

Ambient Insight: We Put Research into Practice

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January 18, 2007 – Elluminate Live! Event

**Key Findings from Recent Ambient Insight Research:
The Hottest Learning Technologies of 2007**

Collaboration, Open Source, and Mobile Learning Lead the Way



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Chief Research Officer
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Introductions: Audience Poll

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What sector do you work in?

- A. K-12 Academic
- B. Higher Education Academic
- C. Business and Corporate
- D. Government
- E. Non-Profit

What is your primary job role?

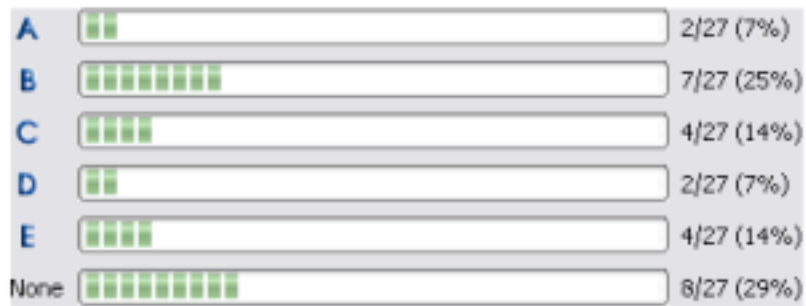
- A. Content or Instructional Designer
- B. Technical Developer
- C. Teacher or Trainer
- D. Group Manager or Organization Administrator
- E. Seller of Products: Vendor, Supplier, Service Provider, or Consultant

Where are you located?

- A. Canada
- B. US
- C. Europe
- D. Latin America
- E. Other



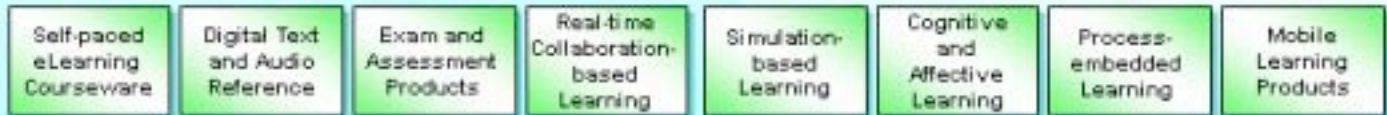
Polling Statistics



Ambient Insight Tracks Eight Pedagogically-defined Learning Technology Products

Ambient Insight Tracks Eight Pedagogically-defined Learning Technology Products

Ambient Insight's Learning Technology Research Taxonomy



Ambient Insight has developed a learning technology product taxonomy based on pedagogy and information architecture principals.

- ◆ **Self-paced eLearning (courseware)**
- ◆ **Digital Text and Audio Reference (referenceware)**
- ◆ **Exam and Assessment Products**
- ◆ **Real-time Collaboration-based Learning**
- ◆ **Simulation-based Learning**
- ◆ **Affective and Cognitive Learning**
- ◆ **Process-embedded Learning**
- ◆ **Mobile Learning Products**

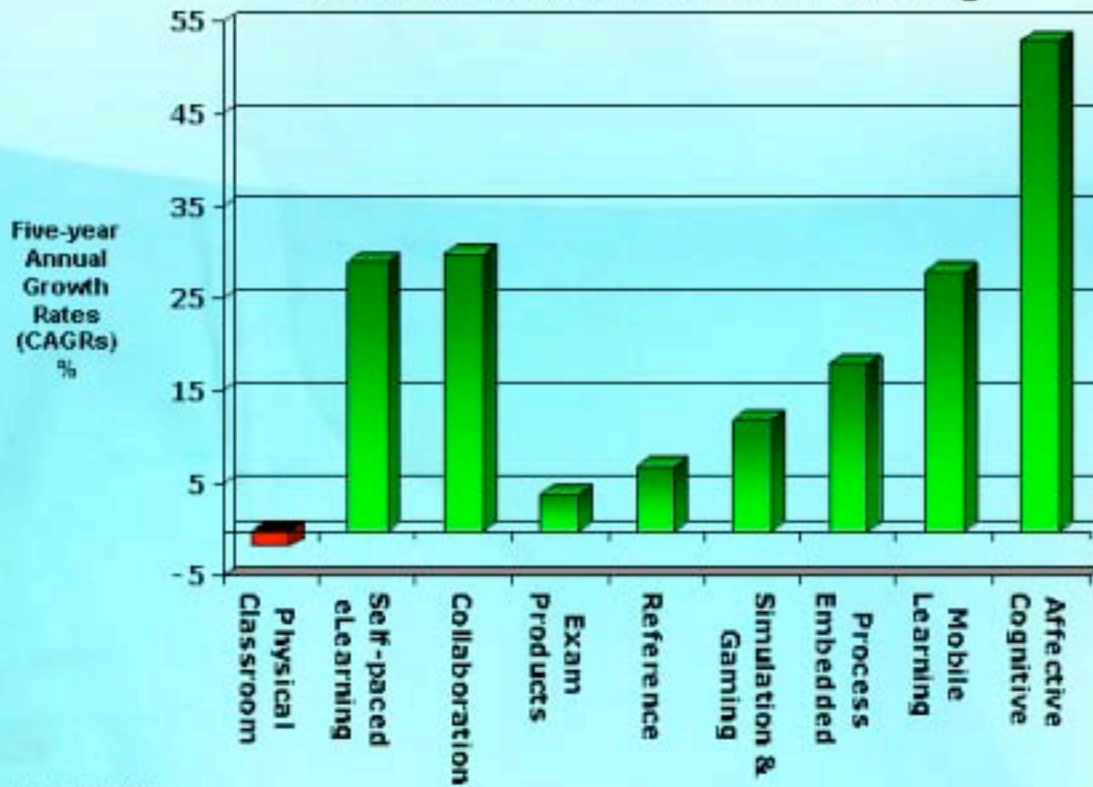


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What are they Buying? 2007-2012 Growth Rates by Product Type Across All Buying Segments

