



Semantic Web Enabled

Global Linking of Educational Resources through Learning Objectives

The Achievement Standards Network



<http://www.achievementstandards.org/>

Achievement Standards Network (ASN):

- *RDF/OWL Semantic Web enabled framework to represent national, local and organizational learning objectives for education & training*
- *Connects educational resources through Linked Data Principles for humans and machines in the open environment of the Semantic Web*

Through the ASN framework, individual learning objective assertions in authoritative national curricula and other professional descriptions of learning outcomes are assigned globally unique URI that can be used by machines and humans on the Semantic Web to link such outcomes one to another (even across jurisdictions) and to learning and professional development resources, student assessments, governmental and organizational reports and *any other related resource*.



Funded in part by:
U.S. National Science Foundation
Grant: #0840740

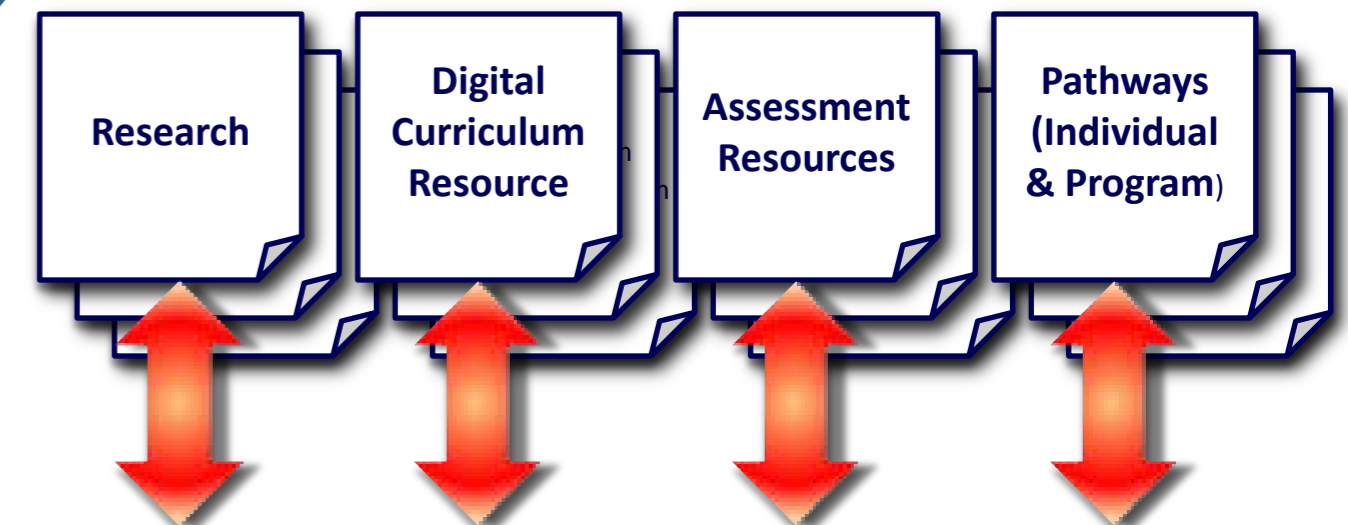
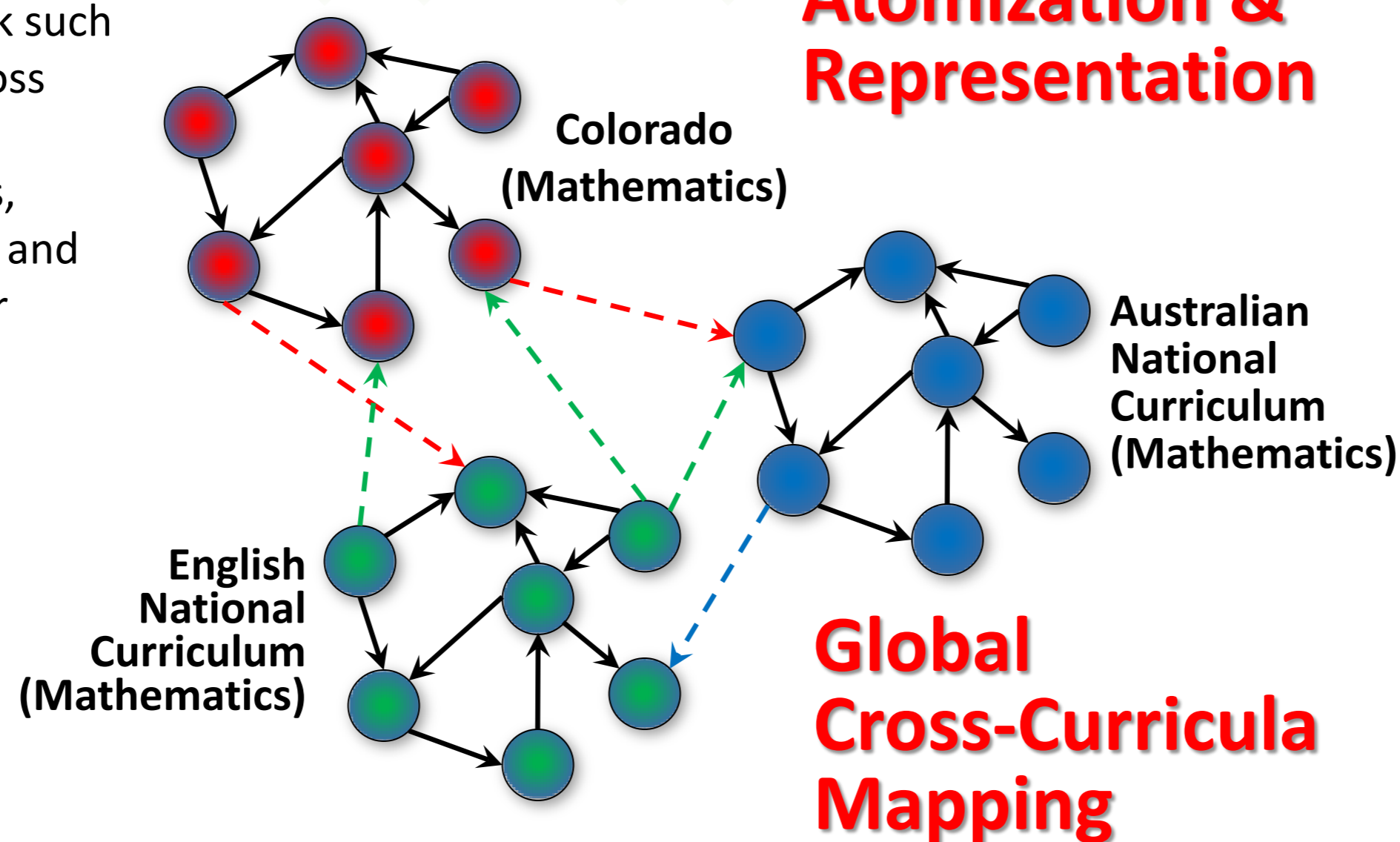
Contacts:

