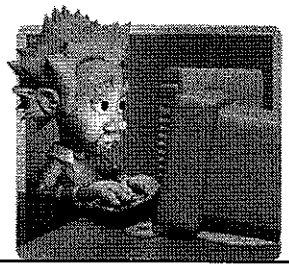
Just a Lot of Bonk: 15 Years of Online Learning Research, Results, and Reflections

Curt Bonk, Professor, Indiana University
President, SurveyShare, Inc.
cjbonk@indiana.edu
http://mypage.iu.edu/~cjbonk/
http://SurveyShare.com

Theoretical Perspectives and Principles



Sociocultural Ideas
(Bonk & Cunningham, 1998)

1. Shared Space and Build Intersubjectivity
2. Social Dialogue on Authentic Problems (mind is in social interactions and extends beyond skin)
3. Mentoring and Teleapprenticeships
4. Scaffolding and Electronic Assistance in ZPD
5. Group Processing and Reflection
6. Collaboration and Negotiation in ZPD
7. Choice and Challenge
8. Community of Learning with Experts & Peers
9. Portfolio Assessment and Feedback
10. Assisted Learning (e.g., task structuring)
11. Reciprocal Teaching & Peer Collaboration

Premise #1: Importance of Social Interaction (Vygotsky, Wertsch, etc.)

- **Social interaction develops new patterns of thought and strategic behaviors.**

Premise #2. Mind is Distributed in Society

- **Mind is in society—individual-in-social-action; mind extends beyond the skin** (Vygotsky, Wertsch, etc.).

Distributed Intelligence (in a learning community)

- Student higher-order mental functioning has its' roots in social relations. The mind, therefore, is distributed in society, and, extends beyond one's skin. Since knowledge is negotiated by members of a community of practice, the classroom should be organized to guide student learning toward membership in a learning community.

Distributed Intelligence (in a learning community)

- Participation in such a classroom is no longer didactic or transmissive, but a sophisticated instructional conversation.

Distributed Intelligence (in a learning community)

- While technology is vital here, it is but one resource of a learning community; other resources that should also be utilized include: experts, mentors, peers, curriculum/textbooks, teachers, self-reflection, assessment, parents, and the funds of capital within one's local community.

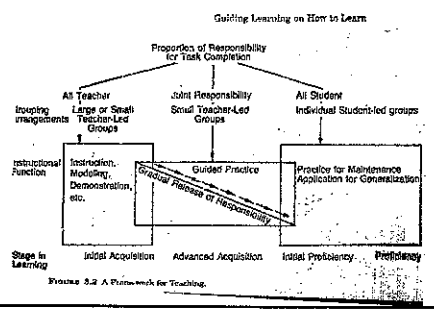
Premise #3. Learning Precedes Development

- Learning precedes development—so must nudge, prompt, provoke it, rouse it to life, etc.

Premise #4: Cognitive Apprenticeship

- Learners should be acculturated into an established community of practice. This is done through guided participation, scaffolding, and a gradual transfer of responsibility for the learning from the more experienced partner to the learner.

Guided Learning Model (Rogoff, 1990)



Cognitive Apprenticeship

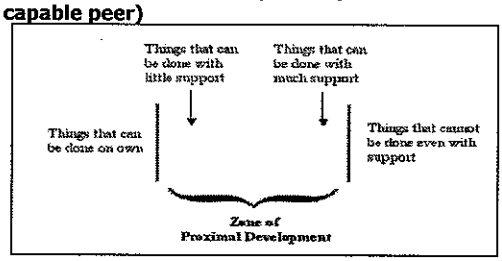
- Collins, Brown, and Newman (1989) detail six teaching methods in an ideal cognitive apprenticeship; (1) modeling, (2) coaching, (3) scaffolding and fading, (4) articulation, (5) reflection, and (6) exploration.

Tele-apprenticeship

- As a result of advances in technology tools, there are myriad online learning environments that are mediated by experts, peers, mentors, teachers, etc. to help learners and teachers build and share knowledge through access to specialized expertise and information.

Premise #5: Zone of Proximal Development

A range of tasks too difficult for child to manage alone, but which can be achieved through interaction with another person (adult or more capable peer)



Premise #6: Scaffolding in one's ZPD

(Robert Slavin, 1993)

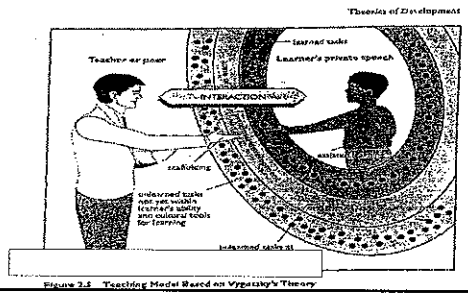
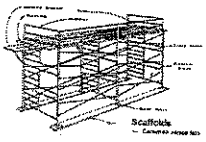


Figure 2.5 Teaching Model Based on Vygotsky's Theory

Types of Scaffolding

- Social Acknowledgement
- Questioning
- Direct Instruction
- Modeling/Examples
- Feedback/Praise
- Cognitive Task Structurin
- Cognitive Elaborations/Explanations
- Push to Explore
- Fostering Reflections/Self Awareness
- Encouraging Articulation/Dialogue Prompting
- General Advise/Scaffolding/Suggestions
- Management



Premise #7: Assisted Learning

- There are a range of techniques for teachers to assist in the learning process (e.g., modeling, coaching, scaffolding and fading, questioning, directly instructing, task structuring, management and feedback, and pushing students to explore, reflect, and articulate ideas).

Premise #8: Learning Resources

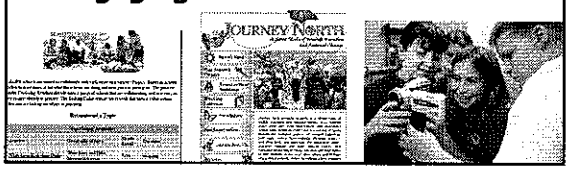
- The cultural and intellectual capital within one's teaching and learning environment. Includes peers, textbooks and the curriculum, technology tools, teachers, expert guests, community leaders, tests, self-reflection, etc.

Resources in a Learning Environment

- Teachers
- Peers
- Curriculum/Textbooks
- Technology/Tools
- Experts/Community
- Assessment/Testing
- Self Reflection
- Parents

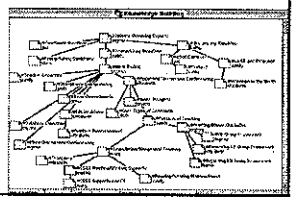
Premise #9: Authentic Problems

- A learning experience or task which realistically mimics or approximates real world situations. They tend to be more engaging for learners.



Premise #10: Unit of Analysis

- Unit of analysis is the activity or word meaning.



Premise #11: Internalization

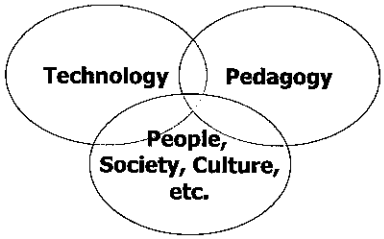
- Development moves from external to internal (appears twice).

Premise #12: Intersubjectivity

- Refers to a temporary shared collective reality among individuals. Conferencing and collaborative technologies can foster such shared space or situational understanding between learning participants which can help them negotiate meaning, design new knowledge, and perceive multiple problem solving perspectives.

Frameworks and Models

Nature and Nurture: An Interactional Model



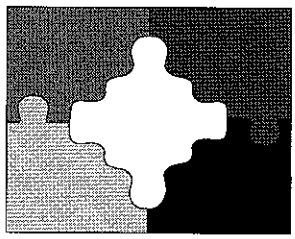
The Web Integration Continuum (Bonk et al., 2000)

Level 1: Course Marketing/Syllabi via the Web
Level 2: Web Resource for Student Exploration
Level 3: Publish Student-Gen Web Resources
Level 4: Course Resources on the Web
Level 5: Repurpose Web Resources for Others
==========
Level 6: Web Component is Substantive & Graded
Level 7: Graded Activities Extend Beyond Class
Level 8: Entire Web Course for Resident Students
Level 9: Entire Web Course for Offsite Students
Level 10: Course within Programmatic Initiative

Areas of Current Research

1. Wikibook creation and ownership
2. Open source movement in North America and China
3. Synchronous instruction with Breeze
4. Blended learning in corp training in 5-6 countries
5. Online communities, virtual teaming, assessment, and case learning in online MBA program
6. Delphi study of collaborative learning opportunities within blended learning
7. Massive Multiplayer Online Gaming (MMOG)
8. Blogging in higher education in China (and Korea)
9. Creativity and Critical Thinking in Online Art, Design, and Photomedia Project (Omnium)
10. What motivates someone to participate and contribute to YouTube

15 Pieces of this Story



15 Stories for 15 Years

1. 1993-1994: Peace, dude, hop off the return key, save me some stress."
2. 1995: What if Vygotsky had lived to 100...
3. 1996: Do not ride your bike to work.
4. 1997: You're en"TITLE"d to Dream!
5. 1997-1998: Look out for the Russians...
6. 1999: Do you believe in the power of sharing?
7. 1999-2000: Do you want to be target practice?
8. 2001: You were in, but you were never there.
9. 2002-2007: Who needs a TICKIT?
10. 2003-2006: Where is Disneyland?
11. 2004-2006: Data at your fingertips.
12. 2006-2007: A synchronous life is a Breeze!
13. 2006-?: Is there a blended expert in the house?
14. 2006-?: Where is a Wikibookian when you need one?
15. 2007-?: You can be a YouTubian too!

Story #1 (1994): "Peace, dude, hop off the return key, save me some stress."

Taxonomy: Level of Collaborative Tool
(Bonk, Medury, & Reynolds, 1994)

Level 0: Stand Alone Tools
Level 1: E-mail and Delayed Messaging Tools
Level 2: Remote Access/Delayed Collab Tools
Level 3: RT Dialoguing and Idea Gen Tools
Level 4: RT Collaboration (text only)
Level 5: Cooperative Hypermedia
Level 6: Tools That Don't Fit Nicely

Web Conferencing Tools



- VaxNOTES
- NiceNet
- WebCrossing
- Sitescape Forum
- COW
- FirstClass
- WebCT, Blackboard, Virtual U, etc.

Research on Electronic Cases

1. RT vs. Delayed Collab
   - Groups Preset by Major
   - Tchr Generated Cases
   - Local/Univ. Networks
   - Limited Instructor Mentoring
2. Web-Based Conference
   - Grps Formed on Interest
   - Student Gen. Cases
   - World Wide Web
   - Extensive Instructor and Peer Mentoring

Study #1: 1993/1994
(Bonk, Hansen, Grabner, Lazar, and Mirabelli, 1998)

- Two Semester: VAXNotes vs. Connect
- Two Conditions: (1) Real-time vs. (2) Delayed
- Subjects = 65 secondary ed majors
  (5 grps: PE, Foreign Language, Social Studies, English, Math)
- Mentors = limited instructor commenting
- Procedures:
  - (1) Respond to 4 cases in small groups
  - (2) Respond to peer comments

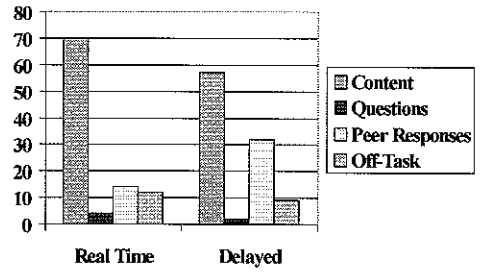
Research Questions: Study #1

1. What social interactions occur in real-time & delayed?
2. How code electronic social interaction patterns?
3. How do case size & complexity affect grp processing?
4. Do RT or delayed foster > discuss depth & quality?
5. Do shared experiences stimulate grp intersubjectivity?

Some Findings From Study #1

- Delayed Collab > Elaboration
  - 1,287 words/interaction vs. 266 words/interaction
- RT Collab > Responses
  - 5.1 comments/person/case vs. 3.3 comments/person
- Low off-task behaviors (about 10%)
- Rich data, but hard to code
- Students excited to write & publish ideas
- Minimal q's and feedback
- Interaction inc. over time; common zones
- Some student domination

Study #1. 1993-94



Example of real-time dialogue:

- Come on Jaime!! You're a slacker. Just take a guess. (October 26, 1993, Time: 11:08:57, Ellen Lister, Group 5).
- How might he deal with these students? Well, he might flunk them. He might make them sit in the corner until they can get the problem correct...I don't know. (Um...hello...Jaime where is your valuable insight to these problems?) (October 26, 1993, Time: 11:19:37, Ellen Lister, Grp 5).

Example of Delayed Dialogue:

Joyce's new system offers a wide variety of assessment forms. These different forms complement the diverse learning and test taking abilities of her students. Joyce seems to cover the two goals of classroom assessment with her final exam--to increase learning and increase motivation. Students will increase their learning because they will not just remember information to re[g]urgitate on an exam, but instead they will store these items in their long-term memory and later may be able to make a general transfer. Joyce will increase student motivation because she has deviated from the normal assessment method expected by her students.

Joyce's test will probably be both reliable and valid considering that she implemented three different forms of tests. Joyce's test also might reduce test anxiety. If her students know what to expect on the test (they even wrote the questions) they more than likely will be less anxious on exam day... (January 31, 1994, Time: 19:28, Sarah Fenway, Language Group.)

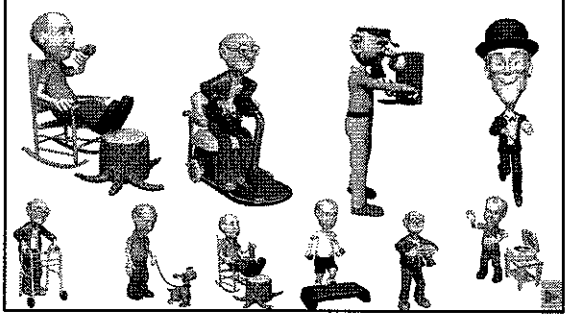
Larry

- Entertaining,
- Creative and controversial,
- Indirectly intimidating,
- One who set own agenda,
- Very articulate and witty.

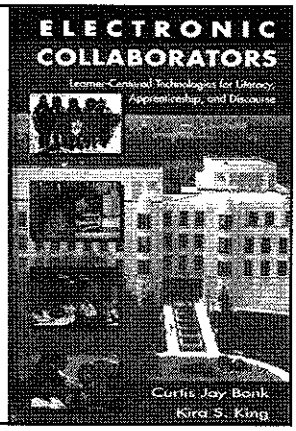
Sample of Larry's Comments....