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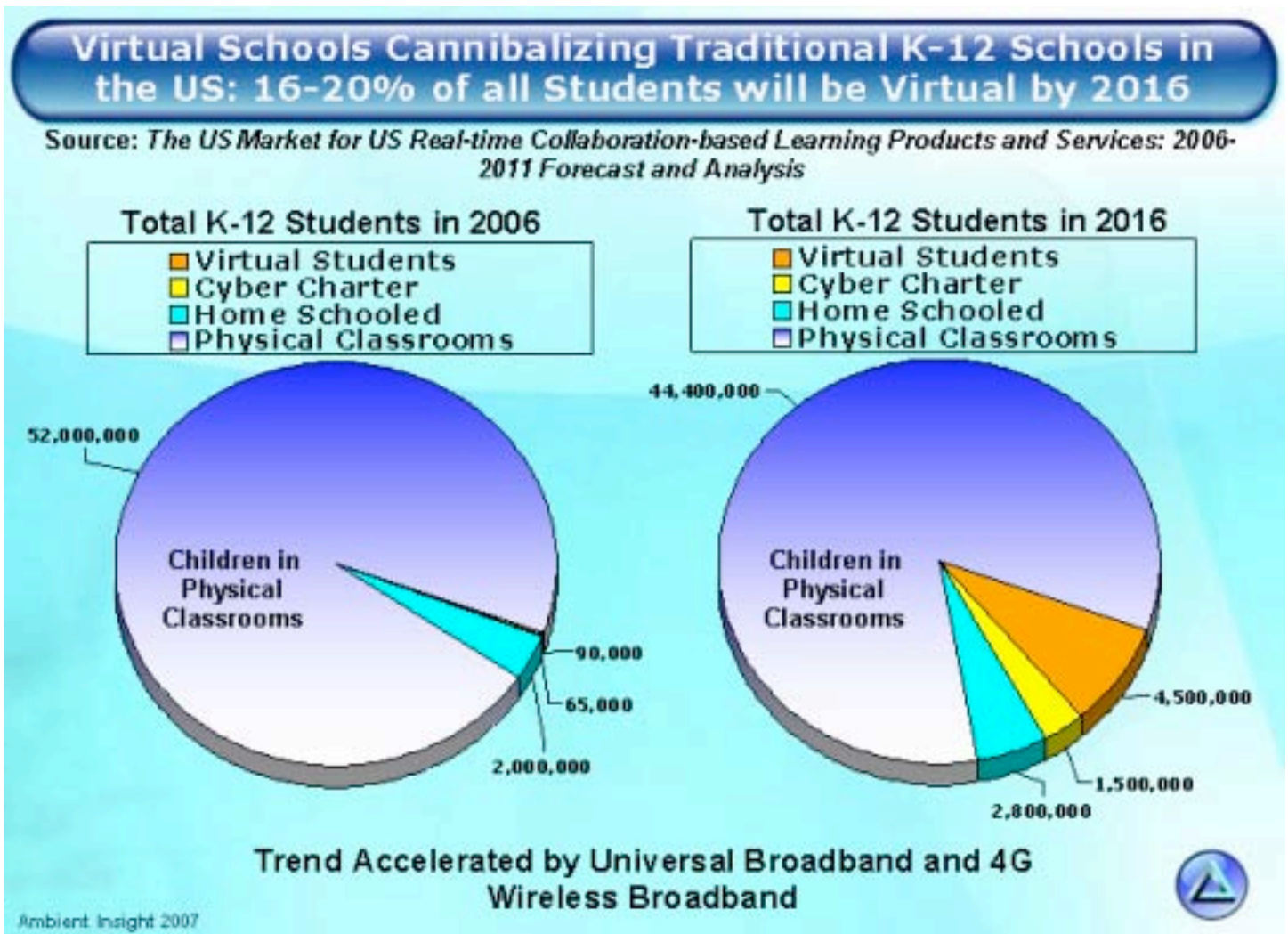
81% of all 2012 Revenues will Derive from Self-paced eLearning and Real-time Collaboration-based Learning



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Virtual Schools Cannibalizing Traditional K-12 Schools in the US: 16-20% of all Students will be Virtual by 2016



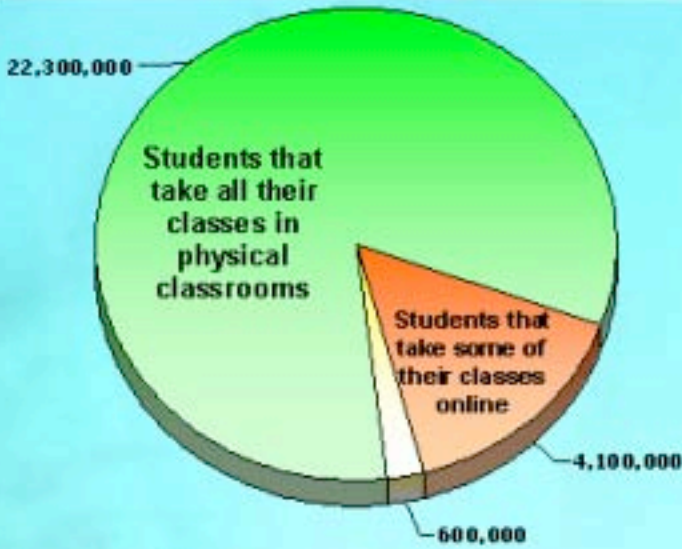
22-24% of all US Post-secondary Students will be Taking All Their Classes Online by 2016

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Includes full and part-time higher education students across vocational, for-profit, and non-profit institutions

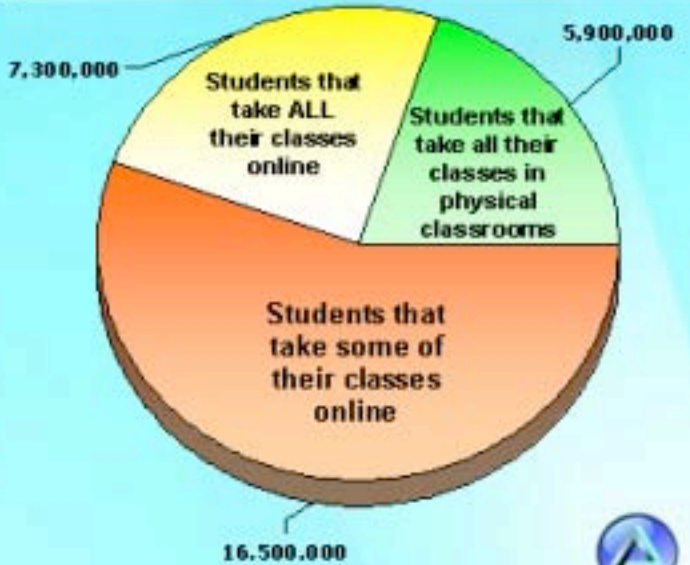
Total Higher Education Students in 2006

- Take Some Classes Online
- Take All Classes Online
- Attend Physical Classrooms Only



