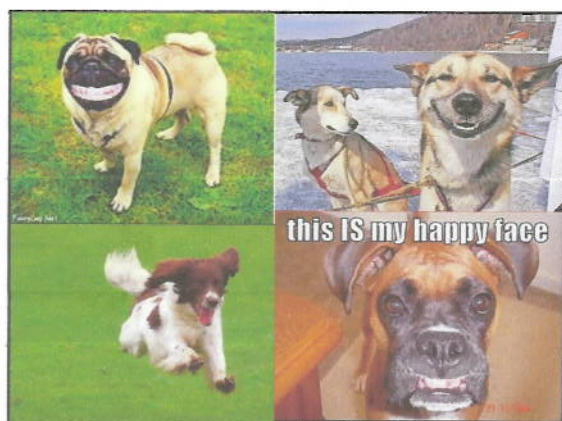
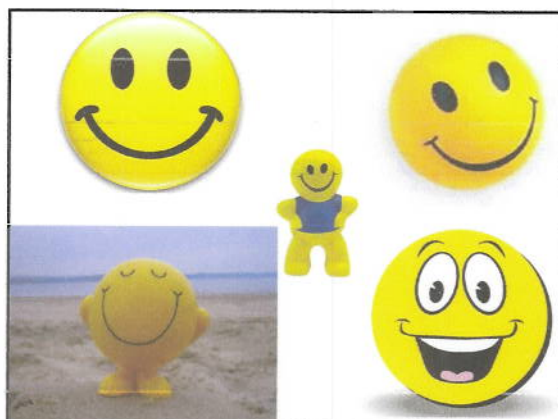


**"Stretching the Edges of Technology-Enhanced Teaching: From Tinkering to Tottering to Totally Extreme Learning"**

**Curtis J. Bonk, Professor, Indiana University**  
 cjbonk@indiana.edu  
<http://mypage.iu.edu/~cjbonk/>



**Dog Gets MBA,**  
**The Chronicle of Higher Ed, Unmuzzling Diploma Mills: Dog Earns M.B.A. Online, Marc Parry**

Unmuzzling Diploma Mills: Dog Earns M.B.A. Online  
 By Marc Parry

**June 2010**  
**Clay Shirky, NYU: How cognitive surplus will change the world, TED**  
[http://www.ted.com/talks/clay\\_shirky\\_how\\_cognitive\\_surplus\\_will\\_change\\_the\\_world.html](http://www.ted.com/talks/clay_shirky_how_cognitive_surplus_will_change_the_world.html)

**COGNITIVE SURPLUS**  
 HOW COGNITIVE SURPLUS WILL CHANGE THE WORLD IN A CONNECTED AGE

**HERE COMES EVERYBODY**

**CLAY SHIRKY**

**September 5, 2010**  
**Open Source goes to High School (Utah)**  
<http://www.youtube.com/watch?v=sovve-j3xGk>

**Open Source goes to High School**  
 opensourceschool 22 videos (v) Subscribe

**Open High School of Utah**  
 "Revolutionizing the ways of the 21st century learner"

**DAVID WILEY**  
 Founding Member, Open High School of Utah  
 Associate Professor, Brigham Young University

**September 2011**  
**Meta-Analysis Update:**  
**Blended and Fully Online Still Best!**

U.S. DEPARTMENT OF EDUCATION  
 Evaluation of Evidence-Based Practices in Online Learning  
 A Meta-Analysis and Review of Online Learning Studies

Prepared by  
 Barbara Means  
 Yukie Toyama  
 Robert Murphy  
 Marianne Bakia  
 Karla Jones  
 Center for Technology in Learning

U.S. Department of Education  
 Office of Planning, Evaluation, and Policy Development  
 Policy and Program Studies Service

Revised September 2010

**October 2010**  
**"Video Primers in an Online Repository for e-Teaching and Learning" V-PORTAL, TravelinEdMan (27 free/open YouTube videos)**  
<http://www.youtube.com/user/TravelinEdMan>

**October 31, 2010**  
**Online Education vs. Traditional Learning: Time to End the Family Feud**  
 Mark David Milliron, Chronicle of Higher Education