- "Peace, dude, hop off the return key, save me some stress."
- "I am currently preparing my anti-groupwork support group."
- "I've noticed several people writing and saying that they would have done this or that brilliant or intuitive thing. I personally am brilliant or intuitive and I think other could use a little humility. This Karen's made some mistakes, but we all make mistakes, and when (dare I say), we are in her shoes, we should expect to make some of the same ones that confound her."

Story #2 (1995): What if Vygotsky had lived to 100...?



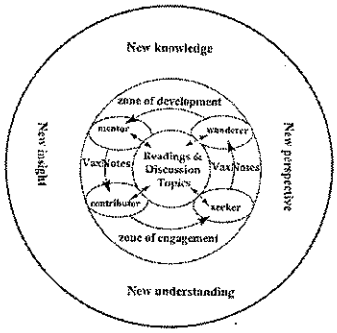
1994-1996 Computer Conferencing and Collaborative Writing (CCCW) Group at Indiana



Sample Projects

1. Peer scaffolded support with technology.
2. Critical thinking with tech supports.
3. PBL situations and role play
4. Scaffolded learning from the Arctic.
5. Forms of online e-mail assistance.
6. Bring experts to teach at any time.
7. Online case learning and exam preparation.
8. Alternating class and online activities.
9. Roles in electronic discussions.
10. Structure electronic role play.

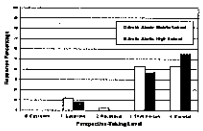
Patterns of Knowledge Construction in Electronic Discussion (Zhu, 1998)

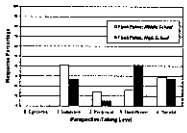


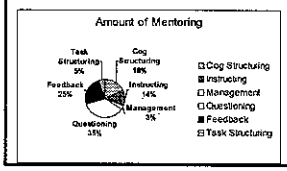
Adventure Learning

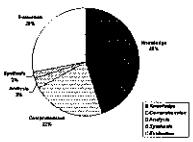
Purpose: engage in adventurous study of the global environment. (e.g., Telepresence or virtual fieldtrips, ask an expert forums, cross-classroom collaboration, debate forums, online communities, MayaQuest, the Jason Project)

Adventure Learning Findings (Bonk & Sugar, 1998)

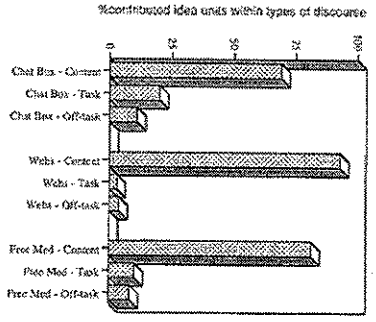








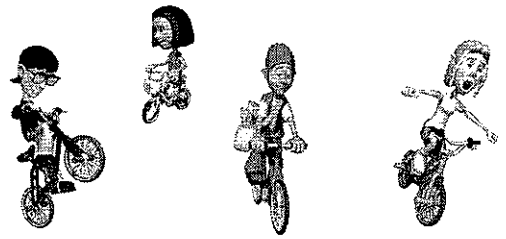
Aspects within Aspects (Cooney, 1998)



Implications: Build Courses Based on Sociocultural Principles (Bonk, 1998)

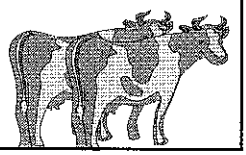
Smartweb Activities	Sociocultural Link
• Weekly Chapter Activ	• Connect to Experience
• Starter-Wrapper Disc	• Recip Teach & Dialogue
• Personal Profiles	• Build Intersubjectivity
• Student Portfolios	• Dynamic Assessment
• Feedback on Portfolios	• Scaffolding within Zones
• Links Prior Semesters	• Modeling and Legacy
• Field Reflections	• Apprentices Learning
• Field Observ Case Disc	• Scaffolded & Authentic
• Café Latte	• Shared Knowledge

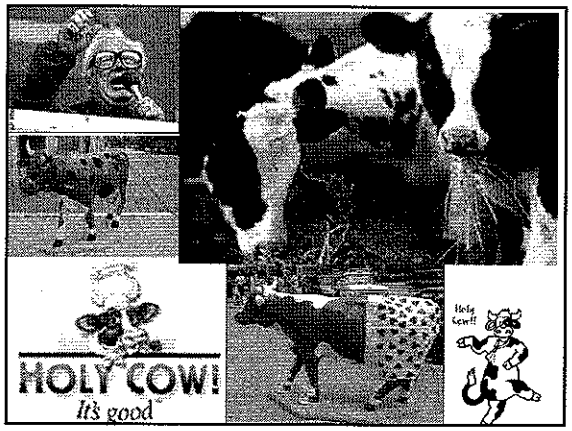
Story #3 (1996): Do not ride your bike to work.



Conferencing On Web (COW)
(1996-2000)
Three Basic Levels:

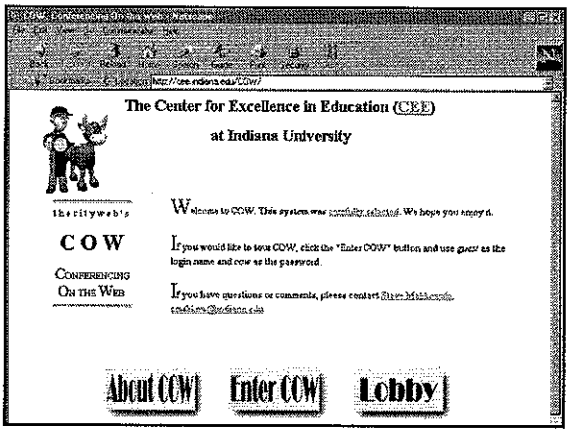
1. Conference (public or private)
2. Topic (e.g., special education)
3. Conversation (e.g., reading rewards)

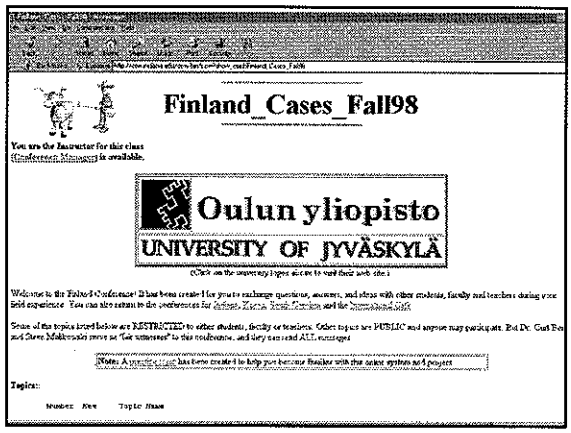


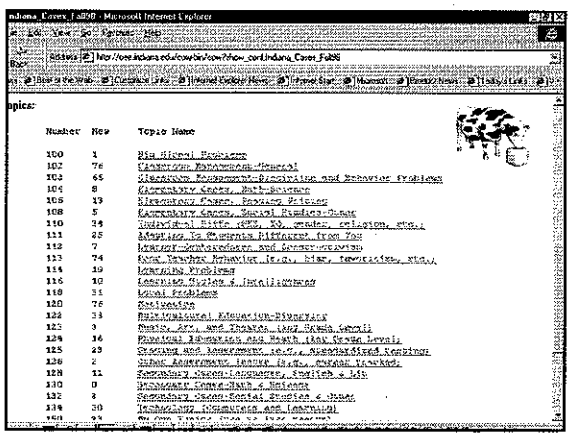


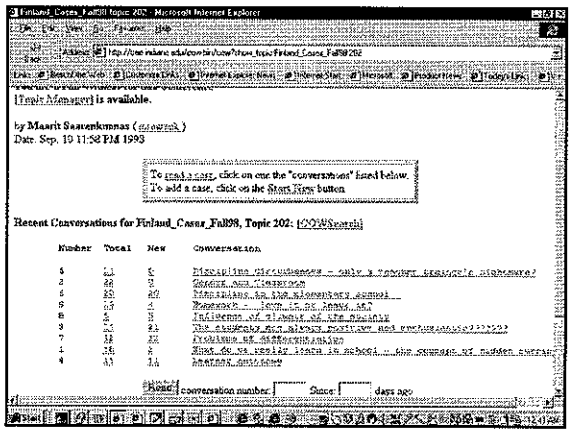
Purpose of COW Project

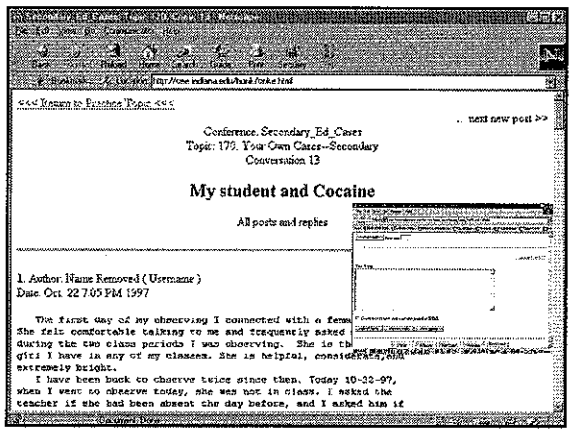
- Students in field experiences write cases
- Teachers and students from around the world provide electronic mentoring
- Authentic cases and mentoring transform learning environment
- Helps preservice teachers understand the role of technology in education











Problems Solved By COW

- Student isolation in field experiences
- Lack of community/dialogue among teacher education participants
- Disconnectedness between class and field experience
- Limited reflective practices of novice teachers
- Need for appreciation of multiple perspectives

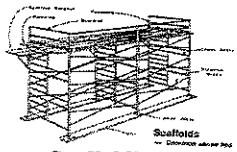
Quantitative Methods

Average results for prior to TITLE (TITLE):

- Participants per semester: 130 (>300)
- Cases per semester: 230 (624)
- Cases per student: 1.75 (same 1.80)
- Average responses per case: 4.5 (3.9)
- Average words per case: 100-140 (198)

Frequent Case Topics

Topic	Number of Cases
Management	312
Motivation	185
Instructional Approaches	178
Individual Differences (special education and gifted)	152
Hot Topics (e.g., teacher burnout, violence in school, corporal punishment, and drugs and alcohol)	83
Development (physical, cognitive, and social/emotional)	70
Behaviorism and Social Learning Theory	57



Types of Heavy Scaffolding:

1. Social Acknowledgement
2. Questioning
3. Direct Instruction
4. Modeling/Examples
5. Feedback/Praise
6. Cognitive Task Structuring
7. Cognitive Elaborations/Explanations
8. Push to Explore
9. Fostering Reflection/Self Awareness
10. Encouraging Articulation/Dialogue Prompting
11. General Advice/Scaffolding/Suggestions
12. Management

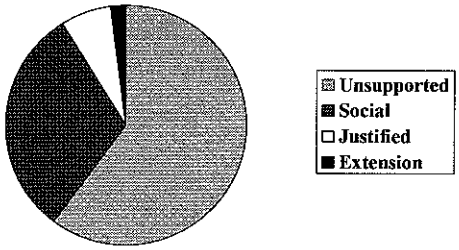
Bonk, Angeli, Malikowski, & Supplee, 2001)

Transcript Results

A. Peer Content Talk
- **31% Social Acknowledgments**
- **60% Unsupported Claims and Opinions**
- **7% Justified Claims**
- **2% Dialogue Extension Q's and Stmts**

B. Mentor Scaffolding
- **24% Feedback, Praise, and Social**
- **24% General Advice and Suggestions**
- **20% Scaffolding and Socratic Questioning**
- **16% Providing Examples and Models**
- **8% Low Level Questioning**
- **8% Direct Instruction & Explanations/Elab**

Study #3. Fall, 1997



Bonk, Malikowski, Supplee, & Angeli, 1998

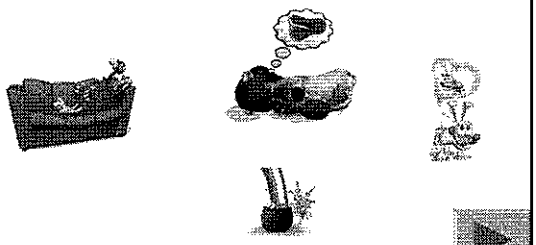
Overall Major Findings

- **COW enhanced student learning**
  - **provided a link between classroom and field; connected to textbook concepts**
  - **encouraged learning about technology**
- **COW extended student learning**
  - **students got feedback from multiple sources and outside their community**
  - **students saw international perspective**
- **COW transformed student learning**
  - **students took ownership for learning**
  - **students co-constructed knowledge base**

Qualitative Themes Continued...

- **Students were attracted to cases that...**
  - **had interesting titles**
  - **were on familiar topics**
  - **were on controversial topics**
  - **they had opinions about**
- **Peer feedback was appreciated but not deep**
- **Mentor feedback was apprec. & motivating**

Story #4 (1998): Your En"TITLE"d to Dream!



Study: COW, Spring 1998

(Bonk, Malikowski, Supplee, & Dennen, 2000)

- **Two Month Conference (One Condition)**
  - **3 discussion areas (IU, Finland, and Cultural Immersions)**
- **Subjects = 110 students**
  (80 US and 30 Finnish students)
- **Mentors = 2 AIs, 1 supervisor, 4 coop tchrs, 3 conference moderators.**
- **Videoconferences + Web Conferences**

Finnish Cases Were Longer and more Reflective and Often Co-Authored...

Lets consider a math class in an elementary school as an example. Often a teacher teaches the new subject area and after that pupils practice counting those exercises. When a pupil has finished s/he receives extra exercises, or s/he is asked to do some work in other subjects but s/he is not allowed to continue further in the math book. Should the pupil be allowed to continue further on her/his own if s/he wants to? There is a danger that if s/he continues s/he will make more mistakes than if s/he waits until the teacher has taught the next step in the subject area. However, is it dangerous to do mistakes? Do teachers suppose that outside school there is always someone to tell what to do and how to do it in a right way?

Marya Ford Washington states in her summary: "It is painful to consider that a good portion of America's gifted and talented students spend most of their elementary and middle school careers learning to be average. It is even more painful to admit that they usually succeed." The same seems to apply to Finland. How could we solve this problem? Maarit & Maija

Vertical Mentoring Examples

9. Author: Jerry Cochey (Mentor)
Date: Mar. 11 1:46 PM 1998

To shift from teacher centered classrooms to child centered classrooms and learning takes time, patience and a commitment to the idea that students are responsible for their own learning. Even in this age of enlightenment(?), we think that a quiet, teacher controlled classroom shows learning, while research shows that active, talking, sharing of learning experiences with peers is more productive. Be patient, it takes a long time to have students change to being responsible for their own.

