2012
ECE Technology Trends, Predictions & Hopes

— A TEC Conversation —
Warren Buckleitner & Chip Donohue
Agenda

Part 1. What we know

Part 2. What I’ve learned in grad school, ND and from Chris Crowell

Part 3. How we plan to move forward
Part 1. What We Know
Game:
I’ve hidden 3 chips in this presentation. Can you find them?
What’s going on?

• Most ECE classrooms are no or low tech (and that’s not all that bad!).

• A tired PC in the corner.

• “But we have a smart board” (so we’re using technology).

• Higher order computing supporting lower order thinking.

• Tablets, mostly “Stage one” iPad use.
Trends 2012

Software: > quality/quantity of IM (apps)
App maturation” (see “ten affordances of multi-touch”)

• Hardware: Multi-Touch! Moore’s Law is continuing to bear fruit, but dramatic shifts are smaller.

• Teachers: Analog teachers are retiring, digital teachers are increasingly saying “is there any way?”

• Video games (Watch Kinect, Wii U, Minecraft)
Nobody will uninvent the iPad
Screens are abstract, highly symbolic medium. They have specific “affordances.”
Ten Multi-Touch Affordances

• “Tell me more!” Discovery enhancement.
• “I’m in the screen!!” Augmented reality.
• “More capable other.” Text scaffolding, text-to-speech, crutches, more capable others.
• “I want to (safely) play with a stranger” (Smule’s Magic Piano)
• “Tell me a story!”
• “I want to play with lasers!” Virtual manipulatives
• “How am I doing?” Formative, instant performance feedback.
• “I’m bored. I want a challenge!” (any challenge)
• “I want to tell the story.”
• “I want to make a mess.”
Part 2. What I’ve Learned
In 1980 – The world's first gigabyte-capacity disk drive, the IBM 3380, was the size of a refrigerator, weighed 550
Today the micro-SD card in your phone can hold 128 GB.

That’s 50 refrigerator-sized devices.
Preschool model for about $3,000/classroom.
Implementing the Multi-Touch Preschool...

Diana Adams, Minot ND Head Star
“The kids don’t OD on it.”

They’ve gotten rid of the desktop computer in the corner.

Picked apps carefully. Purchased volume app.
3 Stages of iPad Teaching

Phase 1 Novice: One iPad, try some free apps, some use of camera. Play and experiment! If you don’t break it, you’re not trying hard enough.

Phase 2 Emerging: 5 color-coded iPads hanging in each area, each synched and managed by one computer; 70 *quality* apps in your cloud closet.

Phase 3, Master: You’re teaching from the cloud. All of phase 2, more apps, plus a home sync connection, assessment and use professional development; also going home on weekends.
classroom1@yourschool.edu
Password: xxxxxxx
3 Stages

1. Novice
2. Emerging
3. Master
How many books for your major interest?
How many apps for your major interest?
Top 5 Gadgets Every ECE classroom should have

• Wi-Fi (free, cheap and fast)

• A MacBook Air for the teacher

• 50 inch or bigger LCD screen

• Smart phone for the teacher

• 5 iOS devices (iPads or iPod Touches, new or used). Android is OK, but it is harder to find apps.
Wi-Fi $50 - $100 for an “n” router

Does not include monthly fees ($40 - $100)
iPad  $500
Apple TV $100