Emerging Technologies

Ron Faulds and Barb Fardell
Michigan Department of Ed.
Web 2.0
School 2.0?
Did You Know . . .
Sometimes size *does* matter.
If you’re one in a million in China . . .
There are 1,300 people just like you.
In India, there are 1,100 people just like you.
The 25% of the population in China with the highest IQ’s . . .
Is greater than the total population of North America.
In India, it’s the top 28%. 
Translation for teachers:
They have more honors kids than we have kids.
Did you know . . .
China will soon become the number one English speaking country in the world.
If you took every single job in the U.S. today and shipped it to China . . .
China would still have a labor surplus.
During the course of this 8 minute presentation . . .
• 60 babies will be born in the U.S.

• 244 babies will be born in China.

• 351 babies will be born in India.
The U.S. Department of Labor estimates that today’s learner will have 10-14 jobs . . .
By the age of 38.
According to the U.S. Department of Labor...
1 out of 4 workers today is working for a company he has been employed by for less than one year.
More than 1 out of 2 are working at their current job for less than 5 years.
The top 10 in-demand jobs in 2010 didn’t exist in 2004.
Question for teachers:
How do we prepare our students for 14 different jobs and several different careers?
We are currently preparing students for jobs that don’t yet exist . . .
using technologies that haven’t been invented . . .
in order to solve problems we don’t even know are problems yet.

David Warlick – Connect Learning blog
Question for Administrators?
How do we do this?
Name this country . . .
• Richest in the World
• Largest Military
• Center of world business and finance
• Strongest education system
• World center of innovation and invention
• Currency the world standard of value
• Highest standard of living
England.
In 1900.
Do you perceive a trend?
Did you know . . .
The U.S. is 20th in the world in broadband Internet penetration. (Luxembourg just passed us.)
In 2002 alone Nintendo invested more than $140 million in research and development.
The U.S. Federal Government spent less than half as much on Research and Innovation.
1 out of every 8 couples married in the U.S. last year met online.
There are over 100 million registered users of MySpace. (August 2006)
The average MySpace page is visited 30 times a day.
Did you know . . .
We are living in exponential times.
There are over 2.7 billion searches performed on Google each month.
To whom were these questions addressed B.G.? (Before Google)
The number of text messages sent and received every day exceeds the population of the planet.
By their 21st birthday, digital kids will have sent/received 250,000 emails/IMs, spent 10,000 hours on the phone, and watched 20,000 hours of TV (with 500,000 commercials).
Kids use electronic media 6.5 hours a day into which they pack 8.5 hours of exposure to that media.

How?
They multitask.
There are about 540,000 words in the English language . . .
About 5 times as many as during Shakespeare’s time.
More than 3,000 new books are published . . .
Daily.
It’s estimated that a week’s worth of *New York Times* . . .
Contains more information than a person was likely to come across in a *lifetime* in the 18th century.
Yet print newspapers will be extinct by the first quarter of 2043.
It’s estimated that 1.5 exabytes (that’s $1.5 \times 10^{18}$) of unique new information will be generated worldwide this year.
That’s estimated to be more than in the previous 5,000 years.
the amount of new technical information is doubling every 2 years.
That means for a student starting a four-year technical or college degree . . .
Half of what they learn in their first year of study will be outdated by their third year of study.
It’s predicted to double every 72 hours by 2010.
Predictions are that e-paper will be cheaper than real paper.
And with the rapid and exponential growth of knowledge, does it make sense to publish it in a book?
Third generation fiber optics has recently been separately tested by NEC and Alcatel . . .
That pushes 10 trillion bits per second down one strand of fiber.
That’s 1,900 CDs or 150 million simultaneous phone calls every second.
It’s currently tripling about every 6 months and is expected to do so for at least the next 20 years.
The fiber is already there; switches are just being improved on the ends... which means the marginal cost of these improvements is effectively $0.
47 million laptops were shipped worldwide last year.
The $100 laptop project is expecting to ship between 50 and 100 million laptops a year to children in underdeveloped countries.
Predictions are that by 2013 a supercomputer will be built that exceeds the computation capability of the Human Brain . . .
By 2023, a $1,000 computer will exceed the capabilities of the Human Brain . . .
First grader Abby will be just 23 years old and beginning her (first) career . . .
And while technical predictions farther out than about 15 years are hard to do . . .
Predictions are that by 2049 a $1,000 computer will exceed the computational capabilities of the human race.
Number of iPod sold in 3Q 2006 = 8,100,000
Up from 304,000 exactly three years ago
College freshmen identify the iPod as more “in” than beer.
What does it all mean?
Preparing our children for a future that we cannot even describe requires of educators more than we have ever expected before.

David Warlick
Shift Happens.

Modified. Originally created by Karl Fisch,
Arapahoe High School, Centennial, Colorado
The Fischbowl
http://thefischbowl.blogspot.com/
Now you know . . .
Why you might want to know a bit about . . .
emerging technologies and Web 2.0