

# Using NSSE and FSSE to link technology to student learning and engagement

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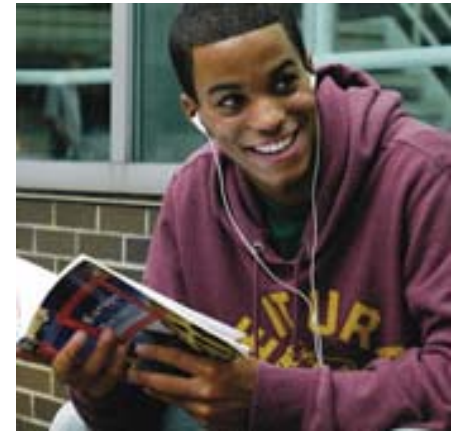
Presentation Session presented at 2010 EDUCAUSE Learning Initiative Annual Meeting Austin, TX, January 19, 2010

# Today's Agenda

- Overview of NSSE and FSSE
- Student Engagement and Technology
- Recent findings
- Discussion
- Future research



# Overview of NSSE and FSSE



# Overview of NSSE and FSSE

## National Survey of Student Engagement (NSSE)

- Surveys first-year and senior students about the nature and quality of their undergraduate experience
- Focuses on what students do
- In 2009, over 370,000 students from 640 institutions
- [www.nsse.iub.edu](http://www.nsse.iub.edu)

## Faculty Survey of Student Engagement (FSSE)

- Companion to NSSE
- Measures faculty members' expectations of student engagement in quality educational practices
- Also asks about how faculty spend their time
- In 2009, over 19,000 faculty from 148 institutions
- [www.fsse.iub.edu](http://www.fsse.iub.edu)

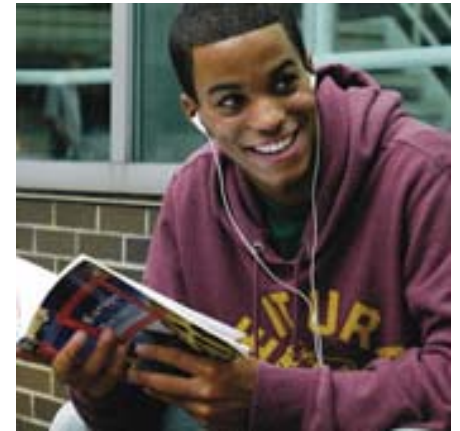


# Measures of Student Engagement

- 🎓 NSSE Benchmarks
  - 🎓 Academic Challenge
  - 🎓 Active & Collaborative Learning
  - 🎓 Student-Faculty Interaction
  - 🎓 Supportive Campus Environment
- 🎓 Deep Learning Scales (NSSE/FSSE)
  - 🎓 Higher Order Thinking
  - 🎓 Integrative Learning
  - 🎓 Reflective Learning
- 🎓 Self-Reported Gains (NSSE/FSSE)
  - 🎓 Gains in Practical Competence
  - 🎓 Gains in Personal Development
  - 🎓 Gains in General Education



# Student Engagement and Technology



# The Big Question

Does technology increase student learning and student engagement? Why or why not?

# Kuh & Vesper, 1999

“The results of this study unequivocally demonstrate that familiarity with computers contributes to, and does not detract from, the development of other skills and competencies considered to be important to success after college.”





# Kuh & Shouping, 2001

- “Students appeared to benefit more from C&IT [computers and other information technologies] when they used it frequently and in a variety of ways.”
- “Using C&IT was positively related to educational effort with the effects of C&IT on outcomes of college being largely mediated through the educational efforts students put forth.”

# NSSE, 2003

- Using information technology is strongly associated with academic challenge, active and collaborative learning, and student-faculty interaction.
- Students who more frequently use information technology also report greater gains in knowledge, skills, and personal growth.

# Nelson Laird, 2004

- “Students who devote most of their online time to academics are more likely to engage in other effective education practices.”

# NSSE, 2006

## Distance learners...

- “much less likely to participate in active and collaborative learning activities.”
- “report greater educational gains and are more satisfied overall with their college experience.”

# **Chen, Lambert, & Guidry, in press**

- “This study point[s] to a positive relationship between Web-based learning technology use and student engagement and desirable learning outcomes.”

