

Technology Education in Schools:

Issues for Integrating
Immersive Virtual Learning Environments
into K-16 Learning

Dr. Robert L. Appelman

*Clinical Associate Professor
Coordinator: Technology Education
School of Education - IUB*

Issues w/ Educational Tech

The Underlying Views and Attitudes

Wars and “Entrenchments”

Access to Technology

Virtual Learning Environments

OLD Views of Technology

- A Tool
- For Special Uses
- For Elaborate/Complex Situations
- Only for those who have “Special Training”
- Targets for Teacher’s Professional Dev.
- Not for Students
- Not for Serious Learning
- For Specialized Subject Matter

NEW Views of Technology

- NOT SPECIAL but should be UBIQUITOUS
- It's like a UTILITY and we need MUCH more
- Should be INTEGRATED into ALL Subjects
- Our students are unimpressed and MUCH more skilled with it than Teachers
- Technology is a Content Subject Area & not just Skill-Based Application Training
- “Virtual Citizenship” needs to be taught, not just covered in a AUP

The Turf Wars in Higher Ed

- A “SILO” Curriculum Strategy
 - Informatics, Telecommunications, Business, Instructional Technology, Computer Science ...
- The Impact of Complexity
 - Less disciplines can handle all of the content
 - A need to partner and blend curricula
 - More Inter-Disciplinary initiatives
- High Workforce Demand
 - Confused Student Population
 - Poor Career Path Advising

The Turf Wars in K-12

- A “SILO” Licensing Strategy
 - Business Education [Middle School & Secondary]
 - Technology Education [Middle School & Secondary]
 - Career & Technical [Middle School & Secondary]
 - Computer Education [Secondary]
- A “SILO” Technology Ownership Strategy
 - Administrators [Technology Budgets]
 - Faculty [Integration into Teaching]
 - Library Media Specialists [Accessibility to Resources]
 - Technology Coordinators [Operations & Maintenance]
- Where are the STUDENTS in this?

To the Bell and Beyond

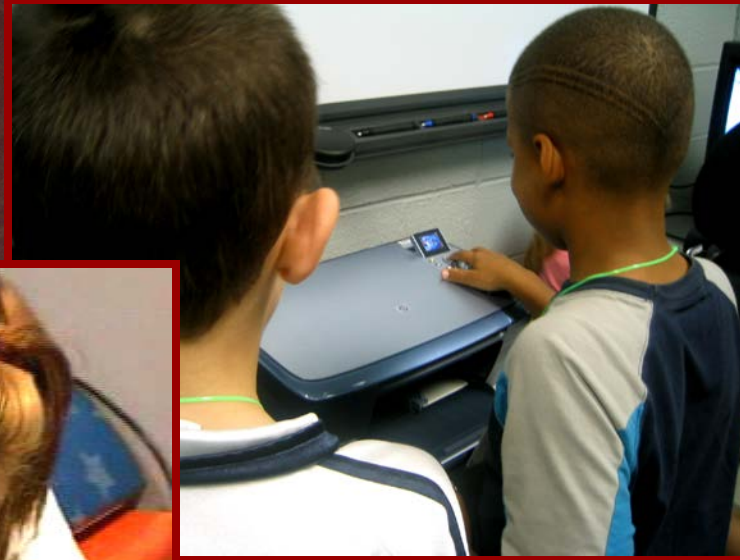
- 21st Century Fund
School Improvement Grant
 - “Free-Lunch” Students to improve attendance
 - Increase Technology Literacy
- After-school program for grades 3-6
- Field experience
for pre-service teachers
 - Beginning and intermediate
technology integration courses

Technology Used

- Hardware
 - Desktop PCs
 - PC Laptops
 - Digital cameras
 - SD cards
 - SD card readers
 - Flash drives
 - Bluetooth Capable



Peer Learning – Students at work



Instructional Strategies - Elementary

- Engaging students
 - through self-expression
- Freedom of choice
 - Technology tools
- Peer learning
 - Learning communities
- Simulation of authentic contexts
 - Project-based learning

Simulation of authentic contexts – Student work

My Shops Daily Sales

By: Shea Robertson

Simulation of authentic contexts – Student work

Things about my shop

- It is a all year round shop.
- It will be located in the college mall.
Next to claires and L.S arys.
Call for detailes at 331-4032.
- For more info. E-mail me at
shea101583@yahoo.com