Horizontal Finnish Mentoring

12. Author: Leena Date: Mar. 30 11:52 AM 1998

This case is something I feel very close to. I have been trying struggle with finding ways to be a teacher in a new way, trying to think everything from the students' perspective, to challenge my own old traditions of teaching and try to seek ways which the I could find ways of studying things together with the students. What really puzzles me is that these different "projects" have had such extremely different lives.....What I really don't know yet is how to be a proper supporter of these processes for students... - Leena

Justified Statement (Finnish)

3. **Author:** Kirsi

Date: Mar. 6 8:11 AM 1998

Why not let the student study math further by himself and the teacher could help him whenever the teacher has time. At least some of the math study books **are so designed that one page has examples that teach you how to solve the problem and then on the next page there are exercises.** I personally **hate being said 'wait' since when I'm interested in something I want to go on and learn more and not wait. This way** I think **the child learns to be responsible of his own learning.** If I **quote dear mr Vygotsky** here again, the teacher should be sensitive to see where the child's proximate zone of development is and to help him 'over' it. The teacher's task is not to try to keep the child on the level he has reached but to help him learn more if he is interested...

Unjustified Statements (US)

24. Author: Katherine

Date: Apr. 27 3:12 AM 1998

I agree with you that technology is definitely taking a large part in the classroom and will more so in the future with all the technological advances that will be to come but I don't believe that it could actually take over the role of a teacher...but in my opinion will never take over the role of a teacher.

25. Author: Jason
Date: Apr. 28 1:47 PM 1998

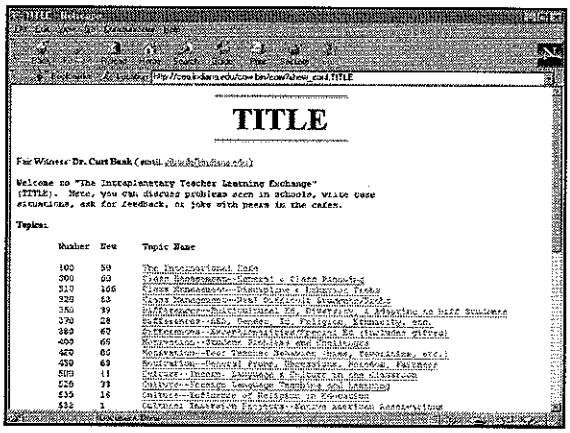
I feel technology will never over take the role of the teacher...I feel however, this is just help us teachers out and be just another way for us to explain new work to the children. No matter how advanced technology gets it will never be able to...

26. Author: Daniel
Date: Apr. 30 0:11 AM 1998

I believe that the role of the teacher is being changed by computers, but the computer will never totally replace the teacher... I believe that the computers will eventually make teaching easier for us and that most of the children's work will be done on computers. But I believe that there will always be the need for the teacher.

Indicators for the Quality of Students' Dialogue (Angeli, Valanides, & Bonk, 2003)

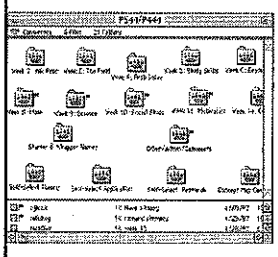
ID	Indicators	Examples
1	Social acknowledgement/ Sharing/Feedback	Hello, good to hear from you...I agree, good point, great idea
2	Unsupported statements (advice)	I think you should try this....This is what I would do...
3	Questioning for clarification and extend dialogue	Could you give us more info? ...explain what you mean by...?
4	Critical thinking, Reasoned thinking-judgment	I disagree with X, because in class we discussed....I see the following disadvantages to this approach....

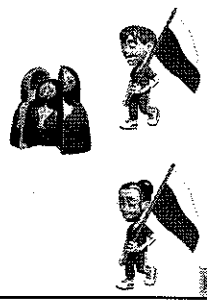


Caseweb Visions

- Intros, Expert Commentaries, Reviews
- Expanded and Shrunken Case Views
- Hyperlink Options
- Conceptual Labels—chapters, themes, ideas
- Role Taking Options
- Mentoring Scaffolds/Questions
- Forced Counterpoints
- Sample Mentor and Peer Feedback
- Case Comparison Statistics

Story #5 (1997-1998): Look out for the Russians...





Spring of '97 (FirstClass)

Content Analysis of Online Discussion in Ed Psych (Hara, Bonk, & Angeli, 2001, Instructional Science)

Purpose and Questions of this Study

- To understand how graduate students interact online?
- What are inter patterns with starter-wrapper roles?
- What is role of instructor in weekly interactions?
- How extensive is social, cog, metacog commenting?
- How in-depth would online discussions get?
  - And can conferencing deepen class discussions?

Dimensions of Learning Process (Henri, 1992)

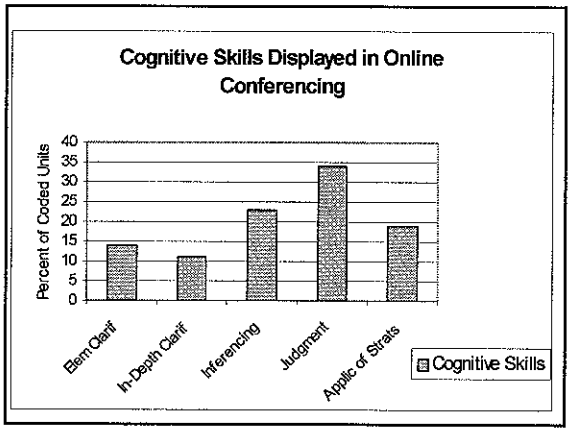
1. **Participation** (rate, timing, duration of messages)
2. **Interactivity** (explicit interaction, implicit interaction, & independent comment)
3. **Social Events** (stmts unrelated to content)
4. **Cognitive Events** (e.g., clarifications, inferencing, judgment, and strategies)
5. **Metacognitive Events** (e.g., both metacognitive knowledge—person, and task, and strategy and well as metacognitive skill—evaluation, planning, regulation, and self-awareness)

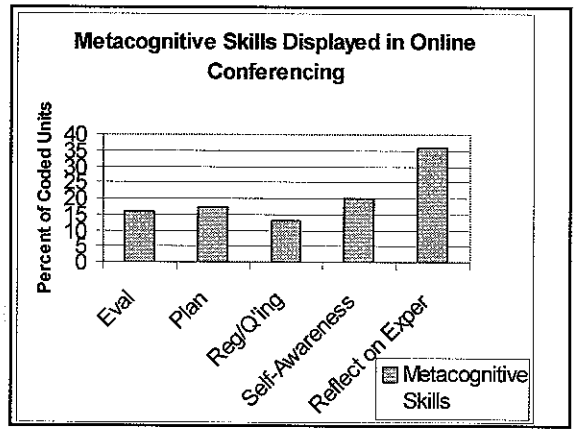
Graduate Course Findings

- **Participation**
  - + Most participated once/week
  - + Student-centered & depend on starter
  - + Posts more interactive over time
  - + Lengthy & Cognitively Deep
    - Ave post: 300 words & over 18 sentences
    - From 33 words to over 1000 words
  - – Some just satisfied course requirements

Findings Continued (see Henri, 1992)

- **Social** (in 26.7% of units coded)
  - – social cues decreased as semester progressed
  - – messages gradually became less formal
  - – became more embedded within statement
- **Cognitive** (in 81.7% of units)
  - – More inferences & judgments than elem clarifications and in-depth clarifications
  - – Cog Deep: 33% surface; 55% deep; 12 both
- **Metacognitive** (in 56% of units)
  - – More reflections on exper & self-awareness
  - – Some planning, eval, & regulation & self q'ing





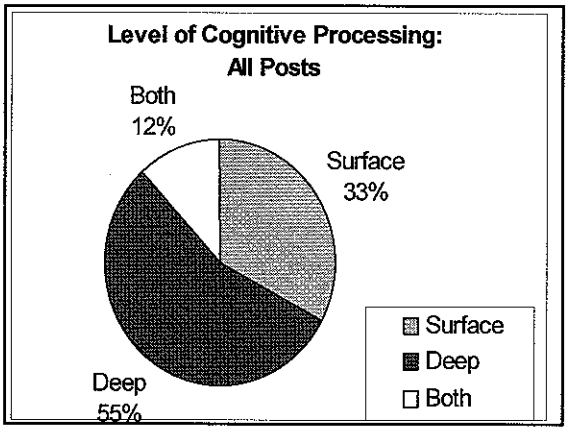
Surface vs. Deep Posts (Henri, 1992)

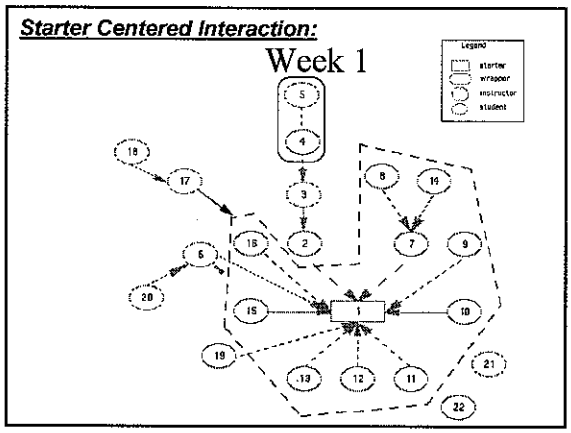
Surface Processing

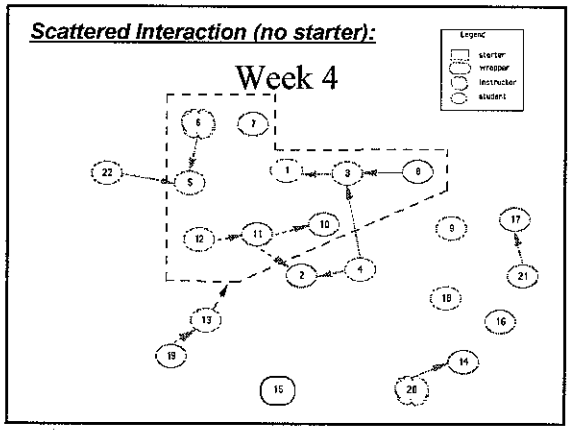
- making judgments without justification,
- stating that one shares ideas or opinions already stated,
- repeating what has been said
- asking irrelevant questions
- i.e., fragmented, narrow, and somewhat trite.

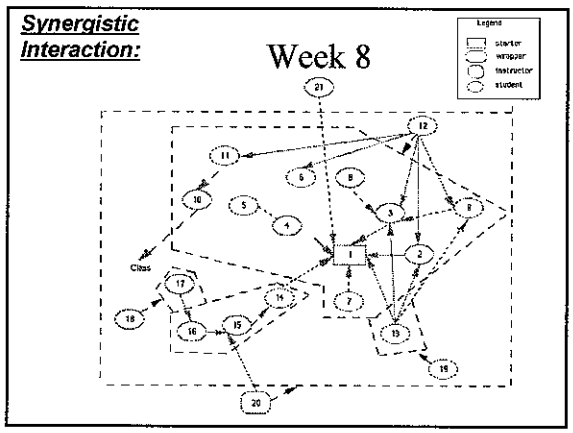
In-depth Processing

- linked facts and ideas,
- offered new elements of information,
- discussed advantages and disadvantages of a situation,
- made judgments that were supported by examples and/or justification.
- i.e., more integrated, weighty, and refreshing.









Recommendations

- **Structure online discussions**
  - **e.g., get them to use subject line better.**
- **When done, have them print out transcripts!**
  - **Can take the class with them when done!**
- **Realize that diff conferencing software and features serve diff instructional purposes**

Story #6 (1999): Do you believe in the power of sharing?

1999 Study of the World Lecture Hall Matrix of Web Interactions

(Cummings, Bonk, & Jacobs, 2002)

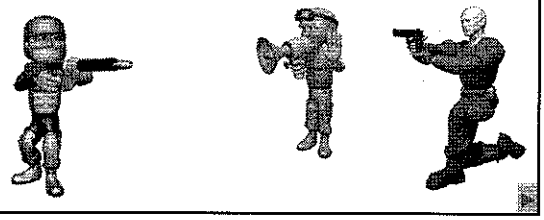
Instructor to Student: syllabus, notes, feedback
to Instructor: Course resources, syllabi, notes
to Practitioner: Tutorials, articles, listservs
Student to Student: Intros, sample work, debates
to Instructor: Voting, tests, papers, evals.
to Practitioner: Web links, resumes
Practitioner to Student: Internships, jobs, fieldtrips
to Instructor: Opinion surveys, fdbk, listservs
to Practitioner: Forums, listservs

Table 2
Percent of online syllabi with different options for communication flow among instructors, students, and practitioners/experts

	To students	To instructors	To practitioners/experts
From instructor	Assignment schedule (70%) Class roster (10%) Lecture notes/PowerPoint slides (43%) Web links (70%) Instructor profiles (70%)	Online syllabi (100%) Web forums or discussions on course material (4%) Lecture notes/activities (4.3%)	Online tutorials (5%) General information (1%)
From students	Post or publish current student work (14%) Within-course discussions or electronic conferences (65%) Outside of course discussions (5%) Personal profiles (10%)	Journal reflections (6%) Online quizzes/tests (38%) Reflective electronic minute papers (0%) Session evaluations (3%) Instructor email feedback (84%)	Web links (13%) Resumes on the Web (0%)
From practitioners/ experts	Jobs (0%) Virtual field trips (5%)	Course feedback (0%)	Virtual professional development communities (0%)

Story #7 (2000): Do you want to be target practice?

Bonk, C. J., & Wisher, R. A. (2000). *Applying collaborative and e-learning tools to military distance learning: A research framework.* (Technical Report #1107). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.



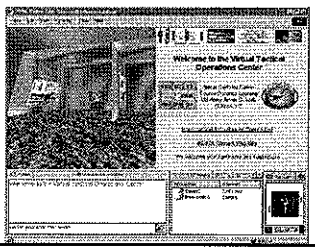
Online Officer Training Program (2000-2003)

- **Evaluated social interaction, problem solving, online mentoring, and social interaction environment of Army officer training program; focus on instructional design, blended learning.**

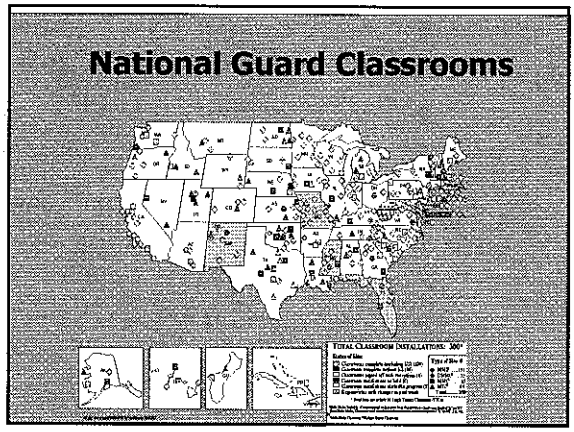
Online Officer Training Program Team

1. **Dr. Robert Wisher, DOD and ARI**
2. **Dr. Tatana Olson, was at SRI/Purdue, now at Navy as Aviation Experimental Psychologist, Pensacola (wants to be first female fighter pilot)**
3. **Dr. Kara Orvis, was at ARI, Optima, Boston.**
4. **Dr. Ji-Yeon Lee, University of South Carolina (now at Inha University in Korea)**
5. **me**

Orvis, K. L., Wisher, R. A., Bonk, C. J., & Olson, T. (2002). Communication patterns during synchronous Web-based military training in problem solving. *Computers in Human Behavior, 18*(6), 783-795.