**“...it is becoming increasingly clear that technology, in and of itself, does not directly change teaching or learning. Rather, the critical element is how technology is incorporated into instruction.”**

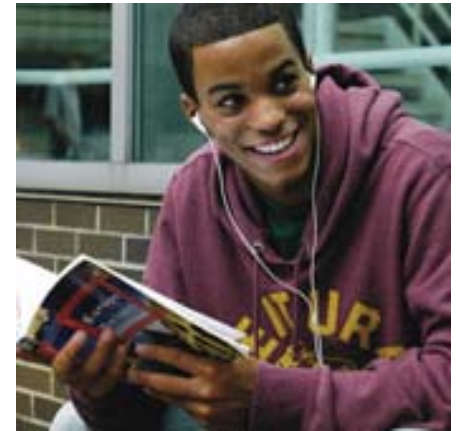
Office of Technology Assessment, 1995, p. 57



# Guiding Ideas

- Faculty perspective
- New/changing technologies

# Recent findings





# NSSE and FSSE Extra Item Sets

## NSSE/FSSE 2009 Technology Items

- Use of course management features
- Use of Web 2.0 technologies
- Use of technological methods of communication

## Sample

- 31,000 students at 58 institutions
- 12,000 faculty at 50 institutions
- 18 institutions administered to both their students and faculty

## Institutional Characteristics

- Spanned all Carnegie classifications
- Both private and public
- Enrollment size ranging from 610 to 20,780 undergraduates



# Relationship with Student Learning and Engagement

<b>Interactive Technology</b>		
	<b>First-Year Students</b>	<b>Senior Students</b>
Academic Challenge	+++	++
Supportive Campus Environment	+++	++
Higher Order Thinking	+++	++
Gains in Practical Competence	++++	+++
Gains in Personal and Social Development	+++	+++
Gains in General Education	+++	+++

**\*\*All analyses controlled for age, gender, major, number of classes taken entirely online, and institutional Carnegie classification\*\***

# Relationship with Student Learning and Engagement

Course Management Technology		
	First-Year Students	Senior Students
Active & Collaborative Learning	+++	++
Student-Faculty Interaction	+++	+++
Gains in Personal and Social Development	+++	+++

All analyses control for age, gender, major, number of classes taken entirely online, and institutional Carnegie classification



# Course Management Systems

During the current school year, did you use a course management system(s) ?


	YES	NO
Faculty (n=4,476)		



# Course Management Systems

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	YES	NO
Faculty (n=4,476)	70%	30%