Simulation of authentic contexts – Student work

Store front



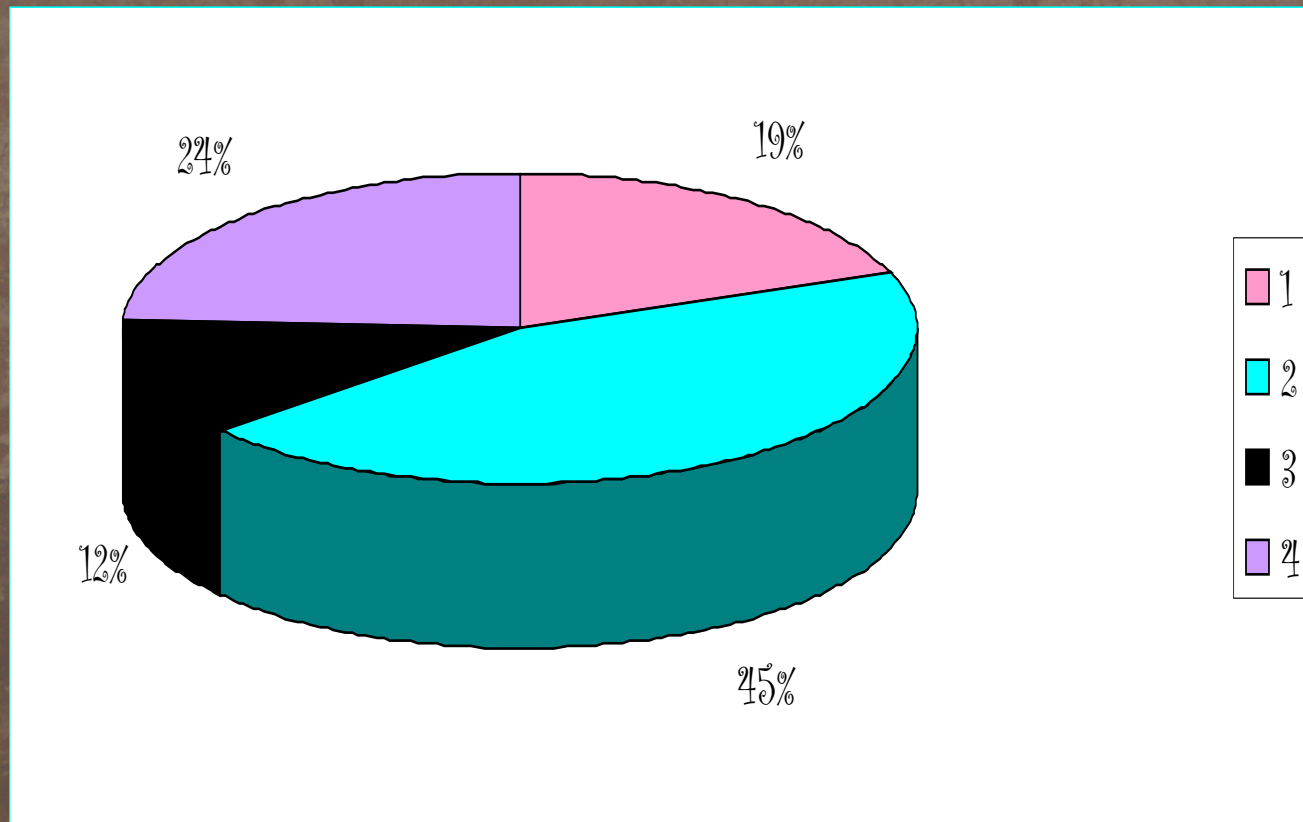
Simulation of authentic contexts – Student work

My chart of daily sales

items for sale	Price s									Total
		M	T	W	TH	M	T	W	TH	
shirts	25	1	3	0	3	25	75	0	75	175
hair accessories	5	1	3	3	3	5	15	15	15	50
pants	50	2	0	3	3	100	0	150	150	400
belts	10	2	3	2	3	20	60	20	30	130
prom dresses	100	3	3	1	3	300	900	100	300	1600
		9	12	9	15	450	1050	285	570	2355

