iClickers & Voice-Over PPT:

Using Technology To Engage Millennials In Learning

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iClickers & Voice-Over PPT: Using Technology To Engage Millennials In Learning

Abstract

Millennial's seem addicted to technology. They sit in class, laptops or iPads open, peering at screens rather than the professor. As the professor speaks, they are busy tapping the keyboard. Are they taking notes, or are they texting, tweeting, or e-mailing? One way to garner attention in the classroom is by using the technology of student response systems (iClicker) within PowerPoints. Two models of use are presented. First, a model for assessing real-time learning in which students are quizzed throughout the lecture on information they just received. Based on the immediate results, material can be reemphasized or clarified if needed. Second is a model for stimulating discussion and thought in the classroom. This model elicits anonymous responses to topics students may initially be hesitant to discuss and promotes discussion in class. Distance learning and hybrid courses also have challenges keeping students involved. Voice-Over PowerPoint (VO-PPT) is an important tool for engaging learners in all online settings. The professor's voice enhances the PowerPoint and complements visual learning already addressed with the text, printed lectures, and/or video links. Pedagogically, VO-PPT is a flexible, learner-centered tool. It utilizes a mastery approach to learning as the student can access individual slides, replay a slide repeatedly, and view slides with or without the audio. Ongoing research by the author continually shows that both iClicker use and VO-PPTs are efficacious in assisting learning, enhancing student participation, and students find them engaging and, dare I say, entertaining.
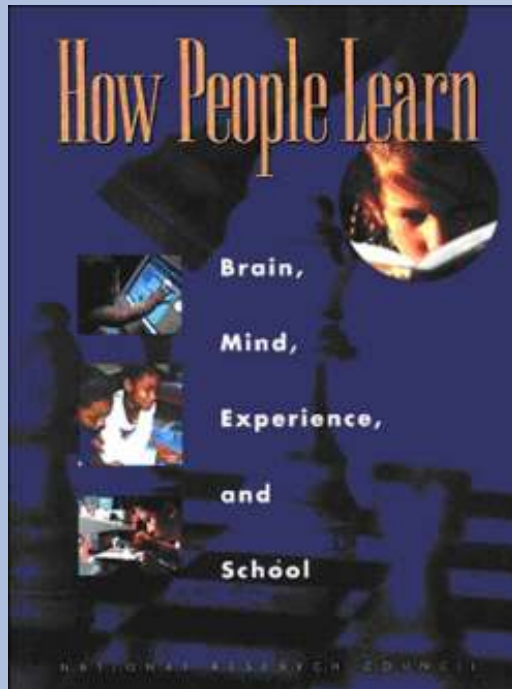
Engaging the Millennials

- **Student engagement is linked positively to desirable learning outcomes such as critical thinking and grades**

- Carini, Kuh, & Klein (2004)

– **Engagement Theory**

- Kearsley & Schneiderman (1998)

Millennial Generation Traits

- **Special**
- **Achievers**
- **Sheltered**
- **Team Oriented**
- **Confident**
- **Conventional**
- **'Wired'**
- **Grade-Driven**
- **Pressured**
  - Overwhelmed
  - Over-programmed
  - Stressed out

  (Howe & Strauss, 2000, 2003, 2007)

Sheltered

- **Fear of 'being wrong'**
  - **Won't speak out in class**
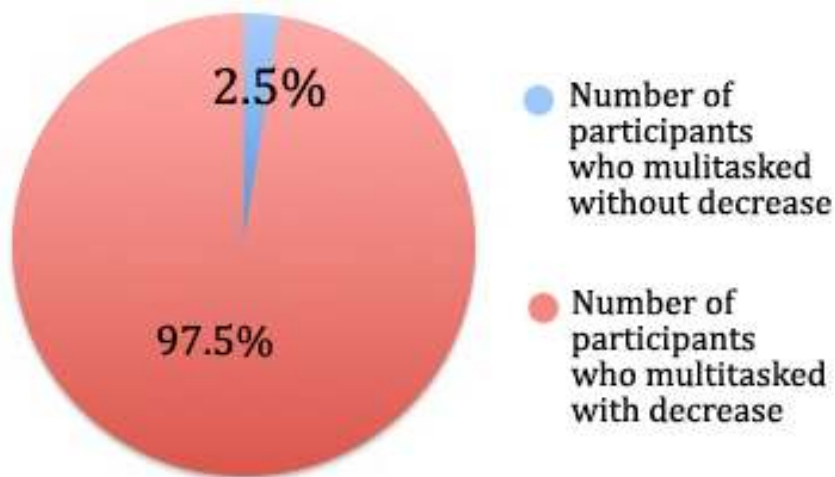

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Millennials
'Wired' & Multitasking

