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

21 Things That Became Obsolete This Decade
December 11, 2009, Silicon Alley Insider

15 Gadgets that Changed Everything This Decade
December 9, 2009, Jay Yarow, Silicon Alley Insider

Tech & Learning, Nov 2009

Education is currently using, many content-sharing tools personally, professionally, and in the classroom.

TOP EIGHT CONTENT-SHARING TOOLS

- Blogs
- Videos
- Podcasts
- Webinars
- Whitepapers
- Slideshare
- Webcasts
- Webinars

Graphs and data used with permission from INTUCO, a leading content sharing company.
1. New Search Technology (timeline oriented)

2. Exercise Learning

3. Teacher Sharing Sites

4. Teacher Social Networking

5. Social Networking Gaming (e.g., Farmville and gaming addictions)
6. e-Book Readers

7. Shared Online Video (e.g., TED: technology, entertainment and design)

8. Live Streaming (e.g., Zoo Animals on Demand)

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


10. Smartphones
12. Mobile Learning


<table>
<thead>
<tr>
<th>Reason</th>
<th>Teachers Speak Up (40%)</th>
<th>Principals Speak Up (32%)</th>
<th>Other Stakeholders Speak Up (39%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will be distracted</td>
<td>72%</td>
<td>40%</td>
<td>34%</td>
</tr>
<tr>
<td>Not all students have the mobile device (signal)</td>
<td>46%</td>
<td>60%</td>
<td>52%</td>
</tr>
<tr>
<td>Concerned that students will cheat using the device</td>
<td>31%</td>
<td>27%</td>
<td>29%</td>
</tr>
<tr>
<td>Teachers don't know how to effectively use the devices with instruction</td>
<td>27%</td>
<td>31%</td>
<td>34%</td>
</tr>
<tr>
<td>Scares卡通 too tight for the use of mobile devices</td>
<td>23%</td>
<td>30%</td>
<td>36%</td>
</tr>
<tr>
<td>Concerned with effect on school</td>
<td>21%</td>
<td>24%</td>
<td>28%</td>
</tr>
<tr>
<td>Concerned about cell phone policies</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
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</tr>
</thead>
<tbody>
<tr>
<td>Intended for my content</td>
<td>90%</td>
<td>88%</td>
<td>86%</td>
</tr>
<tr>
<td>Inspired curriculum</td>
<td>70%</td>
<td>67%</td>
<td>66%</td>
</tr>
<tr>
<td>Teach using their technology</td>
<td>60%</td>
<td>58%</td>
<td>56%</td>
</tr>
<tr>
<td>Increases teacher productivity</td>
<td>20%</td>
<td>18%</td>
<td>16%</td>
</tr>
</tbody>
</table>

Mobile Learning and Blended Learning Exploding
College tech 'catching up' with students
Kathleen Gray & Robin Erb, USA TODAY, Oct 6, 2009

- At Abilene Christian (University)...about 2,800 students and 75% of the 250 professors use the Apple technology for instructional purposes.
  - Art students use app to draft sketch and send it to the teacher and other students for advice before starting the real art pieces.
  - A drama teacher takes video of the lead dancer in a production and sends that along to other students for rehearsal.

Mobile Internet (source: Dr. Paul Kim, Stanford)
Seeds of Empowerment, India, Paul Kim, Stanford

Seeds of Empowerment, India, Paul Kim, Stanford

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Seeds of Empowerment, India, Paul Kim, Stanford
Powering the device on bicycle
PocketSchool on Two Wheels
15. Google Sky
http://earth.google.com/sky/index.html

Space Portals (e.g., A New Motion Picture of the Universe, With Free Admission for Colleges Large and Small, By Ben Terris, Chronicle of HE, Feb 7, 2010)

From its mountaintop site of Cerro Pachón, in Chile (rendered above), the new telescope will look for dangerous asteroids and help researchers learn more about dark matter and dark energy. The Large Synoptic Survey Telescope has a combination of mirrors and three camera lenses that can capture the movements of billions of stars and galaxies.

16. Text Messaging

On to Storm 2...
Escalating (Learner) Demands

Growth of Online Learning in Secondary Schools
(Florida Virtual School; AP American History)

Michigan Virtual School
On to Storm 4: Enhanced Teaching (a swirling storm)

Adding Some TEC-VARIETY

We are not motivating students with the technologies that they love

I even reflected on this for a moment...and then something magical happened...
The TEC-VARIETY Model for Online Motivation and Retention

1. Tone/Climate: Psychic 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: B. Video Course Intros from Instructors.
   Yun Yun Chow, Open U Malaysia
   Making Art Lessons Come Alive with Web 2.0
   http://www.youtube.com/watch?v=BDK94qDN160Xq

2. Encouragement, Feedback, etc.:
   A. New Self-testing Skills.
   High School Student Self-Testing
   (e.g., Calm Chemistry)

2. Encouragement, Feedback, etc.:
   B. Online Self-Testing (e.g., self study in vocabulary, anatomy, chemistry, dissection, etc.)

