

Back to the Blackboard? Personal Technology Use and Knowledge Acquisition

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Background

- **Students in face-to-face classrooms (F2F) are using multiple technologies, communicating on social media, and surfing the web while listening to the professor.**
- **Faculty allow their adult learners to self-regulate use of information and communication technologies (ICTs).**
- **Faculty themselves use technology and social media in the classroom in the hopes that it will engage students and enhance their learning.**

Problem

- Are we tacitly encouraging students' intellectual “absence” by allowing use of multiple technologies and social media in the classroom?

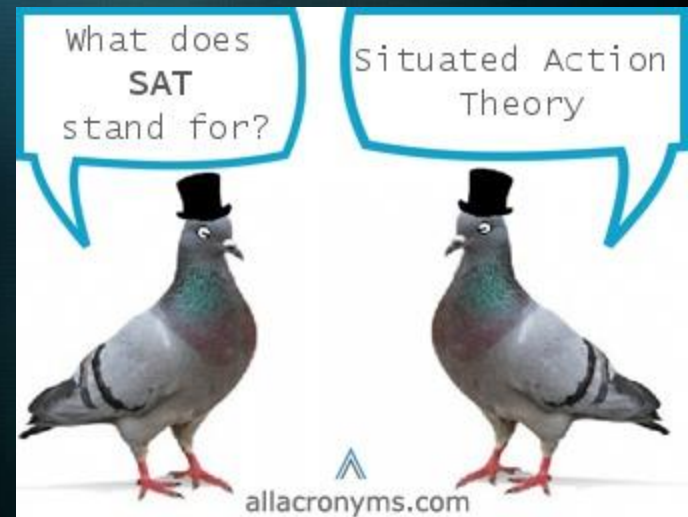


Objectives

- **Articulate 3 effects of students' use of technology in the classroom**
- **Discuss 2 ways faculty can mitigate effects of technology use on student learning**
- **Identify different elements related to classroom technology use**