- **Millennials are consummate Multitaskers**
  - **Don't Know – Don't Agree – Don't Care that multitasking has been shown to be ineffective ~ *They do it anyway***

    - Spink, Ozmutlu, & Ozmutlu, 2002; Ophir, Nass, & Wagner, 2009
    - Drews, Yazdani, Godfrey, Cooper, & Strayer, 2009
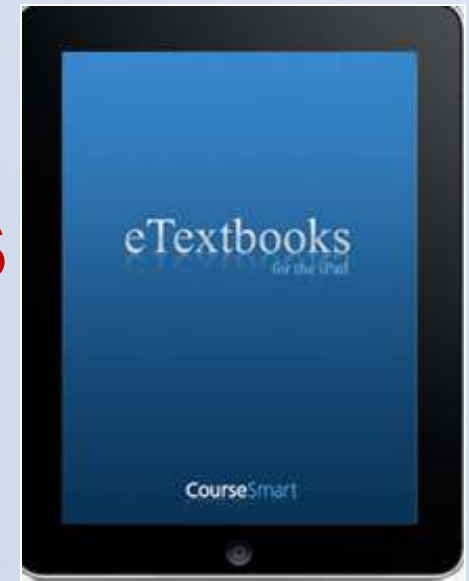

Can students actually multitask?

2.5% — Number of participants who mulitasked without decrease

97.5% — Number of participants who multitasked with decrease

Source: University of Utah study

Millennials
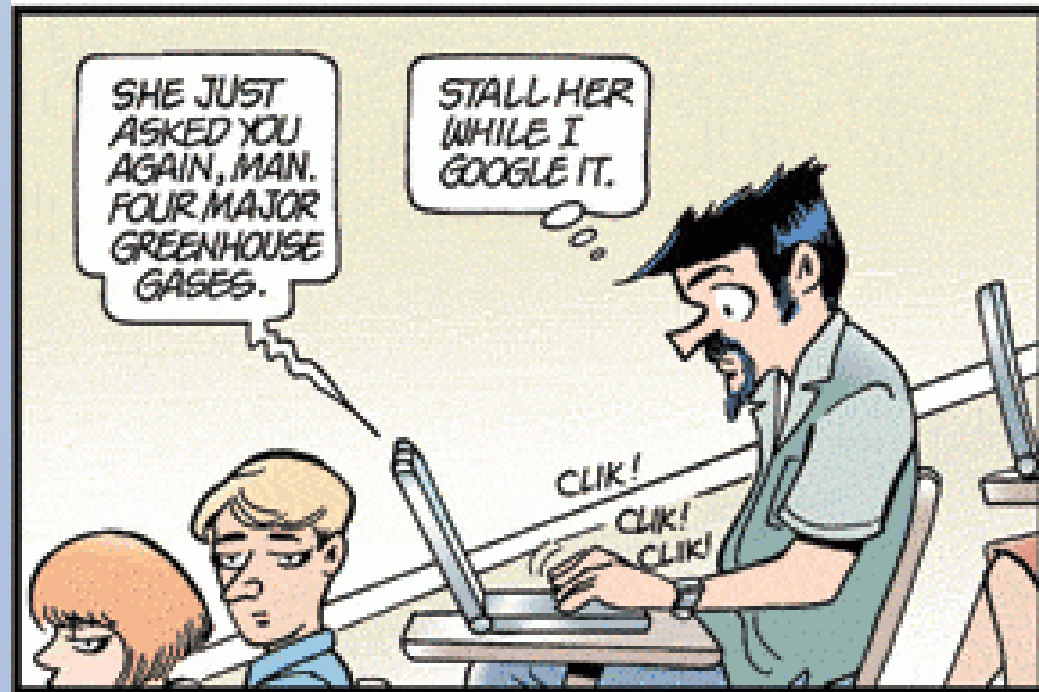## 'Wired' Classrooms

eTextbooks
for the iPad

CourseSmart

Crackberry
Webster's 2006
word of the year.

Crackberry Prayer
The devout-looking
hunch over your
Crackberry as you
answer your 100th
e-mail of the day.

Classroom Engagement Challenges

- **Get their heads out of their laptops, iPads, or Smartphones**
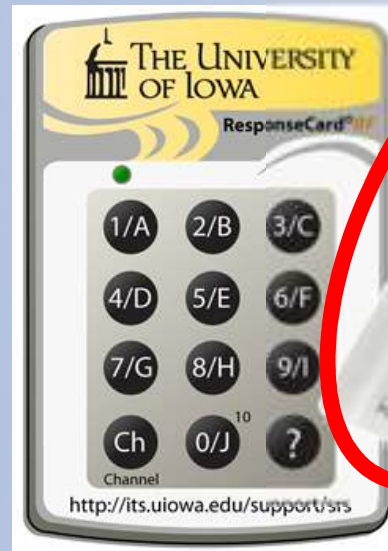

- **Get them to engage in discussion**

Student Response Systems
SRS
What are they?