National Guard Classrooms

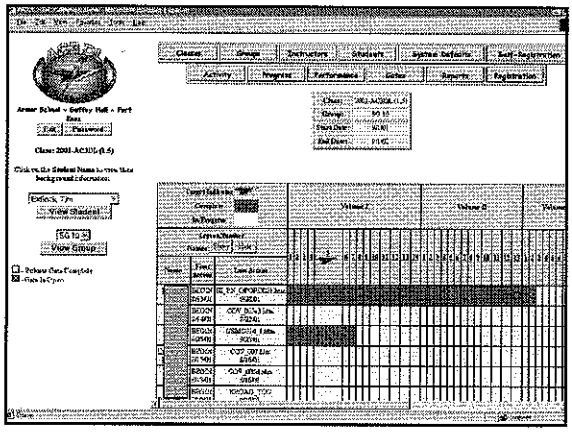


Three Phases of AC3-DL

I. **Asynchronous Phase:** 240 hours of instruction or 1 year to complete; must score 70% or better on each gate exam

II. **Synchronous Phase:** 60 hours of asynchronous and 120 hours of synchronous; Virtual Tactical Operations Center (VTOC) (7 rooms; 15 people/extension (chat, avatars, audio conferencing)

III. **Residential Phase:** 120 hours of training in 2 weeks at Fort Knox



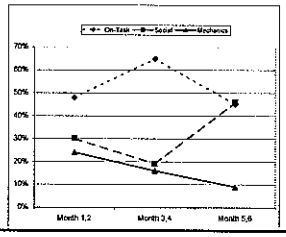
Previously Reported Results

Sanders & Burnside (2001); Sanders & Guyer (2001)

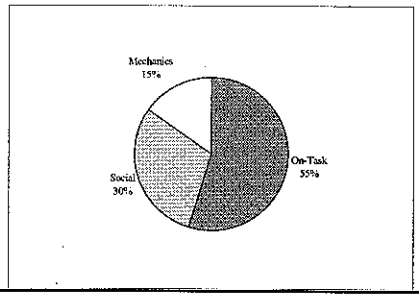
- **Completed coursework in less time than correspondence course.**
- **Positive attitudes**
- **Covered add'l content not in correspondence**
- **More likely to make decisions**
- **Develop greater sense of team identity**
- **Greater planfulness, confidence, tactical proficiency, and leadership skills.**
- **Problems encountered: time, drill time conflicts, tech problems, family responsibilities, no compensation**

Study #1. Overall frequency of social, mechanical, and on-task interactions across chat categories (6,601 chats).

(Note: conducted focus groups, interviews, q'ers, chat transcript analyses, document analyses)



Overall frequency of interactions across chat categories (6,601 chats).



On-Task Problem Solving Mayer & Wittrock (1996); Sternberg (1997)

- "Terrain does not allow for effective maneuver of your element"
- "Harder to detect a liquid agent in rain"
- "Rain can also degrade optics on weapon systems"
- Remember in the BDE OPORD-the BDE CMDR wants this to occur at about this time"

Social Interactions

- "Kids are great we made breakfast for Mom (wife)"
- "Did you go out for a run last night?"
- "Tell her I said happy mothers day"
- "3 miles in 24 mins all hills"
- "If God had meant for us to run, he wouldn't have given us tanks"

Study #2 Reflections on Blended

Bonk, C. J., Olson, T., Wisher, R. A., & Orvis, K. L. (2002). Learning from focus groups: An examination of blended learning. *Journal of Distance Education, 17*(3), 97-118.

- Some Keys: feedback, smaller modules, need instructor facilitation, use basic tech, move from async to sync, better orientation sessions
- Enjoyed the course, excellent technologies
- Favored sync over asynchronous
- All noted ways to address high attrition
- Perceived training transfer, active learning
- Learned to work as a team
- High individual and collective efficacy

Bonk, C. J., Olson, T., Wisher, R. A., & Orvis, K. L. (2002). *Reflections on blended learning: The Armor Captains Career Course.* (Research Note #2002-13). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Follow-up: Massive Multiplayer Online Gaming (MMOG) (2003-2005)

- Exploring the educational and training potential of massive multiplayer online games and mapping out a research agenda in this area for the Advanced Distributed Learning Lab within the Department of Defense.

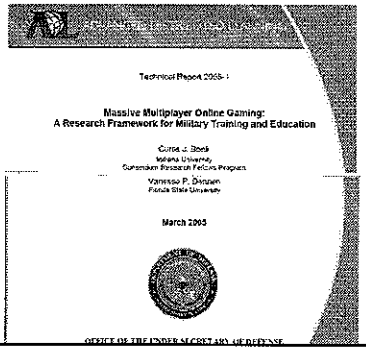
Massive Multiplayer Online Gaming (MMOG) Team

1. Dr. Vanessa Dennen, Florida State
2. me
3. With help from Dr. Robert (Bob) Wisher

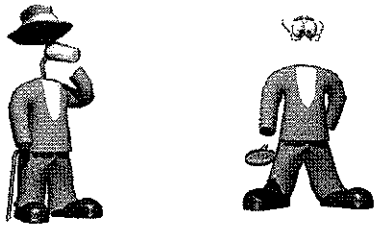
Publications: Massive Multiplayer Online Gaming (MMOG)

1. Bonk, C. J., & Dennen, V. P. (2005). *Massive multiplayer online gaming: A research framework for military education and training.* (Technical Report # 2005-1). Washington, DC: U.S. Department of Defense (DUSD/R): Advanced Distributed Learning (ADL) Initiative.

Massive Gaming (2003-2005)



Story #8 (2001): You were in, but you were never there.



Cross-Cultural Comparisons of Online Collaboration Among Pre-Service Teachers in Finland, Korea, and the US

Kim, K. J., & Bonk, C. J. (2002). Cross-cultural comparisons of online collaboration among pre-service teachers in Finland, Korea, and the United States. *Journal of Computer-Mediated Communication, 8*(1), see http://www.ascusc.org/jcmc/vol8/issue1/kimandbonk.html.

Sample & Data Sources

- In Spring 1998:
  - Finland: 30 students and 5 instructors
  - USA: 88 students and 7 instructors
- In Fall 1998
  - Korea: 21 students and 1 instructor
- A content analysis using Curtis & Lawson's coding scheme to describe utterances in online collaboration.
  - Post collaboration questionnaire, interviews, video conference

Behavior Categories	Codes	Description
Planning	GS	Group Skills
	OW	Organizing Work
	IA	Initiating Activities
Contributing	HeG	Help Giving
	FBG	Feedback Giving
	RI	Exchanging Resources and Information
	SK	Sharing Knowledge
	CH	Challenging Others
	EX	Explaining or Elaborating
Seeking Input	HeS	Helping Seeking
	FBS	Feedback Seeking
	Ef	Advocating Efforts
Reflection/ Monitoring	ME	Monitoring Efforts
	RM	Reflection on Medium
Social Interaction	SI	Social Interaction

Online Collaboration Behaviors by Categories

Behavior Categories	Conferences (%)		
	Finland	U.S.	Average
Planning	0.0	0.0	0.0
Contributing	80.8	76.6	78.7
Seeking Input	12.7	21.0	16.8
Reflection/ Monitoring	6.1	2.2	4.2
Social Interaction	0.4	0.2	0.3
Total	100.0	100.0	100.0

Online Collaboration Analysis (Korea)

Behavior Categories		Korean	
		Code totals	Code percent
Planning	GS	0	0
	OW	0.0	0.0
	IA	0	0
Contributing	BtG	2	2
	FBG	1.3	1.3
	RI	44	44
	SK	28.4	28.4
	CII	2	2
	EX	1.3	1.3
Seeking Input	IIeS	1	1
	FBS	0.6	0.6
	Ef	36	36
Reflection/ Monitoring	ME	3	3
	RM	1.9	1.9
Social Interaction	SI	15	9.7
Total		155	100.0

← Sharing Knowledge

← Advocating efforts

← Social Interaction

Findings from the Quantitative Analysis

- Low participation rate of instructors across all the groups.
  - A majority of utterances fell into the "contributing" category.
  - Cross-cultural differences in "Seeking Input," "Reflection/ Monitoring," and "Social Interaction" behaviors.
  - Differences in the intercultural participation levels across cultures.

Differences in Reflection Behaviors (monitoring effects)

- A Finnish case on student motivation (ME)

"As a result of this discussion so far, we have made some conclusions dealing with students' motivation to learn. We agree that it is impossible to motivate students deliberately. There is not any specific act that can be used to increase students' motivation. <u>According to McCombs, almost everything that teachers do in the classroom has a motivational influence on students</u> ... Intrinsic motivation and self-regulation strategies are also important and these can be supported by successful external supports...."

Differences in Feedback Seeking & Giving

- A U.S. case on disciplinary problems (FBS)

"One day I come into teach the class and one of the twenty students is very quiet. He seemed alright at the time of teaching, but towards the end he just starts crying for no reason... The questions that were raised in my head were: <u>1. How involved should I get?, 2. Should I call the family and tell them what happened?, 3. Should I tell the other teachers and see what we all can do?"</u>

Differences in Social Interaction Behaviors

- Social Interactions Among Korean students

- Well, like a cup of coffee, may this new thing be relaxing (I am praying now). It must be the beginning, so I am happy now. I wonder whether someone would reply to me. I am a little bit nervous 'cause I am not so familiar with Web conferencing.

- Sister Sunny, take care of yourself, and I hope your health will be good soon. I'm not accustomed to Web conference, either, but it is a good chance to participate. Please, cheer up!

- Thank you for your interest in my health, but I'm all right now. Just before, my long message to you has gone by my slight mistake, so I am sad (crying). And, sorry for my late reply to you.

Communication Styles & Culture

- Low context communication
  - Focuses on explicit verbal message
  - U.S. Finland, and most of the Western cultures
- High context communication
  - emphasizes how intention or meaning is conveyed through the context (e.g., social roles, positions, etc.)
  - Korea and most of the Asian cultures
- Importance of social interaction in the high context communication culture

Findings from the Qualitative Analysis

- U.S. students more action-oriented and pragmatic in seeking results or giving solutions.
- Finnish students were more group focused as well as reflective and theoretically driven.
- Korean students were more socially and contextually driven.

Implications

- Instructors have a key role in facilitating effective cross-cultural communication (e.g. social interaction activities for students from high context cultures).
- Instructional designers and software developers need to build learning tools that address learner needs from different cultures (usability tests in different cultures.
- Online learners need prior examples or case transcripts highlighting cultural differences in communication styles.

Story #9 (2002-2007): Who needs a ticket?

The Pedagogical TICKIT: Teacher Institute for Curriculum Knowledge about the Integration of Technology (1998-2003)

Curt Bonk
Lee Ehman
Emily Hixon
Lisa Yamagata-Lynch
John Keller
Indiana University

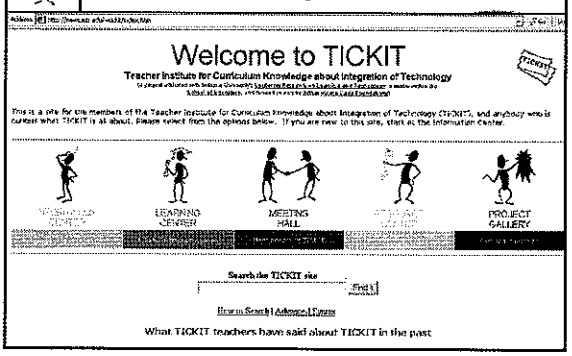
TICKIT (1998 to 2003 and to present)

- Five year investigation of the implementation of the *Teacher Institute for Curriculum Knowledge about the Integration of Technology* which annually trains 25 teachers from 5 rural Indiana schools; exploring long-term impact of inservice technology integration program.

TICKIT Team

1. Dr. Lee Ehman, IU, C&I Dept.
2. Dr. John Keller, IUPUI
3. Dr. Emily Hixon, IU Northwest
4. Dr. Lisa Yamagata Lynch, Univ of Northern Illinois
5. Timothy Hew, IU, IST Dept.
6. me

TICKIT Program Features



TICKIT Goals

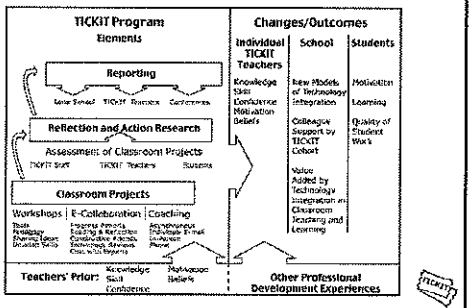
- Knowledge, skill, & confidence
- Thoughtful integration of technology
- Leadership cadres in schools
- Link schools and university
- Help schools capitalize on their technology investments

TICKIT Teachers

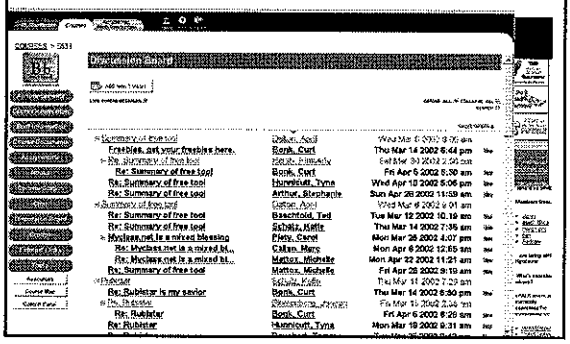
Goal Statement

"Obviously, I'm technologically in the Dark Ages. My students are so computer savvy that I feel I must at least attempt to catch up with them." – Debbie White, North Gibson, summer 2002 North Gibson School Corporation

TICKIT Model



Online Interaction



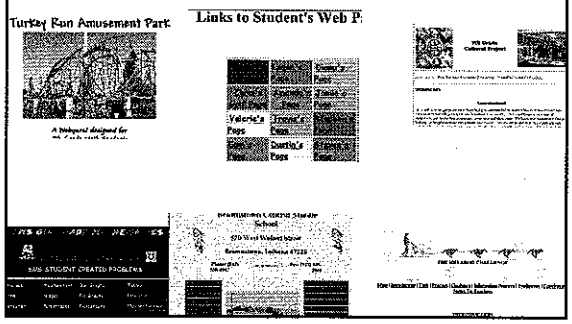
Typical TICKIT Training and Projects

Web: Web quests, Web search, Web edit/pub.
- Includes class, department, or school website.

