Putting the Horizon Report to Work

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Patterns
The 2013 K12 Horizon Report

- Mobile Learning: Time-to-Adoption: One Year or Less
- Open Content: Time-to-Adoption: Two to Three Years
- 3D Printing: Time-to-Adoption: Four to Five Years
- Cloud Computing
- Learning Analytics
- Virtual and Remote Laboratories
The 2012 K12 Horizon Report

- **Mobile Devices and Apps**: Time-to-Adoption: One Year or Less
- **Personal Learning Environments**: Time-to-Adoption: Two to Three Years
- **Natural User Interfaces**: Time-to-Adoption: Four to Five Years
- **Tablet Computing**
- **Game-Based Learning**
- **Augmented Reality**
The 2011 K12 Horizon Report

- Mobiles
  - Time-to-Adoption: One Year or Less

- Open Content
  - Time-to-Adoption: Two to Three Years

- Personal Learning Environments
  - Time-to-Adoption: Four to Five Years

- Cloud Computing

- Game-Based Learning

- Learning Analytics
The 2010 K12 Horizon Report

- **Collaborative Environments**: Time-to-Adoption: One Year or Less
- **Mobiles**: Time-to-Adoption: Two to Three Years
- **Flexible Displays**: Time-to-Adoption: Four to Five Years
- **Cloud Computing**
- **Game-Based Learning**
- **Augmented Reality**
The 2009 K12 Horizon Report

- Collaborative Environments
  - Time-to-Adoption: One Year or Less

- Mobiles
  - Time-to-Adoption: Two to Three Years

- The Personal Web
  - Time-to-Adoption: Four to Five Years

- Online Communication Tools

- Cloud Computing

- Smart Objects
Metatrends (Since 2004)

- Evolution of a ubiquitous platform
- Shifting content production to users
- Computing in three dimensions
- Games as pedagogical platforms
- Connecting people through the network
- Communication between humans and machines
- Collective sharing & generation of knowledge
- Shifting content production to users
<table>
<thead>
<tr>
<th>Social</th>
<th>Mobility</th>
<th>Visualization</th>
<th>Storytelling</th>
<th>Gaming</th>
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<td>8,000 years</td>
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</table>
The 2013 K12 Horizon Report

Mobile Learning
Time-to-Adoption: One Year or Less

Open Content
Time-to-Adoption: Two to Three Years

3D Printing
Time-to-Adoption: Four to Five Years

Cloud Computing

Learning Analytics

Virtual and Remote Laboratories
Technology Outlook for Australian Tertiary Education 2013-2018

- Mobile Learning
- Massive Open Online Courses
- Learning Analytics
- Social Media
- 3D Printing
- Information Visualisation
- Location-Based Services
- Badges
- Flexible Displays
- Wearable Technology
- Virtual and Remote Laboratories
- The Internet of Things

Time-to-Adoption:
- One Year or Less
- Two to Three Years
- Four to Five Years
Context
2013 K12 Horizon Report: Key Trends

• Education paradigms are shifting to include online learning, hybrid learning and collaborative models.

• Social media is changing the way people interact, present ideas and information, and communicate.

• Openness — concepts like open content, open data, and open resources, along with notions of transparency and easy access to data and information — is becoming a value.

• As the cost of technology drops and school districts revise and open up their access policies, it is becoming more common for students to bring their own mobile devices.

• The abundance of resources and relationships made easily accessible via the Internet is challenging us to revisit our roles as educators.
2013 K12 Horizon Report: Significant Challenges

• Ongoing professional development needs to be valued and integrated into the culture of the schools.

• Too often it is education’s own processes and practices that limit broader uptake of new technologies.

• New models of education are bringing unprecedented competition to the traditional models of education.

• K-12 must address the increased blending of formal and informal learning.

• The demand for personalized learning is not adequately supported by current technology or practices.

