WikiFolios, Reflections, and Exams for Online Engagement, Understanding, and Achievement

Daniel T. Hickey & Andrea M. Strackeljahn
Learning Sciences Program

Overview
Iteratively refining an online graduate course using:
- Current insights from the Learning Sciences.
- Design-based research methods.
- General design principles from prior K-12 research.

These refinements are organized around five practices:
- Wikifolios, wikifolio commenting, wikifolio reflections, groupwikis, and online exams.

Practices can deliver diverse (and competing) learning outcomes
- Efficiency and achievement of expository instruction.
- Deep conceptual understanding of constructivist instruction.
- Professional social networking of connectivist instruction.

P540 Course Context
Required or elective in many graduate education programs:
- Serves diverse learners with a range of ambitions.
- Taught by multiple instructors with established expectations.
- Wide range of technology experience.

Methodology
Design-based research methods
- Build intermediate theory in context of reform of practice.
- Meta-principles, general principles, specific principles, and features.

Started out with core context x concept method from prior FTF class
- Put students in disciplinary groups (e.g., writing, math, etc.)
- Students define a learning goal.
- Students reflect on relevance of chapter ideas for their goal

Moved online in 2008 with principles from Designing for Participation
- Tried to implement using OnCourse e-port and failed
- Moved over to OnCourse wikis mid-course.

Iteratively align learning across levels:
- Align assignments to wikifolios.
- Align wikifolios to reflections.
- Align reflections to exams.

WikiFolio Features
- Intro and homepage
  - Online video demos wikis
  - Begin projecting a distinct identity
- Unique Goal Definition
  - Anchor context for course content
  - Reveals initial misconceptions
  - Begin differentiating learning theory from educational practice
  - Begin identifying relevant concepts
  - Safe and comfortable context for productive debate
- Weekly WikiFolios
  - Reiterate (and refine) goal
  - Reflect on topics before reading
  - Provides functional context for reading dense chapter
  - Least relevant implication spurs great discussion
  - Five most relevant specifics helps ensure broad coverage
- Wiki Commenting
  - Productive disciplinary engagement occurs quite naturally
  - Efficient instructor feedback
  - Comments ungraded and technically optional
  - Lurking is encouraged!

WikiFolio Reflections
- Is 60% of Grade
  - Consequential: What are the consequences for you?
  - Critical: Was your goal a good context for learning?
  - Collaborative: Who did you learn from and with?
  - Reframing of problem
  - Motivates collaboration
  - Can't engage meaningfully without understanding!

GroupWikis
Lead group uses forum to negotiate expanded group wiki weeks 11-15:
- Rank entire set of implications; more specifics
- Summarize relevant debate
- Relevant articles, social networks, & resources

Others comment and consider implications for their goal; lead group comments on all others.

Online Exams
Open-ended curriculum-oriented items assess understanding.

Timed standards-oriented unsearchable items show achievement.

Summer & Fall 2010 Results
Wikifolios averaged 1580 words (411 to 3899)
- Average 4 comments/week & 120 words/each (average 8/week in 2011)
- Minimal non-substantive commenting.

Groupwikis averaged 3724 words (2100 to 6600) and 40 comments (26-59)
- All students participated in group work.
- Groupwiki forums averaged 67 posts.

Midterm and final exam scores:
- Average 92, 96. 91, & 85 percent.
- Lowest scores 66, 80, 72, & 79.

Course evaluations were strong