- Age
- Gender
- Discipline



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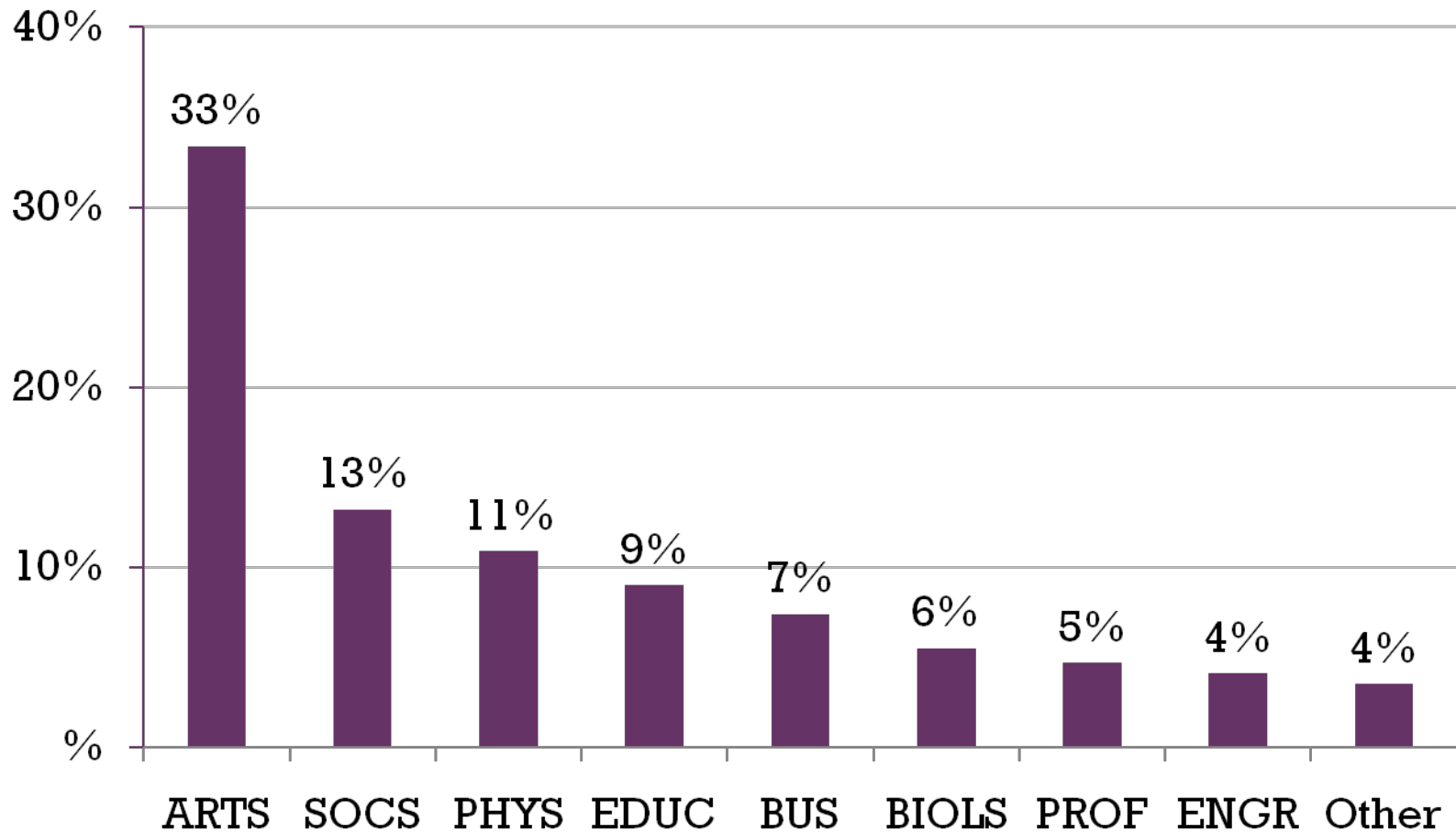
	YES	NO
Faculty (n=4,476)	70%	30%