Total Higher Education Students in 2016

- Take Some Classes Online
- Take All Classes Online
- Attend Physical Classrooms Only



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Low-cost Learning Appliances

Low-cost Learning Appliances

- ◆ New “learning appliance” products offer very low-cost alternatives
- ◆ NetDimensionas, Attend Software, Makau, Virtual University Systems, Xornet, 360training, and Dell offer very low-cost plug and play learning appliances on a NAS storage device
- ◆ New learning appliance products for K-12 being marketed as personal learning devices



Dell's Learning System (DLS)



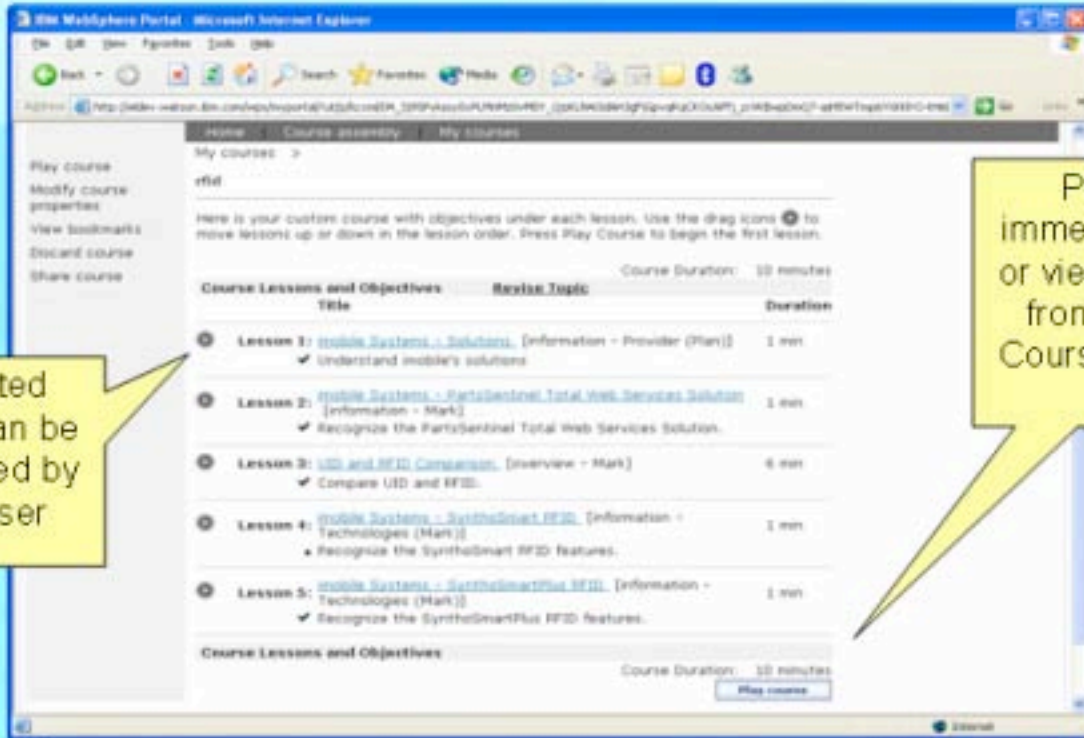
Nova5000 Learning Appliance by Fourier Systems



IBM??s DLE Allows Users to Assemble their Own Courses

IBM's DLE Allows Users to Assemble their Own Courses

IBM's Dynamic Learning Experience (DLE) creates courses using dynamic assembly



Selected items can be reordered by end user

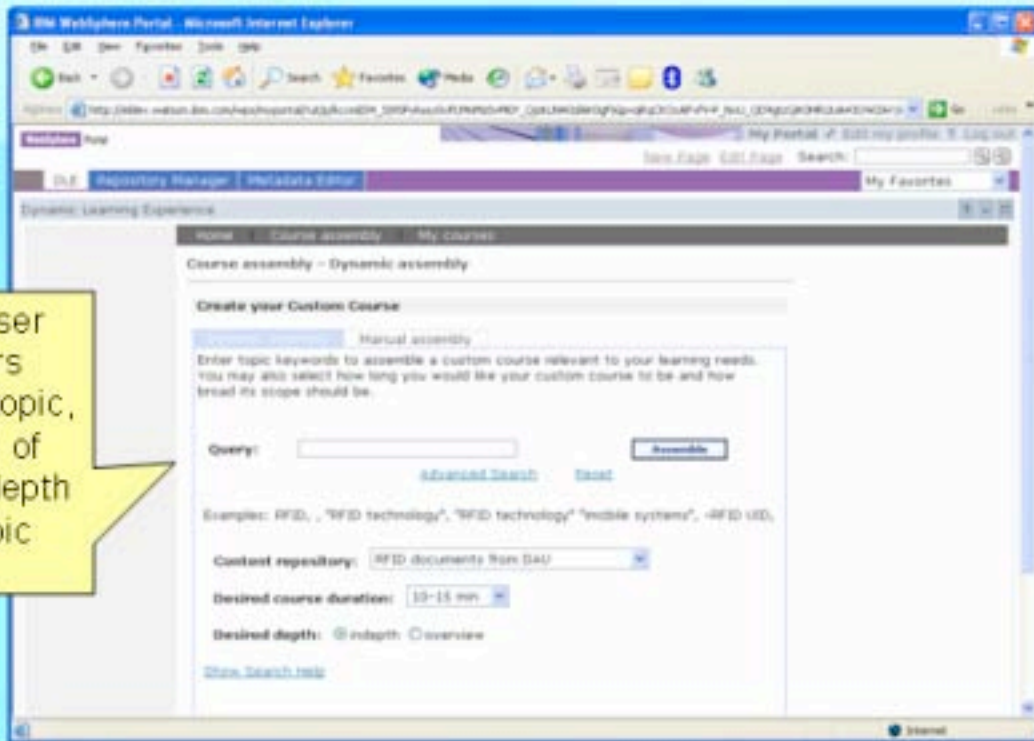
Play immediately or view later from 'My Courses' list



IBM??s DLE Allows Users to Assemble their Own Courses

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IBM's Dynamic Learning Experience (DLE) creates courses using dynamic assembly



