Profiling student preferences for Moodle activities: Implications for student learning and teaching practice
Background

- OB12 transition from OLIVE to Moodle
- CATEI dived from 96% to 75%
- Focus on single technology (e.g. Facebook, Wiki)
- What do students prefer?
Androgogical Context

• Masters level Org Beh course
• Military students are typically (after Newton & Ellis)
  • Didactic information transmission
  • LMS completely self-contained
  • Strong beliefs around procedural/natural justice
  • Unpredictable and high work tempo
• A1 – 2000 words (30%), A2 – MC Test (15%), A3 – 3000 words (40%), A4 – Engt (15%)
Methodological Context

• 2013 cohort (n=86)
  • PCA of engagement; effect on marks
  • n=51 survey responses

• 2014 cohort (n=75)
  • Eliminate Twitter, change marks mix
  • PCA of engagement; effect on marks
A4 – Engagement

<table>
<thead>
<tr>
<th>Task</th>
<th>2013 Marks</th>
<th>2014 Marks</th>
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</thead>
<tbody>
<tr>
<td>Discussion Boards</td>
<td>5x2, qun/qul, Wk1-13</td>
<td>5x2, qun/qul, Wk1-13</td>
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<tr>
<td>OB Radio</td>
<td>2/qu, max 6, Wk1-13</td>
<td>2/qu, max 6, Wk1-13</td>
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<tr>
<td>Peer to Peer</td>
<td>3, 2 wks b4 A1/ A3</td>
<td>5, 2 wks b4 A1/ A3</td>
</tr>
<tr>
<td>Live Tutorials</td>
<td>2, max. 6, every 2 wks</td>
<td>2, max. 6, every 2 wks</td>
</tr>
<tr>
<td>Wiki</td>
<td>3, 1/contrib, Wk 1-13</td>
<td>3, 1/contrib, Wk 1-13</td>
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<tr>
<td>Twitter</td>
<td>4, contrib, Wk1-3, 8-11</td>
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<td><strong>Total Available</strong></td>
<td><strong>35 marks</strong></td>
<td><strong>35 marks</strong></td>
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</table>

- Do more than 1 activity
- Students believe they must get 15/15
- 2013: 10.1 (4.7), 3/86=0, 29/86=15, 38 HD
- 2014: 12.2 (4.2), 3/71=0, 39/71=15, 51 HD
# 2013 Patterns of Engagement

<table>
<thead>
<tr>
<th></th>
<th>Engaged</th>
<th>Digitally Literate</th>
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<tbody>
<tr>
<td>Peer-to-Peer 1</td>
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<td>Peer-to-Peer 2</td>
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<td>Pre-recorded Questions</td>
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## 2013 Engagement Pattern and Marks

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<tr>
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<th>2000 word Essay</th>
<th></th>
<th>Multiple Choice Test</th>
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<tr>
<td></td>
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<td>Mark/30</td>
<td>Mark/15</td>
<td>Mark/40</td>
<td>Mark/85</td>
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<td>10.7 (1.5)</td>
<td>25.1 (4.3)</td>
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<td>27.5 (4.3)</td>
<td>57.6 (6.4)</td>
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<tr>
<td>Late</td>
<td>24</td>
<td>17.9 (5.1)</td>
<td>9.9 (1.3)</td>
<td>26.4 (3.8)</td>
<td>52.7 (10.5)</td>
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<td>F</td>
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<td>F_{2,80}=3.47, p&lt;0.04</td>
<td>F_{2,81}=2.50, p&lt;0.09</td>
<td>F_{2,83}=2.90, p&lt;0.06</td>
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<table>
<thead>
<tr>
<th></th>
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<th></th>
<th>Multiple Choice Test</th>
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<th>3000 word Essay</th>
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<td>Mark/40</td>
<td>Mark/85</td>
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<tr>
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<td>9.9 (1.3)</td>
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<td>F_{3,79}=2.35, p&lt;0.08</td>
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<td>F_{3,82}=1.9, p&gt;0.13</td>
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### 2013 Best Worst Scaling (Huybers, 2013)

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<tr>
<th>Activity</th>
<th>BWS Ratio Score</th>
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<td>Discussion Boards</td>
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<tr>
<td>Peer-to-peer feedback</td>
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<td>Pre-recorded questions</td>
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<td>Live Tutorials</td>
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<td>Wiki</td>
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<td>Twitter</td>
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# 2013 Activities and Sentiments

