





Dual Coding Theory | Compared Coding Theory | Compared Coding Theory | Compared Coding Theory | Code | Coding Theory | Coding Theory

The promise of multimedia learning: Using the same instructional design methods across different media
Richard E. Mayer, Learning and Instruction, 13 (2003) 125-139.

MULTIMEDIA SEMSORY WORKING MEMORY MEMORY MEMORY Memory of making Potential Media Semsor Memory of Memory of making Potential Media Semsor Memory of M

Verbal and Visual Systems

 The verbal system specializes in processing and storing linguistic information (words, sentences, etc.,).
 Information is stored in discrete, sequential units. In contrast, the visual system specializes in processing and storing image or 'picture-like' representations.

The promise of multimedia learning: Using the same instructional design methods across different media

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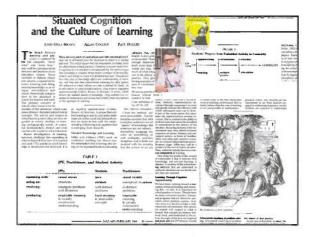
A review of research on the design of multimedia explanations:

- (a) a multimedia effect: in which students learn more deeply from words and pictures than from words alone—in both book-based and computer-based environments,
- (b) a coherence effect: in which students learn more deeply when extraneous material is excluded rather than included—in both book-based and computer-based environments,

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- (c) a spatial contiguity effect: in which students learn more deeply when printed words are placed near rather than far from corresponding pictures—in both book-based and computer-based environments, and
- (d) a personalization effect: in which students learn more deeply when words are presented in conversational rather than formal style—both in computerbased environments containing spoken words and those using printed words.



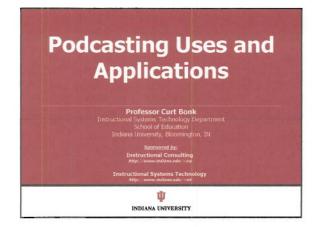




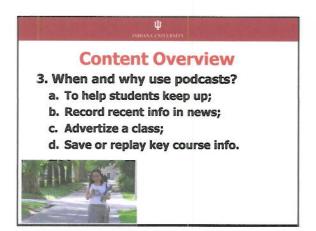
(1) Podcasts, (2) Wikis, and (3) Blogs

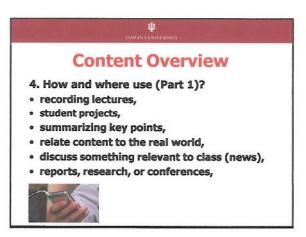
- Definitions
- Content Overview and Theory
- · Instructional Ideas and Examples
- Advice and Guidelines
- Other