- Write: Electronic newsletters, book reviews.
- Tools: Photoshop, Inspiration, PowerPoint.
- Telecom: e-mail with foreign key pals.
- Computer conferencing: Nicenet.org.
- Digitizing: using camera, scanning, digitizing.
- Videoconferencing: connecting classes.
- Web Course: HighWired.com, MyClass.net, Lightspan.com, eBoard.com

Project type	Number of projects (132)
Webquest	64
Electronic newsletters	1
Web editing & publishing	13
Online conferencing, collab, and discussion (includes email and phone)	10
Virtual tours	1
Computer apps (Excel, PP, Word, Internet)	38
Book review	2
Brochure construction	1
Electronic portfolio	2

Example Projects

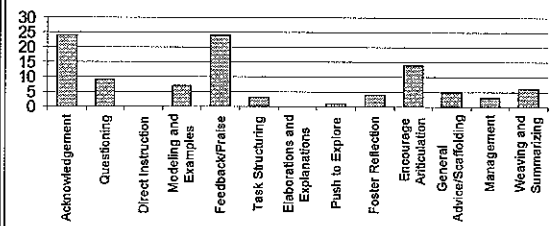


Critical Friend Post Example

"Beverly: Before I forget, I want to thank you again for your invaluable help at the ICE conference. I get used to using a particular piece of equipment or program, and it's hard for me to adapt quickly. You saved the day. One thing I have learned from using technology is that we need to depend upon each other for support. We are all in this boat together."

Forms of Learning Assistance

Figure 1. Forms of Learning Assistance in TICKIT Activities



Findings: Summary

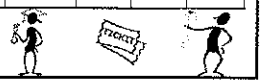
- Feedback, praise, social interaction most frequent
- Critical friends provide peer support, help, social
- Reading reactions & debates more content focus
- Critical friend postings perceived more beneficial
- Reading reactions & debates "just another task"
- Justification: 77% claims unsupported; 20% referenced classroom & other experience
- Depth: ~80% surface level
- Off Task: 7% total; most in critical friend activity

Research Question: Study #2

Do teachers who have been through the TICKIT program differ from teachers who have not on dimensions of computer integration?

TICKIT Results

Factors	Means: TICKIT Completers[††]	Means: TICKIT Applicants[††]	t	Sig.	† Effect Size
1. Technology Integration	74.05	38.25	7.663	.000***	1.81
2. Technology Limitations	11.60[††]	15.79	-3.281	.002**	.63
3. Technology Resistance	4.37[††]	7.91	-3.143	.003**	.80
4. Computer Proficiency	25.51	18.84	4.614	.000***	1.20
5. Learner-centered Instruction	18.29	12.40	5.120	.000***	1.22

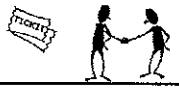


Relative Impact

Source of Influence	1st choice	2nd choice	3rd choice	% Ranking this 1,2 or 3
Peer Teacher Support	3	5	4	15%
Grant Money	0	2	2	5%
Administrative support	4	3	4	14%
Undergraduate Training	0	1	3	5%
Stipends	1	1	0	3%
Curriculum technology integration expectations	3	5	5	18%
Graduate courses outside TICKIT	2	4	4	13%
Personal ambition and interest in technology	**34**	**16**	**12**	**78%**
Parental and community expectations	1	2	3	8%
TICKIT professional development	**15**	**23**	**16**	**68%**
In-school professional development other than TICKIT	4	6	15	32%
Conferences, institutes, and other external	5	9	8	28%
Other	5	2	1	10%

TICKIT Teacher Voices

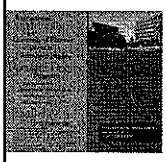
- "This class was very helpful. I gained a lot of confidence as a technology user from this class."
- "The door is now open. I will continue to try to find technological ways to teach them."
- "This was the best program I have ever been involved with as a teacher."

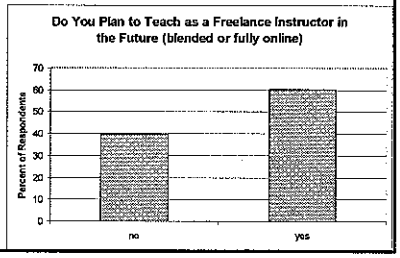


Story #10 (2003): Where is Disneyland?

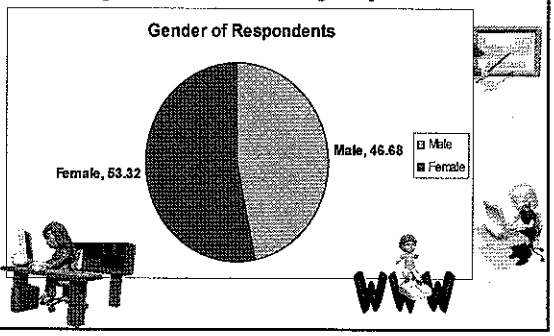
Online Learning Survey Research (2001-2006)

Myth #1. College instructors are loyal.

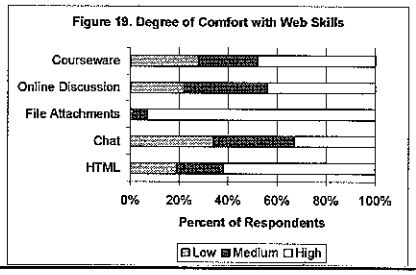




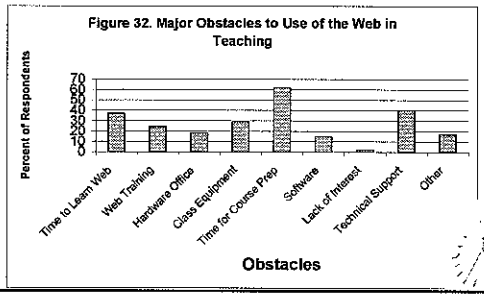
Myth #2. Young instructors will jump on this.



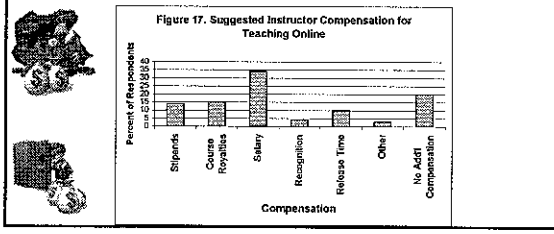
Myth #3.
College instructors will flock to sophisticated technologies.



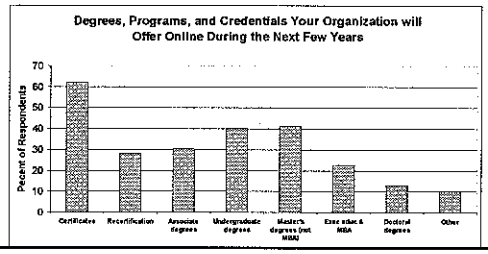
Myth #4.
College faculty just need a little more training to teach on the Web.



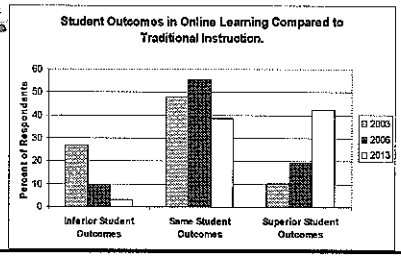
Myth #5.
Shhh...If you don't say anything, college instructor will just do this for free.



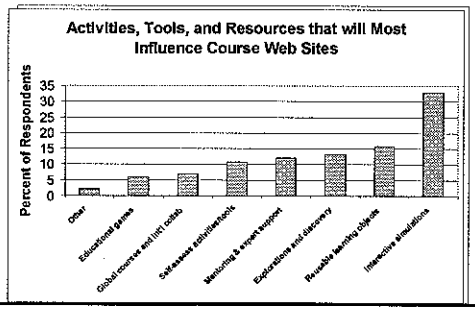
Trend 1: Enrollments Growth in Certificates and Short Programs



Trend 2: Course Quality Issues Become Pervasive (need for quality control police)



Trend 3: Technology Outpaces Theory
Kevin Kluse, November 2003, CLO, Tech Trends Impacting E-Learning



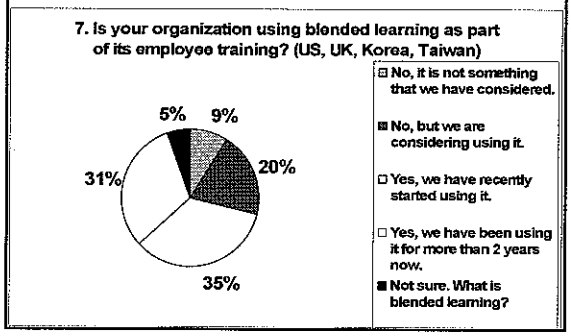
Present State and Future of E-Learning and Blended Learning (2000-Present)

- In process of analyzing new directions in e-learning and blended learning in both higher education and corporate settings in the UK, USA, China, Taiwan, and Korea via survey research (Note: my previous studies explored current state of online learning in higher educ and corporate settings).

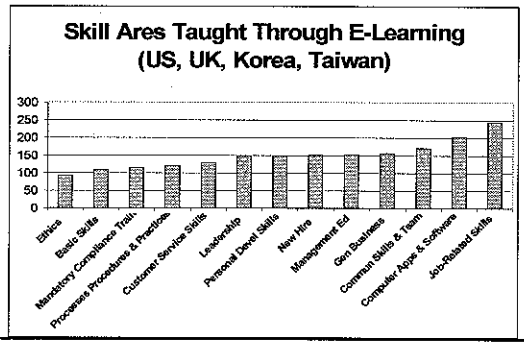
Present and Future of E-Learning and Blended Learning Team

1. Dr. KJ Kim (now at Portland State)
2. YaTing Teng, Univ of Illinois
3. Su Jin Son, Univ of Illinois
4. Tingting Zeng, Roehampton Univ, UK
5. Eun Jung Oh, Univ of Georgia
6. Jingli Cheng, Indiana University
7. Chris Essex, IU, IST Dept.
8. me

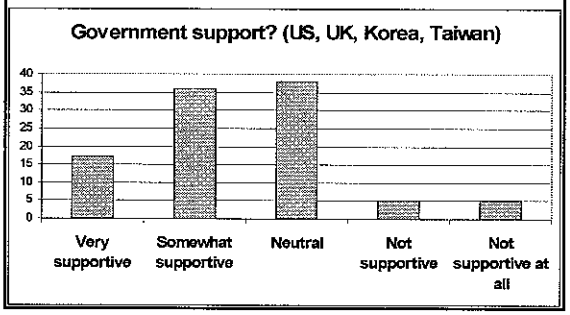
Using Blended?



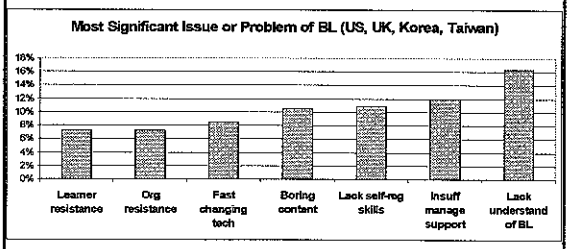
Skills Taught Blended



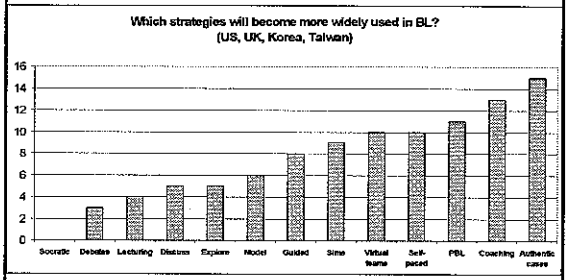
Government Support Online



Major Issue for Blended



Instructional Strategies Online



Story #11 (2004-2006): Data at your fingertips...

Research on the Online MBA Program, Kelley Direct (KD), at Indiana Univ

- **12 students in 1999 to 1,000 in 2004**
- **fully online; 1 week summer residencies**
- **Use regular on-ground instructors**
- **Data Collected: Surveys, focus groups, content analysis, interviews, document review, etc.**

Kelley Direct Online Programs
Indiana University Kelley School of Business

Online MBA Program (Dec. 2003-Present)

- **Exploring many aspects of Kelley Direct online MBA program at IU—the only top 20 MBA program that is fully online (includes research on virtual teaming, case-based learning, student and faculty perceptions, asynchronous discussion, instructor roles, technology use, time management, etc.). (Supervised 8-9 people on this project—work includes student and faculty interviews, focus groups, surveys, content analyses, etc.)**

Online MBA Program Team

1. **Dr. Rich Magjuka, IU, KD Bus School**
2. **Dr. Seung-hee Lee, IU, KD Bus School**
3. **Dr. Xiaojing Liu, IU, KD Bus School**
4. **Bude Su, IU, IST and KD Bus School**
5. **Dr. KJ Kim, Portland State University**
6. **Shijuan Liu, IU, IST Dept.**
7. **Dr. Min Shi, University in China**
8. **Mengyu Zhai, IU, Ed Psych Dept.**
9. **Dr. Minyoung Doo, James Madison Univ.**
10. **Allysa Wise, IU, Learning Sciences**
11. **Pam Fuhrmann, IU, Ed Psych Dept.**
12. **Jieun Lee, IU, IST Dept.**
13. **me**

About the Online MBA Program

- **Founded in 1999**
- **Program length: 24 months**
- **Completion rate: 96%**
- **Course delivery: online**
  - **Course Management System (ANGEL)**
- **One week in-residence per year**
- **Number of students: 1398 (as of 2006)**
  - **Female students: 21%**
  - **International students: 15%**

Exploring Four Dimensions of Online Instructor Roles: A Program Level Case Study (Liu, Bonk, Magjuka, Lee, & Su, 2005)

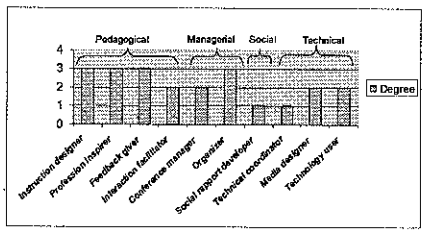
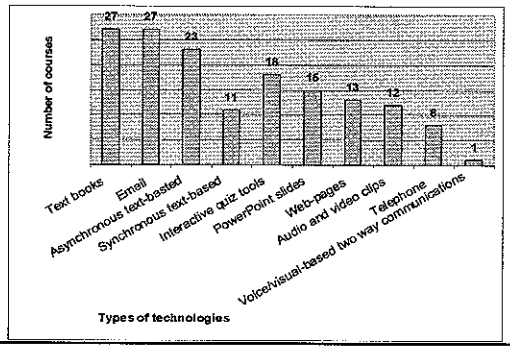


