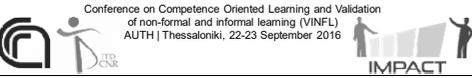


# Promoting validation with learning technologies

## The *IMPACT* approach

**Davide Taibi**

Institute for Educational Technologies  
National Research Council of Italy



---

---

---

---

---

---

---

---

## IMPACT TWG

- Technical Working Group
  - Thomas Grabietz
  - Jens-Michael Lohse
  - Julia Busche
  - Sara Wiemann
  - Vitor Miguel Alexandre Rodrigues
  - Carina Filipa Esperança Pedro Rodrigues
  - Giovanni Fulantelli
  - Davide Taibi

---

---

---

---

---

---

---

---

## Background

- Validation systems for informal and non-formal learning (VINFL) have a central role in:
  - fostering mobility in Europe,
  - ensuring transparency
  - supporting comparability of qualifications.
- In the VET sector the validation of learning outcomes and the related systems are designed along qualifications, units, learning outcomes (LO) and referring to the EQF or NQF systems that describe qualification levels in terms of knowledge, skills and competences (KSC).

---

---

---

---

---

---

---

---

# Background

- From a technical perspective a technical specification aimed at supporting interoperability between the online systems (such as: LMS, e-portfolio, validation environments) used in educational contexts does not exist.
- The lack of such a standard makes difficult to define a common language to describe qualification levels, units and learning outcomes. This is particularly relevant in the VET sector, thus increasing difficulties in creating and sharing description for learning outcomes.
- The lack of standards and specifications lead to missed opportunities to improve the usability and to create synergies for instance to:
  - exchange units and learning outcome descriptors
  - create multilingual learning outcomes by using meta-data
  - create common databases and repositories for exchange

---

---

---

---

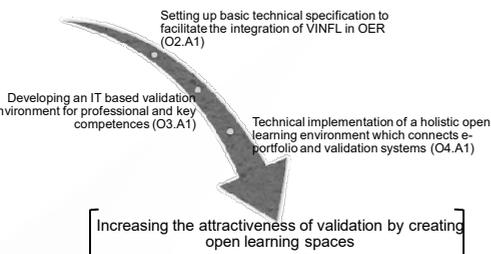
---

---

---

---

# Main activities and objective



---

---

---

---

---

---

---

---

# Technical specification to foster integration of VINFL

- Analysis of the state of the art:
  - Existing standards
  - ECVET projects in which technology tools have been used for the validation of competences
  - Technical tools to describe ECVET framework
- Designing a prototypal interoperable architecture
  - Use case scenarios design
- Implement the ECVET specification

---

---

---

---

---

---

---

---

# Analysis of existing standards

- IEEE Public and Private Information for Learners (PAPI Learner)
  - Specification developed by the IEEE Learning Technology Standards Committee Working Group designed to describe learner information for communication among cooperating systems
- IMS LIP (Learning Information Package)
  - This standard, defines a data model focused on the description of learners' experiences, goals and accomplishments
- HR-XML Competency Schema
  - A set of specifications developed with the aim of simplifying the management of the different aspects of human resources.
- IMS RDCEO (Reusable Definitions of Competence and Educational Objective)
  - A data model designed to define, describe, reference and exchange competencies and learning objectives
- IEEE RCDC (Reusable Competency Definitions)
  - Based on the IMS RDCEO, this standard has been defined by the IEEE LTSC aiming at describing, referencing and sharing competency definitions.
- Experience API (Tin Can API)
  - The Experience API (XAPI), also known as the Tin Can API, is commonly considered the successor to SCORM. It is a specification able to record and track all types of interactions occurring in a learning experience.
- Learning Tools Interoperability
  - The Learning Tools Interoperability (LTI) specification has been developed with the main aim of defining a standard way of integrating learning applications with learning management systems, portals, or other educational environments.