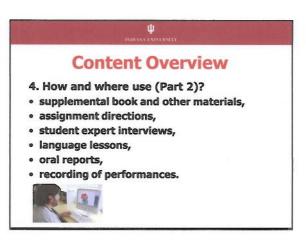






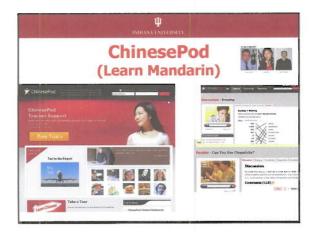






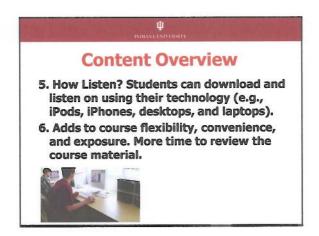


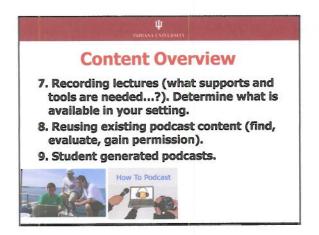




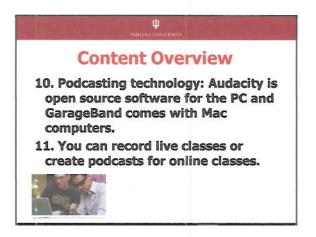




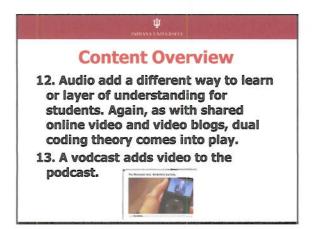




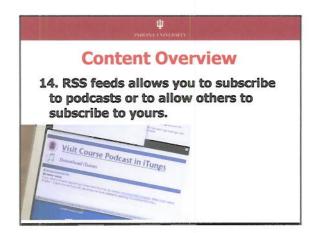




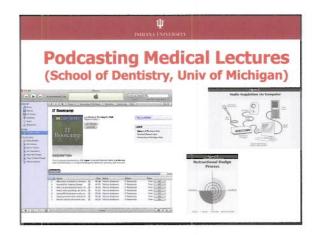




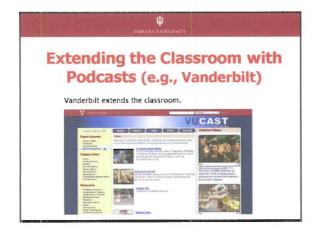




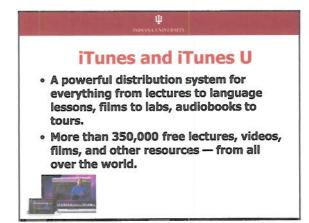




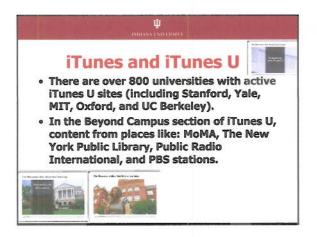


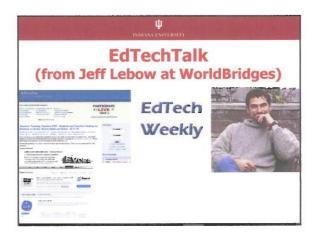




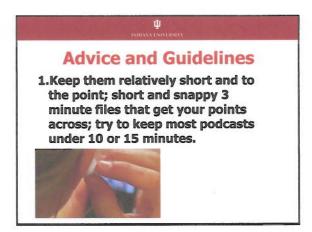


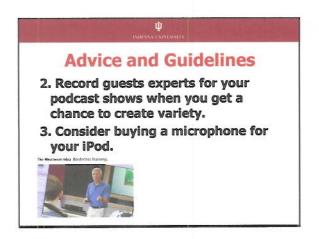


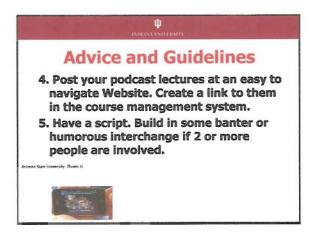


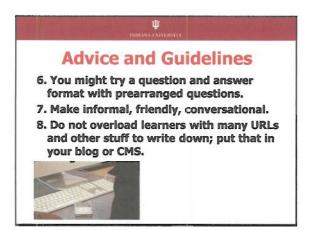


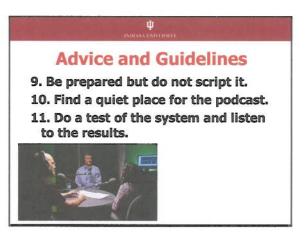


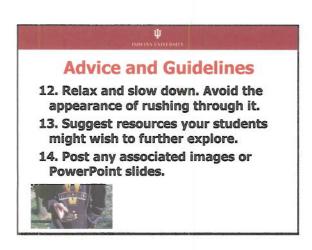




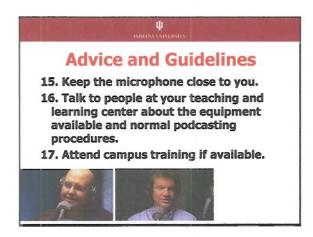


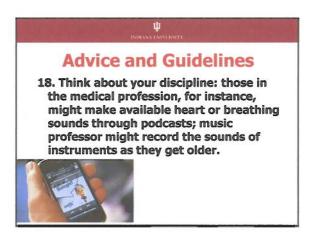








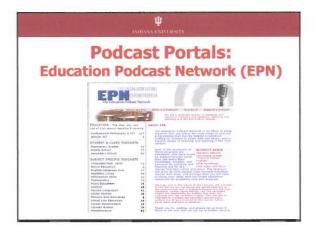










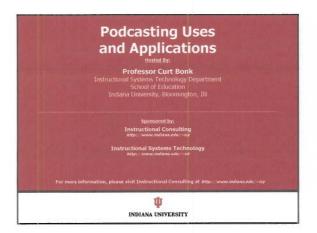


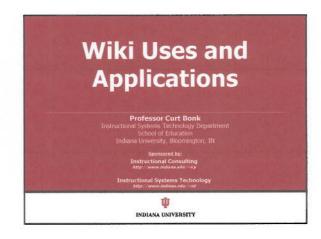


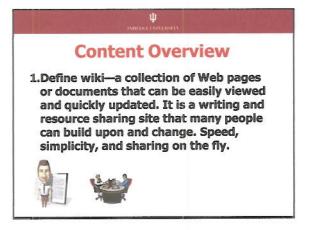


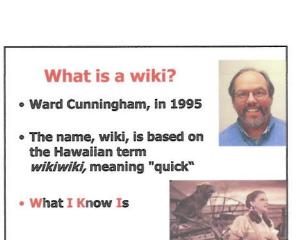












For Teachers New to Wikis

- · Wikis are free, online writing spaces.
- Wikis use simple formatting rules, so no HTML understanding required.
- Highly collaborative composing and creativity
- · Authors do not claim ownership
- · Published online