Figure 1. Instructors' preferences for different roles based on interview findings (High priority=3, Medium=2, Low priority=1)

Problems within Roles

- Lack program wide faculty interaction (P)
- Lack facilitation skills (P)
- Concerns about time commitment (P/S)
- Lack skills in weaving discussion (M)
- Lack awareness of social role (S)
- Lack better technology for social role (S)
- Lack technical skills (T)
- Concern about accessibility issues (T)

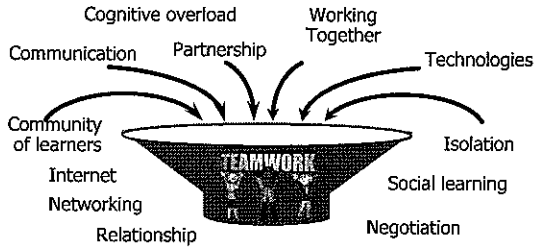
Usage of Different Tools



Bude, S., Bonk, C. J., Magjuka, R., Liu, X., Lee, S. H. (2005). The importance of interaction in web-based education: A program-level case study of online MBA courses. *Journal of Interactive Online Learning.*

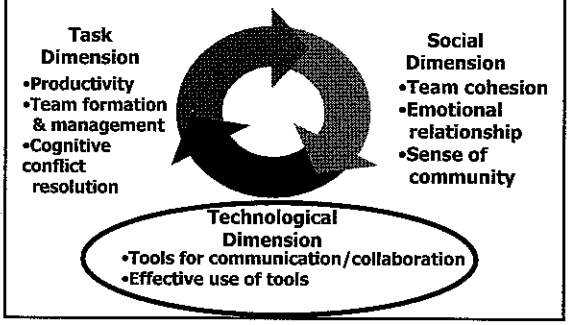
Instructional Activities	Course used	Course not used	Percentage of usage
Asking/responding to instructor questions	27	0	100%
Feedback on assignments	27	0	100%
Summary of class key points/concepts	26	1	96%
Instructor participation in class discussions	25	2	93%
Team-based learning activities	22	5	81%
Participation in online discussions as part of assessment	18	9	67%
Small team discussions	11	16	41%
Instructor participation in team discussions	1	26	4%
Virtual office hours	3	24	11%
Inter-team feedback/critique	4	23	15%
Peer evaluation	5	22	19%
Student online coffee house	2	25	7%
Student introduction forum	2	25	7%
Bulletin board to express student expectations	4	23	15%
Newsline	2	25	7%

"Collaborative" Virtual Teams?

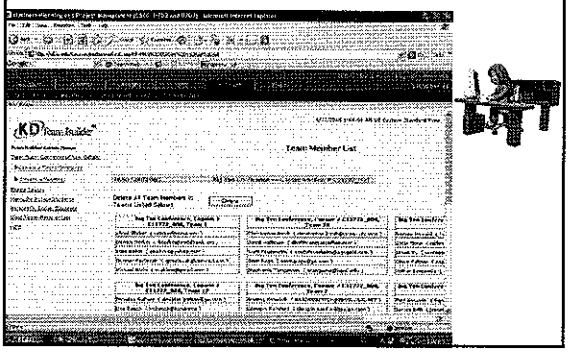


Dimensions of Virtual Teams

(Carabajal et al., 2003; Duarte & Synder, 1999)



Team Builder



Strategies Used for Virtual Teaming
(Lee, Bonk, Magjuka, Su, & Liu, in press)

Dimension	Strategies	Courses in use (%)
Task dimension	Team change by each assignment	2 (7%)
	Team discussion	23 (85%)
	Team-level deliverables	21 (78%)
	Internal interaction (critique, feedback, idea sharing)	9 (33%)
	Peer evaluation	5 (19%)
	Combination of teamwork and individual work	21 (78%)
Social Dimension	Online coffee house	2 (7%)
	Online introduction forum	2 (7%)
	Personnel profile	27 (100%)
	Other social events	5 (19%)

Strategies Used for Virtual Teaming

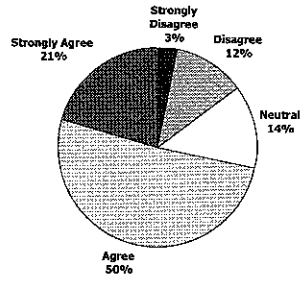
Dimension	Strategies	Courses in use (%)
Technological dimension	Email	26 (96%)
	Telephone	8 (30%)
	Text based asynchronous tools (e.g., discussion forums)	4 (15%)
	Text based synchronous tools (e.g., chat)	5 (19%)
	Voice-/visual based asynchronous tools (e.g., voice mail, voice message board)	0 (0%)
	Voice-/visual based synchronous tools (e.g., instant messaging, audio/video conferencing, live meeting)	0 (0%)

Summary of Dimensions of Virtual Teams in Online MBA Courses

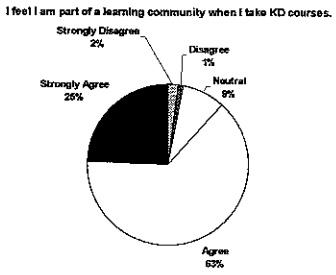
Dimensions of virtual teams		Degree[1]
Task Dimension	•Shared purpose of virtual teams	H
	•Belief on contribution of knowledge building	H
	•Use of task techniques for team activity design	M
Social Dimension	•Use of social techniques in virtual teams	M
	•Use of human interaction approach	M
	•Sharing social presence and cohesion	M
Technological Dimension	•Use of text based (a)synchronous tools	H
	•Use of audio-and video-based (a)synchronous tools	L
	•Usefulness of collaborative tools	M

[1] H=High, M=Medium, L=Low

KD Online Courses Provide Appropriate Tools for Virtual Teams. (75%)



Findings: Survey Results: I feel I am part of a learning community in KD



M=4.08, SD=0.71

Concerns with Community Building (Blended!)

"As for community, I think we're staggering toward one that's driven by the faculty members themselves. The times that we've been in the same room we say to each other, "We've got to get together. We've got to form some kind of group so we can trade ideas." We did get together for a lunch but it was like very unplanned and we can do a lot more with that."

Strength of the Program

- ***Flexibility:*** 60%; Per 1 student "Flexibility, if it wasn't online I wouldn't be getting an MBA."
- ***Excellent faculty***: 34%; Students perceive professors as knowledgeable, various teaching methods, good at providing immediate feedback.
- *High quality curriculum and course content*: 30% felt the program offers a high quality curriculum and course content; case-based instructional method valuable.
- *Reputation (13%); Admin support*: 11%; *Quality students*: 7%; *Diversity of community*: 6%
- **Other strengths including its week long in-residence program**, relatively low cost, overall program quality, and the possibility to use what is learned directly in the work setting

Key Barriers to Online Learning

- Lack of human interaction: 33% of respondents think more interactions are needed between student and instructor, and among students.
- Team schedule issue: 18% of the respondents expressed the frustration over time zone differences and difficulty of scheduling sync mtg.
- Lack of sense of community: 11%. A few students felt lonely due to lack of peer support and lack of a strong network of students.
- Lack of interactive technology: 8%; Delayed feedback: 8% Large group size: 7%;
- Other barriers include unclear expectations, not enough time for reading, unequal work load distribution, lengthy discussion forum, and lack of lecture.

Dropping out???

- Only 9% thought about dropping out due to disappointment with course design.
- Also a problem with a lack of community, lack of social presence of instructor, lack of bonding
  - The intention of dropping out of the classes
  - negatively correlated with the learner engagement (r=-.40),
  - feeling of being a part of a learning community (r=-.47),
  - comfort level of reading messages and materials online (r=-.40),
  - and helpfulness of instructor facilitation (r=-.51).

One Word to Describe Program

- 70% were positive!
- Common words were excellent, good, exciting, rewarding, effective, satisfied, enlightening, educational, solid, and empowering.
- About 16% think the program is quite challenging (challenging, intense, demanding, adventure, and hard).
- One student wrote "this is the hardest thing I have ever done."
- New, unique, eye-opening, and surprising.

Recommendations for Improvement

- More technology integration: 52%. Video & tele-conferencing, better chat.
- Immediate and detailed feedback
- More human interactions: Over 50%.
- More options, flexibility, elective courses.
- Enhance administrative support: Consulting services, contact options, hot line help.
- Flexibility on Team assignment: Choose teammates.
- Specific recs: More lectures, burned CDs, slide narrations, key take aways, emailing course announcement, and more instructor check up.

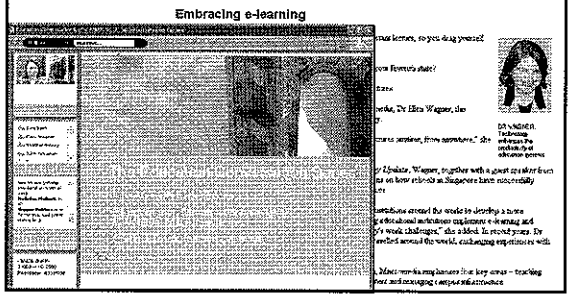
Story #12 (2006-2007): A synchronous life is a Breeze.

Research on use of Breeze synchronous training tool in online teaching in Instructional Systems Technology at IU.

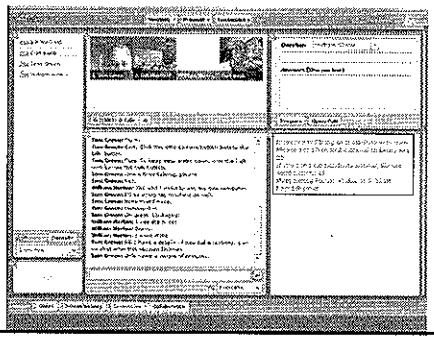
- Transcripts
- Interviews

The movement toward synchronous instruction

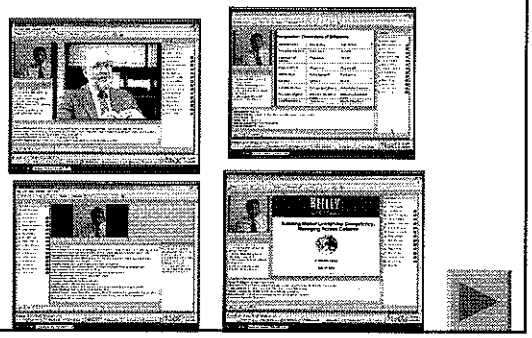
Making learning interactive is (was) a Breeze!



Synchronous Conferencing



Synchronous Sessions (Breeze, Elluminate, WebEx, etc.)



Synchronous Sessions (Breeze, Elluminate, WebEx, etc.)

Research Questions

- What sync strategies employ in critique activity?
- What instructional benefits of sync?
- What issues and challenges encounter?
- How is Breeze as a sync collaboration tool?
- What suggestions and practical guidelines?

Spring 2006: Merge distance and residential

- 22 distance students
- 11 residential students
- One full-time faculty member
- Five graduate teaching assistants
- 49 synchronous critique sessions

Table 1: Numbers of Synchronous Critique Sessions and Tools Used

Number of synchronous Critique sessions held	Tools used for synchronous critique sessions
49 (including 3 practice sessions)	Breeze[1] & telephone (38)[2] Breeze & Breeze voice chat (4) Breeze & Breeze text chat (5) Breeze & Breeze voice chat & telephone (2)

[1] Breeze used as a visual display for uploading student's projects and help to share the same screen during the presentation
[2] Numbers in parentheses denote the number of critique sessions via the various communication tools.

Purpose of Critique Sessions

- (1) to help students apply the newly learned design principles in order to evaluate media design products,
- (2) to exchange constructive feedback on each other's project in progress.

Synchronous Critique in Breeze Context

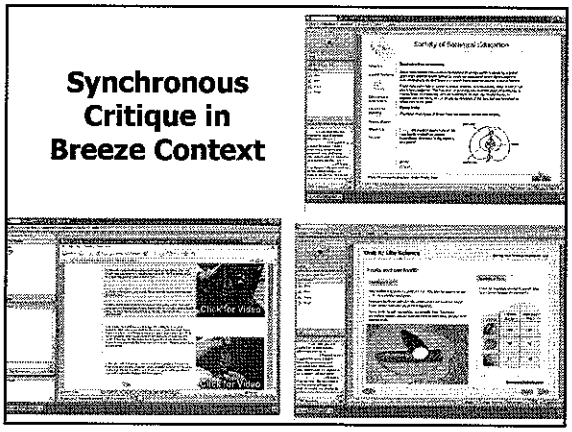


Table 3: Benefits of Peer Critique

- Providing immediate feedback
- Encouraging to exchange multiple perspectives
- Increasing interactions among participants
- Enhancing dynamic interactions
- Promoting passive students to become active
- Strengthening social presence allowing to exchange of emotional supports and supplying verbal elements

Table 4: Instructional Strategies Employed

Promote interactions:

- Structure the synchronous critique activity
- Scaffold the discussion
- Moderate students' critique behaviors
- Use a small-group and be flexible about synchronous activity management

Instructional Supports

- Prepare Students
  - Provided ground rules and guidelines
  - Held practice sessions
  - Provided materials to be critiqued

Table 5: Issues Identified on Synchronous Tools and Scheduling

	Advantages	Disadvantages
Breeze collaboration tool	Screen-share function during presentation Features to organize participants' roles and screen control Compatibility with the existing course Easiness of use Recording and archiving function	Small viewer. Delay or difficulty in playing large-sized files.
Breeze voice chat	No additional cost needed Easiness of use	Vulnerability to user's technical conditions
Telephone conference	Stable condition Easiness of use	Relatively high cost
Breeze text-based chat	No additional cost required	Difficulty in moderating discussions with a large group of students
Scheduling		Additional workload for instructors to arrange the meeting. Fixed- time meeting causing inconvenience for some distance students.

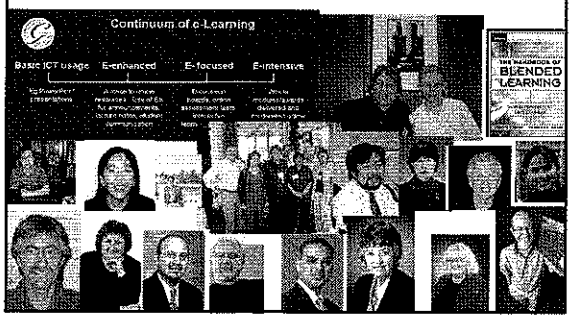
Study #13: Is there a Blended Expert in the House?

