# Does the digital need to divide us?

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*Admittedly fond of technology

**Not tech-savvy. Insisted in 1986 that "these computer things would never catch on…"



https://en.wikipedia.org/wiki/Scholasticism#/media/File:Laurentius_de_Voltolina_001.jpg

# Goals of this session

1. Discuss issues relating to student use of technology in the classroom.

2. Explore recent findings from the literature on this topic.

3. Identify/discuss approaches that could be used in our own teaching to maximize benefits and/or reduce risks of student technology use in the classroom.

# Some terminology

- **Academic/on-task/course-related** use of technology – Students use devices/the internet for class-related activities.

  - "**Structured**" use in the literature generally refers to incorporation of specific exercises designed to be done on a device, and/or use of a classroom-response system in class to enhance learning.

- **BYOD** – Bring your own device* (students asked/expected to bring a web-enabled phone, tablet or laptop to use for class activities).

- **Laptop (device) ban** – when educator prohibits any use of smart devices in class.

- **Laptoper** – makes me roll my eyes.

- **Off-task/non-academic** use of technology – activities unrelated to course content/material/activities (e.g., checking Facebook, texting friends). Sometimes called "**unstructured**" use.

# What are some **potential disadvantages** to technology in the classroom?

- Take a minute or so to write down your thoughts.

- Discuss with the person next to you.

- Larger discussion.

# CBCnews |Technology & Science

## Laptop use lowers student grades, experiment shows

**Screens also distract laptop-free classmates**

The Canadian Press   Posted: Aug 14, 2013 2:46 PM ET   |   Last Updated: Aug 14, 201

'It can change your grade from a B+ to a B-.'

—Faria Sana, researcher

COMPUTING

## Laptop losers: Tech actually hindering kids in classrooms

Published August 15, 2013 · FoxNews.com   **f** 815   🐦 169   💬   ✉   🖨

## Using Laptops In Classrooms Lowers Grades: Study

CP  |  By Michael Oliveira, The Canadian Press

Posted: 08/14/2013 2:08 pm EDT   |   Updated: 10/14/2013 5:12 am EDT

## New research shows laptops in class impact grades

SEPTEMBER 11, 2013   /   318 VIEWS

## Close That Laptop in Class!

Multitasking on a laptop in class reduces learning for user and nearby peers.

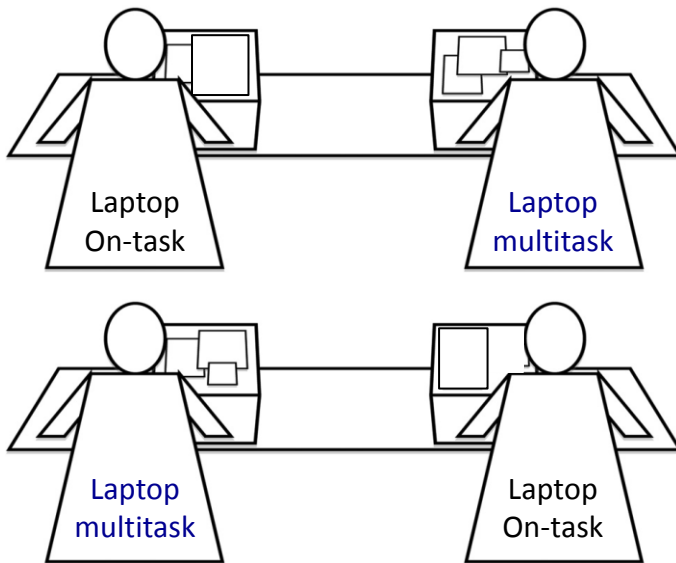Post published by Nate Kornell Ph.D. on May 15, 2013 in Everybody Is Stupid Except You