- Around since 1998
- **Base unit (with software), clickers projector, computer**
- Low cost
- **Easy to use**
- Instant results

iClicker:
Student Response System

Realtime classroom feedback with **iClicker.** More info ▶

Nuts and Bolts

- **Students register their clickers online so that username is associated with grades**

- **Software shows responses for each question, overall score**

- **Some textbooks come with pre-developed iClicker questions**
  - **Insert them into PPTs**

- **Cost**
  - **Base unit = $350 (includes software and 2 instructor remotes)**
  - **iClickers = $32 +/-**
    - **Sold in bookstore; sell back when graduate**
    - **Can be purchased online**

Advantages

- **Data show they ↑ engagement, learning, and attendance**

- **Encourage students to debate with neighbors when results are split**

- **Immediate feedback**
  - **Student**
  - **Professor**

- **All students have a voice**

- **Students' passive role → active role**

- **Evaluation Research = 80% +**

  - **Briggs, 2008; Duncan, 2007; Wood, 2004**
  - **Porter & Tousman, 2010; Cusumano, Reese, 2008**

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iClicker:
Student Response System (SRS)

- **Three Questions**
  - **Are they here (attendance)?**
  - **Are they engaged (interested / attention)?**
  - **Are they learning (in real-time)?**

- **Two Models of Engagement**
  - **Test for Comprehension**
  - **Generate Discussion**

So let's give it a try...
Attendance

A. I am present & I completed ALL my assignments

B. I am present, but I did NOT complete my assignments

C. Assignments? … What assignments?

Test for Comprehension

- **Review questions at start of class**
- **After lecturing, give application question**
  - **Important to design good questions**
  - **Use of Bloom's taxonomy**
- **Assess understanding**
  - **Can move on**
  - **Recover topic**
  - **Discussion**
    - **Ask them to debate/discuss with neighbors – "peer instruction"**

Comprehension
Review of Reading Assignment

Dan had an episode of palpitations, accelerated heart rate, sweating, trembling, shortness of breath, feelings of impending doom, and chest pain. It was his first such episode. We would say Dan ...

A. has Panic Disorder

B. had a Panic Attack

C. has an Anxiety Disorder

D. has a Medical Problem

Class Participation (CP) Points vary

- 1 pt for answering
- 2 pts for correct answer

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Comprehension
"Just-in-Time" Teaching

What is one characteristic of iClickers that make them advantageous in the classroom?