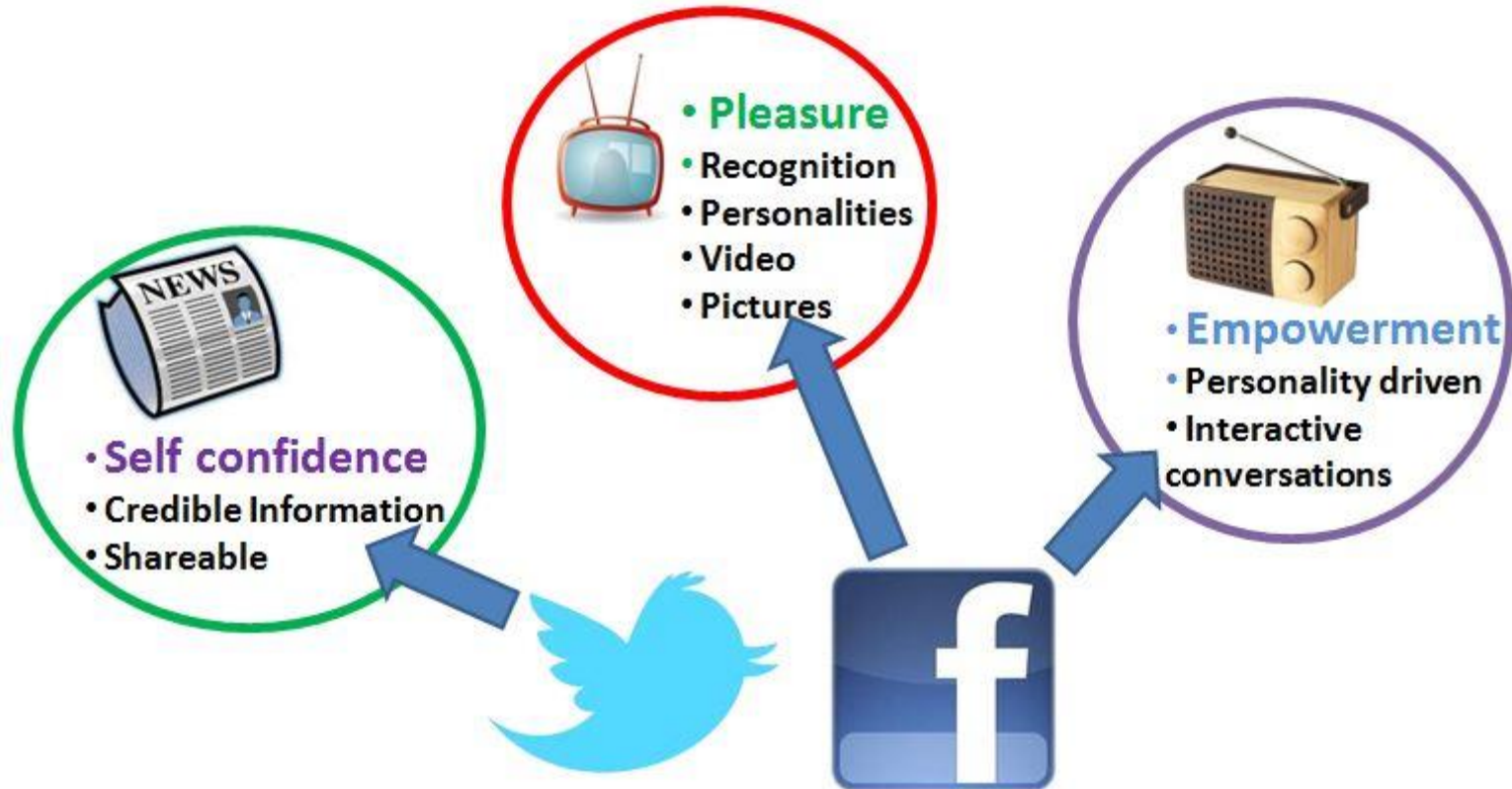
Conceptual Frameworks

- Theory Of Situated Action
- Gratifications Theory
- Theories Of Cognition
- Media Theories
- Bloom's Taxonomy
- Composite Cognition

