

COSMOS-CTLT
Research in Science and Mathematics Education Learning Community
Thursday, January 24, 2008 ~ 12:00pm–1:30pm
140 Life Sciences Bldg

Attendees:

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|------------------------|---------------------------|
| 1. Cindy Bertelsen | 15. Neocles Leontis |
| 2. Ann Bragg | 16. Lan Li |
| 3. Mohammed Darabie | 17. David Meel |
| 4. Emilio Duran | 18. Stephania Messersmith |
| 5. Lena Ballone Duran | 19. Bob Midden |
| 6. Jude Edminster | 20. Barbara Moses |
| 7. Daria Filippova | 21. Julie Nurnberger-Haag |
| 8. Adriane Hamby | 22. Rich Oldrieve |
| 9. Jodi Haney | 23. Matt Partin |
| 10. Mandy Heddle | 24. Amy Scheuermann |
| 11. Chris Keil | 25. Karen Sirum |
| 12. Dale Klopfer | 26. Eileen Underwood |
| 13. John Laird | 27. Rick Worch |
| 14. Steve Langendorfer | |

Minutes:

I. Announcements:

- a. The COSMOS website is up and running. To find the research community go to http://cosmos.bgsu.edu/communities/research_community. On this site you will be able to find the minutes as well as the mid-year evaluations.
- b. The mid year evaluations indicate that some people want to continue with the small group format while others would like to return to the presentation and discussion format of previous semesters.
- c. Chris Keil announced that he is going to Moldova where they are very interested in a constructivist approach to teaching. Please email Chris if you want to communicate anything to the educators in Moldova, or tell them about advances in science education. Next time Chris would like to have a 15-20 minute discussion about what's important to tell them about our science education advances. Research Corporation's 2006 annual report: http://www.rescorp.org/Uploads/annual/annual_rpt06.pdf

II. Discussion:

- a. Discussion for format of Research Community for following semester:
 - i. Table/individual discussion of ideas about the format of the research community this year (detailed notes are attached at end of document). The group concluded to continue with a research focused group for the large group and also small groups to discuss topics and projects. Hopefully a structure will be developed in the next two weeks for a presentation. Members can sign up for different topics, dates, and times for the large

group presentation. Or members can also stay in small groups. It's up to each member!

- b. Further ideas came up during the discussion which should be considered:
 - i. Book Club: *How People Learn* – read this book for people who have not read this book yet. Also videos can be shown in the conference room like a brown-bag lunch style and movies can be shown at this time such as *A Private Universe* and *Beyond Thin Air*. This can be open to the entire BGSU community and with zero commitment. After the movie is shown people can discuss it and ideas that emerge.
 - ii. Ensure we are focused on research (vs. best practices). How to improve research, e.g., project REAL - what instruments worked and didn't work, measured/didn't measure. Research application.
 - iii. COSMOS could develop a database for research. What all the research says about a specific topic and articles that have been read.
 - iv. Can we use blackboard for discussion? Use blackboard for brainstorming ideas. We need to check copyrights. It would be nice to have some electronic format to get everyone's input. We can use blackboard to record ideas.
 - v. Students don't see enough constructivism. We should highlight teachers and classrooms on campus who do teach using best practices.

- c. Themes/Ideas for large group discussions:
 - i. Misconceptions: How misconceptions are created.
 - ii. Constructivism: How do we change conceptions, how do we gain conceptions or change concepts?
 - iii. Critical thinking: How to define and assess it.
 - iv. New technology: Replacing the old ways shaping and understanding concepts of scientific communication technology and how it is being taught and understood. The relationship of technology with concept formation.
 - v. Models for undergraduate curriculum reform: How do we make it happen? Institutional change.
 - vi. Peer assessment/collaborative peer review: CPR- a website and software that UCLA designed (<http://cpr.molsci.ucla.edu/>). Process where students review their own course and peers' work.
 - vii. Science literacy

Discussion notes for changing format

John's table: They believe that they have developed ideas but they need stimulation of discussion with others because it helps with ideas.

Lena: We like going through the articles and making connections with people. We need stimulation from others. How do we make our projects happen? Can we go into individual projects or collaborative projects?

Julie: Can we try an ABB pattern? We can have whole group one session then have a small group for the next two sessions then back to whole group.

Chris: This group was beneficial to me; it was like a mental incubator. I have a lot going on in my professional life and I am not sure if another project is what I need. I like the data analysis of the research community because it helps me become a better teacher.

Jodi: We had a similar goal in smaller groups.

Barbara: I like the new format. I am working with people from other projects and gaining different perspectives. I want to encourage collaboration talks.

Rick: Although I feel like I might have taken over my group, we sent out our proposal and it is going good. People are interested.

Jodi: Space is available in this room from 12:00pm to 2:00pm on Thursdays. We can have whole groups and small groups. Small groups can make a choice to go to their small groups or to attend the large group presentation every week. Recommendations can be made for people who want to present an issue to the large group.

Mandy: Small groups can present and may obtain feedback from the larger group. Brainstorm some big themes and topics as a large group.