A. They're expensive

B. They use complicated computer technology
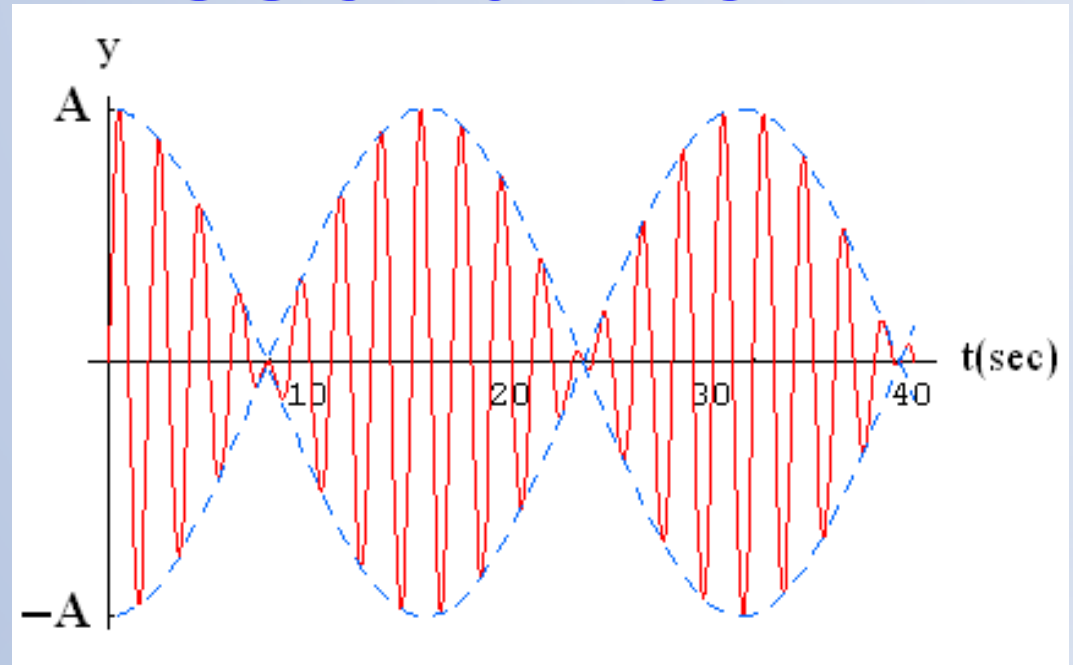
C. They increase student engagement
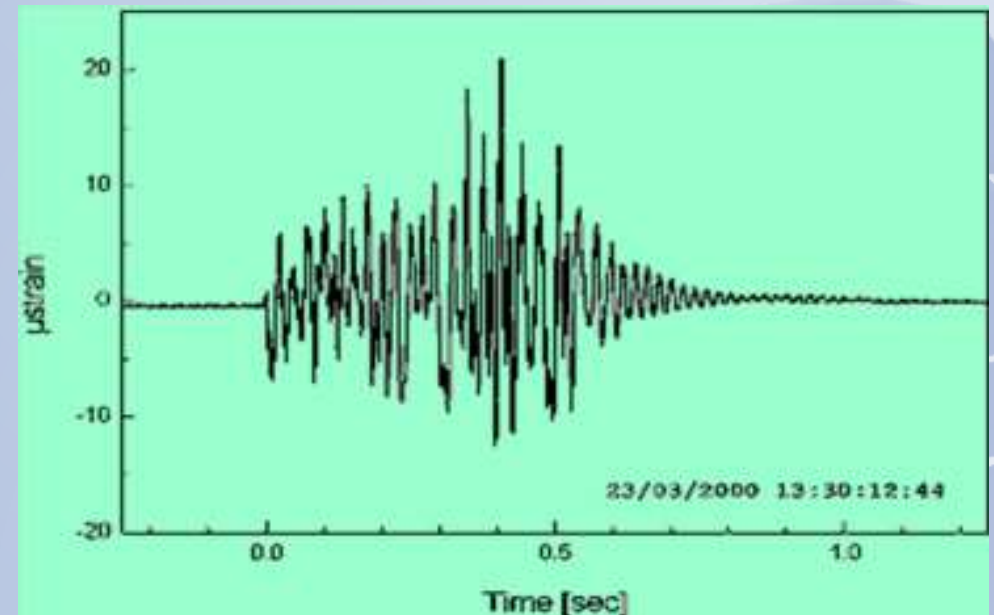
D. They bore students

Generate Discussion

- **Primary Method**
  - **Present information**
    - **Then use iClicker**

What's wrong with this picture?

- When we experience two conflicting thoughts it causes _____.

  A. Resonance
  B. Dissonance
  C. Consonants
  D. Dysplasia
  E. Scotomas

Generate Discussion

- **Survey**
  - **Opinions**
  - **Attitudes**
    - **Then use iClicker**

Generate Discussion
Survey

Do you currently use clickers in the classroom?
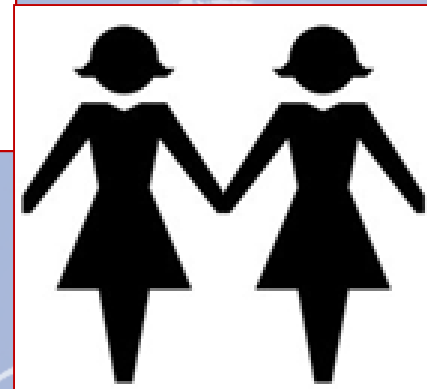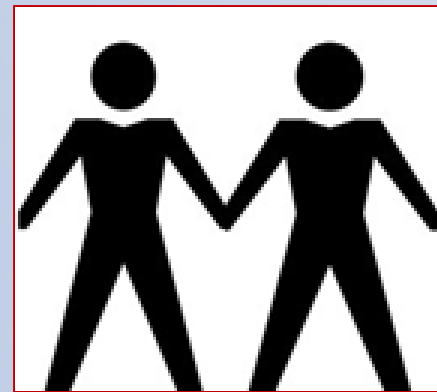
A. Yes

B. No

Generate Discussion
Survey

HOMOSEXUALITY: Nature vs. Nurture

I believe homosexuality is a *choice* – that is, people are NOT born that way.