---

---

---

---

---

---

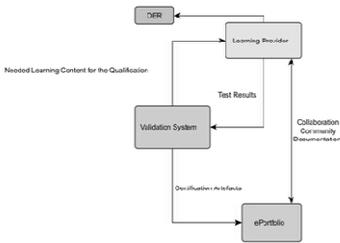
---

---

---

---

# Technical specification for e-learning system integration




---

---

---

---

---

---

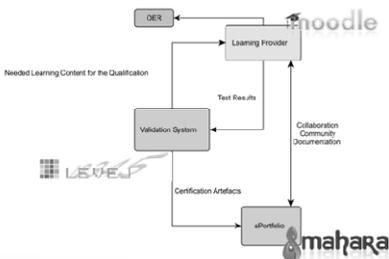
---

---

---

---

# Technical specification for e-learning system integration




---

---

---

---

---

---

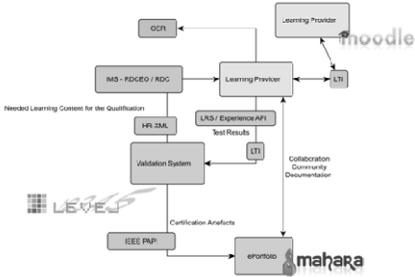
---

---

---

---

# Technical specification for e-learning system integration



---

---

---

---

---

---

---

---

## ECVET Specification

- ECVET specification to...
- make the data reusable
  - store it in one or distributed databases
  - indexing the learning outcomes, in order to search, find and be able to share it
- make the data comparable
  - Less error prone (in structured data is easier to identify missing information)
  - enabling machine to machine communication

---

---

---

---

---

---

---

---

## ECVET Ontology

- Ontological approach for ECVET
  - Structuring data
    - Knowledge Base of ECVET projects
  - Reasoning support
    - Inferences
  - Interlinking
    - Existing initiatives related to ECVET

---

---

---

---

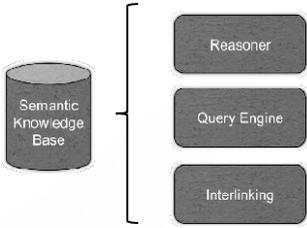
---

---

---

---

# IMPACT Services



---

---

---

---

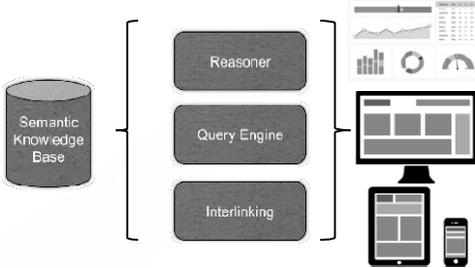
---

---

---

---

# IMPACT Products



---

---

---

---

---

---

---

---

# Open ECVET portal



<http://open-ecvet.eu>

---

---

---

---

---

---

---

---

# Open learning space



---

---

---

---

---

---

---

---

# Open learning space



---

---

---

---

---

---

---

---

# Open learning space



---

---

---

---

---

---

---

---

# Open learning space...at work

IMPACT workshops (today after lunch)

- How to embed validation in an open learning space
- How to convert a Competence Oriented Learning approach for professionals to EQF levels

---

---

---

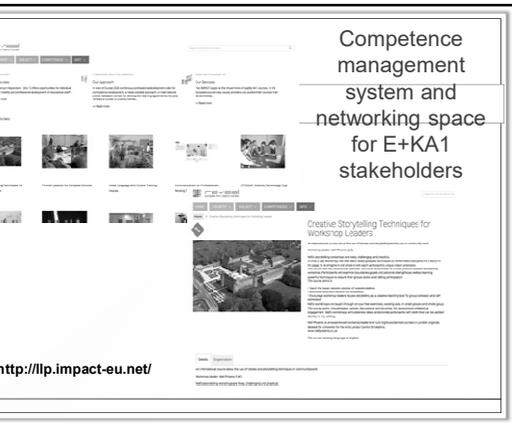
---

---

---

---

---



Competence management system and networking space for E+KA1 stakeholders

<http://lp.impact-eu.net/>

---

---

---

---

---

---

---

---

## Thank you

Davide Taibi  
Institute for Educational Technologies  
National Research Council of Italy  
Via Ugo La Malfa, 153, Palermo  
<http://www.itd.cnr.it>  
[davide.taibi@itd.cnr.it](mailto:davide.taibi@itd.cnr.it)

---

---

---

---

---

---

---

---