

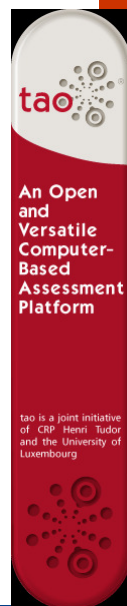
Metadata for assessment resources

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Who we are

- Open source assessment platform (TAO)
 - Used semantic technologies **< RDF >**
- Online/offline assessment services
 - **OECD PISA study** (Programme for International Student Assessment) and **PIAAC study** (Adult education) – **40+ countries.**
 - **School monitoring** (Luxembourg, Hungary)
 - Assessment of students awareness on health issues
 - Assessment of the efficiency of documents in increasing candidates' skills + of instructional efficiency of specific trainings
 - Competence assessment for unemployed
 - Adaptive testing for language diagnostic in a language school

<https://www.tao.lu>



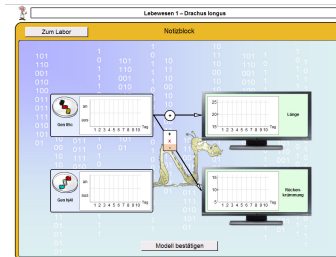
Who we are (2)

➤ Research projects

- New types of items (Cogsim), interactive table
- Item/test quality issues (TAO-QUAL)
- Formative assessment
- Attention data

➤ Developments

- Medical assessment
- Formative assessment: peer / self assessment



➤ International cooperations

- ETS (TOEFL, US), Leipzig institute for Science Education (GE), NIER (Japan) ...

Item development and management

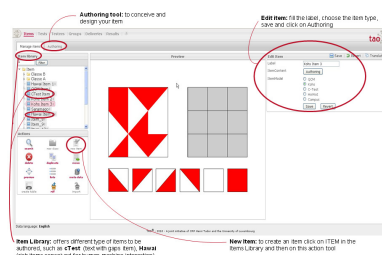
Manage information about items (classification, ...)

Multilingual and cognitive items

WYSIWYG authoring

Different item types/templates

(MCQ, Kohs, C-Test, Campus, Cascade, QTI, XHTML, HAWAI, ...)



Multiple models



Item development and management



Test development and management



Test takers management



Group management



Results management

⇒ Mainly the structure, few metadata

⇒ Metadata models are up to the test authors

⇒ E.g. for cognitive and socio-economic correlations

⇒ They can have models of competences to relate items to

⇒ They do not create much metadata elements + they all have their own model (PhD student on model elicitation)

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Improving the management of resources

↗ Item storage for longitudinal studies, for item model reuse

↗ Access rights and security issues

↗ Identification of items and tests

↗ Item components, including metadata and multimedia resources (assets)

- In the item bank or in external multimedia repositories

↗ Implementation of models

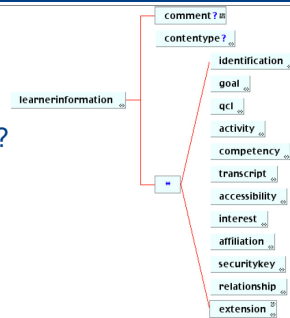
↗ Standard models

↗ Ontology elicitation

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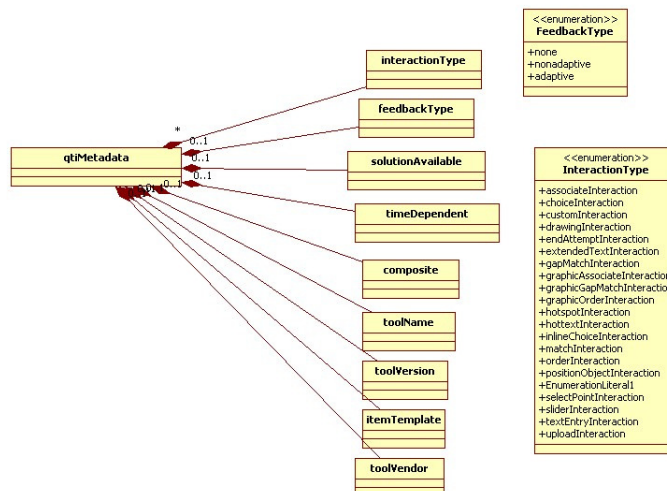
Standards for assessment resources

- For candidates
 - IMS Learner Information Package?
 - For populations
 - ?
 - For classifications
 - (e.g., of skills and competences)
-
- Standard for tests and items : IMS-QTI
 - Many local formats (e.g., HotPotatoes, Moodle, Blackboard)
 - Implementation is very partial in most platforms (CETIS survey 2010, ICOPER study (D6.1))
 - Exchanging items and tests across platforms
 - Managing items in item repositories
- No autonomous representation of multimedia resources



Descriptive metadata in IMS-QTI

➤ LOM profile +

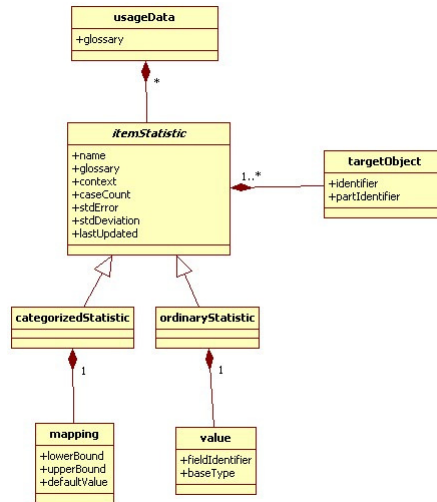


Test development and management

Selection of items

Opportunity to sequence items by difficulty, weight, guessing...

IMS-QTI offers a dictionary of usage data



Item authoring including multimedia resources

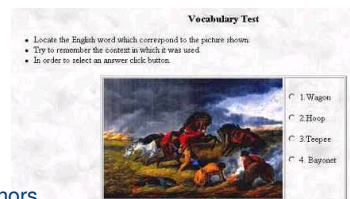
How to select resources?

Barker (2008) on learning material

Non education metadata models (e.g., DC, MODS, MPEG7)

But what is really useful?

- ⇒ looking into the expectations of test authors
- ⇒ looking into the risks for items, primarily the risks of bias



Include cognitive and cultural aspects

require both information on subjects and multimedia resources

Different roles of multimedia resources in an item (e.g., content visuals vs context visuals), with different impacts

⇒ is it possible to capture user generated data / paradata to get additional information?

Need to

- Provide standard metadata sets
 - Translation into RDFS
- Mapping between metadata models provided by test authors (preferably RDFS models)
- Access harmonized data on multimedia resources for the test authoring interface
- Collect attention data
 - Have models for aggregating relevant usage data from assessment items used in formative assessment.

More information

<http://www.tao.lu>

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Thank you