Simulation of authentic contexts – Student work

My daily sales

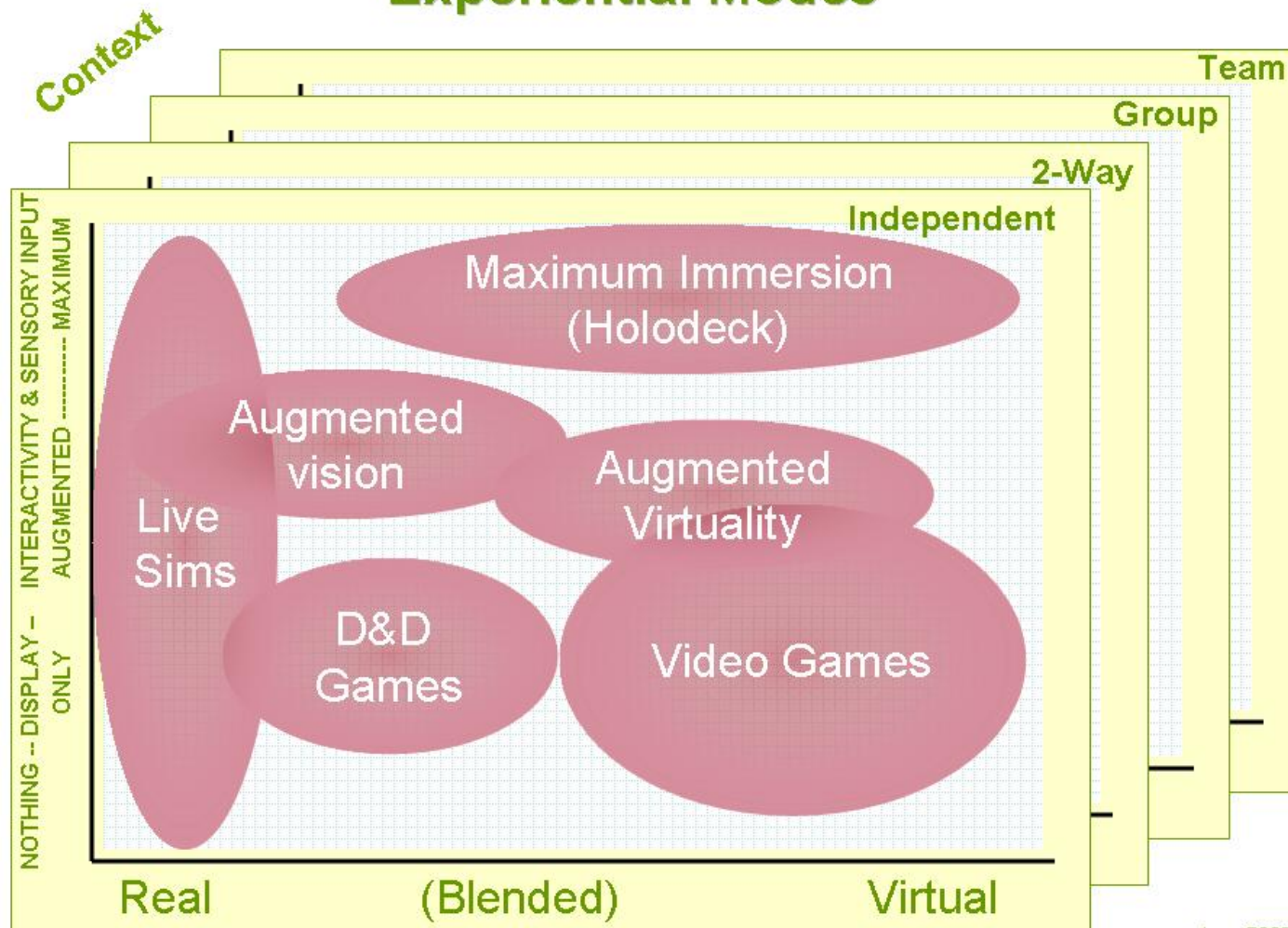


Trends & Issues

- Technology can be introduced earlier
- On-Line Course material blended with classroom presentation & work
- Need for study into
Virtual Learning Environments
- Students are already spending much of their time in Virtual Environments
 - IM, Texting, Games, Simulations, On-Line

