

How will we get the word out?

Discipline: BIO

LIST People in the group:

Gisele, Terry, Jeanne, Mary, Gerald, Diane E-M, Diane Witt

As applied to *your discipline*, **LIST** the most important findings of the workshop.

People worried about textbooks – most of our colleagues don't think about it.

New technologies and pedagogies coming together – stimulate the need that current textbooks need reconsideration.

Magnitude of change will require input of many groups of people – discussion must be inclusive.

Faculty have opportunities – information age enables us to have access to new materials– we need to take advantage of these resources.

Textbooks/material/teaching do not reflect the realities of today in terms student engagement – We need to engage them today differently than in the past to students take responsibility for their learning.

Build on students' strengths – that is, students' are technically literate. Use technological literacy to develop science literacy.

Role of teaching assistants as partners in innovation.

The biggest change for biology resources will come from changes in textbooks in other fields (e.g., chemistry, physics).

LIST the newsletters and journals in *your discipline* that you think would be good outlets for disseminating the results of this workshop.

Newsletter of the Ecological Society of America

ASM

American Physiology Association

American Society of Cell Biology
National Postdoctoral Association Newsletter
Society for Neuroscience

LIST the newsletters and journals, which span disciplines, that you think would be good outlets for disseminating the results of this workshop.

Chemical and Engineering News
AIBS – Susan Muscante
AAAS – Monthly Education article
Sigma Xi – Lynn Margulis now the editor
Council on Undergraduate Research
Washington Center
Chronicle of Higher Education
Journal of Chemical Education
American Association of Community Colleges
2YC3 – Two year college chemistry consortium
NSTA

LIST the conference(s) in *your discipline* at which a technical session could be convened to continue the discussion started here.

LIST people in your group who are willing to organize a technical session at a professional meeting. Identify which meeting(s) and propose a title for the session(s) then write a draft of a session description (100 words or less) below.

LIST person or people in your group who will commit to write a short summary of the workshop and submit it to one or more of your disciplinary journals. Identify which journal(s)/newsletter(s) and propose a title(s) for each summary.

Try your hand at crafting the first paragraph of such a workshop summary and enter it below.

Textbook or Guidebook? Reconsidering the textbook.

Rationale for why we need to reconsider the textbook.

Then, what are we going to do?

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Discipline: Earth Science

LIST People in the group: Michele Hall, Tayna Atwater, Steve Rasmussen, Cathy Manduca, Paul Bierman

As applied to your discipline, **LIST** the most important findings of the workshop.

Geographically customizable, place-based materials created by a core with regional contributions.

We have changed the way we use textbooks. Times have changed. So many new resources have come on line that the text has been forgotten. The new textbook could be a powerful way to bring together these disparate resources. The learning environment is no longer text-centered, lecture, lab-centered.

We are gatherers, since no one book gives what we need, we customize which is a very inefficient system.

Creation of the “new compendium Text” provides a plausible way to influence pedagogy by making my life easier.

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EOS

GSA TODAY

NAGT news Listserve

CSTA – CA highschool

NSTA

Geotimes

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Journal of College Science Teaching

SCOPE – NSTA k-8 newsletter

American Scientist

Science news

Sigma Xi – email

New York times, science

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AAAS feb 07 san fran, Susan Keifer, Tanya is interested...

AGU – session – Innovative uses and forms of textbook, Denver

GSA – session – Innovative uses and forms of textbook, Denver

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Paul write big one...EOS, computer aspects

Christine – PKAL –roles of textbook

Tanya – CA?/Science News

Cathy – NAGT news, GeoEd list serve

Michele – GSA Today, place based

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Discipline:

LIST People in the group:

Kurt Squire, Education

Marcia Kuszmaul, Software industry

Myles Baylan, Economics, NSF

As applied to *your discipline*, **LIST** the most important findings of the workshop.

- Textbooks will survive in slimmed down form, but moving to interactive modules, games
- Education – not moving away from textbook as quick as we think
- Software – Tremendous opportunity to help make vision real, no small task, though; changes required are daunting – teaching practice, economics of education, publishing industry

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- EDUCAUSE Review
- THE Journal
- Journal of Economic Literature

LIST the newsletters and journals, *which span disciplines*, that you think would be good outlets for disseminating the results of this workshop.

