


Academy Symposium
Pre-Symposium Workshop
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PeerWise
Student created assessment questions

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Overview

- Collaborative student learning
- PeerWise
 - Origins and influences
 - Brief demonstration
 - Studies and analysis



Collaborative student learning

- Activities where students have **responsibility** for supporting the learning of their peers



PeerWise



Large classes

- A very powerful resource

ENGEN 131, 10am Stream
Semester Two, 2009




The energy and creativity of a large class



PeerWise




Student familiarity with Web 2.0

- The value of user-generated content
 - Facebook
 - Wikipedia
 - Bebo
 - Digg
 - YouTube



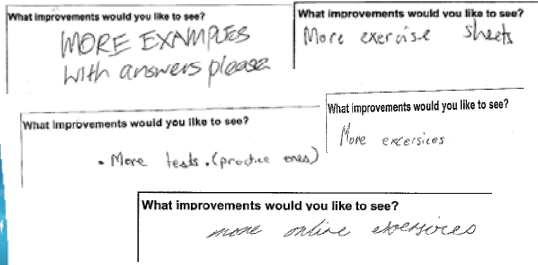
The energy and creativity of a large class

Student familiarity with Web 2.0


Student generated questions

- A request for exercises

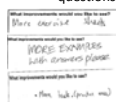



The energy and creativity of a large class

Student familiarity with Web 2.0

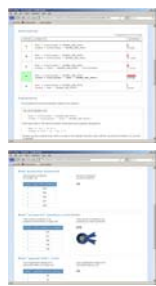


Student generated questions

What is PeerWise?

- Web-based MCQ repository built by students
- Students:
 - develop new questions with associated explanations
 - answer existing questions and rate them for quality and difficulty
 - take part in discussions
 - compete with other students to appear on leaderboards



Reach

- Summer School 2007
 - 1 institution
 - 1 course
 - 18 students contributed
 - 98 questions were written
 - 865 answers were submitted



Reach

- Since 2007
 - 18 institutions
 - 119 courses
 - 13329 students have contributed
 - 31362 questions have been written
 - 642659 answers have been submitted



Studies and analysis

- What do students think?
- Repository quality?
- Activity linked to performance?

What do students think?

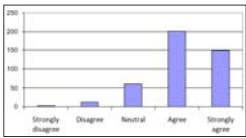
"I actually found it enjoyable, as sad as that sounds."

Student feedback

What do students think?

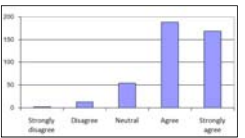
- Survey responses (n = 439)
 - ENGEN 131, Semester 2, 2007

Developing new questions helped me learn



Response	Count
Strongly disagree	0
Disagree	10
Neutral	50
Agree	180
Strongly agree	150

Answering other student's questions helped me learn

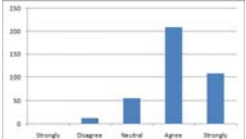


Response	Count
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What do students think?

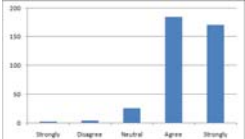
- Survey responses (n = 387)
 - ENGEN 131, Semester 2, 2009

Developing new questions helped me learn



Response	Count
Strongly disagree	0
Disagree	10
Neutral	50
Agree	200
Strongly agree	100

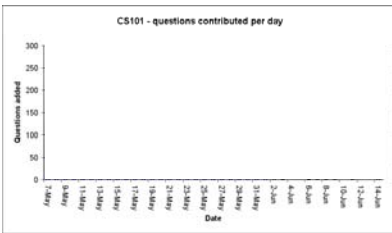
Answering other student's questions helped me learn



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What do students think?

- Voluntary usage?
 - COMPSCI 101, Semester 1, 2007 (n = 460)



Date	Questions added
1-May	0
8-May	0
15-May	0
22-May	0
29-May	0
5-Jun	0
12-Jun	0
19-Jun	0
26-Jun	0
3-Jun	0
10-Jun	0
17-Jun	0
24-Jun	0
1-Jun	0
7-Jun	0
14-Jun	0

What do students think?

- Voluntary usage?
 - COMPSCI 101, Semester 1, 2007 (n = 460)

What do students think?

- Voluntary usage?
 - COMPSCI 101, Semester 1, 2007 (n = 460)

Repository quality?

"The quality of questions range from meaningless questions to questions that stimulate your brain."

Student feedback

Repository quality?

- Considerable analysis of a COMPSCI 101 repository
- Selected findings
 - author's answer correct?
 - finding good questions?

Repository quality?

- Author's answer correct?
 - COMPSCI 101, Semester 1, 2008
 - 617 questions
 - we examined every tenth question

What is the appropriate following returns false

IA || B && !B || A

All A 2 (14.29%)	A = Fa B = Tr
All B 3 (21.43%)	A = Tr B = Tr
All C 0 (0.00%)	A = Fa B = Fa
All D 9 (64.29%)	None

The Answer is A:
When A = False, B = True
!A || B && !B || A => (True) || (True) && (False) => True && False = False

Author's reply
Sorry everyone. What for the reply, I've posted the new version of this question. Feel free to check it out in comment on it (I've requested my understanding, I hope I got it right this time. :))

ya && is at a higher lvl than || so always do && so in this case the answer can only be true no matter what

Wow that actually helped me alot lol. Totally forgot about the order of && and ||

- A wide variety of question quality
 - students use the shared quality ratings to find good questions

Activity linked to performance?

“Using peerwise was very useful for learning things I didn't know I didn't know.”

Student feedback

Activity linked to performance?

- Do the most active students improve their position in class?
 - study at the University of California, San Diego

Activity linked to performance?

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Activity linked to performance?

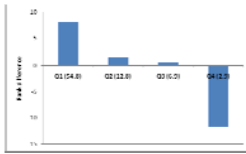
- Quartiles based on number of questions answered

Activity linked to performance?

- Change in rank from CSE 8A to CSE 8B
 - (mean number of questions answered)

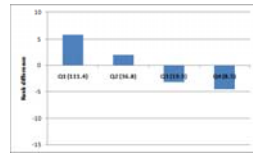
Activity linked to performance?

- Replicated the following term



Winter 2009 (n=73)

The highest performing students in the pre-requisite course were most active



Spring 2009 (n=53)

The lowest performing students in the pre-requisite course were most active

Thank you