**f SHARE**   **🐦 TWEET**   **8+ SHARE**   **✉ EMAIL**
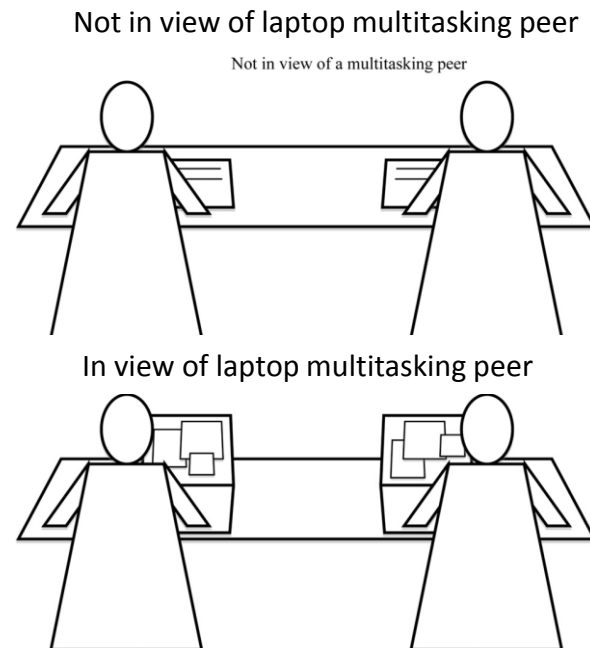
# Is that what the results actually said?

**Experiment 1**

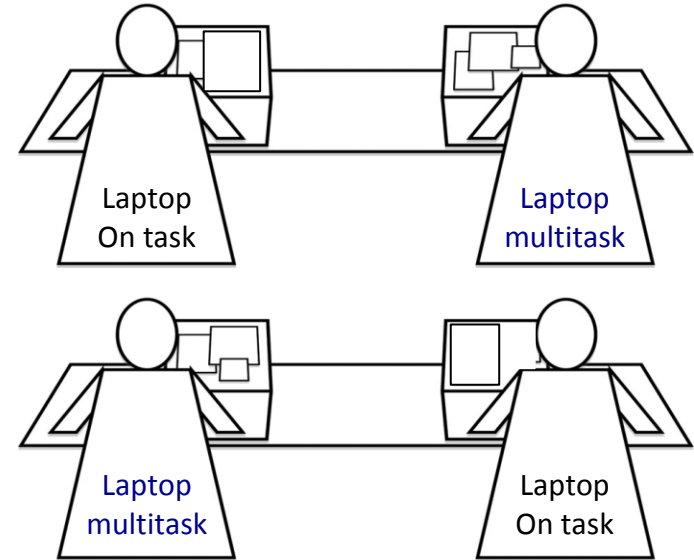- Does **laptop multitasking** hinder learning?

**Experiment 2**

- Does being in view of a **laptop multitasker** influence learning?



Adapted from Sana et al. 2013

# Is that what the results actually said?

*Experiment 1*

- Does **laptop <u>multitasking</u>** hinder learning?



| Criteria | Laptop unitaskers | Laptop multitaskers |
|---|---|---|
| **Note quality ( /5)** | 4.1±1.0 | 2.7±1.2* |
| **Comprehension test score ( /100)** | 66±12 | 55±11** |

*p=0.001; **p=0.003

Significant effect of condition: $F(1,38) = 10.2$, $\omega^2=0.20$

Adapted from Sana et al. 2013

# Is that what the results actually said?

**Not in view of laptop multitasking peer**

Not in view of a multitasking peer

**In view of laptop multitasking peer**

*Experiment 2*

- Does being in view of a **laptop multitasker** influence learning?
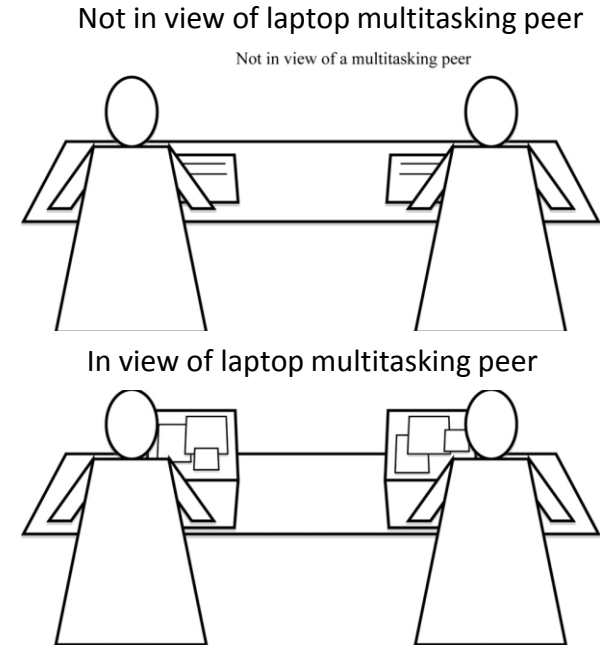
| Criteria | Not in view of multitasking peer | In view of multitasking peer |
|---|:---:|:---:|
| **Note quality ( /5)** | 3.6±1.3 | 3.7±1.2 |
| **Comprehension test score ( /100)** | 56±12 | 73±12* |