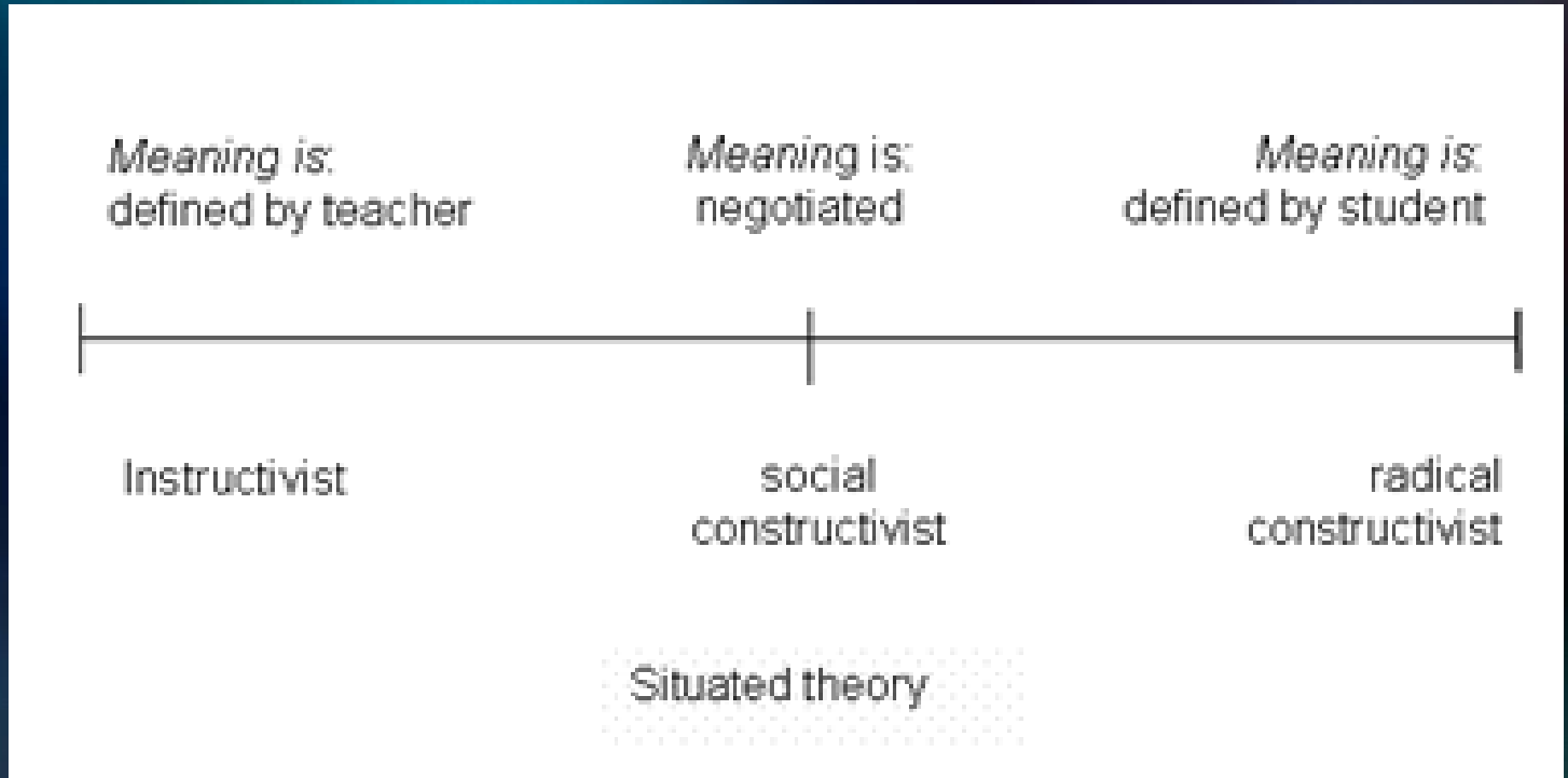


Use & Gratifications Theory

Uses & Gratifications Social Media Model



Situated Theory

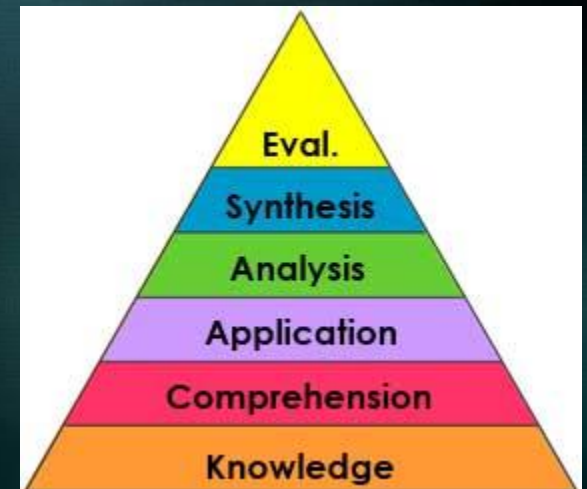


Bloom's Taxonomy



NEW Version

OLD Version



Composite Cognition

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graph TD; A[Composite Cognition] --> B[Lower-Level Cognition]; A --> C[Higher-Level Cognition]; A --> D[Critical Thinking Cognition]; B --> C; C --> D;
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Lower-Level Cognition

Remember
(Knowledge)

Understanding
(Comprehension)

Higher-Level Cognition

Apply (Application)
Analyze (Analysis)
Evaluate (Evaluation)
Create (Synthesis)

