Fostering Student Learning and Building Communities of Learners in Assessment Mediated by Media and Mobile Technologies

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Problems

Assessment *of* learning vs. changing views of assessment

- Assessment *for* learning (e.g., Black et al., 2003; for assessment *as* learning, see Earl, 2003)
- the use of *larger-scale and classroom assessment* contexts (e.g., Kunnan & Jang, 2009),
- productive teacher *interaction* (e.g., Davison, 2004)
- from *multiple perspectives* (e.g., Moss et al., 2008)
- enhanced by the use of *technology*,
  - in enhancing effective improvements in *learning and teaching* outcomes (e.g., Hattie & Brown, 2007)
  - and in *peer-learning* (e.g., Keppella, Aua, Maa, & Chana, 2006)

Motivation:

- Project Ss' learning potential and enrich learning experiences
- PD and engagement (teaching and research dialectics)

Theoretical Perspectives
(also Design Principles and Pedagogies)

- Assessment *for* learning (e.g., Black et al., 2003; Earl, 2003)
  - Using the assessment information to inform learning and teaching formatively,
  - active student role in the process
  - Learning about oneself, with others
- Sociocultural guided practice (e.g., Vygotsky, 1986)
  - ZPD
  - Social interaction and dialogic encounters
  - Learning communities
- Learning Sciences (e.g., Sawyer, 2006)
  - Distributed expertise while engaging in meaningful tasks
  - Making ideas public
  - Design and innovation (in this case media and mobile learning technologies)
  - Create environment to foster student learning
- Argue: Productive assessment for learning needs to align with a *synergy of design principles and innovative pedagogies*, and the use of *assessment data formatively* at different stages of the teaching cycle to scaffold the optimal learning *environments* and *community of learners* for potential projection and further improvement

Context, Participants and Data

- Based on 3 English classes (Sept 2011 to Dec 2012)
- N = 78 (*NOT* experimental design)
  - iPad group (n = 36)
  - Non-iPad group (n = 42)
- Pre-post questionnaires on experience with technology
- Pre-post course survey
- Pre-post interviews
- Class observations
- Performance-based reflections, individually, with peers, and group after each assignment and assessment (e.g., use of mobile learning tools, videos, Moodle forums, etc.)
- Weekly e-journals
- Students' work samples (e.g., e-portfolios, etc.)
- Scores (high school English public exam grade, assignment scores, final test score, course grades, etc.)
- Course feedback
- Field notes

Findings

- Pre-post course survey
- Technology-enhanced assessment outcomes:
  - Use of mobile learning tools (in this case iPad, training provided)
  - Learning episodes (creativity, collaboration)
  - (Video-recorded) performance-based reflections on self-peer review forms and Moodle forums
  - Ss writing their final test using computer terminals
- Students' reflections (e-journals, interviews, e-portfolios)
- Students' course feedback
- Field notes

Findings: Pre-post course survey

- Qualtrics (10-15 mins, online)
  - Prior experiences: e.g., enjoyment, challenge
  - Learning and teaching: e.g., topics, activities,
  - Assessment related: e.g., course learning outcomes (6-point scale)
  - Leaner-oriented: Expectations, grade
  - Post course survey: achievement, one-word summary
- Course learning outcomes: *approximately 1-point scale* (of 6) increase on average
- Overall *increased awareness* of one's strengths and weaknesses, and areas for improvement

Findings: Technology-enhanced assessment outcomes (a)

- Learning enhanced by technological tools + Communities of learners + New literacies in the digital age
  - Moodle
  - Wiki
  - blog
  - Online forum
  - E-portfolio + video-editing , data connection between a variety of platforms (e.g., you tube, Mahara, etc.)
  - Mobile learning tools + apps (e.g., iPads, mobile phones, etc.)
  - Multimodality (e.g., videos, audios, print, etc.)
  - Materials (print and non-print dictionaries, etc.)
- Use of mobile learning tools (in this case iPads, training provided)
  - *level of iPad activity* (active-medium-less active) **correlated significantly** to the final test score (**$p < 0.05$) , but not the high school English public exam score ($p > 0.5$)

Findings: Technology-enhanced assessment outcomes (b)

- Learning episodes (creativity, collaboration)
  - Creativity in an oral assessment: An example
  - Collaboration in a debate assessment:
- (Video-recorded) performance-based reflections on self-peer review forms and Moodle forums
- Ss writing their final test using computer terminals (optional before)

Findings: Students' reflections (e-journals, interviews, e-portfolios)

- Coded using Nvivo: adapted model of Boud et al.'s (1985) reflection process in context involving experience(s), reflective processes, outcomes

- Ss' engaged *more* in the reflective processes (esp. "integration") than that concerned with behavioral change

- Behavioural codes: "attending", "appropriation"

- This group of learners are at the stage of learning to *become reflective learners, or reflecting on their behaviours* rather than engaging themselves in new behaviours.

Field notes

10-27-12

- Ss bought new mobile tools in class (e.g., Asus TF101, MacAir)
  - *why* they bought the tool?
  - *why* this particular tool (both portable mobile learning tools) over other types?
  - *what (new) things* did they enjoy doing with the new tool? (e.g., collaboration, creativity, autonomous learning, etc.)

10-19-12 Ss use of mobile tools in class

- Mobile learning tools can help advance knowledge for sure as we can find some 'answers' immediately. This also highlights my need to work on managing *emergent learning esp when I am not so sure about the topic* (such as collocations) or Ss' emergent responses so that I can turn the challenge into learning moments

Feedback and Feedforward

- Productive assessment for learning needs to align with a *synergy of design principles and innovative pedagogies,* and the *use of assessment data formatively* at different stages of the teaching cycle to inform learning and teaching so as to scaffold the optimal learning *environments and community of learners* for potential projection and further improvement.
- Sustaining effects of teaching and research *dialectics* leading to:
    - A new course (approved)
    - Research collaboration
- Podcast after facebook?

Key References

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Thank you

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