- Wikis provide a history and anyone can revisit prior versions of text



How use in teaching

- 1. Provide space for free writing
- 2. Debate course topics and readings
- Share resources (websites, conferences, writing, etc.)
- 4. Maintain group progress journal
- 5. Require group or class essay
- 6. Have student revise Wikipedia pages
- 7. Write a wikibook



Content Overview

 Theory behind wikis: Participatory or contributory learning. Let the students generate learning instead of receive it. Time names "You" as the "Person of the Year."



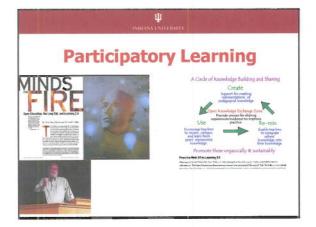




Content Overview

3. More Wiki theory—aligns with social constructivist approach to learning. Highly collaborative, with no ownership.. Factual knowledge versus student constructing knowledge decision.





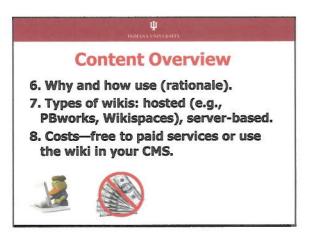
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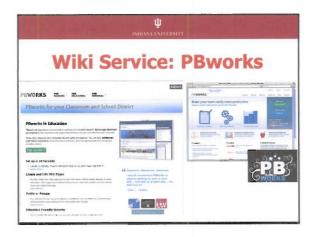
- Advantages (easy access for collaborative production, easy to change, can see the process and contributions).
- 5. Challenges (learning curve, digital divide issues (e.g., proxy servers), familiarity, etc.



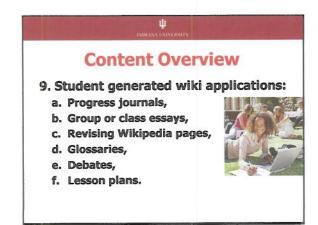


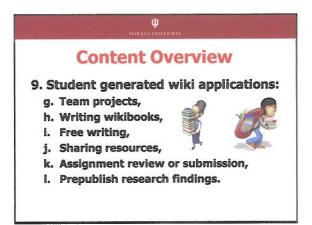






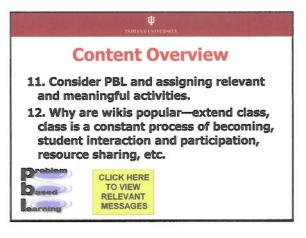


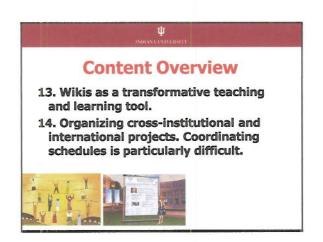


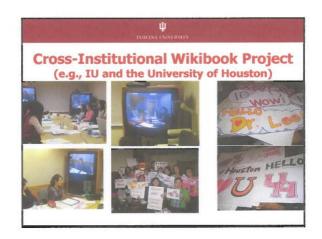




conferences, etc.).