THE CHRONICLE  
 of Higher Education

Online Learning

Online Education vs. Traditional Learning: Time to End the Family Feud

BILL & MELINDA GATES foundation

**December 15, 2010**  
**Mark Zuckerberg, Time Magazine, Person of the Year**

SOCIAL NETWORKING

Top social networking sites

Facebook.com 82.2 million

MySpace.com 64.2 million

Twitter.com 20.8 million

Diigo.com 17.4 million

LinkedIn.com 13.0 million

Delicious.com 12.3 million

5kiwi.com 11.4 million

Windows Live Profile 10.3 million

TIME= Person of the Year Photos

**February 4, 2011**  
**New Enrollment History Chart: Florida Virtual School (Julie Young, President & CEO)**

FLVS Completion History  
 As of June 30, 2010

Year	Enrollment
2001-2002	16,000
2002-2003	17,700
2003-2004	24,100
2004-2005	36,400
2005-2006	44,200
2006-2007	66,000
2007-2008	116,700
2008-2009	134,200
2009-2010	213,500

Julie Young, President & CEO

**February 16, 2011**  
**How Bill Gates' Favorite Teacher Wants to Disrupt Education, Gregory Ferenstein, Fast Company**

Chen Academy on the Gates Notes

ONMoney.com

FORTUNE

Innovation in Education

Bill Gates' favorite teacher



**February 16, 2011**  
**Bill Clinton in Surprise Talk on Tech: It's the Institutions, Stupid, David Zax, Fast Company**



**Bill Clinton in Surprise Talk on Tech: It's the Institutions, Stupid**



**March 13, 2011**  
**Online Public University Plans to Turn Indiana Dropouts Into Graduates, Chronicle of HE, Eric Kelderman**





**Mr. Desormeaux, whose children, too, have homework, shares a mentor in the Western Governors U. Indiana program with 79 other students, each of whom receives a weekly call to discuss his or her progress in the online program.**

**March 16, 2011**  
**California student from Japan finds family alive on YouTube**



**April 12, 2011**  
**NCTM Conference Session, Free Online Degrees; iSMART: Integration of Science, Mathematics, and Reflective Teaching (iSMART), University of Houston**

You see the big picture. You find the connections. Make it official - become iSMART.



**Jen Chauvot and Mimi Lee, Univ of Houston**

**But I am not Content!!!**



**Shovelware**




**SHOVELWARE**  
 You paid \$200 to play gimmicky parts of free online flash games. How dumb are you?

**May 24, 2010**  
**Author Nicholas Carr, The Web Shatters Focus, Rewires Brains, Wired**  
[http://www.wired.com/magazine/2010/05/ff\\_nicholas\\_carr/](http://www.wired.com/magazine/2010/05/ff_nicholas_carr/)

Author Nicholas Carr: The Web Shatters Focus, Rewires Brains

**August 9, 2010**  
**Bill Gates Predicts Technology Will Make 'Place-Based' Colleges Less Important in 5 Years, By Jeff Young, Chronicle of HE**

Wired Campus

Bill Gates on in-person vs. online edu...

**September 15, 2010**  
**Study: Online learning might be less effective for some, eSchool News, Dennis Carter**

Classroom students scored 84.5 percent on the first exam in the economics course, and online students scored 83.3 percent.

**December 30, 2010**  
**The year we stopped talking**  
 Sharon Jayson, USA Today  
[http://www.usatoday.com/printedition/news/20101230/year30\\_cv.art.htm](http://www.usatoday.com/printedition/news/20101230/year30_cv.art.htm)

**January 23, 2011**  
**As the Web Goes Mobile, Colleges Fail to Keep Up, Chronicle of Higher Ed, Josh Keller**  
<http://chronicle.com/article/Colleges-Search-for-Their/126016/>

Year	Percentage
2008	10.2%
2009	29.0%
2010	43.8%

"I used it to sign up for classes. I used it to check e-mails," says Laura Patterson, a junior at Nevada State College, about her iPhone. "I used it all the time, for everything." More than 40 percent of all college students, like Nevada State's Laura Patterson, used mobile devices to get on the Internet every day last year, compared with 10 percent in 2008.

**February 17, 2011**  
**US internet access still a problem: Gov't says up to 10 pct in US lack good Internet, Joelle Tesslar, AP Technology Writer**


US Internet access still a problem

Gov't says up to 10 pct in US lack good Internet

Joelle Tesslar, AP Technology Writer



**February 27, 2011**  
**Actually Going to Class, for a Specific Course? How 20th-Century.** New learning technologies prompt a rethinking of traditional course structure, Chronicle of HE, Jeffrey R. Young



**Technology**

**Actually Going to Class, for a Specific Course? How 20th-Century.**  
 New learning technologies prompt a rethinking of traditional course structure

**By Jeffrey R. Young**

Traditional quarter-day undergraduate education in the 20th century was a ritual that took place in a classroom. The student would sit in a row of desks, and the professor would stand at the front of the room, lecturing. The student would take notes, and the professor would grade the papers. This was the traditional way of learning, and it was the way that most students learned. But now, with the advent of new learning technologies, this traditional way of learning is being rethought. Some students are now taking classes online, and some are taking classes in a hybrid format, where they take some classes online and some in a classroom. This is a new way of learning, and it is one that is being rethought. The student is now in control of their own learning, and the professor is no longer the sole source of knowledge. This is a new way of learning, and it is one that is being rethought.