• We are not using digital media for formative assessment the way we could and should.
HZ News
The ten hottest EdTech news items: 10 Unread/Week 73

TECH NEWS
Battery In Under 30 Seconds (VIDEO)
Eesha Khare, 18-Year-Old, Invents Device That Charges Cell Phone Batteries

K12
My Flipping Failure

K12
What Teens Feel About Privacy and Social Media

HIED
Multi-Year iPad Deployment At UC Irvine Med School: The Results Are In

MUSEUM
Please Touch ‘Feel’ Display

NMC Horizon Library
Horizon Reports and Technology Outlooks

NMC HORIZON REPORT
2012 K-12 Edition

Explore NMC Navigator
Search projects, news, and resources

Search Navigator
Search Navigator

Reference
> Articles and Readings
> Reports and Research
> Technologies to Watch Lists
> Reflections on the Future

News
> Emerging Technologies
> Challenges and Trends
> Stories and Examples
> Technology in Popular Culture
The Process
The Steps
Adapting the Process

Select Team
Make sure to have a good mix of technologists, faculty, leaders in the group.

Generate Research Database
Ask group members to submit links to materials of interest, with brief commentary.

Present Research Question(s)
e.g. “What technologies should colleges be actively looking for ways to apply?”

Review Research Materials
Ask group to expand database, commentary, with question(s) in mind.

Generate Answer Set
Ask group members to submit answers to question(s).

First Pass Rankings
For a set of N answers: give each member sqrt(N) tokens; each distributes tokens between chosen answers.

Create Short List
Pick top sqrt(N) answers with most total tokens – this is the short list.

Second Pass Rankings
If M answers are desired: give each member M tokens; each distributes tokens between chosen short list answers.

Produce Report
Writing team integrates top M answers with research materials to produce report.
Informing Decision Making: the Delphi Method
Wanted: the Relevant Information Space
Stage 1: Bringing In the Experts

- Expert A
- Expert B
- Expert C
Stage 2: Aggregating the Replies
Stage 3: Informing the Process

Diagram showing three experts (A, B, C) with arrows indicating information flow.
Stage 4: Selecting the Relevant Information Space
Things to Keep In Mind

• Change some, but not all, of your expert panel members each year:
  • Too much change leads to unstable recommendations, too little change leads to groupthink-like phenomena.

• Make sure you have a broad range of expertise and backgrounds in your expert panel:
  • Not everyone should be a technologist, or a teacher, or an administrator.

• Make sure your panel has innovators, opinion leaders, and early majority members (*cf.* Rogers) on it:
  • Panels that only feature innovators tend to produce recommendations that are not representative of the needs of the institution as a whole.
Additional Toolkits
How Innovations Spread (Everett M. Rogers, *Diffusion of Innovations*)

The Gartner Hype Cycle

- **Technology Trigger**
- **Peak of Inflated Expectations**
- **Trough of Disillusionment**
- **Slope of Enlightenment**
- **Plateau of Productivity**

<table>
<thead>
<tr>
<th>Type A Adoption</th>
<th>Type B Adoption</th>
<th>Type C Adoption</th>
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Source: GartnerGroup
The Gartner Hype Cycle: Phases and Adoption Types

- **Five Phases:**
  - *Technology Trigger:* a new technology generates significant press and industry interest;
  - *Peak of Inflated Expectations:* a flurry of well-publicized activity results in some successes, but more failures;
  - *Trough of Disillusionment:* the technology becomes unfashionable, and the press abandons the topic;
  - *Slope of Enlightenment:* focused experimentation and solid hard work lead to a true understanding of the technology’s applicability, risks, and benefits;
  - *Plateau of Productivity:* the real-world benefits of the technology are demonstrated and accepted.

- **Three Adoption Types:**
  - *Type A:* technologically aggressive organizations.
  - *Type B:* technologically low risk organizations, focused on maintaining competitiveness.
  - *Type C:* technologically cautious organizations, focused on cost reduction.
The SAMR Model (Puenteedura, 2003)

- **Substitution**
  Tech acts as a direct tool substitute, with no functional change

- **Augmentation**
  Tech acts as a direct tool substitute, with functional improvement

- **Modification**
  Tech allows for significant task redesign

- **Redefinition**
  Tech allows for the creation of new tasks, previously inconceivable

- **Enhancement**

- **Transformation**
Bibliography

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• **The Delphi Method:**

• **Diffusion of Innovations:**

• **The Gartner Hype Cycle:**

• **The SAMR Model:**
  • Ruben R. Puentedura. *As We May Teach: Educational Technology, From Theory Into Practice*. Online at: https://itunes.apple.com/itunes-u/as-we-may-teach-educational/id380294705?mt=10