<table>
<thead>
<tr>
<th>Item</th>
<th>Discussion Boards</th>
<th>Pre-recorded Questions</th>
<th>Peer-to-peer Feedback</th>
<th>Live Tutorials</th>
<th>Twitter</th>
<th>Wiki</th>
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<tbody>
<tr>
<td>Participants/86</td>
<td>85</td>
<td>39</td>
<td>43</td>
<td>18</td>
<td>44</td>
<td>37</td>
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<td>Survey Responses/51</td>
<td>46</td>
<td>28</td>
<td>20</td>
<td>23</td>
<td>36</td>
<td>27</td>
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<tr>
<td>Comments</td>
<td>13</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>17</td>
<td>10</td>
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<tr>
<td>I felt comfortable with...</td>
<td>89%</td>
<td>63%</td>
<td>95%</td>
<td>65%</td>
<td>72%</td>
<td>59%</td>
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<tr>
<td>Participating in... promoted</td>
<td>89%</td>
<td>70%</td>
<td>70%</td>
<td>61%</td>
<td>31%</td>
<td>41%</td>
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<td>collaborative learning</td>
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<tr>
<td>I learned because of...</td>
<td>87%</td>
<td>44%</td>
<td>80%</td>
<td>83%</td>
<td>32%</td>
<td>56%</td>
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Comments

- Disc - “students regurgitate some rubbish to get marks”
- Qu - “… a great means for student participation as it is not constrained by time”
- P2P – create social presence, but more guidance
- Live Tutes - “realise how much we miss by being part time students”, but frustration
- Twitter – 140 ch, anxiety, threads
- Wiki - “we spent too long trying to figure out what to do”
Activities and the Community of Inquiry

- Discussion boards preferred: comfort, exp, “netiquette”
- Twitter – good for me/bad for them
  - 140 characters and Twitter shorthand
  - Social media policies of ADF
  - Middle aged males in middle management
- Wiki – needed more scaffolding/instruction
- Digital Immigrants – Digital Literacy?
Awareness of Community

• Lack of awareness of learning community
• Do ADFA students isolate themselves?
  • ADF culture suggests so!
## 2014 Patterns of Engagement

<table>
<thead>
<tr>
<th></th>
<th>Live Tutorial</th>
<th>Late</th>
<th>Early</th>
<th>Toe Dip</th>
<th>Digital</th>
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<tr>
<td>Live 6</td>
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<tr>
<td>Live 4</td>
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<td>Live 5</td>
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<td>Wiki</td>
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## 2014 Engagement Pattern and Marks

<table>
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<tr>
<th>Group</th>
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<th>MC Test</th>
<th>3000 word Essay</th>
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<tr>
<td>Live</td>
<td>9</td>
<td>61.2 (12.5)</td>
<td>66.0 (18.7)</td>
<td>70.2 (10.4)</td>
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<tr>
<td>Late</td>
<td>13</td>
<td>64.4 (11.3)</td>
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<td>62.2 (15.3)</td>
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<tr>
<td>Early</td>
<td>13</td>
<td>61.7 (12.7)</td>
<td>68.9 (15.1)</td>
<td>65.2 (11.3)</td>
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<tr>
<td>Toe Dip</td>
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<td>64.9 (10.7)</td>
<td>75.5 (13.5)</td>
<td>61.9 (13.4)</td>
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<td>Digital</td>
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<td>59.7 (10.2)</td>
<td>70.0 (14.3)</td>
<td>67.8 (8.9)</td>
</tr>
</tbody>
</table>

\[ F_{4,50} = 0.39, \ p > 0.81 \]
\[ F_{4,50} = 0.50, \ p > 0.73 \]
\[ F_{4,50} = 0.87, \ p > 0.48 \]
2014 Digital Literacy Survey

• Based on 2013 results
• Quality assurance survey of ZBUS8XXX students
• Ng (2012). *Computers & Education, 59*, 1065-1078
  • Attitudes towards ICT for learning (e.g. I like using IT to learn)
  • Digital Literacy
    • Social/Emotional – use internet responsibly and effectively (e.g. netiquette)
    • Cognitive – critical thinking in handling digital information
    • Technical – skills to operate IT
  • Demographics – age, gender enrolments, units complete
  • Dependent variable - WAM
• N=117 useable responses
Digital Literacy Types

Social/Environmental

H1 = .006 n.s.

Cognitive

H2 = .132 n.s.

Technical

H3 = -.028 n.s.

Attitude

H4 = .030 n.s.

H5 = .504**

H6 = -.113 n.s.

Grade

R² = 11%

Partial Least Squares model in SmartPLS v 3.0
Sample: n=117 complete; PG online business student
AVE all above 0.5
Composite Reliability all above 0.7
Cronbach’s Alpha all above 0.7
VIF all above 1.5
No correlations exceed 0.69
500 Bootstrap samples

Controls:
Age
Gender
FT vs PT enrolment
#Units Complete
Concluding Thoughts

• Balancing synchronous and asynchronous activity
  • Good and bad for students and lecturers
• Different communities of engagement
  • Early, mid, late, talkers and writers
  • Visual, verbal and kinaesthetic learners
• Role of digital literacy
  • Bigger samples to unpack effects
  • Teaching students how to learn on-line
  • Cresting a decade of experience…
Questions, Thoughts, Insights and Reflections Welcome!

Thank you

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