Managing Distractions in the Classroom

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The double-edged sword of techonology

Research

NO ONE can multi-task as well as they *think* they can.

No A 4 U: The relationship between multitasking and academic performance

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Digital Devices, Distraction, and Student Performance: Does In-Class Cell Phone Use Reduce Learning?

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Dividing attention in the classroom reduces exam performance

Arr

Laptop multitasking hinders classroom learning for both users and nearby peers

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The problem isn’t technology itself

- The problem is the *active use* of technology for non-class related activities
- Ridding the classroom of all technology isn’t the solution

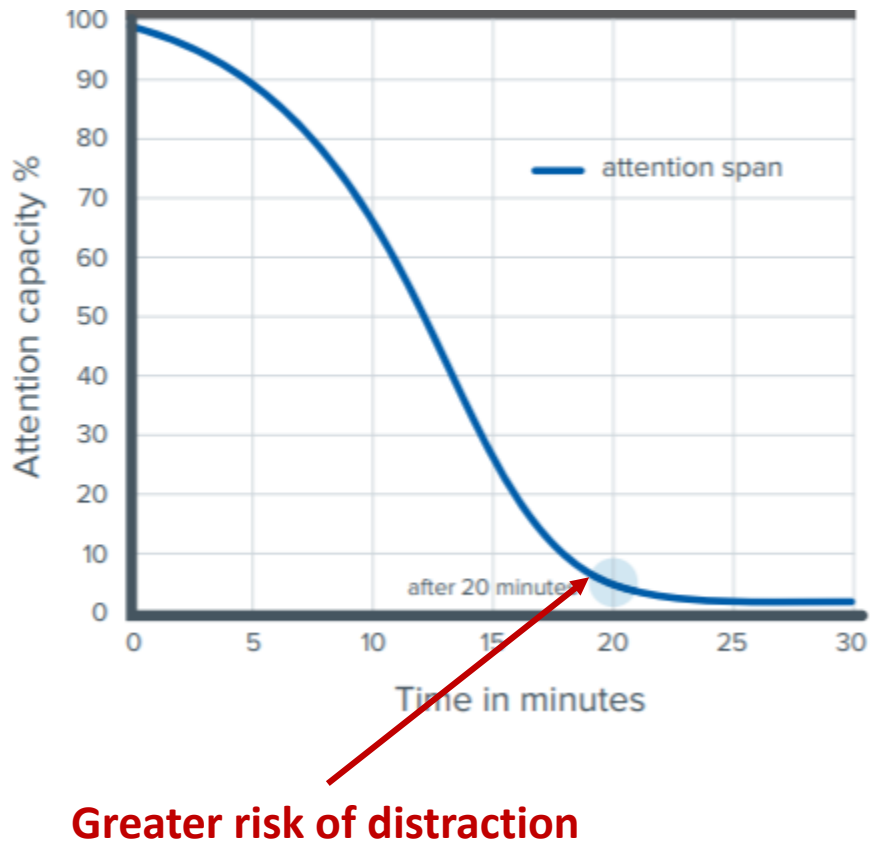
Prohibit smartphones → Smartwatches

Ban Smartwatches → AR glasses

Outlaw AR glasses → Matrix neck jack????

What about multi-purpose devices like laptops or tablets?

The root cause:
Drifting attention & Lack of engagement

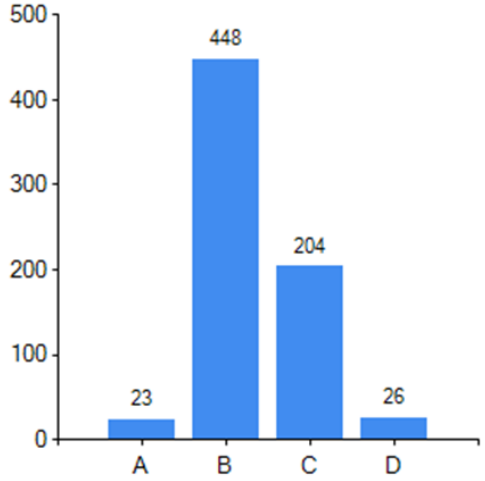


- Active learning techniques can help
  - Group activities/problem solving
  - Class discussion
  - Peer instruction
  - Think-pair-share
  - Muddiest point
- **Embedded lecture polling**