End user enters course topic, length of study, depth of topic

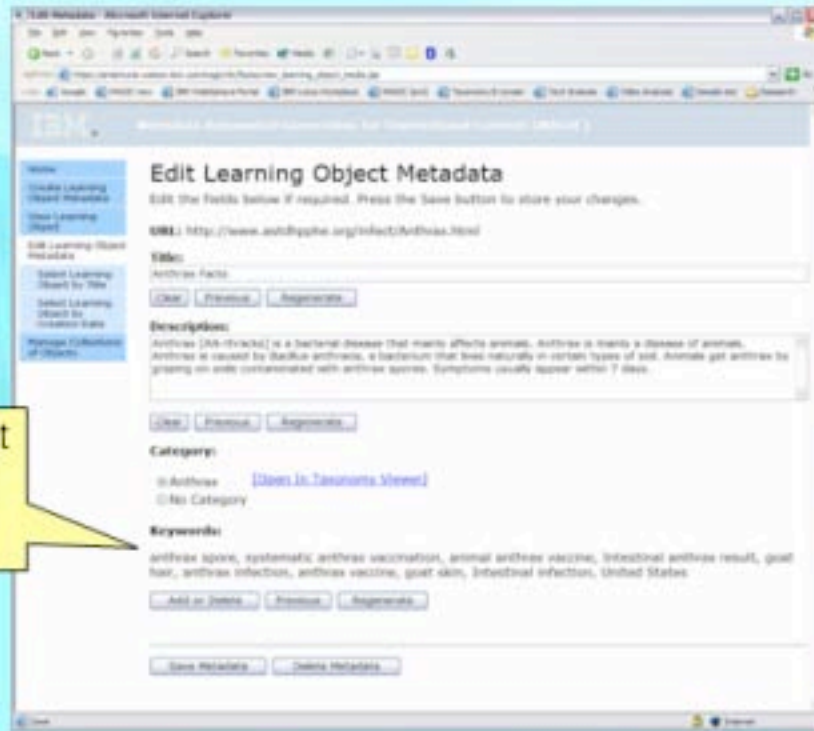
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IBM??s MAGIC

IBM's MAGIC

IBM's Metadata Automated Generation for Information Content (MAGIC) automatically tags learning content