    A. I Agree

    B. I Disagree

    C. I'm really not sure

Answers ➔ Anonymous

Generate Discussion

- **Another Approach**
  - **Sometimes Begin with iClicker ?**
    - **Sort of "Pre-test / Post-Test**

Nature vs. Nurture

- **Left-handed people have a shorter life-span than Right-handed people.**

  A. True

  B. False

Sinister?

iClicker Program Evaluation
80% Positive

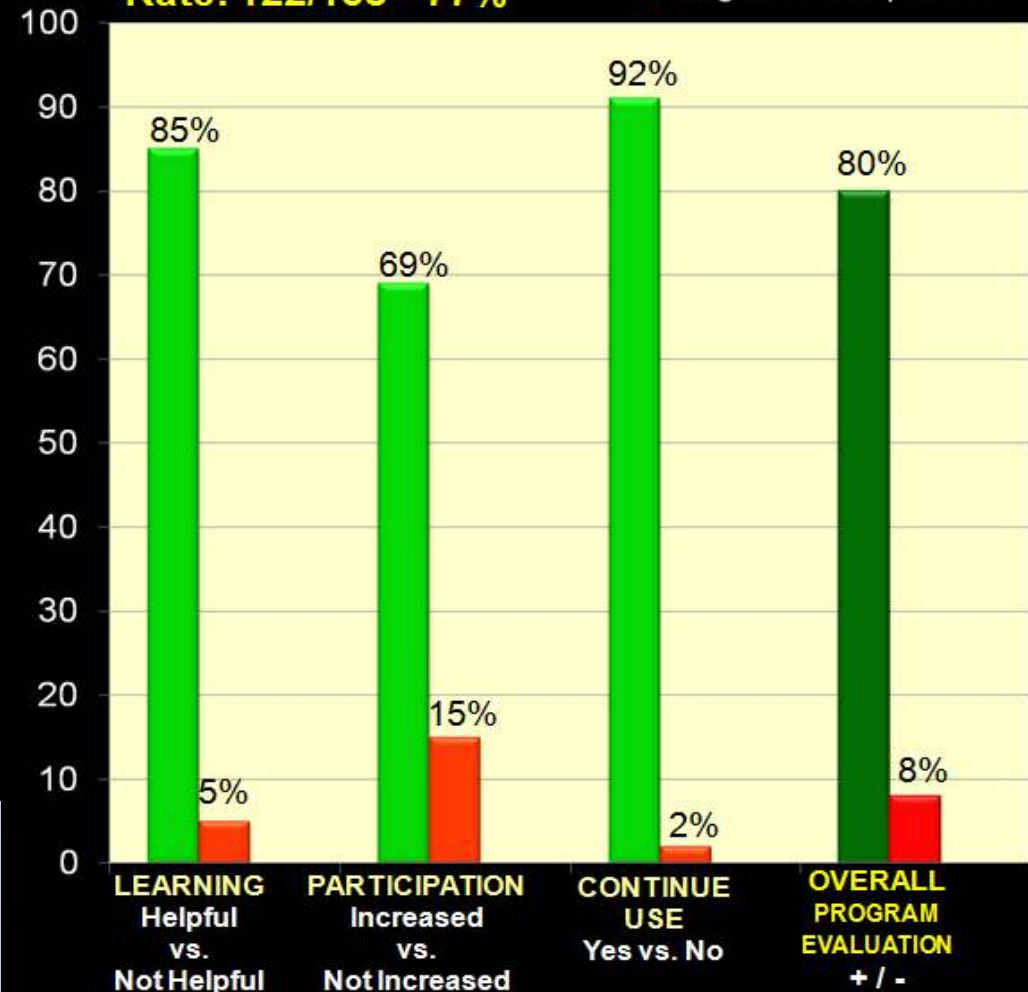### iClicker EVALUATION
80% Positive Evaluation

- 8 Class Sections (All Undergraduate)
  - 4 Traditional / 4 Hybrid
- 158 Students; 122 respondents = 77% response rate
  - All Undergrads
    - 7 Semesters (15 wk semesters)
  - SP08 (1); FA08 (2); SP19 (1); FA09 (1) ; FA10(3)

Evaluation Summary iClickers	− 1	− 2	−/+ 3	+ 4	+ 5	Total
Helpful learning vs. Not Helpful learning.	3	10	24	90	117	244
Encouraged participation vs. did NOT encourage participation	9	27	39	78	91	244
Recommend continued use of iClickers in my classes.		2	9	34	77	122
Total #	12	39	72	202	285	610
Total %	2%	6%	12%	33%	47%	100%
TOTAL%	8%		12%	80%		100%

iClicker Evaluation
Overall Response Rate: 122/158 = 77%
- Positive Response
- Negative Response

85% / 5% — LEARNING Helpful vs. Not Helpful
69% / 15% — PARTICIPATION Increased vs. Not Increased
92% / 2% — CONTINUE USE Yes vs. No
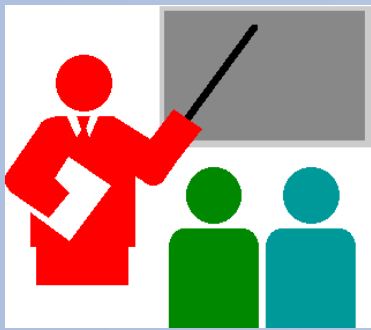80% / 8% — OVERALL PROGRAM EVALUATION +/−