The Roles of Blended Learning in Computer-Supported Collaborative Learning (CSCL) Environments: A Delphi Study

Hyo-Jeong So, Assistant Professor
National Institute of Education, Singapore
hyojeong.so@nie.edu.sg

Curtis J. Bonk, Professor
Indiana University, United States
cjbonk@indiana.edu

Handbook of Blended Learning (Bonk & Graham, 2006)



Overview

- Purpose of the study
- Methods
  - Delphi Study Process
  - Delphi Panel
  - Electronic Delphi
- Results: Rounds I & II Surveys
- Plan for Round III Survey
- Discussions

Experience. The difference.

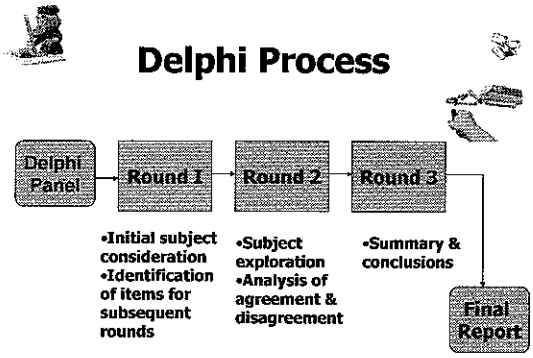
Purpose of the Study

- What are the roles of blended learning in CSCL environments?
  - Is blended learning really an effective and efficient approach?
  - What are possible disadvantages of blended learning?
  - How would blended learning change our learning environments?

Methods

- **Delphi Study**
  - To capture the judgment of recognized experts in the field of distance education
  - Time- and cost-efficient method to obtain opinions from experts without physically bringing them together for a face-to-face meeting
- **Electronic Delphi: utilized online survey forms (http://www.surveyshare.com)**

Delphi Process



Delphi Panel

- **Invited 32 experts who had contributed chapters to the recent *Handbook of Blended Learning* (Bonk & Graham, 2006)**
- **Numbers of Participants**
  - Round I: N=13, Round II: N=14
- **Geographical locations**
  - 4 from US, 2 from Europe, 4 from Asia, and 4 from other areas
- **Expertise levels**
  - 13 indicated high expertise in blended learning
  - 11 indicated high expertise in CSCL

Round 1 Results

38 themes were identified from participant responses (Example)

Questions 1. In general, how can blended learning strategies facilitate collaborative learning activities?

1.1. Blended learning facilitates project management with online technologies.

1.2. Blended learning supports flexibility and effectiveness in work and communication.

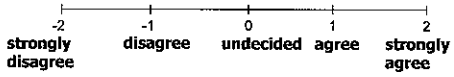
1.3. Blended learning provides the time and flexibility for preparation and follow-up and the time-specific stimulus of a face-to-face session to keep students on track.

1.4. Blended learning helps knowledge co-construction.

1.5. Blended learning helps relationship building.

Round 2 Questions

- **Purpose: to identify agreements and disagreements**
- **Likert scale on items identified in Round I**



- **Rankings: "What is the most important item?"**
- **Reasons: "Please provide a brief explanation for your selection"**
- **Measure expertise level for each question: No expertise to High expertise**

Q 1. In general, how can blended learning strategies facilitate collab learning activities?

High Consensus

Delphi Item	Median	Quartile Deviation	Ranking Frequency Most important item
1.1. Blended learning facilitates project management with online technologies.	1	0	0
1.2. Blended learning supports flexibility and effectiveness in work and communication.	1	.5	4
1.3. Blended learning provides the time and flexibility for preparation and follow-up and the time-specific stimulus of a face-to-face session to keep students on track.	1	.5	3
1.4. Blended learning helps knowledge co-construction.	1.5	.5	5
1.5. Blended learning helps relationship building.	1	.5	0

SD= -2, D=-1, U=0, A=1, SA=2

Q2. How might blended learning hamper or interfere with online collaborative learning activities?

High Consensus

Delphi Item	Median	Quartile Deviation	Ranking Frequency
2.1. It can interfere when the different blended components are not well connected.	1	0	3
2.2. Lack of access and skills to make effective use of the tools are potential barriers.	1	.5	1
2.5. There must be a correspondence between face-to-face and online course components.	1	.5	7

Low Consensus

2.3. Students may feel that there's no need to go online if they can work face-to-face.	0	1	2
2.4. Students can equate online activities with self-paced work and face-to-face activities with collaboration.	0	1	1

Q3. How might blended learning foster collaboration among students in a class?

High Consensus

Delphi Item	Median	Quartile Deviation	Ranking Frequency
3.1. Responses can be made either in face-to-face or online environments.	1	0	1
3.2. Blended learning can widen access to resources.	1.5	.5	0
3.3. Students can collaborate online after building a sense of community in a face-to-face context.	1.5	.5	4
3.4. Online tools can support project management and discussion.	1.5	.5	5
3.5. Online space provides opportunities for students to discuss knowledge and clarify misconceptions.	1	.5	3

Q4. How might blended learning foster collaboration among students located in more than one university or region?

High Consensus

Delphi Item	Median	Quartile Deviation	Ranking Frequency
4.1. The online learning management system (LMS) can be used as a medium to enhance collaboration.	1	0	3
4.2. While face-to-face components typically occur within a local university, online collaboration can involve collaboration with students outside an institution.	1	0	3
4.4. Online learning results in distributed working on class tasks and reduces travel.	1	.5	3

Low Consensus

4.3. The location of the collaborators does not matter.	1	1	4

Q5. How might blended learning foster collaboration among instructors?

High Consensus

Delphi Item	Median	Quartile Deviation	Ranking Frequency
5.1. Instructors in the same department or even across departments can collaborate and learn from each other by sharing resources.	1	.5	1
5.2. It depends on how the learning design involves interactions with others.	1	.5	6
5.3. Blended learning has the potential to develop networks beyond the conference circuit.	1	.5	1
5.4. Blended learning can help instructors maintain their standard curriculum as well as their instructional processes, thereby providing quality controls and learning outcomes assurances.	1	.5	1
5.5. Blended learning can be used to offer online staff development courses.	1	.5	3

Q6. How might blended learning foster collaboration among students and their instructors or tutors?

High Consensus

Delphi Item	Median	Quartile Deviation	Ranking Frequency
6.1. Blended learning can foster open two-way learning and communication.	1	.5	1
6.2. With online technologies, it is possible to have ongoing conversations and collaborations with instructors outside of the traditional learning space.	1.5	.5	3
6.3. It depends on how the course is designed.	2	.5	8

Low Consensus

6.4. Students and instructors can take equivalent roles in the teaching and learning process.	1	1	2

Q7. How might blended learning foster collaboration of students and experts?

High Consensus

Delphi Item	Median	Quartile Deviation	Ranking Frequency
7.1. Experts can share their expertise through both online and off-line formats.	1	0	0
7.2. Students can to talk to experts more intensively via online learning.	1	.5	0
7.3. It depends on how the learning design involves interactions with others.	1	.5	8
7.4. It is easier to get experts.	.5	.5	2
7.5. Students can have instant access to the work of experts, but need to gather, evaluate, and use information in a responsible way.	1	.5	2

Q8. How might online collaboration within blended learning change or be different in 20 years?

High Consensus

Delphi Item	Median	Quartile Deviation	Ranking Frequency
8.1. Collaborative activities will become more complex, but more resources to support them will be available.	1	.5	0
8.2. More international collaboration will be possible.	1	.5	1
8.3. The technology will change, but the need to collaborate and the basic principles of learning may not.	1	0	2
8.4. Integrated and ubiquitous technologies will provide seamless, fast, and easy access to shared environments.	1	.5	2
8.5. There will be no bi-polar classification of online learning and off-line learning. All the learning will be blended learning.	1	.5	8

Discussions

- **High consensus on the importance of: (1) pedagogy and (2) interaction design behind blending learning**
- **Barriers of blended learning in CSCL**
  - **Lack of correspondence/integration between online and face-to-face components**
- **Prediction for future**
  - **There will be no bipolar classification.**
  - **A new way to define learning might surface with seamless ubiquitous technologies.**

Contact

Hyo-Jeong So
Assistant Professor
Learning Sciences and Technologies
National Institute of Education
Nanyang Technological University
hyojeong.so@nie.edu.sg

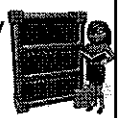
Curtis J. Bonk
Professor
Instructional Systems Technology
School of Education
Indiana University – Bloomington
cjbonk@indiana.edu

Story #14 (2006-?): Where is a Wikibookian when you need one?

Survey of more than 80 Wikibookians about the creation and coordination of a Wikibook. Issues addressed include owership, problems encountered, tools to facilitate online collaboration.

Wikibookians in the Web 2.0: Exploring the Wonders of Collaborative Writing in the Wikibooks Website

Curt Bonk, Indiana University
cjbonk@indiana.edu
Suthiporn Sajjapanroj, Indiana University
Mimi Lee, University of Houston
Grace Lin, University of Houston
(the Wiki-RIKI research team)
See http://wiki-riki.wikispaces.com

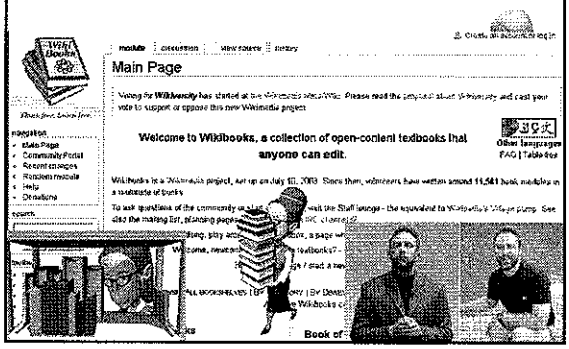


Sajjapanroj, S., Bonk, C. J., Lee, M, & Lin M.-F. (in press for March 2008). A window on Wikibookians: Surveying their statuses, successes, satisfactions, and sociocultural experiences. *Journal of Interactive Online Learning (JIOL).*

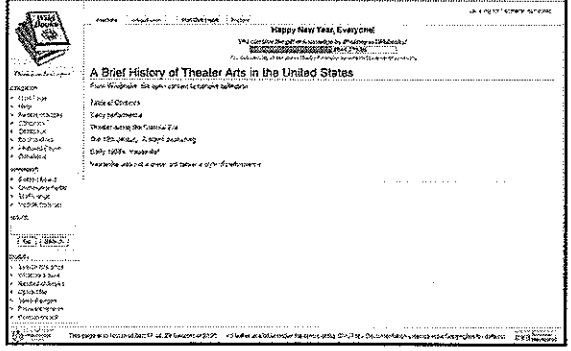
Wikibook Questions

- **Have you ever read or edited an entry in Wikipedia? How about a Wikibook—have you ever read a Wikibook or helped write one? Have you ever collaborated with others to put a Wikibook together?**
- **Who owns a Wikibook? The chapter authors? The readers? The book coordinators? All of the above?**
- **Can a Wikibook every be completed? Why or why not?**

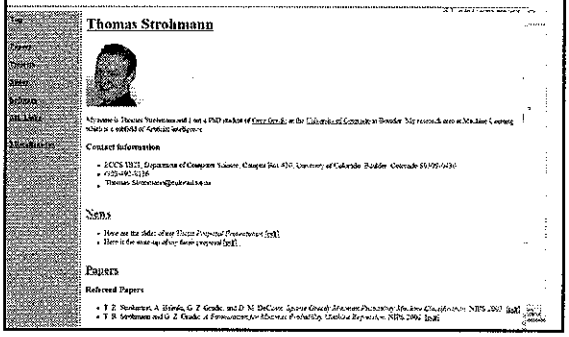
Wikibook Creation and Collaboration



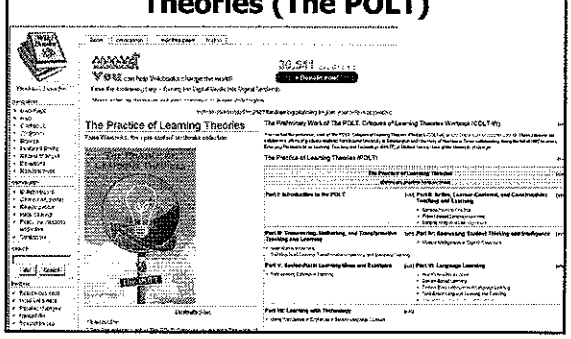
Sample Wikibooks http://en.wikibooks.org/wiki/Main_Page



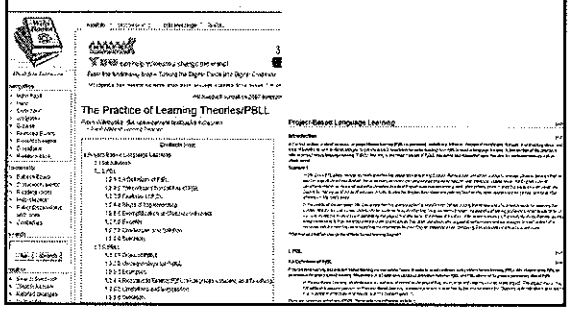
Our Sample: Finding Wikibookians



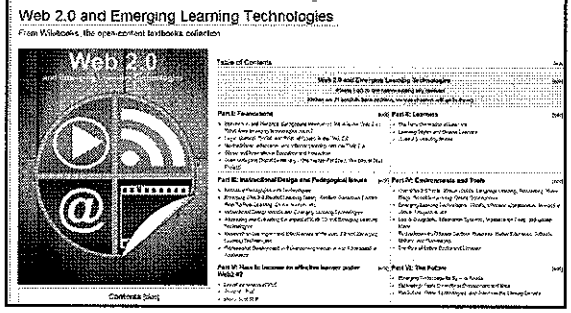
P540: The Practice of Learning Theories (The POLT)



P540: The Practice of Learning Theories (The POLT)



R685: Web 2.0 and Emerging Learning Technologies (The WELT)



R685: Web 2.0 and Emerging Learning Technologies (The WELT)

Web 2.0 and Emerging Learning Technologies/Digital Divide

Overcoming the Digital Divide (e.g., One Laptop Per Child, The Global Text Project)

Projects to Promote Technology Use in the U.S. and Other Countries

Compare Wikipedia and Wikibooks
http://en.wikipedia.org/wiki/Special:Statistics
http://en.wikibooks.org/wiki/Special:Statistics

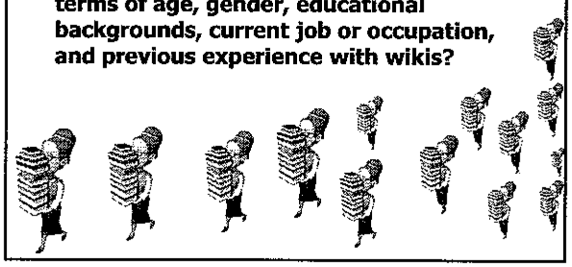
Characteristic	Wikipedia	Wikibooks
1. Date Launched	January 15, 2001	July 10, 2003
2. Historical Statistics (as of March 24, 2007):	8,104,148 pages 6.4 million articles 1,703,263 articles in English 250 languages 121,944,043 edits 15.05 edits per page 700,001 media files 3,932,542 registered users 1,155 system admins	71,800 pages 26,000 modules or chapters Over 1,000 books, the largest category in English 120 languages 817,941 page edits 11.26 edits per page 66,862 registered users, 36 system admins

Wikibookian

A Wikibookian is someone who coordinates, edits, or contributes to a Wikibook project.