Adult Learning Theory (Knowles, 1984; Rogers, 1981) and Distance Learning Theorists (Moore, 1989; Wedemeyer, 1981)

- More choices and self-directed learning opportunities, the more success.
- Learning must be meaningful, interactive, and reflective.
- Activities chosen should foster higher selfesteem, internal motivation, and goal driven opportunities.
- Learning should be open, genuine, inviting, respectful, active, collaborative, and learner driven.

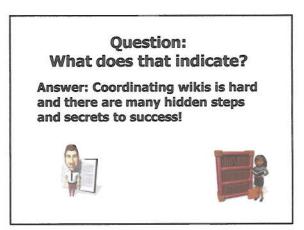


So I visited the WikiMedia Foundation in March 2008 to share our research and gather more information.





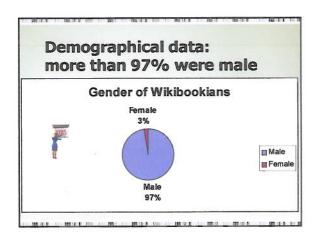


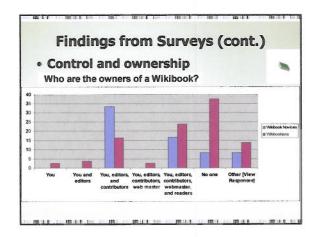


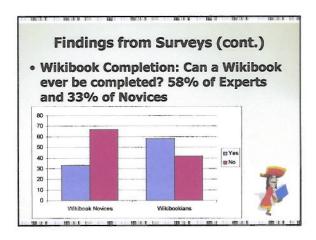
What is Wikibooks?

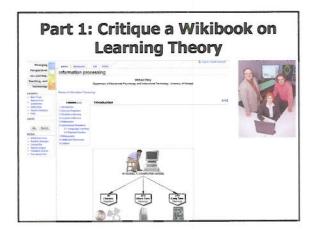
Wikibooks, previously called Wikimedia Free Textbook Project and Wikimedia-Textbooks, is a wiki for the creation of free content books. It is a Wikimedia Foundation project.

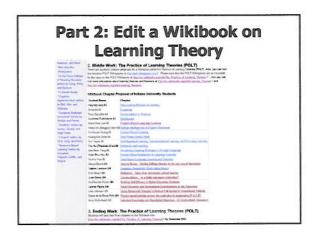
Wikibooks is a Wikimedia project for collaboratively writing textbooks and related non-fiction books (with supporting books and booklets; such as annotated literary and other classics) about different subjects.

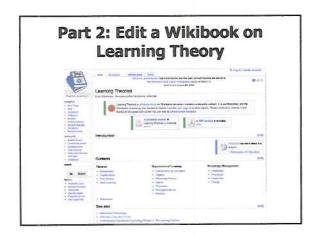


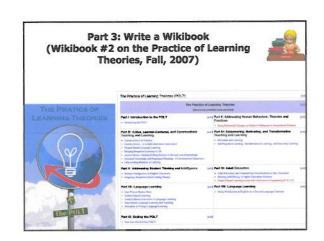


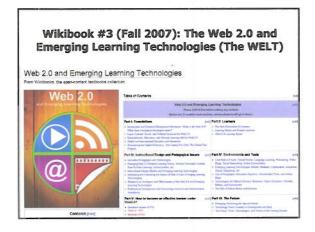












4. Knowledge Construction and Sense of Community Issues: a. Acceptance of Knowledge Construction

My name is...a Chinese student. I major in education technology and study social network in Miss W's class in Beijing Normal University. In her class I know your wiki program. Before this, I have never written wiki, just use it to look for some useful information for me. At the beginning I was a little fear, I was afraid of making mistakes. But with the writing of wiki, I understand that I was wrong. The more you write, the more you get, wiki is not so hard as I thought. From this program, I see the power of the masses, and I know that everyone can write, everyone can join, everyone can contribute their own strength. Thank you for your program, from this I learn more and make more friends. Thank you! (Chinese student)

4. Knowledge Construction and Sense of Community Issues: a. Acceptance of Knowledge Construction

"I really enjoyed the Wikibook project. It allowed for a certain amount of autonomy that was measurable. I particularly enjoyed how we could edit each others' works. I think these types of open systems are beneficial because our class was creating this wonderful collection of knowledge and data that was fluid and constant in our quest to be accurate...I also enjoyed how we were able to collaborate and provide instant feedback to our classmates that were apart of creating our Wikibook." (Indiana student)

4. Knowledge Construction and Sense of Community Issues: a. Acceptance of Knowledge Construction

"1) some students did not like other people's editing. They believed that their writing was better; and 2) they were not very happy when they names were removed from the site.