JEFFERSO

Engaging Millennials Online
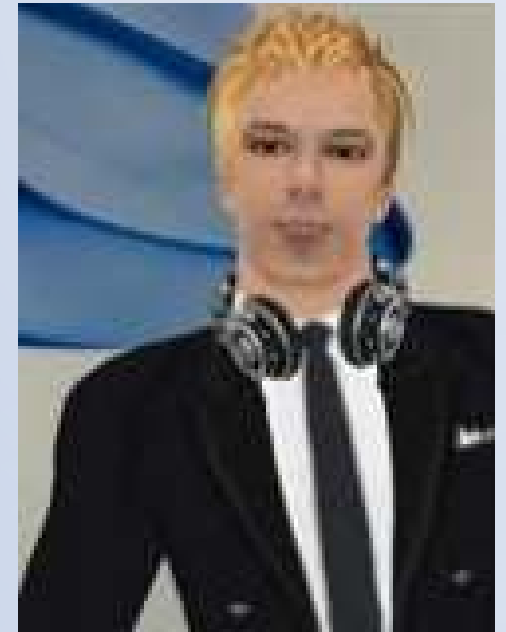# **Voice-Over PowerPoint**

- **Engagement**
  - **BIG Challenge of Online Learning**
- **Online ignores audio component of teaching**

  - **Huge component of On-Ground**
    - **? Impact on Engagement**
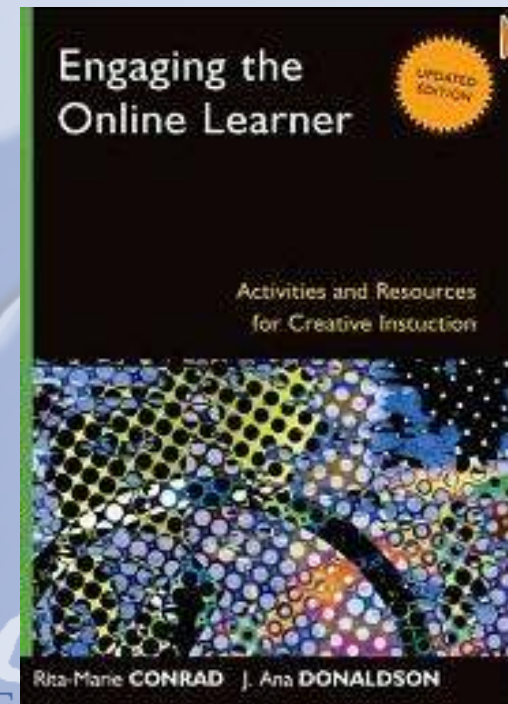
VO-PPT
Advantages

- **PEDAGOGY**
  - **Flexible & Learner-centered**
  - **Adds Audio Component**
    - **"Hearing" Professor Establishes Rapport**
      - » **Online Learner feel less isolated**
  - **Utilizes a Mastery Approach to learning**
    - **Student can access individual slides**
    - **Replay a slide repeatedly**
    - **View slides with or without the audio**
- **Evaluation Research = 73% +**