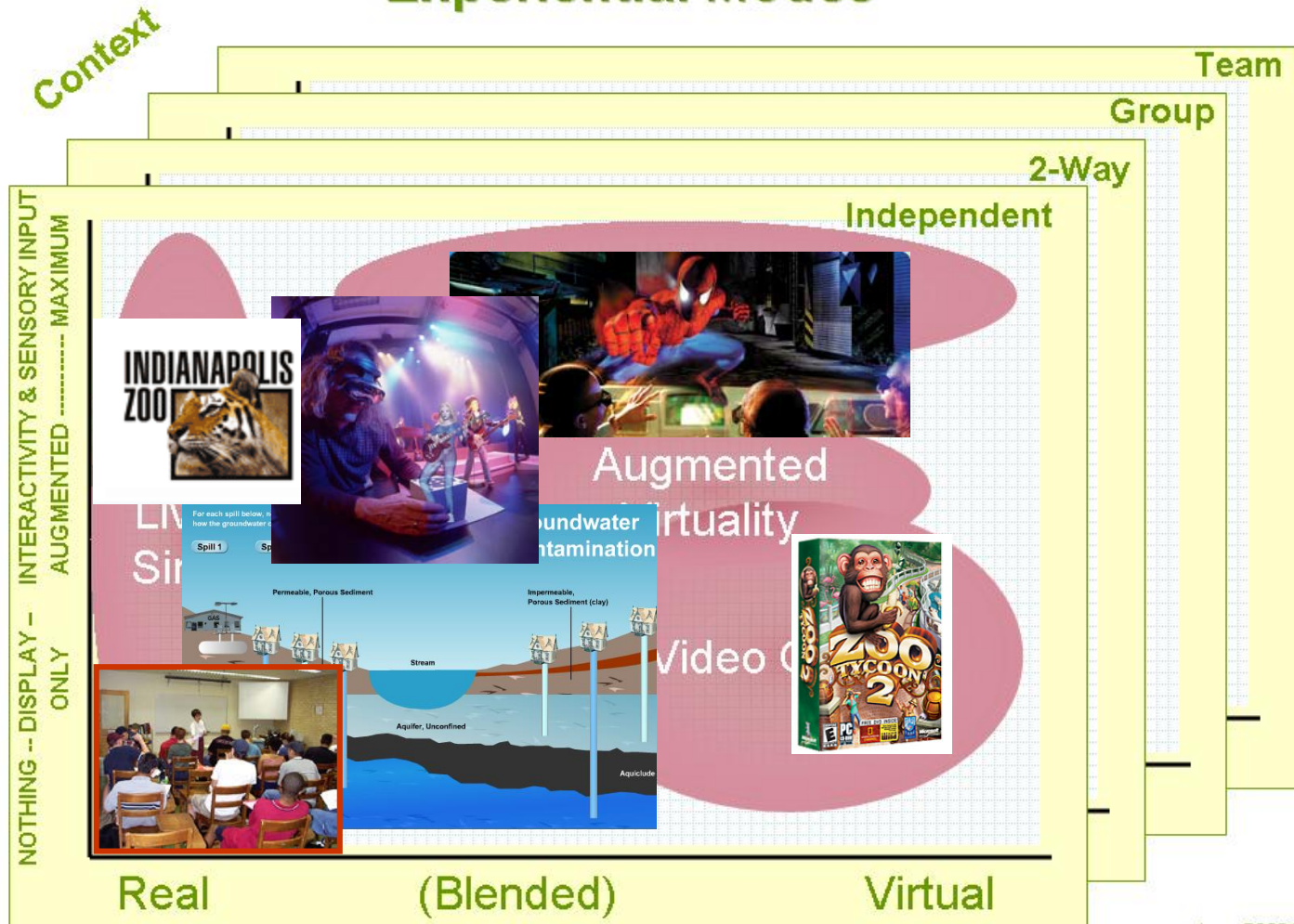
VLE Trends

Experiential Modes



VLE Trends

Experiential Modes



What's so Fun about Video Games??