**"There's not really much need for teachers anymore," since so much material is online, says Dekunle Somade, a senior at the U. of Maryland at College Park.**

**16. Learning Technology Trends**


Another Benefit of Robot Teachers: No 'Moral Problems'



**September 15, 2010**  
**Timeline of Technology for Teaching, NY Times**  
<http://www.nytimes.com/interactive/2010/09/15/magazine/classroom-technology.html?ref=magazine>



**1. Inexpensive Laptops and Netbooks**




**2. Online Language Learning**  
**January 27, 2010 and Feb 5, 2010: The Web Way to Learn a Language, NY Times, ERIC A. TAUB**  
 (e.g., EnglishCentral, iTalki, Palabea, Babbel)



**3. Tablet Computers Hit (iPad)**  
**April 10, 2010: Seton Hill Univ, 2,100 students an iPad and freshmen a 13-inch MacBook laptop**  
**Feb 1, 2011: An Android Tablet Made Just for School, David Zax, Fast Company**

Samsung: Galaxy Tab has leg up on Apple iPad, By Stephen Shankland, CNET, September 3, 2010



### 4. Mobile (e.g., iPad) News

**August 10, 2010:** Flipboard pretties up social-media updates Facebook statuses and tweets feed into magazinelike format in free app for iPad; Jefferson Graham, USA TODAY

**February 1, 2011:** A peek at The Daily's iPad news app (\$40/year); CNN Tech, Mark Milian



### 5. Pocket Dictionaries


**September 9, 2010:** Campus Tech in China: Impressions From 3 Campuses, Jeff Young  
<http://chronicle.com/Digest/Pocket/Campus-Tech-in-China-726912/>

I didn't see any laptops in use here, though the three Korean exchange students I sat with proudly produced their favorite educational gadgets: portable electronic dictionaries that can hunt down words in Chinese, Korean, English, and Japanese. Language learning has the best use of technology here, according to some professors I've talked to this week, and electronic stores sell what seems like hundreds of varieties of digital dictionaries.



### 6. Digital Textbook Projects (Korea),

**Sept. 21, 2010:** What South Korean Schoolchildren Can Teach Colleges About E-Textbooks; By Jeff Young, Chronicle of HE. Korea E-Learning Week, Coex, Seoul, Sept. 16-17, 2010



### 7. Mobile Music

**December 10, 2010:** Virtual Bands, Choirs, Singers, etc. iBand Rocks Tunes on iPads and iPhones; PadGadget.



### 8. Video Calling/Conferencing/Webcaming

**December 20, 2010:** Skype for iPhone adds two-way video calling, CNet Reviews


**WATCHING VIDEO ONLINE**

Google's YouTube dominates video viewing, but how do other competitors compare last month?

Top video content streams

Google (YouTube)	14.3 billion
Hulu	737 million
Yahoo	548 million
Vevo	510 million
Veoh	497 million
Microsoft	465 million
AOL	345 million
Dailymotion	247 million
Fox Interactive (iFlix)	209 million
CBS	197 million

\* Includes Comedy Central and MTV Source: ComScore Media Metrics, November



### 9. Social Networking Gaming

**December 24, 2010:** CityVille 16.8 million daily users, FarmVille's 16.4 million. CityVille 61.7 million monthly users, FarmVille 56.8 million users. Mashable.




"CityVille" Is Now Bigger than "FarmVille"





### 10. E-Book Readers






**January 28, 2011: Amazon: Kindle Books Finally Eclipse Paperbacks, Doug Aamoth**  
[http://www.usatoday.com/life/books/news/2011-01-09-1astbooksales05\\_ST\\_H.htm](http://www.usatoday.com/life/books/news/2011-01-09-1astbooksales05_ST_H.htm)

Whether a surge in e-book sales can be sustained and what effect it could have on traditional bookstores remains to be seen.