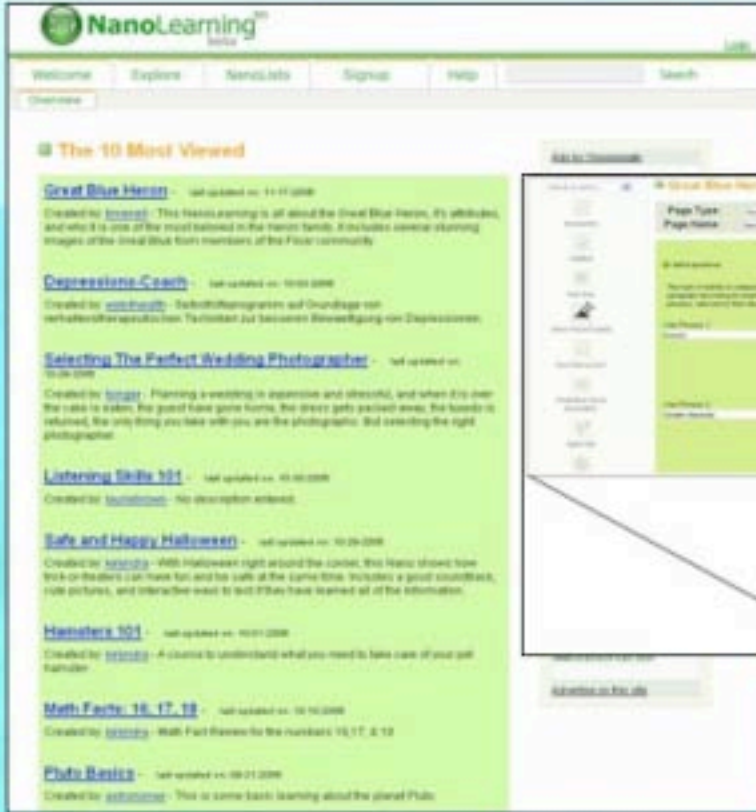


Learning Object Tags created automatically

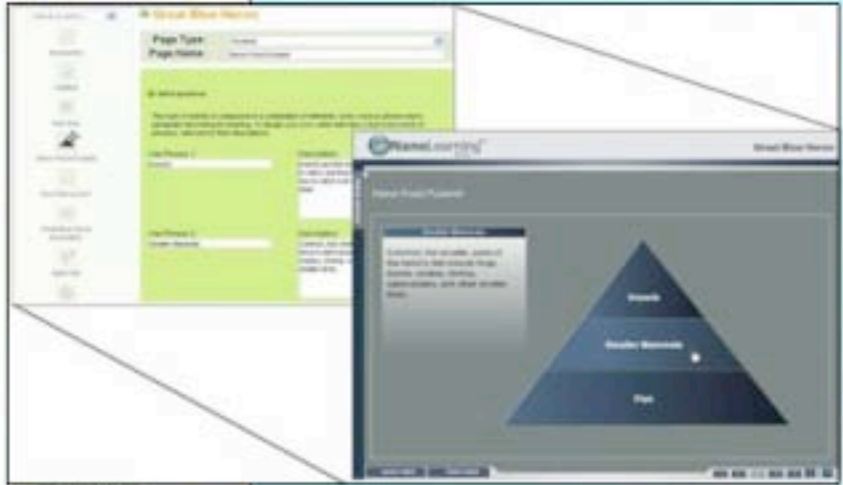


Peer-produced Products

Peer-produced Products



NanoLearning
<http://www.nanolearning.com>



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Peer-produced Products

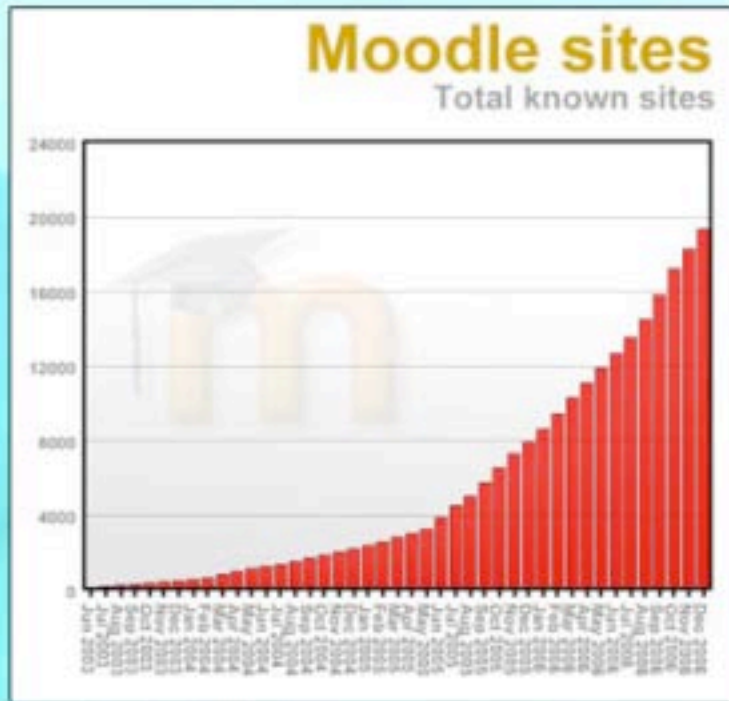
Peer-produced Products

- ◆ **Teachbits.com: “Teacher-To-Teacher Marketplace”, “where teachers can create, buy, and sell learning materials.”**
 - ◆ InfoSource provides 75-85% royalties to the teachers that contribute
- ◆ **SkillsFeed**
 - ◆ <http://www.skillsfeed.com/>
- ◆ **Curriki**
 - ◆ <http://www.curriki.org/xwiki/bin/view/Main/>



Open Source Products Growing Fast

Open Source Products Growing Fast



<http://moodle.org/stats/>

Registered sites: 19,965

Courses: 796,488

Users: 8,116,531

Teachers: 1,322,464

Enrollments: 12,187,922

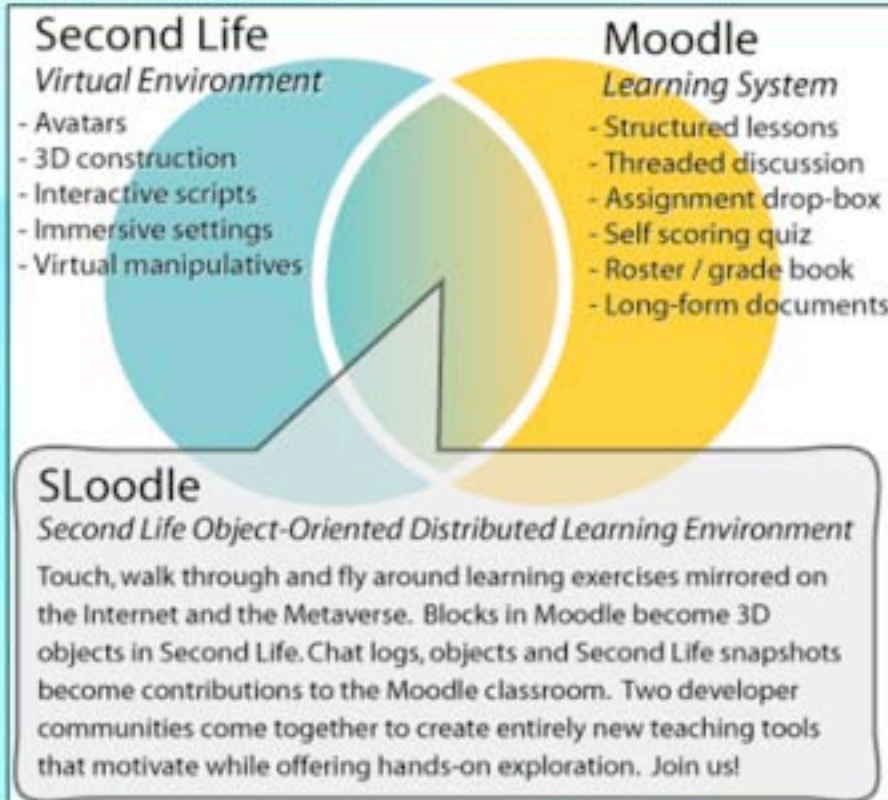
There are 36 sites with more than 20,000 users



Moodle and Second Life: Sloodle

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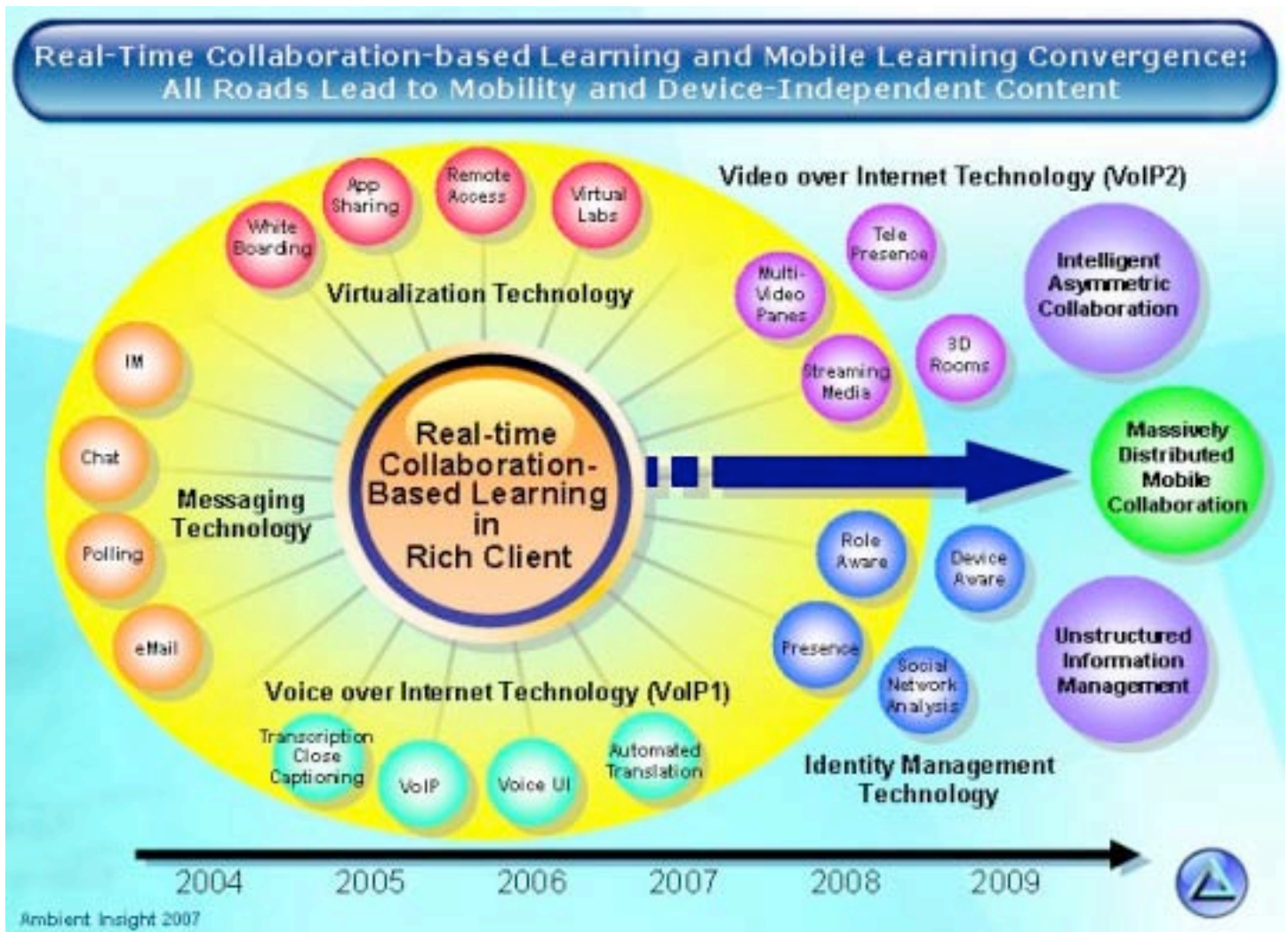
<http://www.sloodle.com/>



