The Perfect E-Storm: Emerging Technologies, Enormous Demand, and Erased Budgets

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Four Storms are Approaching!

I. Emerging Technology
II. Escalating Demands
III. Erased Budgets
IV. Enhanced Teaching

Storm 1. Emerging Learning Technologies

Poll #1: Which of these is the most important? (pick one)

1. Assistive Technologies
2. Blogs and Online Diaries
3. OpenCourseWare and Open Educational Resources
4. Digital Books
5. Social Networking Technology
6. Intelligent Agents
7. Wikis and Wikibooks
8. Online Games and Simulations (Massive Multiplayer Gaming)
9. Shared Online Video (YouTube, TeacherTube)
10. Peer-to-Peer Collaboration
11. Reusable Content Objects and Portals
12. Videoconferencing, IP Videoconferencing
13. Virtual Worlds/Reality
14. Wearable Computing
15. Wireless Tech: Tablet PCs, Handheld Devices
16. Digital Portfolios

Tech & Learning, Nov 2009

1. New Search Technology (timeline oriented)
2. Google Sky
What if the World was Beyond our World?
NASA’s Hubble Space) USA Today, August 22, 2007

3. iPhone Applications
Pull yourself away from that iPhone and read this story by Mary Brophy Harceau, USA Today, October 5, 2009
- 50 million iPhone users and 85,000 applications.

4. Social Networking Gaming (e.g., Farmville)
For social networks, it’s game on, USA Today, Jon Swartz, Thursday October 15, 2009

5. e-Book Readers
(e.g., Barnes & Noble unveils its e-reader, USA Today, October 21, 2009)

6. Digital Textbook Projects (Korea)
Includes: dictionary, email and forums, games, simulations, hyperlinks, multimedia, authoring, data search, study aids, evaluation, etc.
(112 schools as of 2009; free for all schools by 2013)

7. TED
Tech Confab With a Conscience Goes Global
USA Today, July 21, 2009
8. Live Streaming
(e.g., Zoo Animals on Demand)
USA Today, September 8, 2009
Little patients find distraction, comfort in live feeds from zoos

9. OpenCourseWare and OER
(MIT Highlights for High School and BLOSSOMS Project)

10. Mobile Video Blogging
(Stanford, Paul Kim)

11. Simulations
(e.g., Virtual Astronaut from WisdomTools)

12. Global Collaboration
(e.g., Flat Classroom Projects!)
(combine blogs, videoconferencing, chat, async discussion, etc.)

13. Global Collaboration continued
EPals and iEARN (International Education and Resource Network)
14. Interactive Videoconferencing
Global Nomads Group
http://www.gng.org/home.html

15. Exercise Learning
College technology 'catching up' with students
By Kathleen Gray and Robin Erb, USA TODAY,
October 6, 2009

Senior Emily Smak, 20, tries out the treadmill workstation in one of the study lounges in the new Education and Human Services Building at Central Michigan University. There is a new iMac computer attached to it so students can get a little exercise while doing homework or other things on the computer.

16. Connexions Growth
January 2009
>8,000 modules (3-5 pages)
>425 collections (books and courses)
multiple languages
engineering, computer science, nanotech, physics, statistics, math, history, music, bio-diversity, botany, bio-info, IP, BRET, UNESCO, UN, Sigma XI, ...
from authors worldwide
Usage: October 2008
45 million hits
2m page views
tens of new users
from 200 countries

17. Mobile Learning

18. 'One Laptop Per Child' program collides with reality, Toronto Globe and Mail, Oct 15, 2009
Bhutan, Khendum Gyabak (Univ. of Texas at El Paso)

19. Moodle (520,000 registered users in 204 countries speaking 78 languages, 2/10/2009)
Growth of Online Learning in Secondary Schools
(Florida Virtual School; AP American History)

Michigan Virtual School
(11,000+ students, Dan Schultz, October 2008)

Indiana University High School
(4,000 students and 1,400 in diploma programs)

Adora Svitak, age 12, World's Youngest Teacher
On to Storm 4: Enhanced Teaching (a swirling storm)

Part I: Some Online Motivational Ideas

We are not motivating students with the technologies that they love

Poll #2: Which of these is the most important for motivating students? (Pick just one)
1. Supportive, appropriate challenge, meaningful.
2. Teach goal setting and self-reinforcement.
4. Novelty, variety, choice.
5. Game-like, fun, fantasy, curiosity, suspense.
6. Divergence, dissonance, peer interaction.
7. Allow to create finished products.
8. Provide immediate feedback.
9. Show intensity, enthusiasm, interest.
10. Make content personal, concrete, familiar.

TEC-VARIETY Model for Online Motivation and Retention
1. Tone/Climate: Psych Safety, Comfort, Belonging
2. Encouragement, Feedback: Responsive, Supports
3. Curiosity: Fun, Fantasy, Control
4. Variety: Novelty, Intrigue, Unknowns
5. Autonomy: Choice: Flexibility, Opportunities
6. Relevance: Meaningful, Authentic, Interesting
7. Interactive: Collaborative, Team-Based, Community
8. Engagement: Effort, Involvement, Excitement
9. Tension: Challenge, Dissonance, Controversy
10. Yields Products: Goal Driven, Products, Success, Ownership

1. Tone/Climate: (open, inviting)
   A. Create a Class Wiki (Wikispaces)

Welcome to Mrs. Smith's wiki.

[Wiki page links]
2. Encouragement, Feedback, etc.:
   A. Online Self-Testing (e.g., self study in vocabulary, anatomy, chemistry, dissection, etc.)