### 12. New Interfaces

**February 18, 2011: Telekinesis 2.0, David Zax, Fast Company**








### 13. Artificially Intelligent Computers

**February 18, 2011: Watson dominated at 'Jeopardy!' — but what else can it do? As IBM seeks new uses, man still has edge over machine, Dan Fergano, USA Today.**

Computer vs. brain	
Watson	Human brain
1,100 pounds	3 pounds
4 years	6 million years
2,800 processors	1 billion neurons
200 trillion	100,000 trillion
18 trillion	1 trillion


Don't let IBM's Watson, the champ-crushing computer on Jeopardy!, get you down. A comparison with your own human brain.



### 14. Group Video Chat, February 28, 2011:



**SocialEyes delivers group video chat, USA Today, Feb 28, 2011, Jon Swartz, <http://www.socialeyes.com/>**

SocialEyes delivers group video chat




### 15. iPad 2, March 2, 2011: Steve Jobs' surprise appearance a 'big deal', CNN Tec, Mark Milian, March 2, 2011,

<http://www.cnn.com/2011/TECH/gadgets/03/02/steve.jobs.ipad2/index.html?ref=NS1>

### 16. Mobile Tutors, April 7, 2011: Tutor.com Releases First Ed App that Connects Students to an Expert Tutor

Tutor.com To Go™ Releases the First Education App that Connects Students to an Expert Tutor




## Today we have the Web 2.0

WIKIPEDIA The Free Encyclopedia

Periodic Table of the Internet

## We are entering a jumping off point...

Web 2.0

Elements of the Web's Next Generation

## Some Educational and Psychological Heroes: John Dewey, Seymour Papert, John Seely Brown, Ivan Illich, Stephen Heppell, Henry Jenkins

## Our New Heroes are not Theoretical or Psychological

## Life in the Cloud...?

Cloud Computing

Thinking of creating a website?

## Tinkering, Tottering, or Totally Extreme?



## Tinkering

WE WERE REDUCED TO MARRYING SHADOW PUPPETS

"I'm a 'tinker' wherever I tinker"

tinkering things

## Tinker #1. Reading from Open Access Journals (e.g., PLOS)

PLOS ONE

Journal of Interactive Online Learning

EO

Learning Spaces

The International Review of Research in Open and Distance Learning

A refereed e-journal to advance research, theory and best practice in open and distance learning worldwide

Abolomon University

## Tinker #2. Webcast Lectures (Tegrity, Echo360, Mediasite, etc.)

Magnetic Disks

What are tracks and sectors?

Track: An external recording track that houses all bits on disk.

Sector: Starts up on 1st byte of disk.

Preserving program data for use and safety has proven to be essential

tegrity

## Tinker #3. Timeline Tools (e.g., SIMILE from MIT (<http://simile.mit.edu/>), Learning Tools from UBC)

Gates through the

## Tinker #4. Online Literature Search (Class Google Jockeys) (links to text, soundtracks, video clips, etc.)

TAO

## Tinker #5. Video Animations and Self-Testings

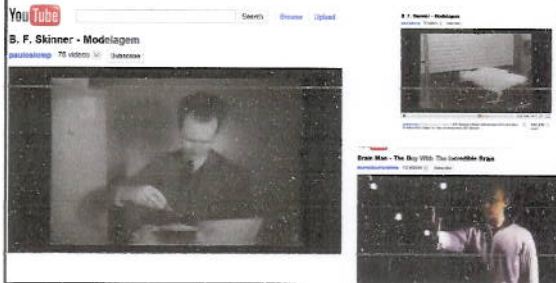
YOU TUBE

Amazing 3D medical animation!

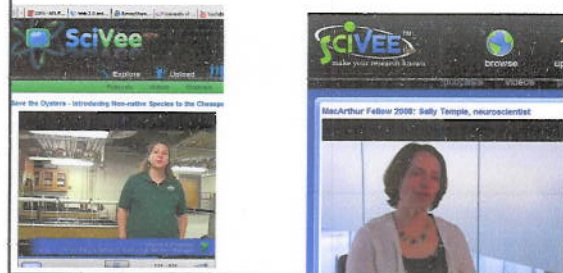
3D Human Anatomy

Laba Post

### Tinker #6. Anchored Instruction with Shared Online Video



### Tinker #7. Pubcasts. (videos of authors of scientific papers and science; e.g., SciVee)



### Tinker #8. Collaborative Groups (Google Docs, Ning, Google Groups, MSN Groups, Yahoo Groups)



### Tinker #9. Track Life of a Scientist or Famous People (e.g., Brian J Ford, independent scientist)



### Tinker #10. Online Portals of Rich Data United Nations Opens World Digital Library, Turning the Pages from the British Library, etc. (history, culture, literature, writing, art, etc.)



