PROJECT WHOOPPEE & PANOPTO

Engaging Students Through Technology
Symposium 2015

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Introduction

• Wharton Online Ordinal Peer Performance Evaluation Engine (WHOOPPEE)
  – History
• Panopto…. 
Whoopee: Goals

• Goals:
  – Better learning outcomes
  – More efficient/transparent grading process
  – More collaborative involvement with the course
  – A chance to “practice what we preach”
WHOOPPEE: Process

- Students upload papers through Canvas assignment
- Each paper is randomly assigned to 5 others for ranking
- Each reviewer gives unique ranks (1-5) for their set of papers
- WHOOPPEE algorithm accounts for different strength of each set
- Grader reliability is a function of their own score
- “Gold Standard” reviews
  - Faculty and TA team ranked several batches of 5 as well
WHOOPEE Algorithm

• Algorithm was fine-tuned and tested over both assignments
  – But basic specification was the same for both
• Strong statistical support for differential weights (based on grader’s own paper quality)
• Gold Standard reviews have weights equal to that of the best overall student for each assignment
WHOOPEE Results

• No grades were changed from the algorithm
  – All outliers were explainable
  – Detailed information on algorithm and specific scores provided to students
  – General belief that WHOOPPEE grades were more valid than in previous years using traditional grading

• Student Survey (N=87):
  – 50.5% were confident their work was accurately assessed
  – 93% felt peer review improved their understanding of concepts
    • 46% significantly improved
Head’s Up Learning

• Encourage Class Participation instead of Note Taking
• Classroom recordings immediately available to students for review
• Capture all elements of class: lecture, practical application (Excel) and ad-hoc examples (document camera instead of caulk board)
• all elements are searchable within a class and across all classes of a course
Class Capture and Contextual Search

Computing DERT

For a customer with transaction history \((x, t_x, n)\),

\[
DERT(\alpha, \beta, y, \delta, d; x, t_x, n) \nonumber = \int_0^1 \int_0^1 \{ DERT(d | p, \theta, alive at n) \nonumber \times P(\text{alive at } n | p, \theta; x, t_x, n) \times g(p, \theta | \alpha, \beta, y, \delta; x, t_x, n) \} dp \, d\theta \nonumber = \frac{B(\alpha + x + 1, \beta + n - x) B(y, \delta + n + 1)}{B(\alpha, \beta) B(y, \delta)(1 + d)} \nonumber \times \left\{ _2F_1(1, \delta + n + 1; y + \delta + n + 1; \frac{1}{1+d}) \right\} \nonumber \times L(\alpha, \beta, y, \delta | x, t_x, n). \nonumber
\]
How and When Class Recordings are Consumed
## Students Will Invest Time Outside of Class

<table>
<thead>
<tr>
<th>Name</th>
<th>Sessions</th>
<th>Hours Recorded</th>
<th>Views</th>
<th>Hours Viewed</th>
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<td>30</td>
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