Mastery Approach
View Slides by Titles or 'Thumbnails'
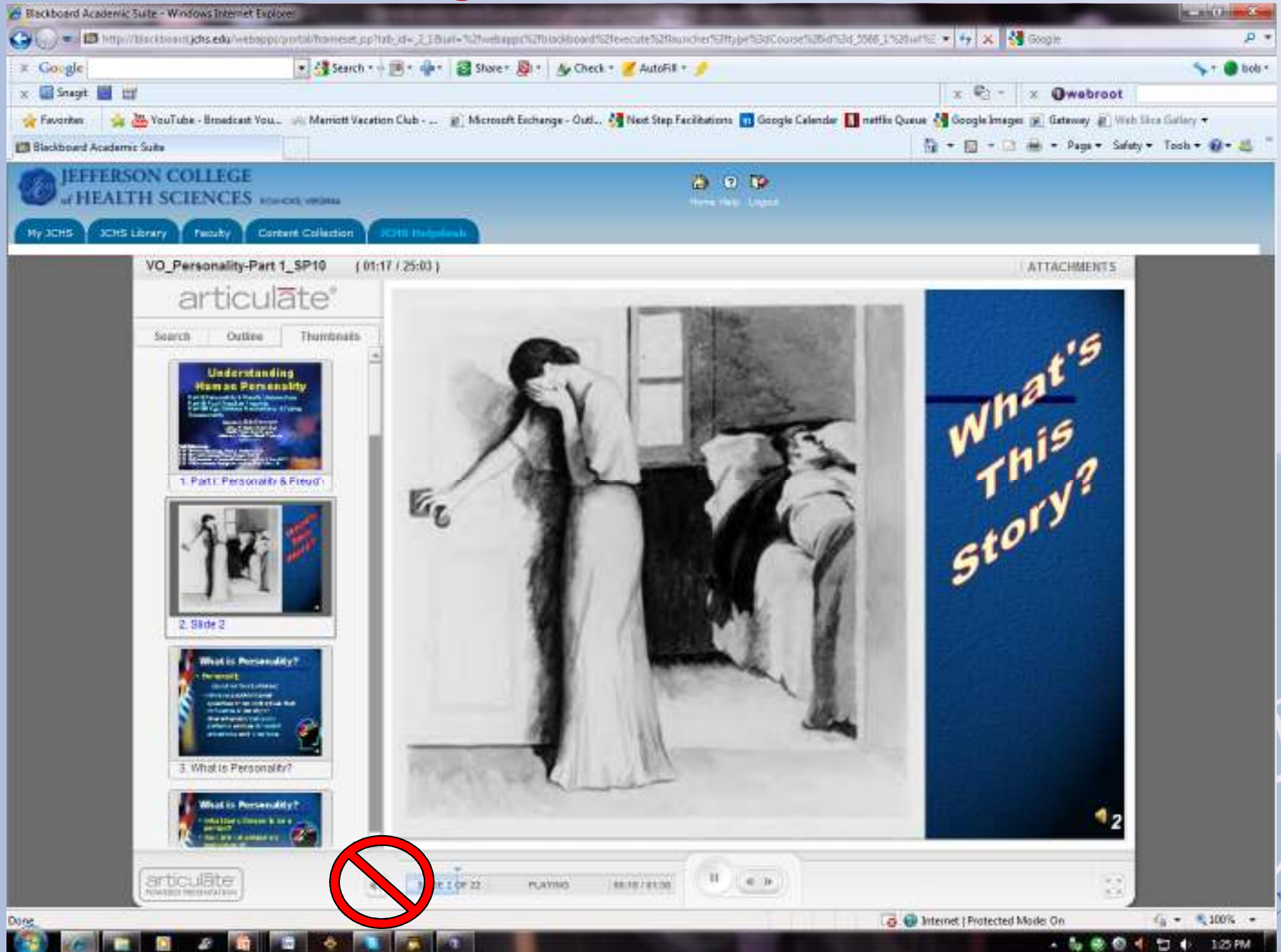
VO-PPT Production

- **Production is easy & inexpensive**
  - **Create & Save your PPT**
  - **Record Narration**
    - **Broadcast Quality NOT Necessary**
      - **"Um's" & "Ah's" are OK**
  - **Learning curve is short**

- **Instructor prep**
  - **No more time than planning & delivering a solid lecture**

- **Can be used Multiple Times**
  - **Multiple Courses**

- **Updating is Quick & Simple**
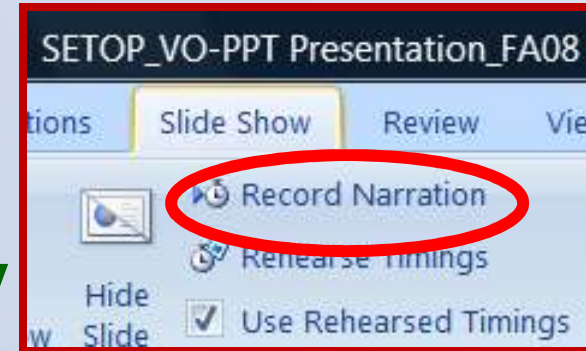
VO-PPT Program Evaluation
73% Positive

VO-PPT EVALUATION

73% Positive Evaluation

- 15 Class Sections (All Undergraduate)
  - 6 Distance / 3 Hybrid / 3 Traditional
- 297 Students; 231 respondents = 78% overall response rate
  - All Undergrads
- 7 Semesters (6-15 wk semesters; 2-10 wk semester [SU])
  - SP08 (2); SU08 (1); FA08 (2); SP09 (3); SU09 (1); FA09 (1) ; SP10 (2); FA10(3)

Evaluation Summary VO-PPTs	– 1	– 2	–/+ 3	+ 4	+ 5	Total
Helpful learning vs. Not Helpful learning.	13	23	77	212	130	455
Interesting & engaging vs. Boring & Waste of time.	17	34	109	195	104	459
Regarding Technology +/– Easy vs Difficult to use	7	34	46	206	167	460
Total #	37	91	232	613	401	1374
Total %	3	7	17	44	29	100%
TOTAL%	10%-			73%+		83%