They spent time on the project and would like to see their names with their chapters." (Indiana State instructor)

4. Knowledge Construction and Sense of Community Issues: c. Community Building Tactics (videoconferencing between sites)



20 Tensions of Cross-Institutional Wikibooks and Suggestions

Sample Tensions

- Experimentation vs. impact
- Global ed impt vs. time
- New benefits of tech and wikis vs. frustrations
- Open ended vs. guided learning
- Inclusive projects vs. realities of schedules
- Intrinsically valuable vs. external rewards

Ideas and Suggestions

- Modeling, archive prior work
- Plan, check calendars
- Test Technologies, ask students what they use
- More participants, more open-ended
- Check schedules, get written commitments
- Experiment with rewards; more participants > interaction

20 Tensions of Cross-Institutional Wikibooks and Suggestions

Sample Tensions

- How is learning assessed vs. excited by wikibook product & process
- Constructivist ideals vs. receptive learning expect
- · Transformative learning vs. bounded courses
- Individual owns text vs. group owns
- Instructor vs. student control

Ideas and Suggestions

- · Be clear on assessment policy, note exemplary work
- Scaffold students thru editing process, have reflect on learning
- Hold class discussion on transformative learning
- Assign students to edit Wikipedia page
- Create blogs or reflection journals on this issue

Unexpected Transfer

"I've worked with Native American students and I believe Wikibooks would be a wonderful way for them to display their classroom art collections. I know that all students would benefit from using Wikibooks, but if teachers on the Navajo Nation had the ability to use Wikibooks they could create innovative ways of displaying their works for all to see. Students who had the means to work on projects at home or in dorm settings can access their classroom Wikibook and edit and update their works at anytime. Wikibooks could also be created based on their tradition oral stories, ensuring they are preserved for future ensuring they

ensuring they are preserved for future generations. Also, the wonderful thing about Wikibooks is that you have the ability to put these types of text in their native and translated languages." (Indiana student)

Unexpected Transfer

"Even off the reservations, Wikibooks could be used to create student portfolios, classroom portfolios and other types of alternative assessments. I honestly think that this is just the tip of the "wikiiceberg" if you will in how it could be applied to a classroom setting anywhere in the world." (Indiana student)



Content Overview

- 15. Wiki document or resource authority lies in the community, not the individual.
- 16. Wiki document permissions can be set for potential readers and contributors.





Content Overview

- 17. Student topic selection issues.
- 18. Technology skills required are limited.
- 19. Wiki history page allows for reversal of changes.



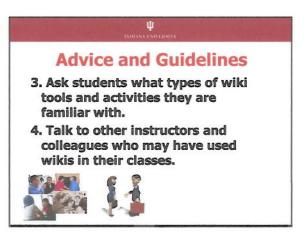


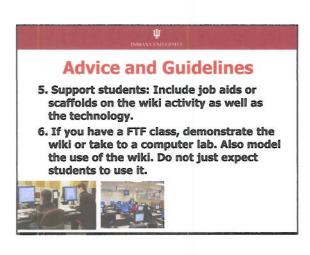
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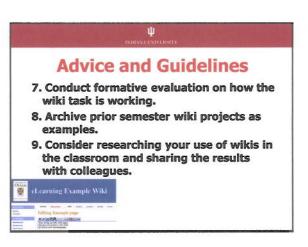
- 20. Issues of wiki quality.
- 21. Instructor versus student control issues.
- 22. Decisions about Wikipedia and Wikibooks.