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Real-Time Collaboration-based Learning and Mobile Learning Convergence: All Roads Lead to Mobility and Device-Independent Content



Slide16

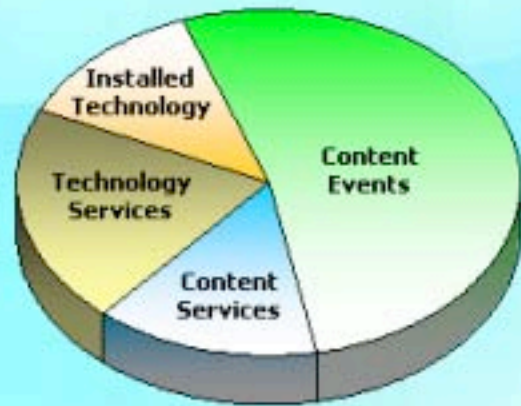
The Four Types of Real-time Collaboration-based Learning Products and Services

Source: *The US Market for US Real-time Collaboration-based Learning Products and Services: 2006-2011 Forecast and Analysis*

Content Events Dominate the Total Market by 2012



Total 2007 Corporate Real-time Collaboration-based Learning Market



Total 2012 Corporate Real-time Collaboration-based Learning Market

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Sneak Peek at New Ambient Insight Data: 2007-2012 Top Revenue Generating Products in the IT Training Industry

Sneak Peek at New Ambient Insight Data: 2007-2012 Top Revenue Generating Products in the IT Training Industry

	2007	2012
1	Classroom	Classroom
2	Services	Services
3	Self-paced eLearning	Real-time Collaboration-based Learning
4	Process Embedded	Self-paced eLearning
5	Simulation	Simulation
6	Exam Products	Process Embedded
7	Real-time Collaboration-based Learning	Reference
8	Reference	Exam Products
9	Mobile Learning	Mobile Learning

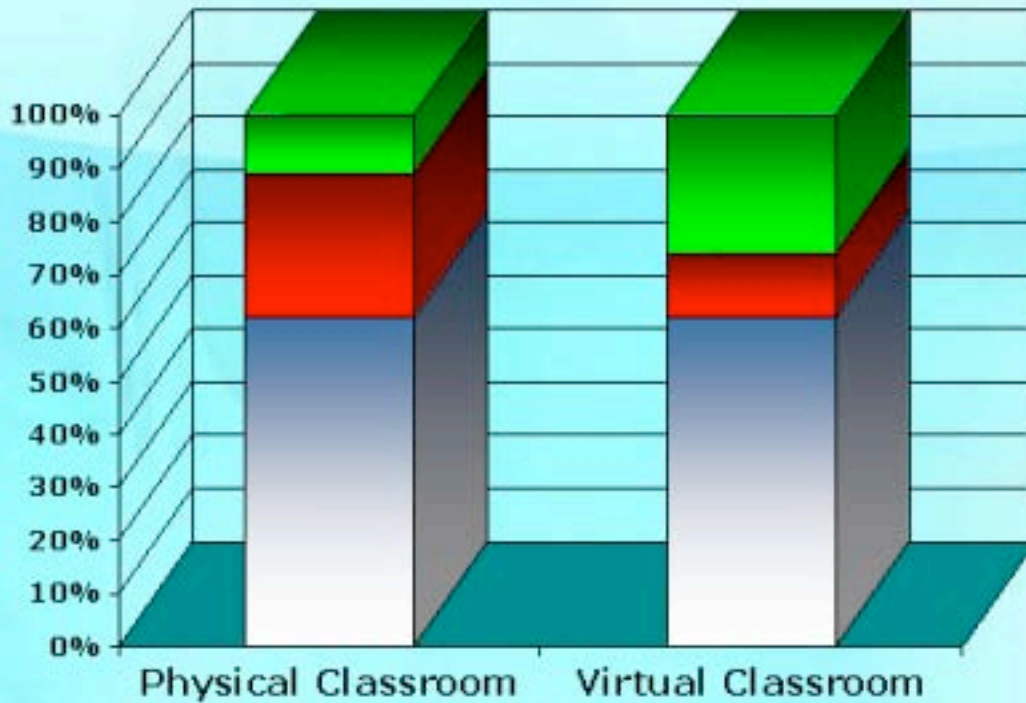
Real-time Collaboration-based Learning Eclipses Self-paced eLearning in the IT Training Industry by 2012



Slide18

Commercial Content Event Profit Margins: Relative Profits and Expenditures for Physical Classrooms versus Virtual Classrooms

Trainer Salaries Operational Costs Profits



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TelePresence Comes on Strong in 2006

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Video makes a comeback: Innovations emerging fast at the high-end and the low-end



Source: HP



Source: Cisco



Source: Tandberg

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Real-time Collaboration-based Learning Gets Personal on Mobile Devices

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Is it Mobile Learning or Real-time Collaboration-based Learning?

◆ **Device Makers:**

- ◆ Sony and Sony Ericsson
- ◆ Lenovo
- ◆ Nokia
- ◆ Catcher

◆ **Web Collaboration Vendors:**

- ◆ Alice Street
- ◆ PresenterNet
- ◆ Instantstream
- ◆ TANDBERG



Source: Sony Ericsson



Source: Catcher Inc.