### Tinker #11. Educational Simulations





### Tinker #12. Expert Blog and Podcast Reflections

The English Blog  
 Film of the Week: This is It  
 weekly podcasts  
 NursingShow.com

### Tottering

### Totter #1. Bridges to World of Expert and Practitioners (e.g., Watch or Listen to Online Conferences, Expert interviews, blogs, chats, etc.)

### Totter #2. Famous Expert Via TED (shared online video), Fast Company, Anya Kamenetz, September 1, 2010

FAST COMPANY  
 How TED Connects the Idea-Hungry Elite  
 TED Talks  
 Adora Syta: What adults can learn from kids

### Totter #3. Real World Problems (PBL online): Real-time Cases

REALTIME CASE STUDY  
 Supercharging the case method, making it more realistic and engaging  
 Professor James Thomas  
 Plaza Professor of Entrepreneurship  
 University of Massachusetts, Boston

### Totter #4. Class Synchronous Sessions and Archives (Breeze/Adobe Connect Pro, Elluminate, WebEx, Dim Dim)

### Totter #5. Global Class Videoconferencing

**Teaching Barriers**  
 How do you overcome barriers to global learning? What are the challenges of teaching in a global context?

### Totter #6. Global Class Collaboration and Problem Solving (e.g., ePals, iEARN, and World Class)

**World Class Program Learning Cycle**

- think** critically about global issues
- act** on new understanding
- change** perspectives and behaviours

1000 teachers in over 80 countries are teaching and learning about global issues and the world.

Become a **World Class** by completing the three stages:

- World Class Learning Cycle
- School Engagement Strategy
- Learning Products & Services

1000 65

World Class Learning Cycle, School Engagement Strategy, Learning Products & Services, 1000 65, World Class Learning Cycle, School Engagement Strategy, Learning Products & Services, 1000 65, World Class Learning Cycle, School Engagement Strategy, Learning Products & Services, 1000 65

### Totter #7. Asynchronous and Synchronous Events (e.g., William and Mary, March 3, 2011)

### Totter #8. Course Announcements (e.g., Teaching with Twitter; Course announcements and following people (e.g., microblogging))

education

follow us on twitter

Follow me!

### Totter #9. Wikibooks, Wikipedia editing, wiki syllabi, wiki glossaries (Ron Owston, York University, Toronto)

Web 2.0 and Emerging Learning Technologies  
 From Wikibooks, the open source textbook collection.

WIKIBOOKS

### Totter #10. Student YouTube Products

<http://www.youtube.com/watch?v=xiwSiryPzsQ>  
[http://www.youtube.com/watch?v=x3FJyI4Pn\\_E](http://www.youtube.com/watch?v=x3FJyI4Pn_E)  
<http://www.youtube.com/watch?v=eD1awpaSuP0>

YouTube

Freedom

Virtual Learning - Is it for You?



### Totter #11. Podcast Productions and Virtual Performances for students of pronunciation class (e.g., Tzu-Su Chen, Taiwan)

The screenshot shows a Podomatic podcast page. The main title is 'tsuyi hsueh's Podcast'. Below the title, there are two episode listings. The first episode is titled '期中考錄音' (Mid-term Exam Recording) and the second is 'KK & Phonics Easy Go! 學生錄音作業' (KK & Phonics Easy Go! Student Recording Assignment). The page also features a 'podomatic PODCAST' logo and a quote: 'Hey Jude, don't make it bad. Take a sad song and make it better.'

### Totter #12. Video Blogging

The screenshot shows a YouTube video player. The video title is 'Reflections: Tech in Education'. The video shows two men sitting at a table, engaged in a conversation. The YouTube interface includes search, upload, and favorite buttons, as well as a video player with a progress bar and volume control.

### Totally Extreme Learning

A collage of images illustrating extreme learning. It includes a person standing at a computer workstation, a graphic for 'HURRICANE IKE', a student reading a book, a volcanic eruption, and a classroom scene with students working on laptops.

### Totally Extreme #1. Live Science (Nautilus Live allows people to watch expeditions live & listen to scientists in control rooms a discoveries made)

A collage of images related to live science. It features the Nautilus Live interface, a scientist in a blue jacket, a map of the Pacific Ocean showing the location of the Nautilus Live expedition, and a close-up of a scientist examining a specimen.

