E-assessment project at the University of Geneva

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From e-assessment

- « E-assessment refers to assessment methods and practices that emphasize the role of information technology relative to measuring students’ learning. »

http://www.tel-thesaurus.net/
From e-assessment

- « IT was initially adopted for assessment in order to reduce human raters’ scoring workload. »
To technology-enhanced assessment

• “E-assessment in fact is much more than just an alternative way of doing what we already do... assessment is perhaps the best way of identifying the support needs of learners and can instill a desire to progress further if linked to appropriate resources, good quality, timely feedback, and to challenging but stimulating ways of demonstrating understanding and skills.”

Joint Information Systems Committee (JISC), Effective practice with e-assessment: an overview of technologies, policies and practice in further and higher education (2007)
To technology-enhanced assessment

• Shift from
  Assessment of learning

• To
  Assessment for learning
The University of Geneva

- 9 faculties
  - Faculty of Science
  - Faculty of Medicine
  - Faculty of Humanities
  - Faculty of Law
  - Faculty of Protestant Theology
  - Faculty of Psychology and Educational Sciences
  - Geneva School of Economics and Management
  - Geneva School of Social Sciences
  - Faculty of Translation and Interpreting
Context

• Long term goal:
  – Propose an technology-enhanced assessment service to the academic community

• The current situation:
  – Blended learning
  – Learning Management System
  – Course examinations / Summative assessment
The project

• From 01.2016 to 12.2017

• Expected outcomes:
  – An architecture for large-scale deployment of e-assessment.
  – A protocol to carry out examinations with the proposed architecture.
  – A pedagogic/educational framework (fact sheets, training, support).
  – A regulatory framework.
Strategy

• Initial approach
  – « Three scenarios » communication model
  – E-assessment global framework
  – Experiments with early adopters
Strategy

• “Three scenario” model
  – Communicating with
    • Teachers
    • Faculties
  – Reduce complexity due to heterogeneous contexts
  – Three scenarios model
    • Scenario 1: MCQ (simple shift from paper to digital)
    • Scenario 2: writing exam with open (e)-book
    • Scenario 3: test skills with third-party application and/or online resources.
Strategy

• E-assessment 2D continuum
E-assessment framework

(1) Quiz implementation phase

Question types
- True/false
- Short answer
- Calculated
- Description
- Essay
- Matching
- Multiple choice
- Cloze
- Numerical
- Gap fill
- Drag & drop...

(2) Configuration phase

Exam Configuration file:
- Moodle quiz integration
- 3rd-party applications authorization
- External web resources authorization

Screenshots and students' data backup during the exam session

(3) Deployment phase

Environment securing: IP address, Key, SEB plugin

Exam environment

(4) Exam

Classroom workstations

(5) Analysis and post-processing of exam results phase
E-assessment framework

• Safe exam browser
    • Developed by ETH Zürich
    • Open source
  – Consortium
    • EduHub and SIG « e-assessment »
      – [https://www.eduhub.ch/](https://www.eduhub.ch/)
    • 17 institutions have expressed their interest to use or
      started to use SEB for e-assessment.
Experiment example

- Experiment example
  - Bachelor in translation/interpretation
  - 3rd year
  - 45 students
  - Upon students’ request
  - Translation exercise with text processor, Antidote, online dictionaries & spell-checkers (≈ scenario 2 & 3)
    - Each student prints his/her result on paper and delivers it to the teacher
    - Virtual desktop with SEB, screenshot, proxy and printer.
Experiment example

- Experiment example (cont.)
  - Results
    - Assessment is not mandatory
      - Before: 30%
      - Now: 80%
Teachers’ feedback

• E-assessment setup fits the needs of the different contexts.
  – Time saving, avoid correcting errors, avoid manipulating copies, control cheating, timeliness of results, global overview of results, post-process of results.
Students’ feedback

• Students’ feedback
  – From students’ survey
    • Don’t feel more stressed/disturbed with e-assessments than with traditional ones.
    • E-assessment do not bring much to them.
      – Facilitate teachers’ life
    • Don’t wish e-assessments to be generalized.
    • Feel that e-assessment bring more when scenarios don’t simply « automate » traditional assessments.
Conclusion

• Challenges:
  – Integrate e-assessment and e-learning.
  – Flexible framework that can adapt to many contexts, domains and IT skills.
  – Combine formative and summative assessment.

• Target assessment of skills and knowledge:
  – Development of « meaningful » scenarios.
Future

• The framework needs to be extended from the individual experiments with early-adopters level to a wider framework at the faculties or inter-faculty centers level
  – Early adopters feedbacks.

• Consider introducing mobile equipments (laptops & tablets) and BYOD to address current logistic limitations with large classes.

• Anonymisation of exams.
Feedbacks, Questions?