Source: Sony



Source: Nokia



Source: Lenovo



Innovations in Real-time Collaboration

Innovations in Real-time Collaboration

Thinkature

<http://www.thinkature.com/>

ConceptShare

<http://www.conceptshare.com/>

Vyew

<http://www.vyew.com/>

Imagination Cubed

<http://www.imaginationcubed.com/LaunchPage>

skrbl

<http://www.skrbl.com/>

**Product
developers
creating extremely
simple pared
down applications
focused on single
features**



??Learn Math or Die Trying?? (A whole New Meaning to Serious Games)

“Learn Math or Die Trying” (A whole New Meaning to Serious Games)

<http://www.dimenxian.com/>

“Tabula Digita’s experiential learning systems are embedded in a stunning first person, action adventure video game format.”



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Simulator Training Expanding to Blue Collar Jobs

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Truck simulators reduce first 90-day accident rates of new drivers by 20-25%



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Pedagogy Embedded in New Simulation and Game Authoring Tools Emerge in 2006

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Stottler Henke's SimVentive

<http://www.simventive.com/>

"The SimVentive software toolset enables designers of instructional ("serious") games to create training simulations and to define the behavior of characters and objects that populate those simulations, all without programming. "

PIXELearning

<http://www.pixelearning.com/authoringtools.htm>

Epistemic games

<http://www.epistemicgames.org/eg/?cat=63>

Hidden Agenda

<http://www.hagames.com/haDefault.aspx>

Virtual Courseware Project

<http://www.sciencecourseware.org/>

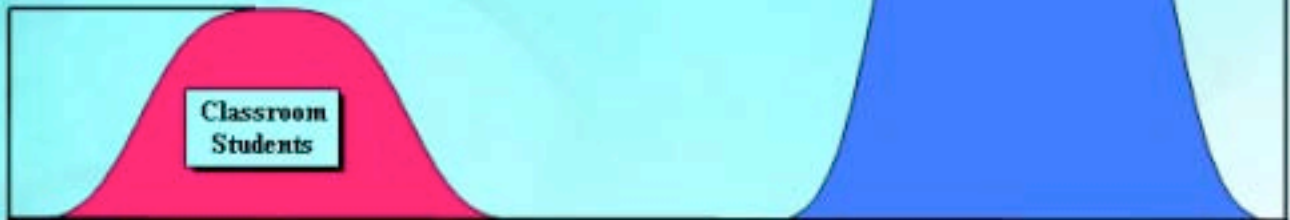


Scientifically Proven to Work: The Most Effective Knowledge Transfer (so far) is One-to-one Tutoring

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Courseware is Relatively Ineffective: Bloom's 2-Sigma Problem

- ◆ Bloom's original research and hundreds of recent meta-studies confirm that one-to-one tutoring is a much more efficient knowledge transfer than classroom or courseware
- ◆ An improvement of two standard deviations means that the average tutored student performed as well as the top 2 percent of those receiving classroom instruction
- ◆ Meta-studies show there "is no significant difference" between classroom and self-paced elearning
- ◆ *Relative to tutoring, courseware is not an efficient knowledge transfer method*

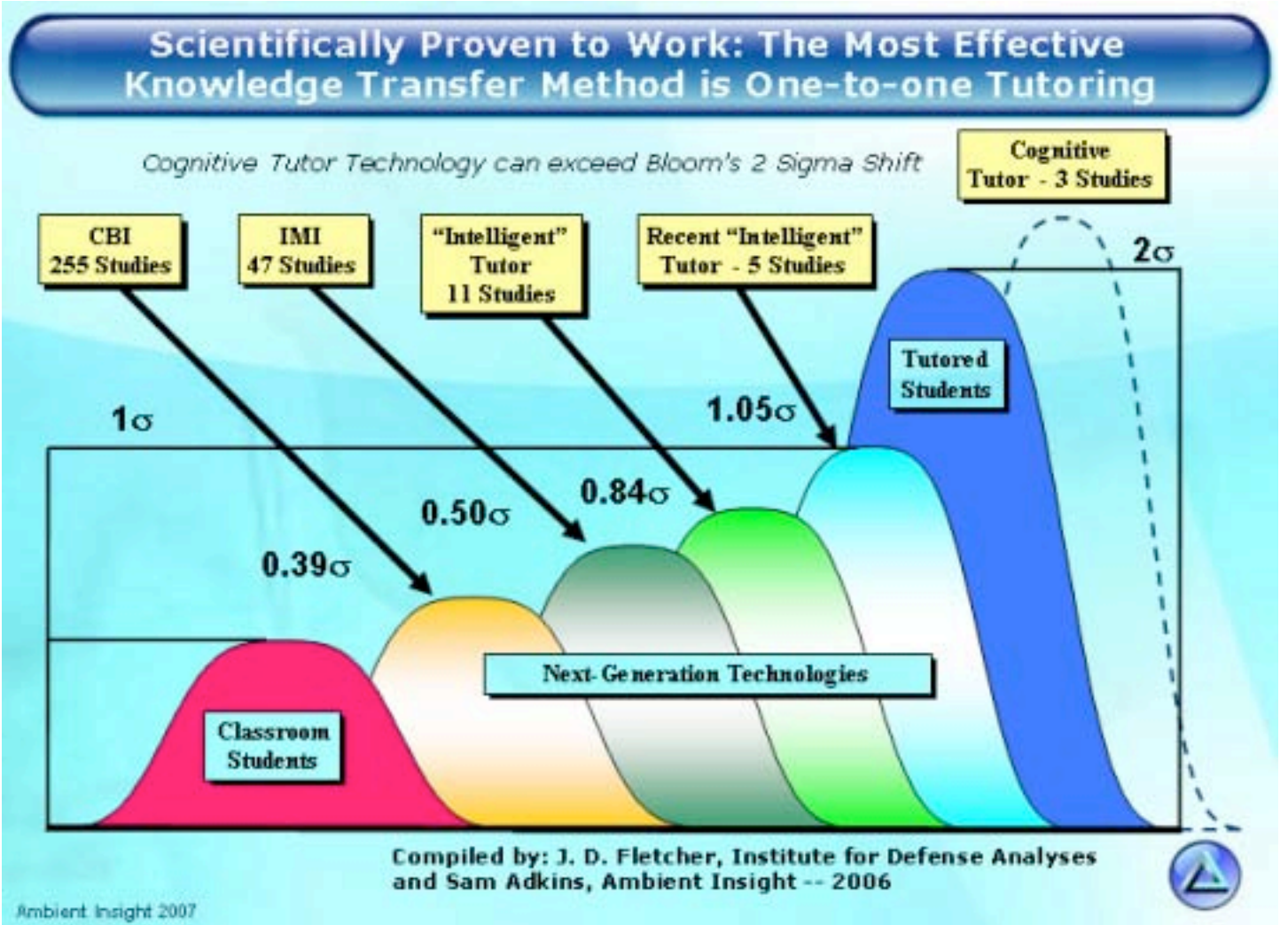


Compiled by: J. D. Fletcher, Institute for Defense Analyses, 2003



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Scientifically Proven to Work: The Most Effective Knowledge Transfer Method is One-to-one Tutoring