*p<0.001

Significant effect of condition: $F(1,36) = 21.5$, $\omega^2=0.36$

Adapted from Sana et al. 2013

**"laptops and smart phones do not cause more distraction than windows through which students look at birds and flowers, yet you don't seal the windows just because of that."**
-Eric Mazur, as quoted by Fang, 2009

What do _you_ think?

# Are digital devices a *different* sort of distraction?

- Why?

- Operant conditioning



http://www.theatlantic.com/technology/archive/2013/06/skinner-marketing-were-the-rats-and-facebook-likes-are-the-reward/276613/

# What are some **potential benefits** to technology in the classroom?

- Take a minute or so to write down your thoughts.

- Discuss with the person next to you.

- Larger discussion.

# "Struggling against reality is exhausting nonstop labor with profoundly disappointing results..." – Martha Beck

- Can we help students to learn "digital civility" and develop "digital restraint" skills?



http://www.thestar.com/life/2011/09/03/marshmallow_test_holds_firm.html

# Class Code of Civility

## BIOL 1001 P COVENANT OF CIVILITY
(this is a working document, so if you have suggestions, let me know...)

**Disruptive or uncivil behaviour: anything that diminishes the teaching and learning opportunities for everyone in the class.**

To promote civil behaviour (that behaviour that enhances teaching and learning opportunities), and reduce disruptive or uncivil behaviour, henceforth this class has agreed to:

· **Not talk while** the instructor is talking, or **student is asking a question**.
· **Put cell phones on mute** for the duration of the class.
· **Not use cell phones to make/receive phone calls or text during class.**
  o While it's understandable that you may have to check your phone once in a while and see if that ride is coming to pick you up, check your work schedule, but constant checking is distracting for you and the people around you.
· **Use laptops for course material (take notes, look at slides, *etc.*) only**; thus, students (or instructor) will not play video games, check out Facebook, trade stock, watch a movie, and visit other sites unrelated to the course. Students in view of students who use laptops for "off-task" activities → lowered marks, so your web surfing isn't harmless (Sana et al., 2013)
  o If you are desperate to check out facebook, sit in the back row where you won't disrupt other students.
· **Come to class on time and not leave early.**
  o *But sometimes lateness happens...* So we will leave the rows of seats above the back door for latecomers. When coming to class late you will enter by the back doors and. Students arriving late to class will sit in this section.
  o *But sometimes you have to leave early (e.g., exam immediately after class)...* If you know that you have to leave early you will sit in the aisle seats (<u>not in</u> the aisle).
  o *But sometimes lateness happens, <u>and</u> you have to leave early...* Erm... well, the fact that you are late means you'll be sitting just above the back door...close to the doors, so you can leave early without causing disruption.
· **During the silent vote** (clicker questions), students will be silent (*i.e.*, **working through the clicker question on their own**), until the instructor has announced the peer discussion.
· **During the peer discussion work to engage your fellow students in relevant discussion**; if you are sitting alone, you will seek out a nearby student with whom to engage in discussion; if you see someone sitting alone, ask them to join your discussion.

If you see individuals compromising the Covenant of Civility, you can call them out on it (nicely), asking them to shut their laptop, turn off their cell phone, *etc.* If you are the person asked to do so, you should respond in a respectful and civil way, and discontinue your disruptive behaviour. Refusal to do so, will result in the person exhibiting uncivil/disruptive behaviour being asked to leave the classroom.

**Code developed by students during 1st class of term & modified as necessary throughout the term.**

Based on work by Zopito Marini, Brock University (e.g., Marini, 2009)

# Thank you!

- See handout for references and more to read!

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