3. Curiosity, Fun:
   A. Virtual Field Trips
      With virtual field trips, students can have a personal tour of Hawaii Volcanoes National Park.
      Ranger Rachel Zimmer speaks with Syler Peralta-Ramos, a fourth-grader at Jackson Hole’s Journeys School.

B. Online News
   (Giant jellyfish, Tiny T. rex, and Ardi)

4. Variety, Novelty:
   A. Free Text Chats
      (Bonk, 2007; Mei-Ya Liang, 2007)

5. Autonomy, Choice:
   A. Online Literature Search (Class Google Jockeys)

B. Clickers; Innovation is but one click away...
6. Relevance, Meaningfulness: A. 60 Second Recap
http://www.60secondrecap.com
Actress to students: lend me your earbud!
English major, 24, rambunctiously recaps the classics in 60-second Web videos; by Greg Toppo; USA TODAY, September 2009

7. Interactive, Collaborative: A. Collaborative Documents (Google Docs)

7. Interactive, Collaborative: B. International Children's Digital Library (ICDL) project (Univ. of Maryland, Black Beauty, Aesop's Fables, Little Red Riding Hood, Grimm's Fairy Tales, Robinson Crusoe, and Mother Goose.)

7. Interactive, Collaborative: C. Monster Writing (describe monster in writing to partner and must draw it); monsterproject.wikispaces.com

8. Engagement, Effort: A. Follow Online Adventure
Australian adventurer Don McIntyre and teenage circumnavigator Mike Purtain to re-enact Capt. William Bligh's epic mutiny on the Bounty open boat voyage, September 9, 2009

9. Tension, Challenge, etc.: A. Ethical Medical Debates
Students to protest human body exhibit
10. Yields Products, Goals:
A. Movie Festivals, Concept Maps, Video Blogs, Virtual Timelines, Digital Movies

Addressing Learning Styles

The R2D2 Method
1. Read (Auditory and Verbal Learners)
2. Reflect (Reflective Learners)
3. Display (Visual Learners)
4. Do (Tactile, Kinesthetic, Exploratory Learners)

1. Auditory or Verbal Learners
• Auditory and verbal learners prefer words, spoken or written explanations.

Read 1a. Kids Podcasts
Poll #3: Podcast Questions
(Check all that apply)
1. Have you listened to a podcast?
2. Do you listen to a certain podcast on a regular basis?
3. Have you created a podcast?
4. Have you created a vodcast?
5. Do you think podcasting is simply more talking heads?

Read 1b. Art and History Exhibits

Read 1c. Wiki Steps on How to do Something: Wikihow
http://www.wikihow.com/

2. Reflective and Observational Learners
- Reflective and observational learners prefer to reflect, observe, view, and watch learning; they make careful judgments and view things from different perspectives

Reflect 2a. Partner & Team Blogs
(epecially English writing class)

Reflect 2b. ORL or Library Day
(Bonk, 1999)
- Have students spend a day in the library or online finding and summarizing a set number of articles.
- Have them bring to class or post abstracts to an online forum.
- Share in small groups interested in similar topics.
- Perhaps give each student 1-2 minutes to describe what found in a chat.
3. Visual Learners

- Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.

Display 3a. Online Timelines (US Presidents)

Display 3b. Video iPod Vocabulary Training

One of Michelle Tanner's deaf students at Gerald Wright Elementary holds an iPod and watches a video of her signing the week's vocabulary words. The iPods were purchased with a grant from Qwest.

Classrooms go high-tech. By Erin Stewart, Deseret Morning News, March 6, 2007

Display 3c. Concept Mapping and Timeline Tools (VUE, Bubbl.us, Cmap, Freemind, Gliffy, Mindmeister, or Mindomo)

Display 3d. United Nations Opens World Digital Library, April 21, 2009


Display 3e. Online Historical Document (e.g., Turning The Pages, British Library)
4. Tactile/Kinesthetic Learners

- Tactile/kinesthetic senses can be engaged in the learning process are role play, dramatization, cooperative games, simulations, creative movement and dance, multi-sensory activities, manipulatives and hands-on projects.

- Display 3f. Online History Portals and Resources (Civil Rights Digital Library and Amistad)

- Display 3g. Download and Use Online 3D Sketches (Google SketchUp; download http://sketchup.google.com/3dwarehouse)

- Do 4a. Student Podcast (in schools—kids have power!)

- Do 4b. Wikis for Kids to Share

- Do 4c. Junior Wikibooks
Poll #4: Wiki Questions (check all that apply)
1. I regularly read Wikipedia articles just for fun.
2. I have read one or more Wikibooks.
3. I seek out Wikipedia for content.
4. I have edited or written new articles on Wikipedia or Wikibooks.
5. I think it is ok for college students to cite from Wikipedia.

Do 4d. Hands-On Frog Dissection (Net Frog, Univ. of Virginia)

Do 4e. Online Performances Virtual Worlds/Reality/MMOG (e.g., Shakespeare plays reenacted)

Recap of the Perfect E-Storm....
1. Emerging Technology
2. Escalating (Learner) Demands
3. Erased Budgets
4. Enhanced Teaching

Try the R2D2 Method!!! Try TEC-VARIETY!!!
Sample papers:
http://www.publicationshare.com/
Archived talks:
http://www.trainingshare.com/

Poll #5: How many ideas did you get from the second part of this talk?

a. None—you are an idiot.
b. 1 (and it is a lonely #).
c. 2 (it can be as bad as one).
d. 3-5

e. 6-10
f. Higher than I can count!