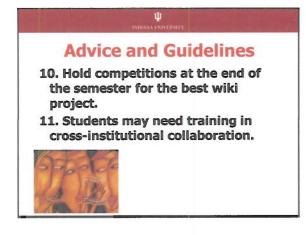


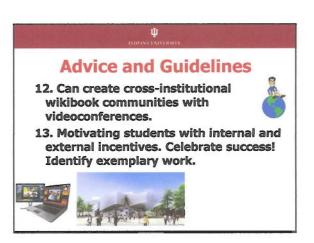


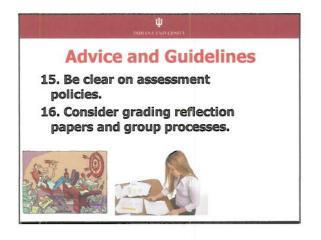




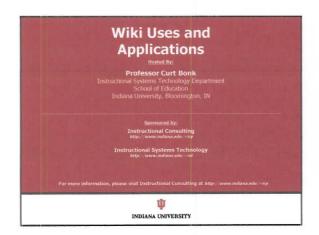


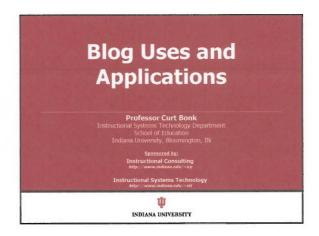


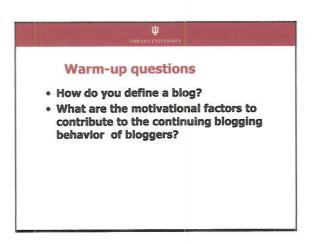


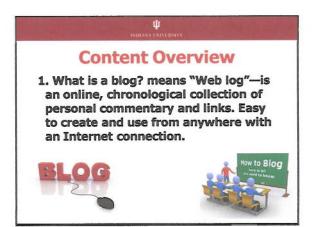


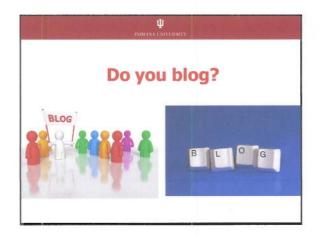








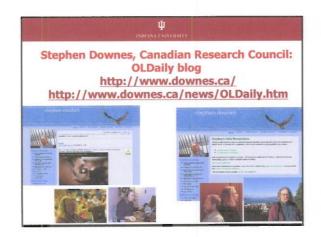










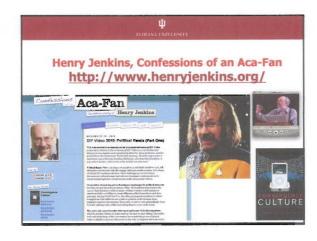








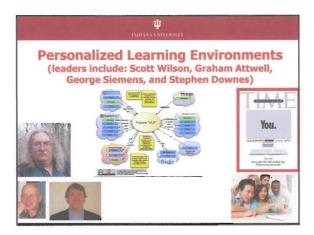












Content Overview

- What is a videoblog? A videoblog, or vlog, is a Web log (blog) that uses video rather than text or audio as its primary media source.
- Who is blogging? Hundreds of millions of people.



Content Overview

4. Why instructors use: Keep students up-to-date, extend course beyond class (blending), make course more interactive and personal, etc. Fosters student reflection on content—a content and course focus.



Roles of Blogs: Per Jay Cross

- Weblogs are a personal writing space. Easy, sharable, automatically archived.
- Weblogs are easily linked and cross-linked to form learning communities. The school logs projects are examples. The school logs also enable a teacher to evaluate a student's thinking, by reading explanations and assignments.
- Weblogs can become digital portfolios of students' assignments and achievements.
- Weblogs are a novice's web authoring tool.
- Accumulated weblogs become a content management system.
- Via digital storytelling, weblogs play a role in professional development.

Roles of Blogs: Per Jay Cross (posted in Will Richardson's blog)

- 1. Content Creation.
- 2. Decentralization of power.
- 3. User is in control.
- 4. Conversation rather than lecture.
- Pipe (sharing network) more important than the content (i.e., new stuff will arise).
- 6. Increase in shared meanings and understandings.
- Ideas presented are a starting point for discussion, not ending point.



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Roles of Blogs: Per Anne Davis (posted in Will Richardson's blog)

- 1. Sharing space (with parents, teachers, others).
- 2. Place to improve writing.
- 3. Place to think outside the box.
- 4. Place for surprise and anticipation.
- 5. A personal space for active experimentation.
- 6. A place to collaborate.
- 7. Just in time learning arena.
- A way to connect with others and make connections to learning.