- Freedom of Choice
- Low Consequence of Failure
- Strong Social Impact
 - Peer Interaction
 - Peer Pressure
 - Status
- New & Interesting Experiences
- New Problems to Solve

Video Game Issues

- (-) They may be VIOLENT
- (-/+) They are Addictive/Engaging
- (+) They provide unique EXPERIENCES
- (+) Most develop Multi-Tasking & Trial & Error Problem Solving Skills
- (+) Game technology offers the richest environment yet for Complex Virtual Learning

Summary

- Views of Technology
 - SILO Mentality versus Systemic Integration
- Turf Wars
 - Bridge K-16 Curricula and Ownership
- Technology Literacy & Responsibility
 - Tech as Content Area & Starting Earlier
 - Virtual Citizenship & Ethics
- Migration to Virtual Learning Environments
 - Rich, Highly Interactive, Situated, Immersive, Student-Centered, Scaffolded with Standards

Critical Links

- Views of Technology

- <http://www.edutopia.org/>
- <http://www.iupui.edu/~ice/>
- <http://cnets.iste.org/>
- <http://www.indiana.edu/~simms/>

- Turf Wars

- <http://www.doe.state.in.us/dps/licensing/assignmentcode/welcome.html>
- <http://www.indiana.edu/~cel/>
- <http://www.hecc.k12.in.us/>
- <http://www.indiana.edu/~teachlab>

- Technology Literacy & Responsibility

- <http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te4lk7.htm>
- <http://itls.saisd.net/tli/index.htm>
- <http://www.doe.state.in.us/olr/aup/aupmod.html>
- http://www.indiana.edu/~istd/plagiarism_test.html

- Migration to Virtual Learning Environments

- <http://www.indiana.edu/~games/research>
- <http://atlantis.crlt.indiana.edu/>
- <http://simschool.org/newsletter/v1n1/index.htm>
- <http://www.imixedreality.org>

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www.indiana.edu/~drbob

APPENDIX

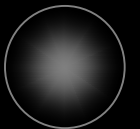


Spiderman Ride :
Universal Studios Theme Park - Orlando





Augmented Reality





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- Members
- Education
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- Dolphin Adventure
- Corporate/Social Events
- Support the Zoo & Gardens
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► Welcome

Search go

Now at the Zoo!

MEERKATS

Presented By

Carrier
A United Technologies Company



What's Happening Today

Join us tonight for the sounds of the nationally renowned Tony Monaco Trio at **Animals & All That Jazz** - the music starts at 5:30pm, rain or shine!

Learn more about **Meerkats** presented by **Carrier Corporation**.

Find out **What's Blooming Now** at White River Gardens!

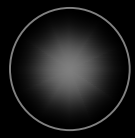
You can now **purchase combo Zoo & Gardens tickets online!**

Buy Zoo & Gardens Tickets Now!

Zoo Webcams

White River Gardens

Live Field Trip : Indianapolis Zoo



For each spill below, notice how differences in the geology, spills, and location affect how the groundwater contamination occurs. Click each button to watch.

Groundwater Contamination

Spill 1 Spill 2 Spill 3 Spill 4

The diagram illustrates a cross-section of the ground with several layers and features. From top to bottom, the layers are: brown soil, a light blue layer labeled 'Permeable, Porous Sediment', a dark brown layer labeled 'Impermeable, Porous Sediment (clay)', a light blue layer labeled 'Aquifer, Unconfined', a dark brown layer labeled 'Aquiclude', and a bottom blue layer labeled 'Aquifer, Confined'. A central 'Stream' is shown in a depression. On the left, a 'GAS' station is shown with a spill. On the right, a spill is shown on the surface. Several houses are depicted with blue wells extending into the unconfined aquifer. Arrows indicate the flow of contaminants from the spills into the unconfined aquifer and then towards the wells.

Permeable, Porous Sediment

Impermeable, Porous Sediment (clay)

Stream

Aquifer, Unconfined

Aquiclude

Aquifer, Confined

Virtual Simulation : Digital Media Services - IUPUI

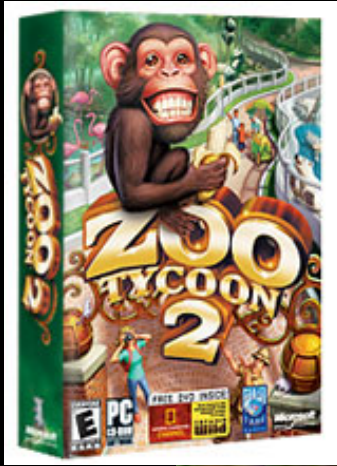




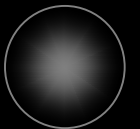
Typical Classroom :

www.lib.lsu.edu/instruction/tour/images/classroom.jpg





Zoo Tycoon: Microsoft Game Studios





Spiderman Ride :
Universal Studios Theme Park - Orlando