VO-PPT Program Evaluation

Overall Response Rate: 231/297 = 78%

■ Positive Response
■ Negative Response

	LEARNING Helpful vs. Not Helpful	ENGAGING Interesting vs. Boring	TECH Easy vs. Difficult	OVERALL PROGRAM EVALUATION +/–
Positive	75%	65%	73%	73%
Negative	8%	11%	10%	10%
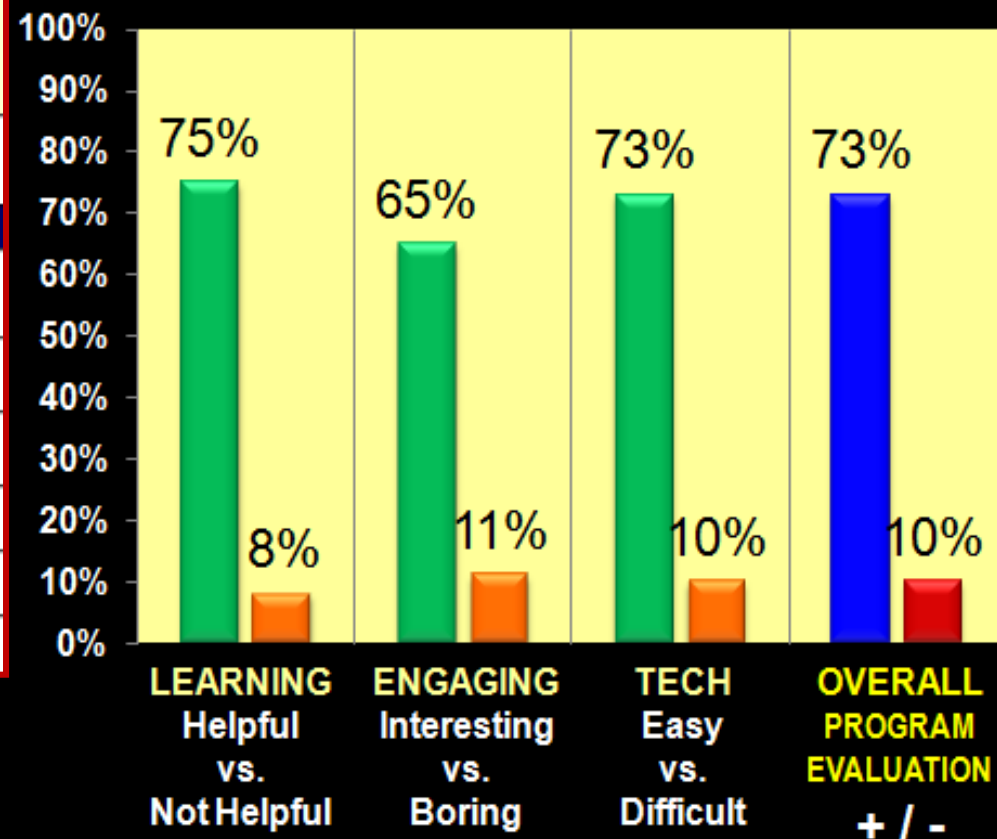
Student Feedback ~ VO-PPT

- More VO powerpoints, I learned more from those than I did from reading the book.

- I liked being able to follow along by printing out the PPT's [handouts].

- I never had time to sit down and listen to the VO-PPT

- The VO-PPT are very helpful in my actually learning the material - I would like more of them.

- I really found the VO-PPT very helpful and think that I would have [add] more.

- I would like to have more VO-PPT. I learn material better when it is explained to me. With the VO-PPT, Bob explained things perfectly and I was able to understand the material easier.

- VO-PPT's I thought they were pretty useful, ... I liked being able to watch them multiple times.

Student Feedback ~ iClicker

- I liked the i clicker questions; they helped me understand the material.
- **The iclicker portion of the class is a great and fun way to get the students thinking.**
- The i-clicker questions every class were EXTREMELY helpful with learning the material. It was a nice review and kept you up to date on the certain chapters you were going thru in class (along with the notes). I thought it added a lot to the classroom experience and was a valuable tool.
- **I really liked the iClicker. It gave me a chance to "put it all together" and gave me a taste of what test questions would be like. The extra points were helpful too!**
- I enjoy the I-Clicker, it helped me to know whether I was grasping the information.
- **I thought the iclickers were very useful and that they should continue to use them.**
- I loved the I-clicker --- helped myself and other students to follow along in class. Questions were studying tools for our tests

Engaging Millennials with iClickers &
Voice-Over PowerPoint

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Engaging Millennials w/ iClickers & VO-PPT References #1

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