INDIANCI SIVERSITY

Content Overview

- 5. Pros and Cons.
- Pros: quick, flexible, ownership, can determine student thinking, can lead to a writing portfolio, etc.
- Cons: Takes time, not confidential, another tool to learn, a lot to read, etc.



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Content Overview

6. Theoretical rationale: Blogging links to research on metacognition and the social construction of knowledge reflect, negotiate ideas, and respond to the ideas of others.





ISMASS EXIVERSITY

Content Overview

6. Theoretical rationale continued: Feedback is also possible on blog posts. Sharing is also a key component. Video blogging links to dual coding theory.



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Univ. of Maryland Baltimore County

...chemistry labs had groups of students posting their findings to a blog and receiving feedback from other students, the average passing rate in class went from 71.2 percent to 85.6 percent.

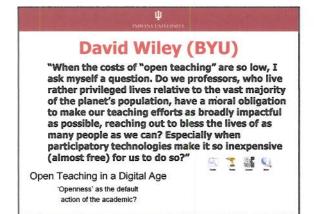


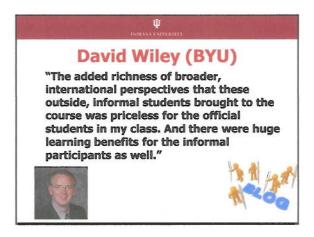
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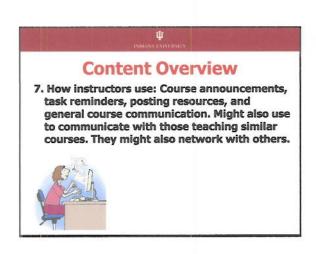
David Wiley (BYU)

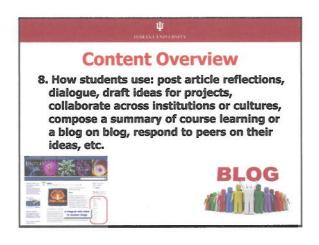
"A group of approximately 60 people from around the world who read, worked, wrote, and discussed together – and fewer than 10 of them were registered for credit at my university."

