

Harmonizing Higher Education: “Standard” Perspectives in Support of The Bologna Process

Simone Ravaioli

Kion Spa, Bologna Italy
s.ravaioli@kion.it

Abstract: This paper will put into perspective how standardization efforts can help solve the challenging interoperability problems paving the road toward the harmonization of Higher Education at international level. It will focus on providing a context for understanding international standardization activities such as identify the standard-making bodies and describe the life-cycle of standards. It will also expand on issues such as the critical “adoption dilemma” as well as key success factors like “bridging the gap” between standardization authorities and the implementation community. In conclusion it will showcase real ongoing projects and their expected impact on Bologna Process while providing references for further investigation and opportunities for direct involvement.

Keywords: Bologna Process, European Higher Education Area, Standards, Europass, Standardization Authorities, Implementation Communities, Mlo (Metadata Learning Opportunity), Elm (European Learners Mobility), Transparency, Interoperability

1. One Framework, One Aim

The Bologna Process [1] is an ongoing process of integration and harmonization of Higher Education systems within Europe. It is arguably the most important and wide ranging reform of Higher Education facing Universities today. Its conceptual framework and action lines have the ultimate objective of establishing a “European Higher Education Area” (EHEA) [2], where academic staff and students could move with ease and have quick fair recognition of their qualifications and competences.

The commitment by 40 countries to reform their Higher Education systems in order to converge toward the harmonization of academic degrees and quality assurance practices is a challenging task, not only for universities, but also for several international organizations, including the Council of Europe.

2. The Case

Harmonization of Higher Education relies on a supporting context which is built on critical dimensions such as Transparency and Interoperability.

The ECTS [3] and the EUROPASS [4] transparency documents define standard information structures (at a policy, non-technical level) for the description, exchange and comparison of several types of learner and learning opportunities related information (including course catalogue, study program and transcript of records information).

Technical standards accommodating specified structures are required in order to allow Europass information exchange through European-wide interoperating information systems (parts of which will be managed at national level in the different stakeholder countries, while others administered at Community level).

The lack of interoperable tools impedes the reuse of data in existing learning management systems. Brokers for learning and employment opportunities exploration need to be based on standard course and study programs descriptions, referenced by individual learner transcripts. The intervention of a standard for course descriptions should:

1. Enable the technical mapping of course and other learning opportunities related information, accommodated into the ECTS and Europass transparency documents, to an interoperability specification.
2. Contribute to the consolidation and European-wide adoption of electronic transparency documents.
3. Support the development of information systems for the implementation of the Bologna Process, at institutional, national and European levels.
4. Support learner mobility and quality assurance in the European educational setting.
5. Support the wider availability of brokerage services across the EU.
6. Enable data consistency and facilitate data quality management.

3 Standards: Problem Solvers

To understand standardization in general, it is necessary to first share the 3 contributing actors of this landscape and their characteristics.

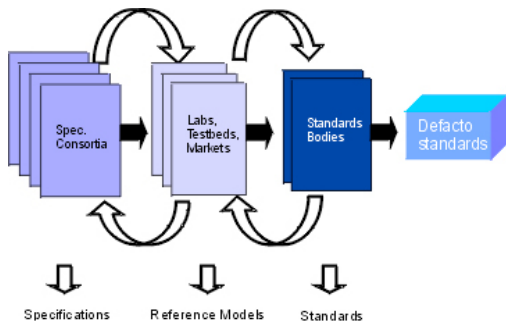
1. **Formal Standards:** Long development time, Focus on conformance, restricted membership, Complex governance, requires endorsement. (e.g. ISO, CEN) -the “aristocracy”
2. **Consortium Specifications:** Medium development time, Focus on adoption, Restricted membership, Commercial-style governance, Requires money. (e.g. IMS, OASIS). - The “merchants”
3. **Community Specifications:** Short development time, Focus on interoperability, Open membership, Lightweight gover-

nance, Requires geekiness. (e.g. OpenID, microformats) -the “peasants”

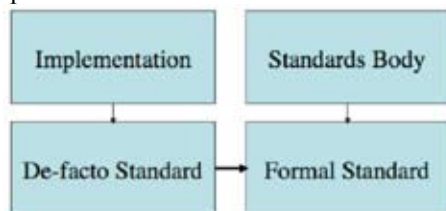
The standardization activities eventually produce one of three types of standards:

1. **Anticipatory:** Potential for new implementations if enabled by a common spec (HTML, Bluetooth)
2. **Validation:** One or more implementations exist, but are not recognized by governments (ISO OOXML)
3. **Harmonization:** Multiple specifications exist, but have enough commonality to be standardized (MLO-AD, W3C Widgets)
4. **The development approach could follow 2 base models:** Traditional and Implementation-driven.

The traditional approach is a sequential review process involving Consortia, Labs, and Standard Bodies which produce Specifications, Reference Models and Standards, respectively.



The **Implementation-Driven approach** relies on the synergies created by the collaboration between the Standardization Bodies and the Implementation Communities.