Active learning techniques can help

- Embedded lecture polling is a relatively straightforward solution that most seasoned lecturers can implement with little trouble

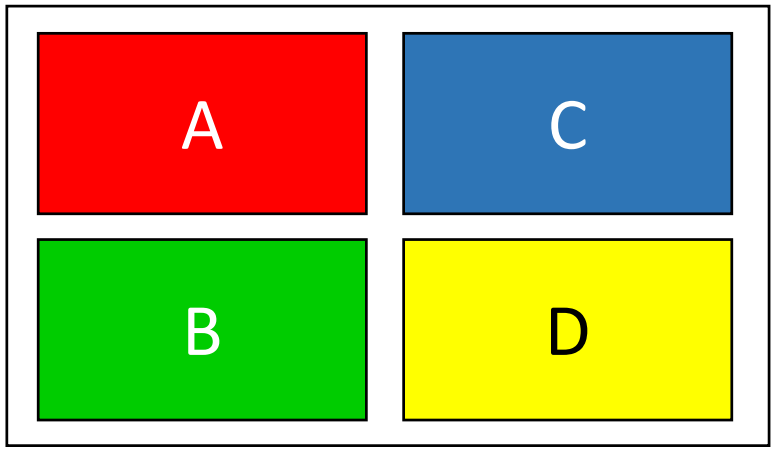
- Issues with implementation:
  - Gathering student responses
  - Student accountability
  - To grade or not to grade?



  - Desire to accomplish all of the above with minimal impact on class flow

My evolution towards iClicker

- Flash cards
  - Low tech / minimal cost
  - Works great…for the first month or so
  - Need for student motivation / accountability
  - Doesn’t address students’ inappropriate use of technology



My evolution towards iClicker

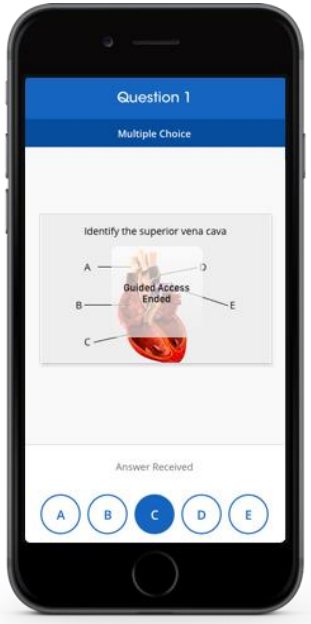
iClicker: digital tool for tracking students responses live during lectures

Student remotes:

Pro:
Single purpose device
No WiFi required

Con:
Requires base-station
Something else for students to lose

Mobile devices:



Pro:
Students always have them
Increased functionality

Con:
Students always have them

Evolving towards using Focus

- iClicker does serve the purpose of increasing student engagement
  - But there are still opportunities for distraction
  - Using iClicker mobile app gives students permission to have their phones out
  - Students can still sneak other technology while using the remotes

- New feature...Focus Sessions:
  - Tracks student time in and out of the active class session
  - Nudges students to remain in the app during class
  - Generates class reporting for both students and instructor

Focus Reports

Subject: Your [Course Name] Focus Report is ready

iClicker
Active learning simplified

Your Focus Report is ready and attached!