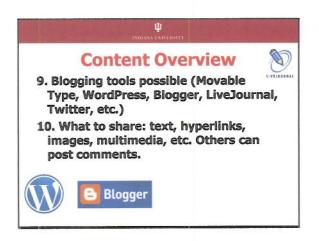










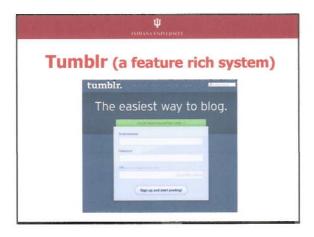


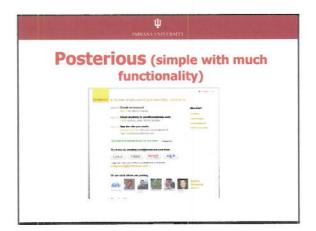




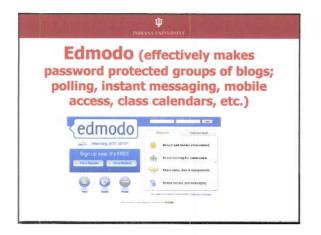




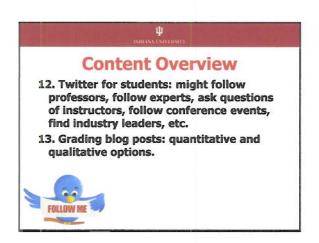




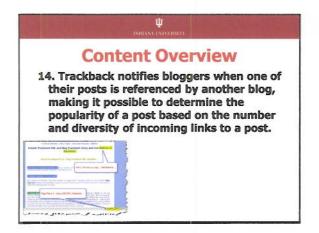


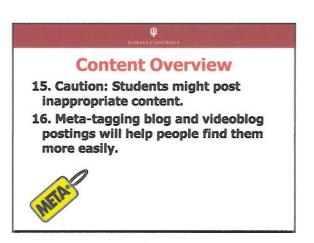


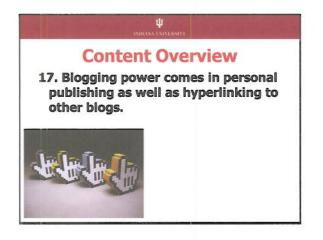


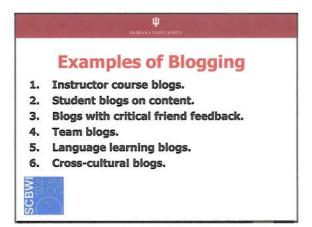




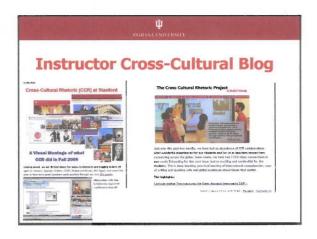


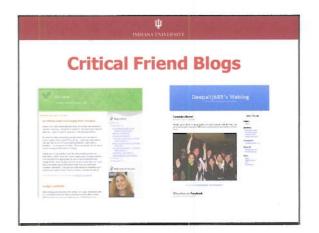






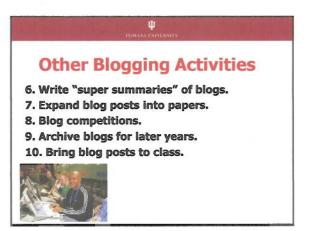








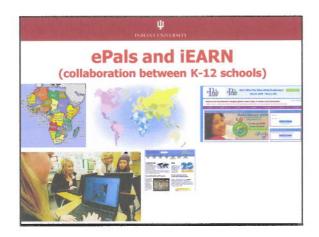


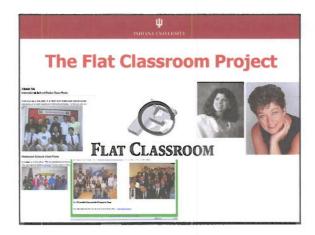


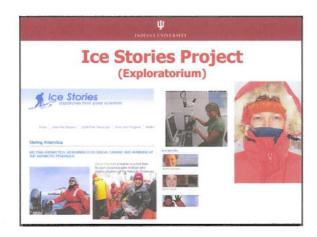


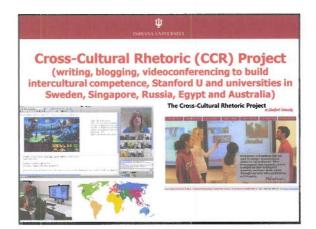


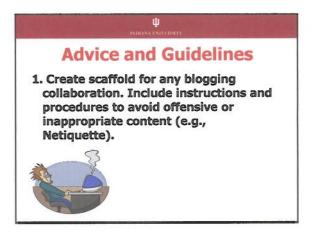




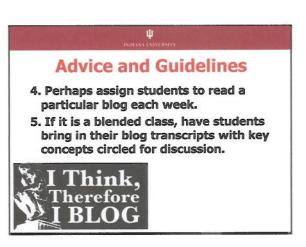








Advice and Guidelines 2. Be sure that students receive feedback on their blog posts. 3. Instructors might not read every blog post, but, instead, read and grade student super summaries of their blogging reflections.



Advice and Guidelines

- If you are using discussion forums, ask students to include blog comments in them.
- 7. Consider having students subscribe to the blog feeds of others or create an RSS feed on their blog.



Advice and Guidelines

- Allow students to select the blog tool that they will use.
- Post sample blogs from prior students (with permission).
- 10. Post testimonials from students.



Advice and Guidelines

- 11. Model blogging procedures as the instructor.
- 12. Praise exemplary bloggers.
- You might set minimum or maximum blog posting guidelines.





Advice and Guidelines

- 14. Videoblog postings of 3 minutes or less might be best.
- 15. Most blogs are social, but can be used or analyzed for educational purposes. There are dozens (if not thousands) of expert blogs for nearly any educational discipline.



How might you blog?



For More Information, Contact:
Instructional Consulting
Indiana University
School of Education
Bloomington, Indiana
http://www.indiana.edu/~icy/







Poll: Which interests you the most?

- a. Podcasts
- b. Wikis
- c. Blogs
- d. All Three!
- e. Do not yet know
- f. None of the above...

