

Odysseys: Teach Critical Thinking

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General Problem

The most comprehensive assessment of learning among college students found that "45 percent of students show **no significant improvement** in the key measures of critical thinking, complex reasoning and writing by the end of their sophomore years." Arum and Roska (2011)

A "Solution": Q&A Forum

Default Moodle Q & A forum "requires students to post their perspectives before viewing others students' postings. This allows equal initial-posting opportunity among all students, thus encouraging original and independent thinking."

Advantages

Facilitates out-of-class student discussions.
Allows teacher monitoring of student interactions.

Disadvantages

Knowing who writes what can bias peer reviews.
Students hesitate to critique their peers.
Students are reluctant to admit ignorance to peers.
Grading each student takes lots of teacher time.

Conclusion

Q&A online forums don't promote deep critical thinking: they don't facilitate immediate grading, don't allow for dialog on grades received and don't provide anonymity to the participants.

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www.facebook.com/pages/Odysseys2sense/195689806136

References

Arum, R. and J. Rosksa (2011). *Academically Adrift: Limited Learning on College Campuses*. Univ. of Chicago Press.
Schield, M. (2011). Teaching Statistical Literacy Using Odysseys2Sense: A Unique Web-Discussion Forum. MAA www.statlit.org/pdf/2011SchieldMAA.pdf

The screenshot shows a forum interface with a challenge post at the top: "Challenge 1: How much math do we really need? G. B. Ramanathan wrote How Much Math Do We Really Need? in the Washington Post. Comment on his answer and give your reasons." Below are several response posts, each with a rating and score. For example, "24623 Review of 24356 Rating 3,3 Score 2,2,2 - I do agree with the majority of this...". On the right side, there is a 'Power' section showing a user's current power (143) and highest power (610), along with navigation buttons like 'Refresh', 'Presentation', 'Show mine', 'Responses only', 'Full texts', and 'Summaries only'.

Audience: Teachers teaching critical thinking in large courses, online courses or accelerated courses

Word Mosaic (below): Taken from student comments. Larger font means more frequent comments.



Real Solution: Odysseys

- a web forum that promotes critical discourse:
- ❖ All posts are **anonymous**.
 - ❖ Real-time **computer-generated** student power.
 - ❖ Each post **computer-scored** based on ratings.
 - ❖ Ratings **computer-weighted** by student power.
 - ❖ Students can rate and comment on all posts.
- Odysseys2sense™ at www.odysseys2sense.com

Other Benefits

- ❖ Risk-taking in thinking.
- ❖ Peer learning and teaching.
- ❖ Immediate feedback, even in large classes.
- ❖ Dialog about evaluation.
- ❖ Diminished instructor time.

Student Responses

- 73 students in 7 classes (Fall 2010):
- ❖ 63% found it "valuable"
 - ❖ 70% said it improved their critical thinking
 - ❖ 75% preferred *Odysseys* to written papers
- Positive student comments:
- ❖ Something new, fun and engaging
 - ❖ Instant feedback/scoring
 - ❖ Convenient, straight-forward, anonymous
 - ❖ Thought-provoking arguments
 - ❖ Involved critical thinking, learn from others
 - ❖ Able to critique others