Critical Thinking Cognition

Assessment
Planning
Implementation
Evaluation

Methods: Exploratory Research

- Review of literature
- Search terms
 - Social media
 - Multi-tasking
 - Technology
 - Nursing
 - Students
 - Presence
 - Attention
 - Distraction
- 2010 or later
- Disciplines searched
 - Nursing
 - Computer science
 - Cognitive psychology
 - Education
 - Communication
 - Marketing
 - Media studies
 - Neuroscience
 - Academic development

Review of Literature: Selected Sources

Article/ Year	Facebook	Laptop	Multi- tasking	Presence	Social Media	Technology
1. 2014					x	x
2. 2012				x		x
3. 2015						x
4. 2014		x	x			
5. 2011	x		x			
6. 2012			x			
7. 2012	x				x	
8. 2012	x		x		x	

Review of Literature: Selected Sources

Article/ Year	Facebook	Laptop	Multi- tasking	Presence	Social Media	Technology
9. 2010	x		x		x	x
10. 2012			x		x	x
11. 2013		x	x			
12. 2014		x				
13. 2012			x			x
14. 2008		x				x
15. 2012			x		x	

Student Survey

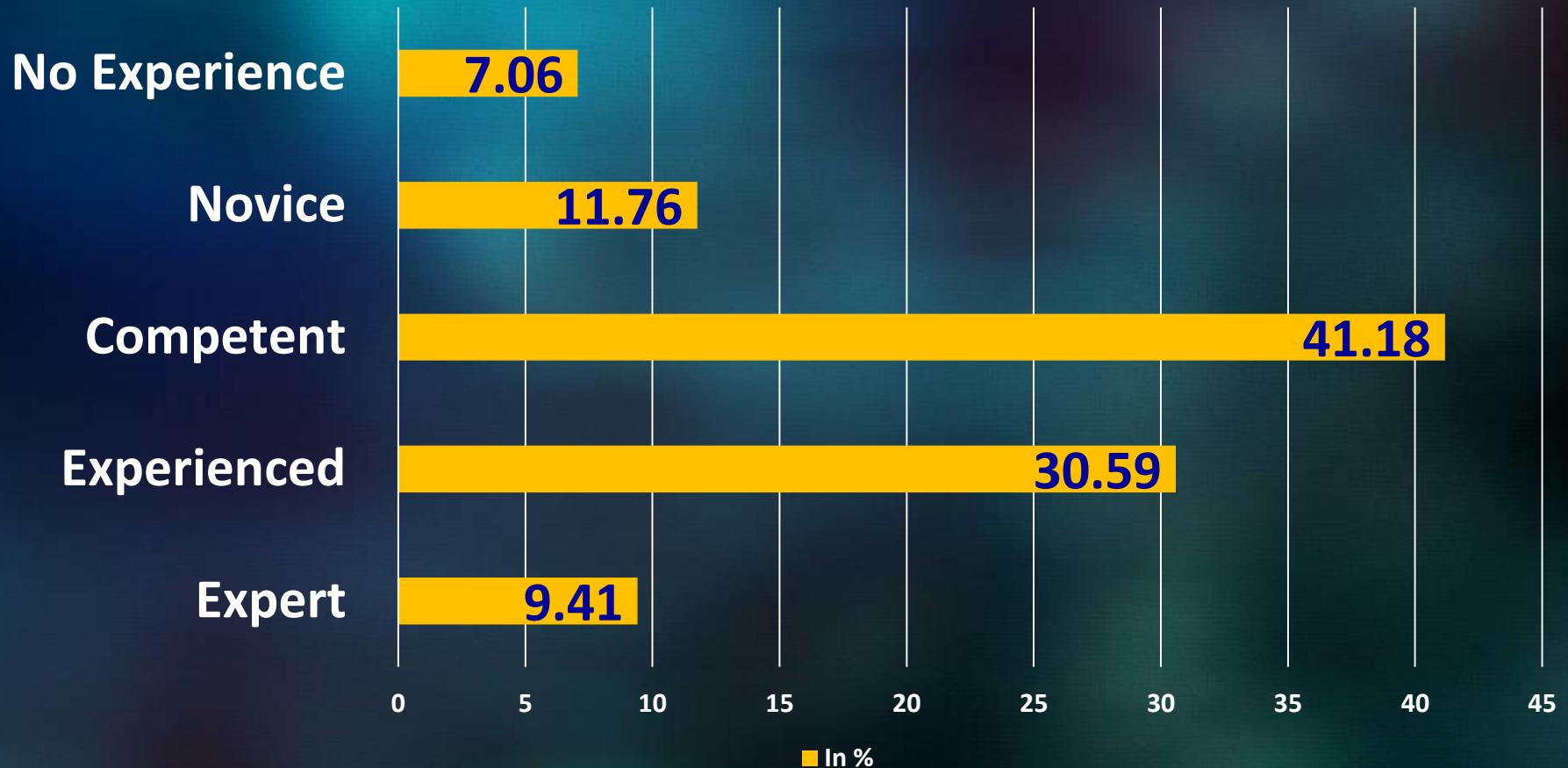
- **Asked what technology students use for classroom assignments**