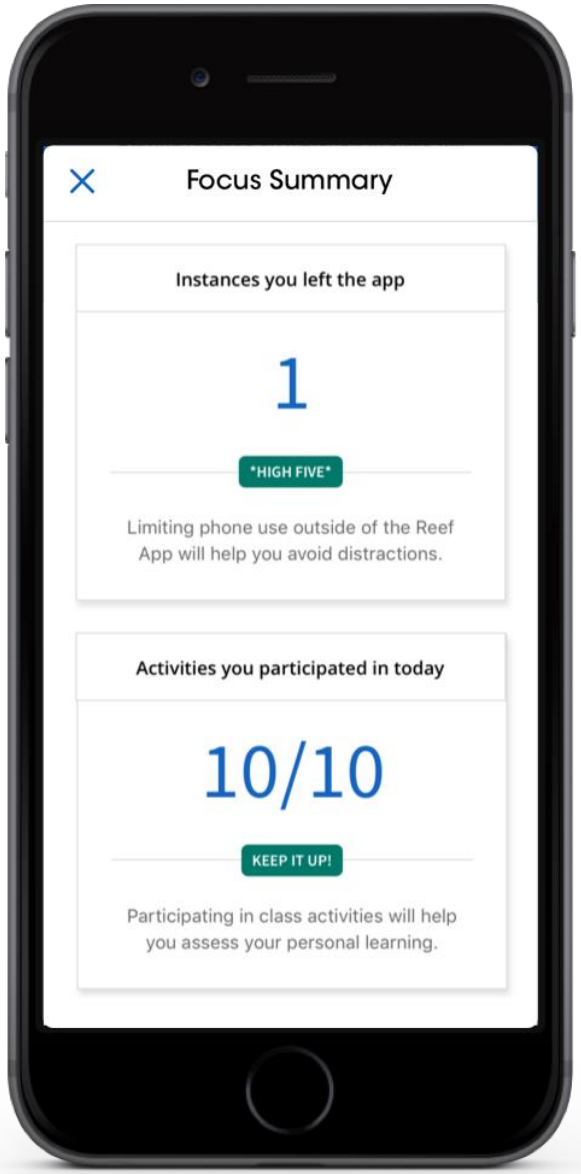
[Course Name]

Wednesday, August 23, 2017

01:45:12
Class Session Duration

47 / 53
Focused Participants

This email was sent to instructor@reef-education.com because you are using iClicker Focus mode. If you are not using Focus mode, please email us at iClicker Support and let us know you are receiving this message in error.



Focus Reports

	A	B	C	D	E	F	G	H	I
1	Last Name	First Name	Email	Student ID	Time In Focus	Time Out of Focus	Number of Times Left Focus	Joined Using Web	
2	[redacted]				N/A	N/A	N/A	N	
3					1:35:08	0:00:00	0	N	
4					1:34:19	0:00:00	0	N	
5					1:02:06	0:21:08	3	N	
6					1:17:31	0:00:00	1	N	
7					N/A	N/A	N/A	N	
8					1:33:33	0:00:32	1	N	
9					1:30:01	0:00:29	1	N	
10					1:09:27	0:23:39	4	N	
11					1:35:00	0:00:00	0	N	
12					0:49:44	0:15:54	2	N	
13					1:21:21	0:00:04	2	N	
14					1:29:40	0:00:00	0	N	
15					N/A	N/A	N/A	N	
16					1:05:21	0:00:07	4	N	
17					1:25:59	0:08:55	1	N	
18					1:36:21	0:00:00	0	N	
19					1:27:28	0:02:18	4	N	
20					N/A	N/A	N/A	N	
21					1:34:57	0:00:00	0	N	
22					1:36:05	0:02:57	1	N	
23					1:30:28	0:00:00	0	N	
24					N/A	N/A	N/A	N	
25					N/A	N/A	N/A	N	

My experience using Focus

- Effective at keeping students on-task
- Easy onboarding – for both teachers and students
- Minimal impact on class flow
- Promotes transparency on student usage of technology
  - Students develop self-control and self-regulation
  - Another tool for instructors when discussing student performance
  - Potential for monitoring student phones during exams

- Caveat – some students still need incentives
  - Cost/reward system
  - Multiple student devices

Looking towards the future

This is part of an ongoing battle for student attention in the classroom.

We must prepare for the classroom and students that we *have*, not the classroom that we *want*.

Technology will continue to evolve and create new distractions...

but new technologies also creates new opportunities for engagement.

Citations and Notes

- Arnold L. Glass & Mengxue Kang (2018): *Dividing attention in the classroom reduces exam performance,* Educational Psychology
- Douglas K. Duncan, Angel R. Hoekstra, Bethany R. Wilcox (2012): *Digital Devices, Distraction, and Student Performance: Does In-Class Cell Phone Use Reduce Learning?,* Astronomy Education Review
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- Faria Sana, Tina Weston, Nicholas J. Cepeda (2012): *Laptop multitasking hinders classroom learning for both users and nearby peers,* Elsevier
- Eileen Wood, Lucia Zivcakova, Petrice Gentile, Karin Archer, Domenica De Pasquale, Amanda Nosko (2011): *Examining the impact of off-task multi-tasking with technology on real-time classroom learning,* Elsevier