courses and programs and materials, skills and competency in preparation for, or furtherance, of employment.
- Define the attributes of Open Training Resources (OTR), the meta-data standards, operational preparation and storage of OTR materials for efficient re-use, the separate procedures for “publishing” OTR materials into Learning Management, Content Management and Assessment systems, and the tracking, utilization and updating mechanisms for OTR.
- Within the new category of OTR, establish definitions, data categories, storage and transport protocols related specifically to Open Occupational Course Standards (OCS). Such standards will operationalize a sharing economy for the use, re-use, mixing and updating of Open Occupational Courses.
- Academic OER materials have interoperability and sharing issues related to the forms in which they are presented that can range across document types and systems types (content management, CMS; learning management, LMS; corporate learning content management, LCMS, etc). These issues are not easily solvable in the academic sector.

Discussion of OTR and OCS versus OER:

Academic Open Education Resources (OER) has been a well-funded effort globally that is not organized through a use methodology or procedures. Rather, funds have been invested and a culture has been created around OER creation, curation and somewhat around its use. Academic materials are governed by academic freedom and self-governance, and part of the openness initiatives on the web. As such, by definition, academic OER is not regulated, defined by procedures or operating standards, though open copyright mechanisms are well established. Much can be made of OER, but little is prescribed. OTR and OCS is a different.

- Open training resources (OTR) and occupational course standards (OCS) in their most basic form will need to relate operationally to well-defined job categories, labor standards (O*NET, SOC), and various labor, trade association and human resources taxonomies.
- Similarly, OTR and OCS will need to be universally available regardless of document type or system utilized for their delivery. Currently, OER materials' open flow publicly is gated by document or system type. This cannot be the case with OTR and OCS, which need to be produced and held in open content repositories that can be subjected to discovery, machine learning and natural language processing prior to, concurrently with, being published into proprietary document types or CMS, LMS or LCMS systems.

Problems to be Overcome / Specific Uses Case

The U.S. Department of Labor's Trade Adjustment Assistance Community College and Career Training (**TAACCCT**) grant program, known also as TACT, was a 1.9 billion dollar set of grants to hundreds of community colleges to create occupational and training courses and programs in consultation with regional employers. The resulting work product is housed in the www.SkillsCommons.org, an open repository operated by the California State University Chancellors Office which also operates the well-established www.Merlot.org OER repository.

In the development of the TACT program, no standards were required for course and program creation, no requirement to use O*NET or Standard Occupational Classification (SOC) standards, or adherence to other association-generated categories, nor any facility to incorporate those a later. As a result, the ability to share and re-use these materials is limited in their current form for the following reasons, which NLET is exploring in its sub-award:

- Many of the courses, programs and materials are in proprietary LMS systems.
- These systems do not carry meta-data associated with O*NET, SOC codes or taxonomies.
- These systems cannot be content or data mined because their content is not held in a content system; instead it is in a display layer only, that cannot be mined.
- Many of these systems are in proprietary licensed software that is not data-interoperable.

Proposed Solutions

If occupational content, data and use conventions could be established technically and procedurally, a whole level of re-use, mixing, adding, refining and automatic updating could be established as part of a vibrant effort established to share training materials for use by individuals, institutions, employers, agencies, etc.

The DOL funding for SkillsCommons and for the sub-award to NLET is coming to a close, both for setting up the repository and making it more accessible. The vision and funding provided by DOL established the ground work for a robust system that can be carried forward by associations, foundations, employers and community colleges intent on a vibrant occupational training infrastructure.

To begin the process to work on OTR and OCS, NLET is proposing that NLET and SkillsCommons raise funding to initiate the following:

- Agreed upon definitions and discussion items for OTR and OCS and its operations
- Identification of standards bodies to have discussions, and socialize need and operations
- A plan for funding a convening of core parties to be hosted by SkillsCommons & NLET

Current Partners

NLET currently has the following partners who are working together on open occupational course and programs data questions, and their coordination with community colleges and with labor data. These partners and SkillsCommons have all been introduced previously and all know each other:

- The League for Innovation in Community Colleges, www.League.org
- Emsi, www.economicmodeling.com
- Instructure, operators of Open Canvas LMS, www.canvas.net
- Pima Community College, www.pima.edu
- Dallas Community College District, www.dcccd.edu/pages/default.aspx
- University of Massachusetts Amherst, Data Science Center, <https://ds.cs.umass.edu/>
- BrightHive (Matt Gee), <https://brighthouse.io/>
- SkillsEngine, www.skillsengine.org

As a unit, the partners are ready to engage in conversation with the US Departments of Labor and Education, major foundations and employers about the establishment and management of Open Occupational Course Standards (OCR) and Open Training Resources (OTR).

Sincerely,



Gordon Freedman
President