- **93% used Internet resources**
- **65% used online examples provided in learning management platform (e.g., Blackboard, etc.)**
- **78% used downloadable supplemental materials provided online (e.g., articles)**

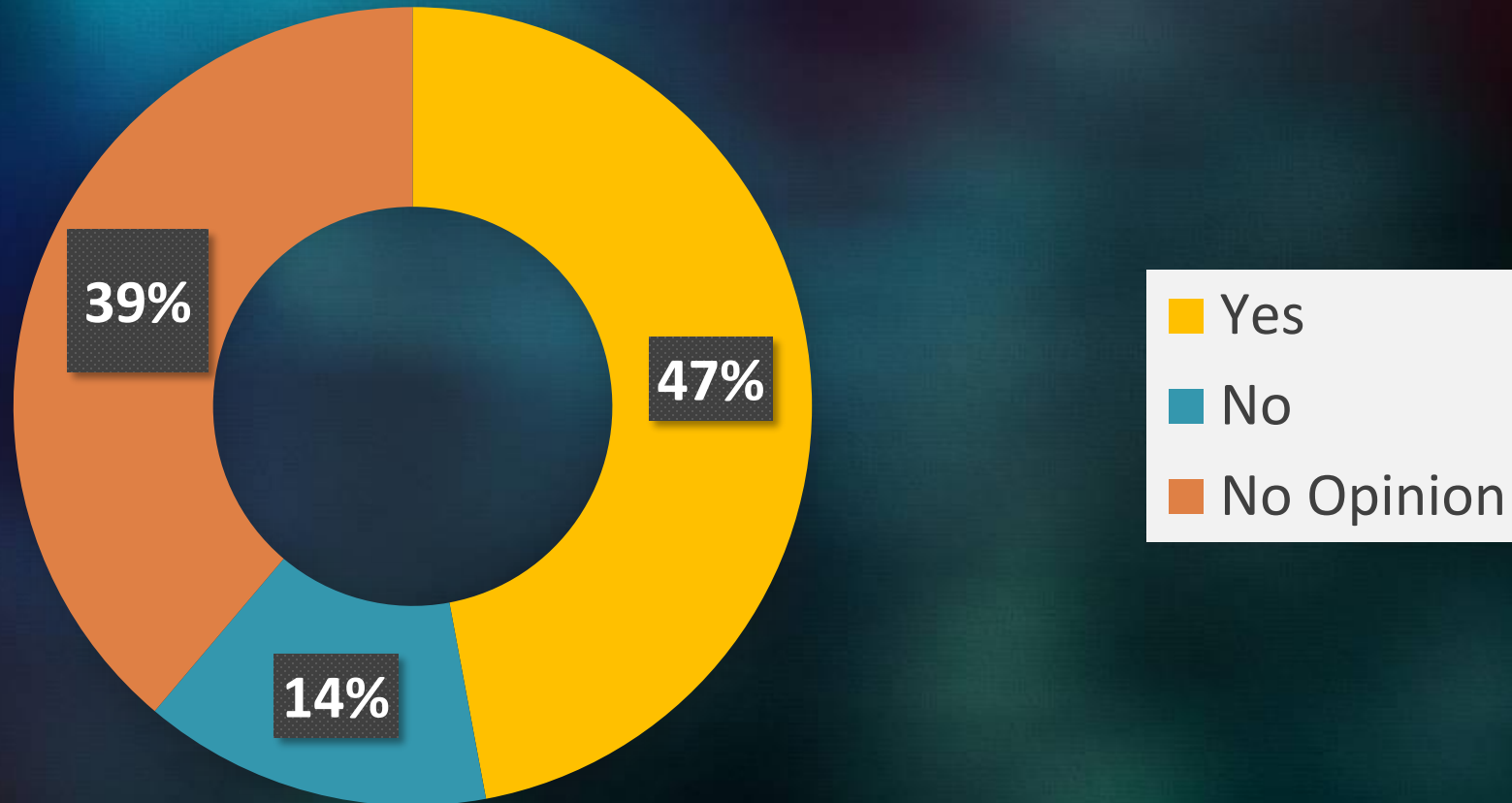
- **Asked what other technology students used in completing classroom assignments**