Diny Golder, dinyg@jesandco.org
Jon Phipps, jonp@jesandco.org
Stuart Sutton, sasutton@uw.edu

Colorado Academic STANDARDS
Mathematics
Content Area: Mathematics
Standard: Number Sense, Properties, and Operations
Prepared Graduates:
> Understand the structure and properties of our number system. At their most basic level numbers are abstract symbols that represent real-world quantities.
Grade Level Expectation: Eighth Grade
Concepts and skills students master:
1. In the real number system, rational and irrational numbers are in one to one correspondence to points on the number line.
Evidence Outcomes
Students can:
a. Compare and order sets of integers and rational numbers that are expressed as fractions, decimals, or percents.
b. Given a whole number from 0 - 100, determine whether it is a perfect square or find the two consecutive whole numbers between which its square root lies.
c. Approximate the location of square roots between two whole numbers on a number line.
21st Century Skills and Readiness Competencies
Inquiry Questions:
• Why are real numbers represented by a number line and why are the integers represented by points on the number line?
• Why is there no real number closest to zero?
• What is the difference between rational and irrational numbers?
Relevance and Application:
• Irrational numbers have applications in geometry such as the length of a diagonal of a one by one square, the height of an equilateral triangle, or the area of a circle.
• Different representations of real numbers are used in contexts such as measurement (metric and customary units), business (profits, network down time, productivity), and community (voting rates, population density).
• Technologies such as calculators and computers enable people to order and convert easily among fractions, decimals, and percents.
Nature of Mathematics:
• Mathematics provides a precise language to describe objects and events and the relationships among them.
Colorado Department of Education Adopted: December 10, 2009 Page 27 of 126

National/State/Organizational Curricula

Analysis, Atomization & Representation



<http://purl.org/ASN/resources/S16537TY>



Semantic Web Linked Data