- Over half were 55 or older
- Two-thirds were men



# Non-CMS Faculty Users by Disciplinary Area



# Interactive Technology Items

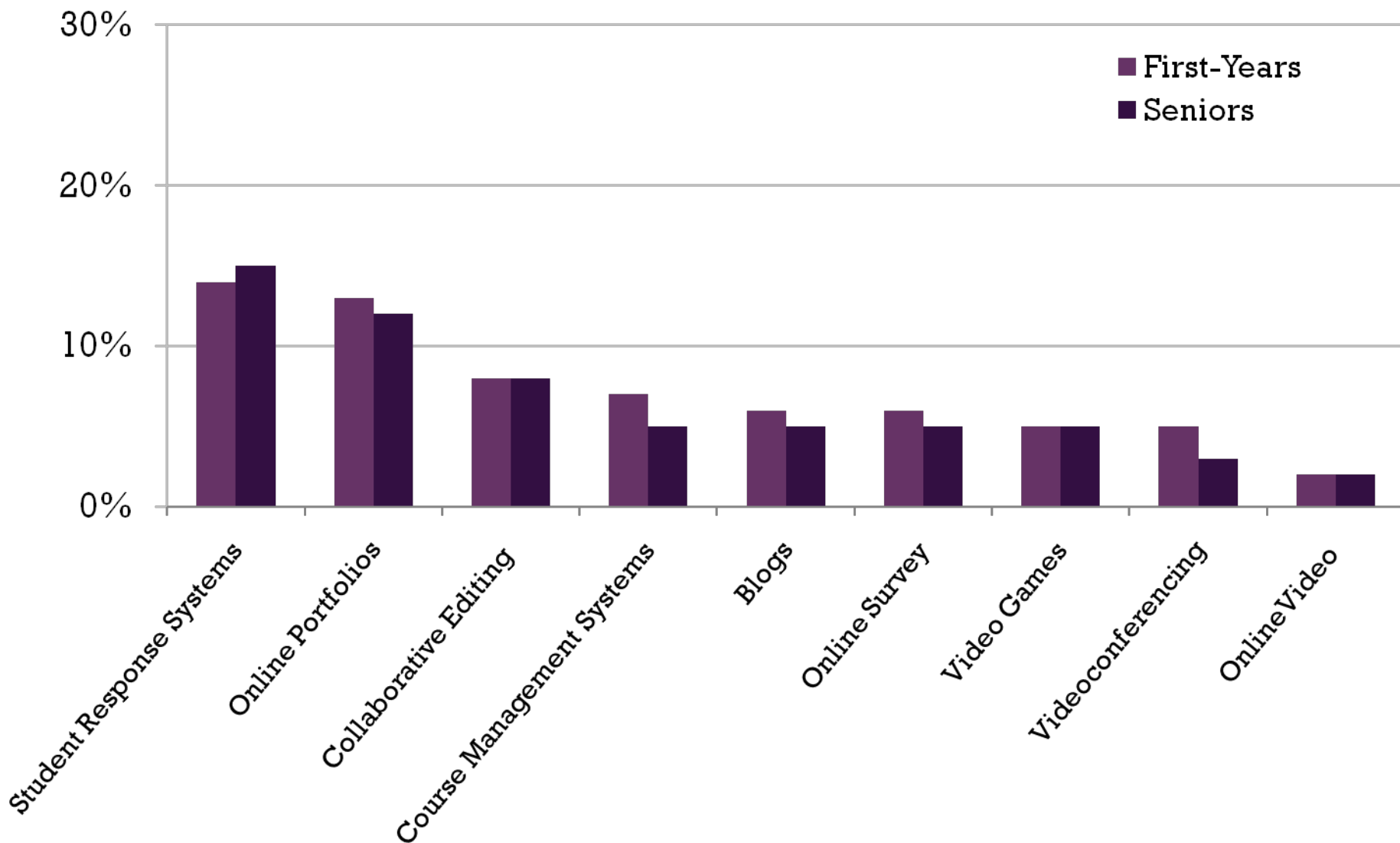
**During the current school year, about how often did you use...in your courses?**

Response set: Very often, Often, Sometimes, Never, This option was not available, I don't know what this is

1. Student response systems
2. Online portfolios
3. Blogs
4. Collaborative editing software
5. Online student video projects
6. Video games, simulations, or virtual worlds
7. Online survey tools
8. Videoconferencing or Internet phone chat