Vcom3D: Cognitive-Simulation-Mobile

Vcom3D: Cognitive-Simulation-Mobile

<http://www.vcom3d.com/>



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Simulation (Or is it Collaboration?) Music Instruction Hot Right Now

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eJamming

<http://www.ejamming.com>

TimeWarp Technologies

<http://www.timewarptech.com>

WorkshopLive

<http://www.workshoplive.com>

Sibelius Software

<http://www.sibelius.com>

In the Chair <http://www.inthechair.com>

“Use your own Instrument” and play along with “Real Music from Professional Musicians.” In the Chair allows you to hear and see immediate feedback on your performance. The system recognizes: Timing, Loudness, Tone, and Pitch



Taiwan-Language Learning Application comes as a default on the phone

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Chunghwa Telecom sells two phones with the XCome's XLex Mobile Learning product preloaded



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Ambient Insight??s Definition of Mobile Learning Products

Ambient Insight's Definition of Mobile Learning Products

*The US Healthcare Market for Mobile Learning Products and Services:
2006-2011 Forecast and Analysis*

Ambient Insight's learning technology product taxonomy is based on pedagogy and information architecture principals. We track eight types of learning products, one of which is Mobile Learning.

Mobile Learning Products

- ✓ Handheld decision support
 - Software tools
 - Technology Services
- ✓ Content Services
- Location-based learning
- Device-embedded learning
- ✓ Packaged content

Mobile Learning Products Specific to Healthcare

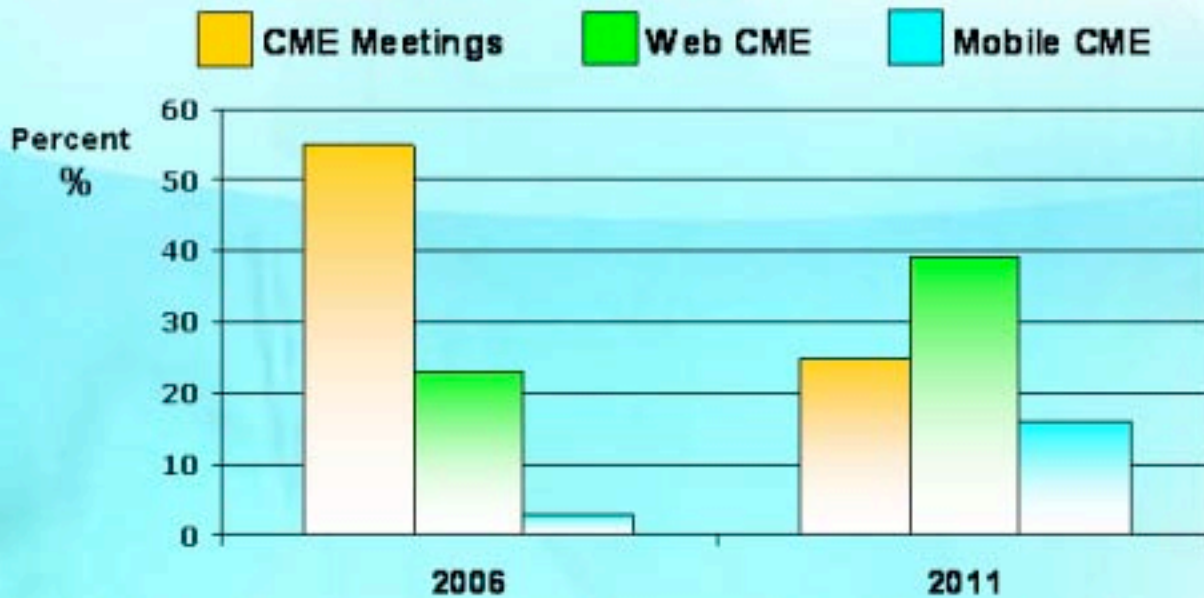
- *Emergency medical decision support*
- *Clinical decision support*
- *Educational "podcast" services*
- *Content services*
- *Medical and healthcare reference*
- *Mobile CME and exam prep*



Trend: Web-based CME and Mobile CME Rapidly Cannibalizing Meetings and Events

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2006-2011 Continuing Medical Education by Format/Medium



- ◆ Traditional meetings and conferences declining by -14.6% (5-year CAGR)
- ◆ Web-based CME growing by 11.1% (5-year CAGR)
- ◆ Mobile-based CME growing by 39.7% (5-year CAGR)



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Smart Devices Are up to the Task: Saving Lives in Real-time

Smart Devices Are up to the Task: Saving Lives in Real-time



Innovative healthcare devices enable patient and practitioner learning.

*"A new defibrillator from Philips that talks paramedics through CPR and shuts up when they get it right."
(source: Philips)*



RFID matches patients to meds



Blood pressure cuff to monitor vitals from home

Vocera VoIP "communicator"



Robot ??Tutors?? in Japan and Korea

Robot "Tutors" in Japan and Korea

"When the robot is asked to pinpoint a location, it projects a three-dimensional image showing the route to the destination through a projector on its head, and prints out a map from a built-in printer, which it hands to the visitor."



CUBO - It is a network-based home computer, and provides home monitoring, news updates, weather forecasts, scheduling, wake-up calls, robot email, etc.

It has an optical identification device that recognizes the content written in a book.

It reads to children and teaches them English.



Questions and Comments?

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Sources and Related Research

Sources and Related Research

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Ambient Insight's 2006-2011 Reports:

- ◆ **The US Market for Mobile Learning Products and Services: 2006-2011 Forecast and Analysis**
- ◆ **The US Healthcare Market for Mobile Learning Products and Services: 2006-2011 Forecast and Analysis**
- ◆ **Follow the Money: Real-time Collaboration Overtakes Self-Paced eLearning in the IT Training Industry**
- ◆ **The US Market for Real-time Collaboration-based Products and Services: 2006-2011 Forecast and Analysis**
- ◆ **The US Market for Self-paced eLearning Products and Services: 2006-2011 Forecast and Analysis**

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