4 Dilemmas & Gaps

“Standards come through adoption”[5], everything else is mere specification. This statement is at the core of the so-called “adoption dilemma”. Simply put, any standardization activity has the ultimate goal of producing specifications that get adopted in the market. Historically this is due to the disconnect between Standardization Authorities and Implementation Communities - such awareness gap between end-users the standard-making bodies suggests that “there has been a failure to recognize fully the priorities of end-users and that this might explain in part the limited adoption of standards and specifications in education”[6]

In an effort to “bridge the gap”, the recent collaboration experience between CEN [7](European Committee for Standardization) and RS3G [8] (Rome Student Systems and Standards Group) set a precedent in the pursuing a new approach to standards-making. CEN WSLT Workshop Learning Technologies) has contributed to the effective development and use of relevant and appropriate standards for learning technologies for Europe since its conception in 1999, while RS3G is a self-established group of software implementers and stakeholders in the European Higher Education domain which is focused on contributing to the definition and adoption of electronic standards for the exchange of student data.

The CEN WSLT is approaching the Standards issue from a Top-Down perspective, while the RS3G is taking on a Bottom-Up investigation. If the CEN is concerned with high level, abstract models, leading to a new European specification for exchanging HE data, the Vendor group is more focused on the concrete implementations of solutions. The two different approaches are complementary, or at least put into relation with each other - if it is true that “standards comes through adoption and everything else is mere specification” then through this syn-

ergy it is possible to help bridging the gap between specification and standard. In practical sense, RS3G feeds to CEN the business cases needing “standardization”, provides a pool of domain experts and the market perspectives, as well as scouting opportunities for early adoption. In turn, CEN models the requirements and inputs into specifications this feedback mechanism ultimately optimizes the standard life-cycle by both decreasing the time-to-market of a standard and by greatly enhancing the adoption rate of the specification.

5. Getting Real: MLO and ELM

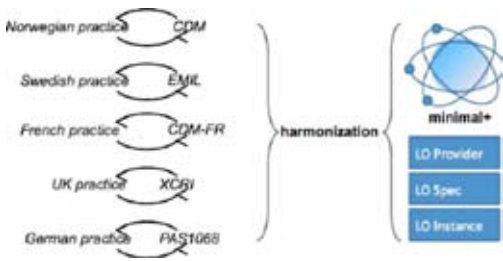
The collaboration between Standardization Authorities (CEN) and the Implementation community (RS3G) produced its first results in two projects: MLO-AD [9](Metadata for Learning Opportunity-Advertising) and ELM [10](European Learner Mobility)

MLO-Advertising (MLO-AD) is a standard addressing metadata sufficient for advertising a learning opportunity.

The goal of MLO-AD is to provide information about a learning opportunity, to enable the learner to make a decision if there is a need for more information about the learning opportunity, and where to find that information.

MLO-AD is a lightweight standard that fits well with existing business processes and technologies. The MLO-AD standard facilitates semantic technologies and web architectures to support several mechanisms for exchange of information and aggregation of information by third party service suppliers. The standard is compliant with the ECTS requirement..

MLO-AD is a good example of “Harmonization”-type of standard, as it built on existing specification for describing course data.



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European Learner Mobility (ELM) objective is the provision of guidelines on a data model for the expression and exchange of European Learner Mobility information, as defined by the European Transparency instruments. The results of the proposed work will contribute to the effort towards interoperable European-wide IT systems that manage and exchange EUROPASS related information.

This activity will build upon existing structures and the extensive application profiling experience of transparency documents in European countries such as the UK, France, Italy, Germany (Europass Diploma Supplement application profiling) and Norway (ECTS application profiling).

The rationale behind this initiative finds its roots in Lisbon meeting in March 2000, where the European Council set the i2010 goal for the European Union to “become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion”. [11]

Existing specifications will be used as the basis of this activity. A close collaboration channel with the CEN WSLT (Workshop for Learning Technologies) Metadata for Learning Opportunities (MLO) group will be established, given that a large subset of mobility information is related to the description and referencing of learning opportunities and that there is a specific focus of the MLO project on the Europass modeling.

Making this happen will mean establishing strong links between the development of the European Higher Education Area (the “Bologna process”) and the enhanced European cooperation in Vocational Education and Training (the “Copenhagen process”)[12]. As part of the Lisbon mandate, the Commission has taken initiatives to establish synergies between both processes for the design of national frameworks of qualifications and an overarching European Qualifications Framework (EQF)[13] for Life-long Learning, taking into account the work done in the Bologna and Copenhagen contexts.

7. Takeaways

- **Risk** - Failure is not necessarily failure, unless we have to pretend it’s really a success
- **Business models** - Actually talk to stakeholders and investors
- **Marketing** - Standards don’t implement themselves
- **Community** - Standards depend on people and commitment
- **Iterative development process** with real testing

The proposed project’s results will

- Contribute to the consolidation and European-wide adoption of electronic transparency documents.

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