### Totally Extreme #2. Immediate Science (a transitional species) 47-Million-Year-Old Fossil the Missing Link? (May 20, 2009)

A collage of images related to immediate science. It includes a fossil of a transitional species, a spider, and a person. The text '47-Million-Year-Old Fossil the Missing Link?' is prominently displayed.

### Totally Extreme #3. Armchair Archeology (e.g., UCLA Summer Digs Program)

A collage of images related to armchair archeology. It features a woman, an archeologist working at a site, a fossil, and an archeological site. The text 'UCLA Summer Digs Program' is visible.

**Totally Extreme #4. Adventure Learning, GeoThentic, Earthducation, Polar Husky, GoNorth (Aaron Doering, Univ of Minnesota), Impossible to Possible, Ray Zahab**



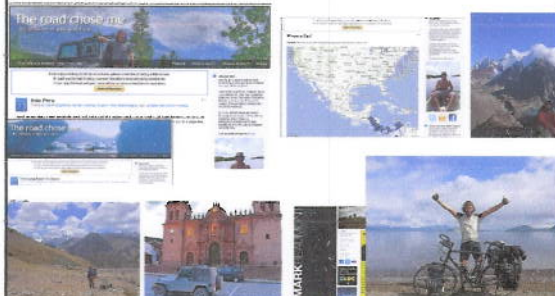
**Totally Extreme #5. Teen Solo Sailing. May 2010, Jessica Watson became the youngest person ever to sail solo, non-stop and unassisted around the world.**



**Totally Extreme #6. Scientist Blog Reflections (The LAST OCEAN Website and The Last Ocean Project; Cassandra Brooks)**



**Totally Extreme #7. Adventure Learning (cars and bikes) Dan Grec and Mark Beaumont**



**Totally Extreme #8. South African teens get virtual mentoring from all over the world, By Danielle Berger, CNN, January 14, 2011**  
<http://www.cnn.com/2011/LIVING/01/13/cnheroes.stokes/index.html?hpt=T2>



**Totally Extreme #9. International and Global Education and Competitions (e.g., Global Game Jams, online role play, Global Videoconferencing)**





**Totally Extreme #10. Learn Anytime, Always On/Mobile.** Will Technology Kill the Academic Calendar? Online, semesters give way to students who set their own schedules, Marc Parry, Chronicle of Higher Ed, October 10, 2010



Robert Johnson, who championed the open-format Learn Anytime program at a two-year college in Louisville, Ky. checks students' e-mail while waiting for a flight. "Everything I need to do today, I can do on my phone," says Robert Johnson...He often grades papers and communicates with students from a cafe near his home.

**Totally Extreme #11. Pocket School and Videoconferencing in Developing World** (Paul Kim, Stanford, Rwanda, August 2010, Kigali Institute of Education linking up with universities in India and Cameroon through Satellite Internet video conferencing system. They were discussing Java programming.)

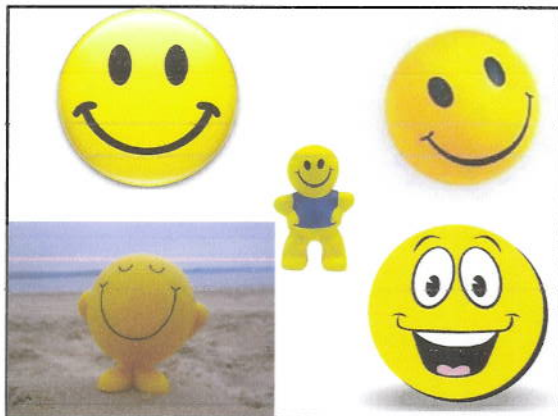
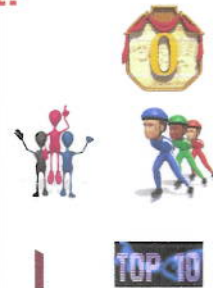


**Totally Extreme #12. Telepresence and Teleportec Systems** (e.g., Cisco and HP)



**Poll #1: How many ideas did you get?**

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.
7. More than 10.



**Any Extreme Questions and Comments?**

Slides at: [TrainingShare.com](http://TrainingShare.com)  
 Papers: [PublicationShare.com](http://PublicationShare.com)  
 Book: <http://worldisopen.com/>  
 Email: [curt@worldisopen.com](mailto:curt@worldisopen.com)