- **YouTube**
- **Microsoft Movie Editor**
- **GarageBand**
- **Cell phone video**

Please rank your experience in using technology (m-learning) n=86



Would you like to see more assignments using technology/m-learning in your classes? n=86



Results

- Large-scale studies with non-nursing populations
- Little found related to nursing student technology use
- Multi-tasking
 - Degrades learning
 - Increases learning time
 - Decreases student engagement
 - Lowers GPA



Multitasking? Presence?



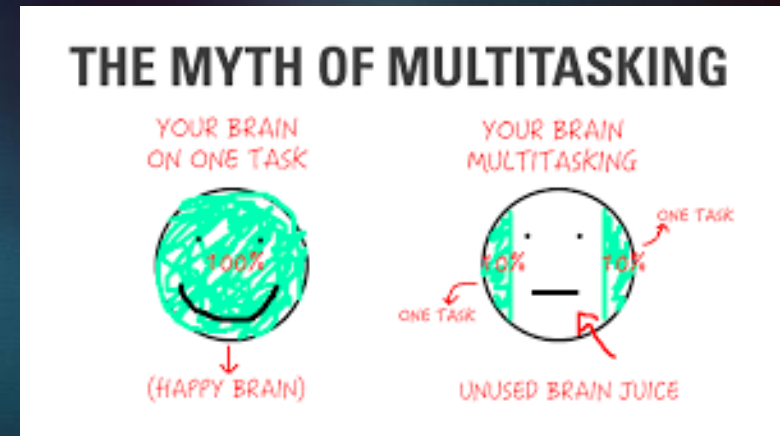
Results

- Technology use affects students around user
 - Distracted by neighbor's use of
 - Social media
 - Technology
 - Cell phones
 - Laptops
 - Tablets
- Neighbors' grades declined
- Students find technology “biologically impossible to resist”



Implications

- Multiple entities compete for student attention in F2F classroom



- Professor's role

- Limit outside distractions
- Encourage delayed gratification (learning) versus immediate gratification (technology use)
- Use interactive versus passive teaching strategies

Efficiency

Multitasking vs. Serial



Selected References

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- Junco, R. (2012). In-class multitasking and academic performance. *Computers in Human Behavior*, 28, 2236-2243.
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- Wang, Z., & Tchernev, J.M. (2012). The “myth” of media multitasking: Reciprocal dynamics of media multitasking, personal needs, and gratifications. *Journal of Communication*, 62, 493-513.

Complete references on request

Thank You!

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