I. Statuses

1. Wikibookian Demographic or Status Questions: Just who are Wikibookians in terms of age, gender, educational backgrounds, current job or occupation, and previous experience with wikis?



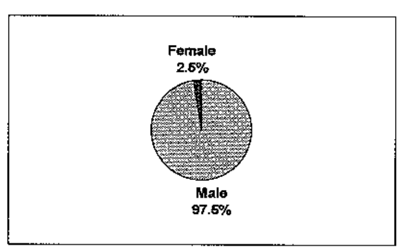
Findings from Surveys

- **Demographical data: 58% of Wikibookians were younger than 25 years old.**

Age of Wikibookians

Age	Amount	Percentage
Under 18	15	19
18-25	31	39
26-34	20	25
35-50	9	12
51-65	2	2.5
Over 65	2	2.5

Demographical data: more than 97.5% were male

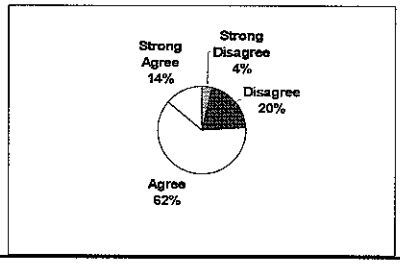


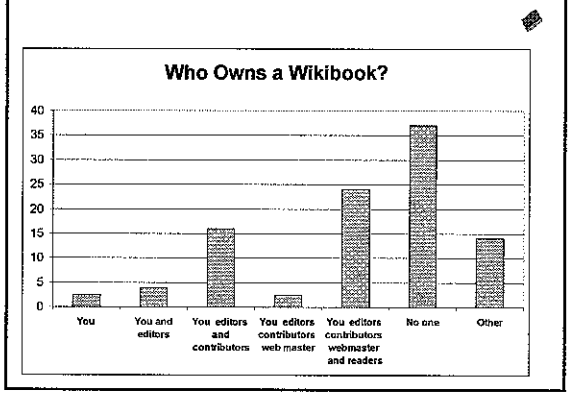
II. Successes

2. Wikibook Coordination and Success Questions: What are the key roles of a Wikibookian? What challenges, frustrations, and obstacles do they face within those roles? And what motivates Wikibookians to collaborate with others in the development of a Wikibook? Did they find their most recent Wikibook project a success? And can a Wikibook project ever be completed?

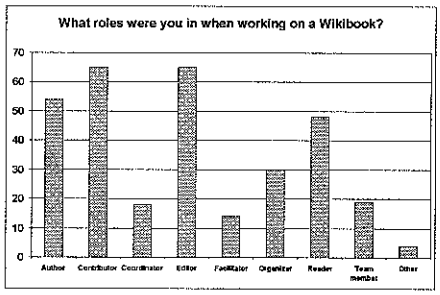
Wikibook Project a Success?

- **76% of Wikibookians agree that their recent Wikibook project was successful.**





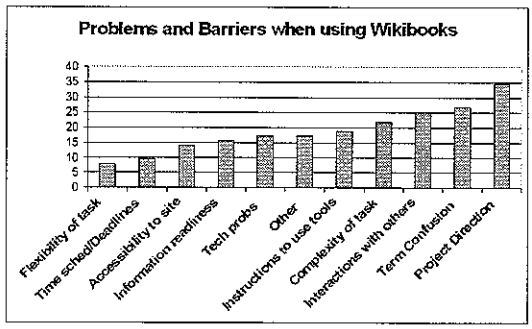
Wikibookian Roles



III. Satisfactions

3. Satisfaction with Wikibook Environments and Tools Questions: How satisfied are Wikibookians with the existing suite of tools and resources? What improvements should be made to existing ones? What additional Wikibook tools and resources are needed?

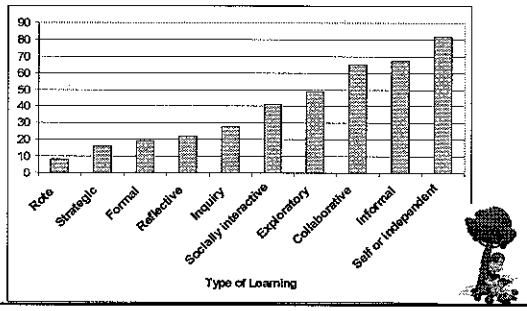
Any Problems or Barriers?



IV. Sociocultural Experiences

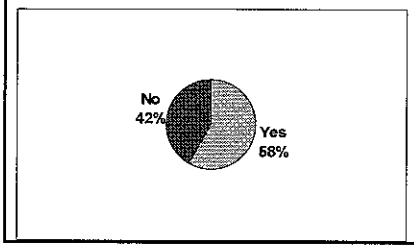
4. Wikibooks as a Sociocultural Phenomenon Questions: What types of learning approaches and experiences do Wikibook environments tend to encourage? How effective do Wikibook environments promote collaboration and social interaction? Do Wikibook environments foster a type of apprenticeship process?

What type of learning does a Wikibook foster?

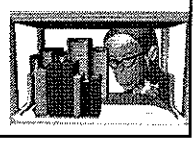


Findings from Surveys (cont.)

- **Wikibook Completion: Can a Wikibook ever be completed? 58% of Experts say yes!**



Some Themes from Email Interviews



Theme #1: Introduction to Wikibook

- ***I helped found Wikibooks when I started writing an Organic Chemistry textbook on Wikipedia. Jimmy Wales agreed to start another site where we could write textbooks.***
- ***I found Wikibooks about Wikipedia, after I realised that my project on which I was working got to long for Wikipedia.***

Theme #3: Important Features and Activities Necessary for Collaborative Environments from a Wikibookian's Perspective

- ***A way for people to communicate with each other, a way to track the contributions of each person, a way to make the information accessible to newcomers, a simple interface that an average person can learn very quickly or even use intuitively.***
- **a special area where one set group of people can take over a book for a time, for example, to enable one class or one group of professors develop materials**

Theme #6: Toward Collaborative Knowledge Construction: Issues of Ownership and Disputes over Editing

- So revert it :) It's a Wiki, so everybody can edit it. When s.o.'s edit doesn't apply to my standards, I can revert it. And that person can revert me too. When we both find it important, we can start talking through the talkpage...
- This has happened to me. In my experience, changing the material back is pointless, and will just cause dispute.

Theme #9: Wikibook Recommendations

- I'd suggest getting several co-authors from the get go and deciding on a template for the book chapters so it is uniform from the beginning. It's bound to change over time, but you may as well start with a plan.
- Get help. Don't try to do it on your own, it's a too big amount of work and you will definitely loose the overview.

Theme #10: The Future of Wikibooks and Other Comments

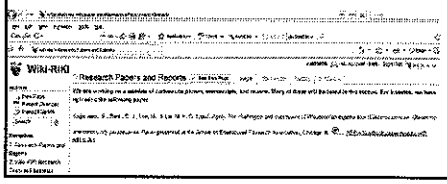
- Community-written textbooks in every American classroom as well as around the world, students and teachers involved in the production of textbooks on occasion as a part of the development process, better textbooks then we have ever had before, teaching materials shared for free in many languages all over the globe, the end or dramatic change of much of the textbook industry (cartel) as it currently exists.
- I don't think the concept will catch on except among small niches until there are some very well-developed textbooks available on the site.

Final Participant Quotes and Paper

"Go rockin' on!"

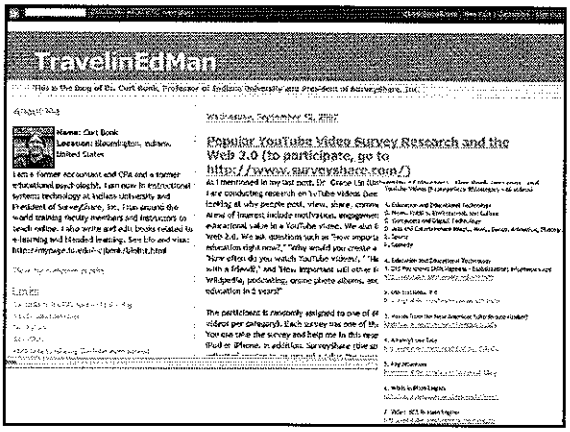
"I love wikis they're truly the closest example of the purest form of democracy."

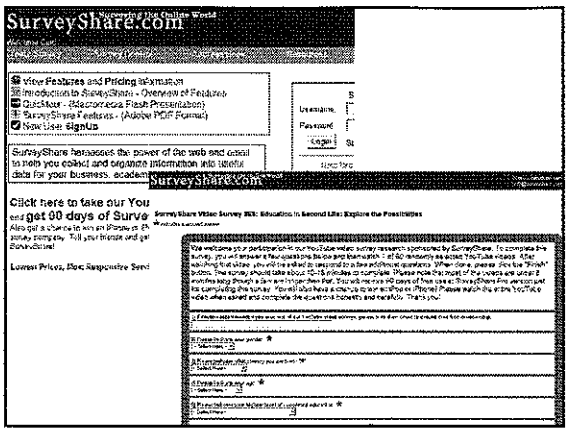
For paper, see http://wiki-riki.wikispaces.com



Story #15 (2007-?): You can be a YouTubian Too!

Exploring online motivational and collaborative factors in watching and generating YouTube videos. Also looking at participatory forms of learning.

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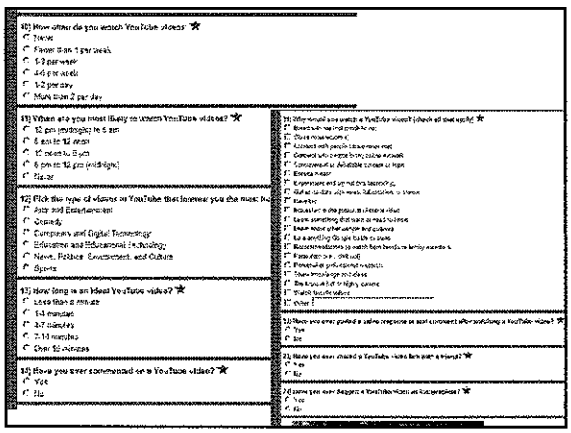
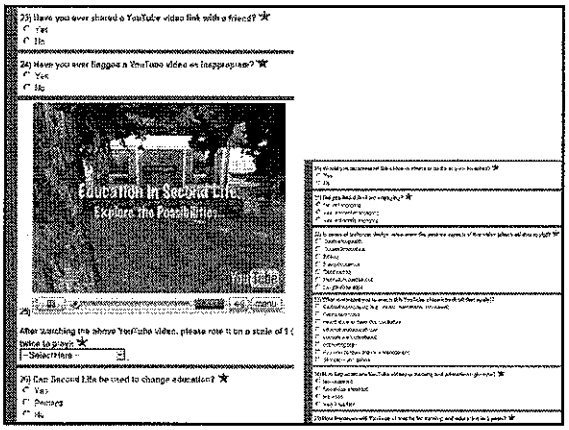
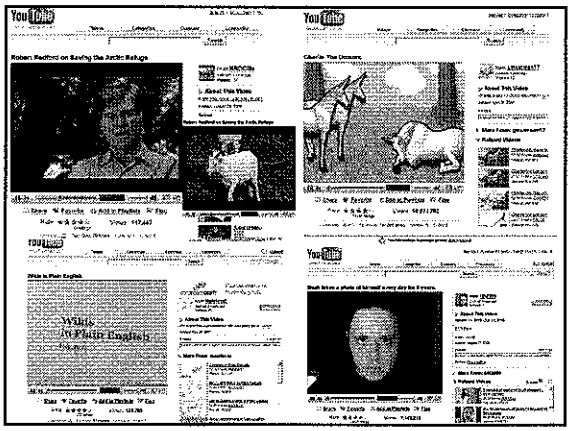
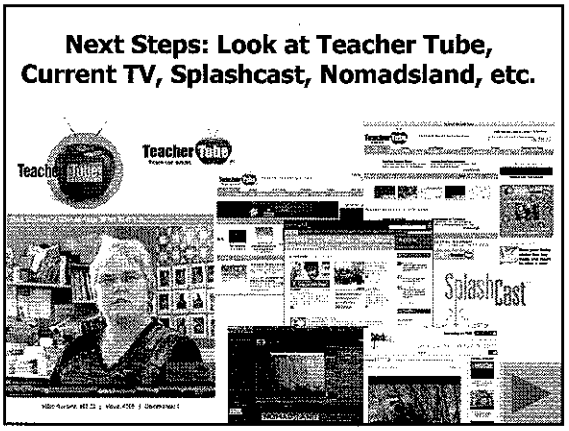
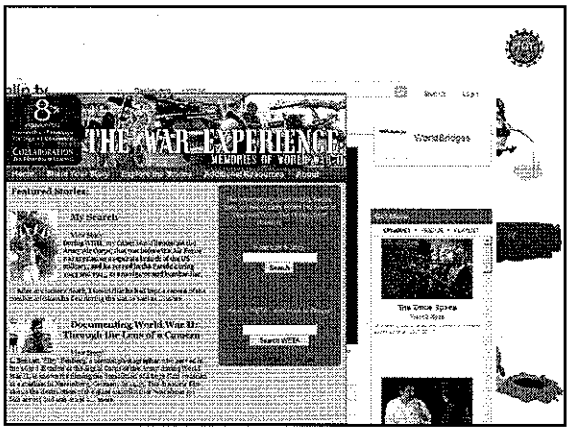
Click here to take our You
and get 00 days of Surve



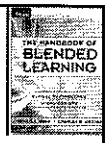

Education in Second Life
Explore the Possibilities




Next Steps: Look at Teacher Tube, Current TV, Splashcast, Nomadsland, etc.
TeacherTube
SplashCast


THE WAR EXPERIENCE
MEMORIES OF WORLD WAR II
WorldBridges

Two + 1 (3) Key Research Questions for the Next 2 years?



1. What new sorts of collaborations will knowledge repositories spur? What impact will these have on innovative pedagogy?

2. How will wikis, blogs, podcasts and other technology innovations foster more individualized learning and opportunities for social constructivist teaching practices?

3. What new forms of education will emerge from handheld devices and mobile computing?