# Percentage of students that “Do not know” what the technology is



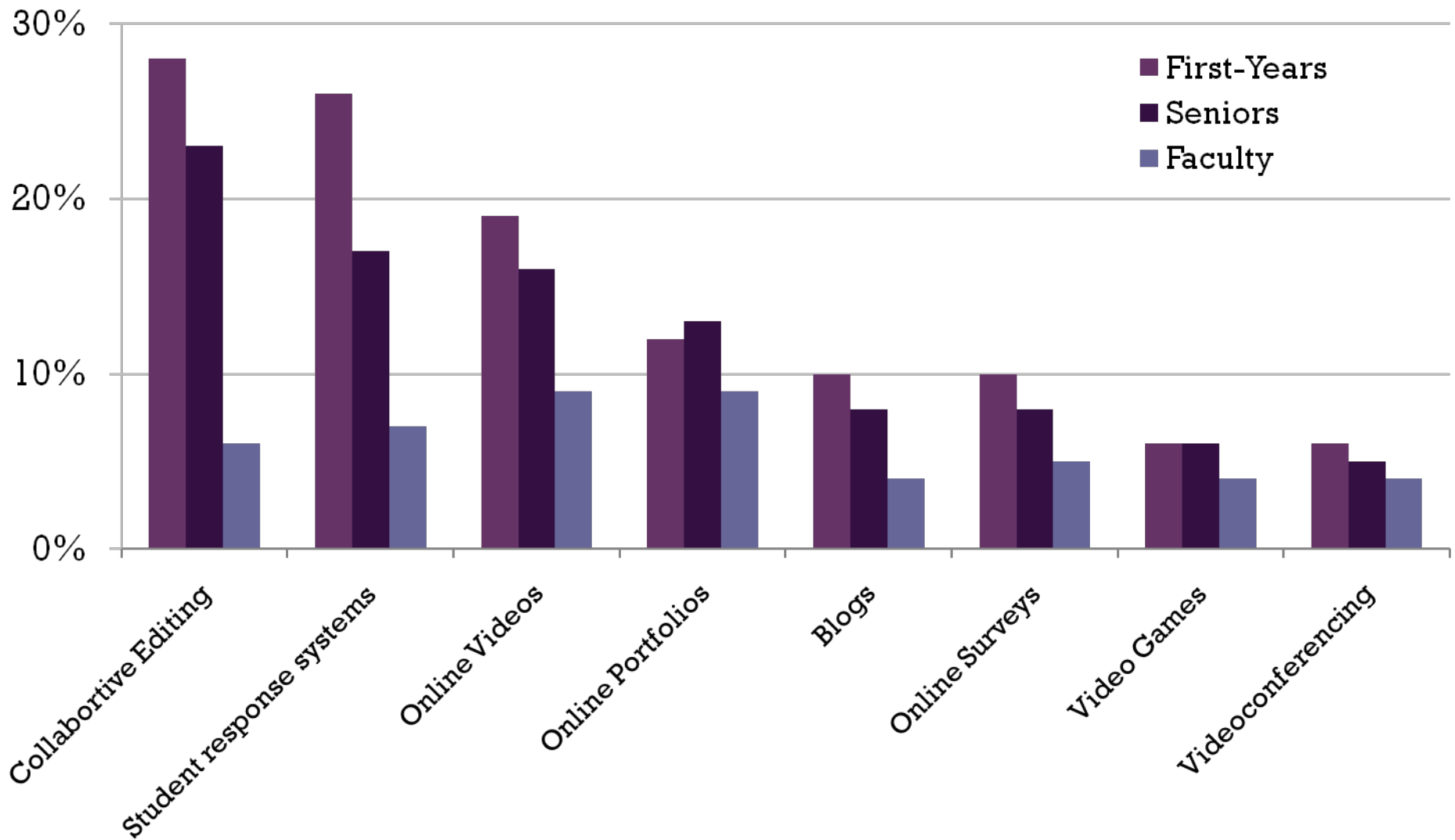
# Interactive Technology Items

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# Most frequently used interactive technology



# Use of Interactive Technology

**Student Characteristics**

**Frequent  
Users**

Gender

Age

Online Learner

Academic major

# Use of Interactive Technology

## Student Characteristics

## Frequent Users

Female

-

Traditionally aged (18-24)

+

Online courses (at least some)

+

Academic major

+

Professional and Business

+

Biological Sciences (FY) and Engineering (SR)

-

# Use of Interactive Technology

**Faculty Characteristics**

**Frequent  
Users**

Gender

Tenure status

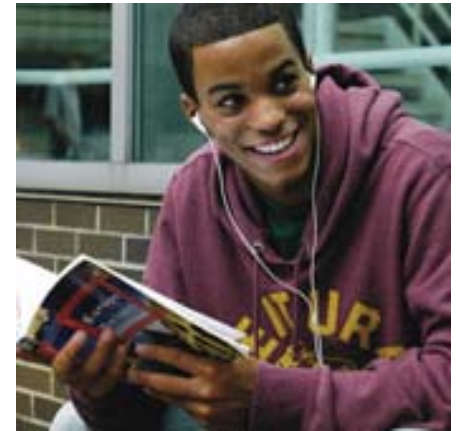
Course level

Disciplinary area

# Use of Interactive Technology

Faculty Characteristics	Frequent Users
Female	+
Non-tenured tracked	+
Teach mostly seniors than first-year students	+
Disciplinary area	
Professional and Business	+

# Future research





# Ideas for Future Research



# For More Information

- Email: [kguidry@indiana.edu](mailto:kguidry@indiana.edu)  
[agarver@indiana.edu](mailto:agarver@indiana.edu)  
[abrckalo@indiana.edu](mailto:abrckalo@indiana.edu)
- FSSE website: [www.fsse.iub.edu](http://www.fsse.iub.edu)  
NSSE website: [www.nsse.iub.edu](http://www.nsse.iub.edu)

Copies of the presentations are available to  
download from our website

<http://nsse.iub.edu/links/presentations>

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