- Chronicle of Higher Education
- Science
- Association of American Publishers (textbook divisions)
- League for Innovation

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- EDUCAUSE
- Innovate
- AERA
- Games and Learning Society
- NARST – National Association for Research and Science Teaching
- National Meeting of the American Economics Association
- National Science Teachers Assoc.

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- Marcia Kuszmaul – National Educational Computing Conference (K-12), EDUCAUSE – but would need an educator to be the lead – I'd be willing to partner
-

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New research on how people learn indicates that students are constructors of meaning makers who learn best when they are actively engaged in asking questions, connecting new knowledge to what they already know, and collaborating with peers. Structuring these kinds of learning experiences can be difficult given instructors' limited time and resources. The textbook in particular makes change difficult as it emphasizes the broad coverage of information.

However, textbooks are important records of basic knowledge in a discipline and represent broad social agreement on what is important. Textbooks as a guide used in conjunction with multimedia, simulations, games and other resources can drive new learning experiences that improve education. Explore how reforming the textbook can be an enabler to new ways to teach and learn.

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Discipline: Math, Engineering

LIST People in the group: Chris Rogers (Engineering), Irene Georgakoudi (Biomedical Engineering), Russ Pimmel (DUE Engineering), Barb Anderegg (DUE Engineering), Gerhard Salinger (NSF ESIE), Lee Spector (Computer Science), Tom Banchoff (Mathematics) [scribe]

As applied to *your discipline*, **LIST** the most important findings of the workshop.

Desirable properties for textbooks:

Scalability and expandability

Customizability

Non-linearity

Modularity

Integration with other resource materials, including animations, manipulatives, connections with other disciplines

Social aspect—how do we identify others who are interested in the same ideas?

LIST the newsletters and journals in *your discipline* that you think would be good outlets for disseminating the results of this workshop.

Engineering:

PRISM

Journal of Engineering Education
Optics and Photonics News

Computer Science:
Communications of the ACM
SIGCSE

Mathematics:
Mathematical Association of America FOCUS
American Mathematical Society NOTICES
Society for Industrial and Applied Mathematics Newsletter

LIST the newsletters and journals, *which span disciplines*, that you think would be good outlets for disseminating the results of this workshop.

NSTA SCILINKS website
(PRISM)

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ASME, ASEE, FIE, IEEE, ICHE, ACM, MAA, AMS

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Frontiers of Education Meeting, Milwaukee WI, October 10 – 13, 2007
(Chris Rogers and Russ Pimmell)

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PRISM--Chris
Communications of the ACM – Lee

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Models for workshops already existing through the NSF:

http://www.nsf.gov/attachments/106741/public/Proposal_Enhancement_Strategies.pdf

http://nsf.gov/events/event_summ.jsp?cntn_id=105818&org=NSF

How will we get the word out?

Discipline: Physics, Astronomy

LIST People in the group:

Mordecai Mac Low

Joe Redish

Noah Finkelstein

Harry Shipman

Dick McCray

Duncan McBride

Dean Zollman

As applied to *your discipline*, **LIST** the most important findings of the workshop.

Textbooks need to be less encyclopedic than they are now

They need to be embedded in an integrated learning environment, including:

- Modular treatments of topics at different levels
- Access to multimedia resources, including simulations, modeling environment, laboratory tools
- Embedded assessment protocols
- Authoring tools for creating integrated learning environments
- Communication systems for student collaboration, student-faculty communication

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- The Physics Teacher
- APS (American Physical Society) FEd (Forum on Education) Newsletter
- Astronomy Education Review
- AAS (American Astronomical Society) Newsletter

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- Science policy forum

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- APS
- AAPT (American Association of Physics Teachers)
- AAS
- ASP (Astronomical Society of the Pacific)

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- AAS/AAPT meeting Seattle January 2007 (only a poster is possible: Shipman/Finkelstein/McCray)
- AAS Summer 2007 meeting in Hawaii (we'll need the entire \$5 K of travel funds)

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Basically, an invitation to meet. Find the players.

AAPT Announcer or AJP editorial (American Journal of Physics): Zollman, Finkelstein, Redish, Sanjay

AAS Newsletter: Shipman, MacLow, McCray

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We met, we talked a lot. We are ready to move forward into the future.