2. Encouragement, Feedback, etc.:
   C. Tutorials with Screen Capture
   (e.g., Jing, Screenr)
3. Curiosity, Fun:
A. Online News
(Giant jellyfish, Tiny T. rex, and Ardi)

3. Curiosity, Fun:
B. Virtual Tours

3. Curiosity, Fun:
C. Virtual Field Trips

3. Curiosity, Fun:
D. Games
 e.g., Online Jeopardy Game
 Games2Train: The Challenge; Thiagi.com

4. Variety, Novelty:
A. Cool Resource Provider or Tech Demos
   • Have students sign up to be a cool resource provider once during the semester.
   • Have them find additional paper, people, electronic resources, etc.
   • Share and explain what found with class.

4. Variety, Novelty:
B. Expert Chats/Real Explorer or Teacher Interaction
   Jean Pennycook (Geographical blogging)
   http://www.penguinsofscience.com/clim_change Mills.php
5. Autonomy, Choice:

A. Famous Person Web Explorations, Searches, Twitter Tracking, and Interviews (e.g., Thomas Friedman, NY Times reporter)

B. Explore Online Museums, Zoos, Library Exhibits

C. Online Literature Search (Class Google Jockeys) (links to text, soundtracks, video clips, etc.)

D. Clickers; Innovation is but one click away...
6. Relevance, Meaningfulness:
A. Online Simulations and Demonstrations
   (e.g., self study in anatomy or chemistry, virtual autopsy, dissection, etc.)

6. Relevance, Meaningfulness:
B. 60 Second Recap, Jenny Sawyer
   http://www.60secondrecap.com/
   Actress to students: Load me your earbuds!
   English major, 24, rambrunctiously recap the classics in 60-
   second Web videos by Greg Toppo; USA TODAY, September 2009

6. Relevance, Meaningfulness:
C. New Real World and Authentic
   Learning Skills (PBL, evaluation,
   interaction, communication, etc.)

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

7. Interactive, Collaborative:
B. Online Language Learning
   (Skype with Mixter, Livemocha, Friends Abroad)

7. Interactive, Collaborative:
C. International
   Children’s Digital Library (TCDL) project (Univ. of
   Maryland, Black Beauty, Asa’s Fashion, Little Red Riding
   Hood, Grimm’s Fairy Tales, Robinson Crusoe, and Mother Goose)
10. Yields Products, Goals:
   B. Video Blogs

10. Yields Products, Goals:
   C. Photo Festivals and Competitions

TEC-VARIETY Model for
Online Motivation and Retention

- Tone/Climate
- Encouragement, Feedback
- Curiosity
- Variety
- Autonomy
- Relevance
- Interactive
- Engagement
- Tension
- Yields Products

Poll #1: How many ideas did
you get so far?

1. 0 if I am lucky.
2. Just 1.
3. 2, yes, 2...just 2!
4. Do I hear 3? 3!!!!
5. 4-5.
6. 5-10.

99 seconds: What have you
learned so far?

- Solid and Fuzzy in groups
  of two to four

Addressing Diverse
Learners with R2D2
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.

Reflect on the Following Questions:
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 1a. Kids Podcasts

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. Teacher Classroom Blogs

Reflect 2a. Kids Blogs

Reflect 2c. ORL or Library Day

Reflect 2d. Watch, Listen to, and Reflect on Online Conferences
Reflect 2e. Expert and Domain Specific Blogs (Health Blogs)

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

Ed-tech officials: Video will make schools more ‘efficient’
Most school and college decision makers agree that video technology can help boost learning
By Dennis Carter, Assistant Editor, May 5, 2010
http://www.campusnews.com/technologies/ed-tech-officials-video-will-make-schools-more-efficient/

Display 3a. Shared Online Videos for Anchoring or Ending Instruction
(find anchoring event in YouTube, CNN, BBC, TeacherTube, CurrentTV)

Fifty-three percent of school officials said they would buy video technology in the next year.

Display 3b. Shared Online Video (e.g., eduTube, Howcast, WonderHowTo, Clip Chef, Link TV, Forn TV, etc.)

Display 3c. Videos of the Periodic Table
Display 3d. Video iPod Vocabulary Training

Display 3e. Medical Animations and Videos
(find anchoring event (YouTube, CNN, BBC, TeacherTube, CurrentTV))

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

Display 3g. Online Historical Document
(e.g., Turning The Pages, British Library)

Display 3h. Online Timelines
(US Presidents)

Display 3i. Concept Mapping and Timeline Tools (VUE, Bubbl.us, Cmap, Freemind, Gliffy, Mindelstar, or Mindomo)
3j. Online History Portals and Resources
(Civil Rights Digital Library and Amistad)

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

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

Do 4b. Podcasts for students of pronunciation class
(e.g., Tzu-Su Chen, Taiwan)

Do 4c. Wikis for Kids to Share
(or put class lessons in a wiki)
Do 4d. Hands-On Frog Dissection  
(Net Frog, Univ. of Virginia)

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

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

Poll #2: 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!

99 Seconds Stop and Share:  
Top Three Things Learned today!

Try the R2D2 Method!  
Try TEC-VARIETY!  
And hope for some magic!!!

Sample papers:  
http://www.publicationshare.com/  
Archived talks:  
http://www.trainingshare.com/