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Confronting the Myth of Multitasking: A Collection of Tools and Resources

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Download a self-check quiz for students, plus a look at key research findings

Most of us need no research evidence to document that students are using their phones and attempting to multitask in class. We see it all the time, and if you suspect it's also happening when they study, research confirms that as well. In some ways, we can't really blame students. People are on their phones everywhere, including places where cell phones are supposed to be off. And let's be honest, faculty are pretty much like everyone else when it comes to paying attention to what's on their phone when they shouldn't be—in faculty meetings, workshops, while listening to the college president, and when they grade student work. Students do have a problem, but so does pretty much everyone else. We need big societal changes and those aren't yet forthcoming. Without them, is it any surprise that solutions tried in the classroom have had limited success?

Most faculty have responded to students' proclivity to multitask with policies that prohibit the use of devices in class, significantly curtail their use, or put instructors in charge of when and for what they can be used. (See "[Cell Phone Policies: A Review of Where Faculty Stand](#)") A growing body of evidence documents how students are responding to these policies. If the class has more than 100 students in it, 90% of students reported on one survey that they could text without the instructor knowing (Tindell and Bohlander, 2012). In a study involving smaller class sizes, 32% said they could text without the instructor knowing (Clayson and Haley, 2013). In the same study, which involved multiple sections of a marketing course, 56% of students said that texting in the class was banned and 49% said they texted anyway. Whether students can text without us knowing is not as important as the fact students *think* they can do it without us knowing.

Students are also using their devices when they study. In one study that analyzed student activities in 3,372 computer logs of study sessions, multitasking happened in 70% of those sessions (Judd, 2013). Studies referenced in the resources that follow document how frequently students switch between studying and their devices when they study.

As the resources illustrate, this kind of task-switching slows them down and compromises their attempt to learn the material. The amount of notes they take, quiz scores, exam scores even course grades are all negatively affected. Because it's our job to guide, manage, and otherwise direct their learning experiences, we must explore a range of approaches to help make students more acutely aware of how their attempts to learn are being compromised by these devices.

In [a recent blog post](#), I wrote how I encountered evidence of two recent attempts to "educate" students about the harmful effects of multitasking that were unsuccessful. So, there's a caveat with

the resources that follow, but I don't think two attempts justify ending what the researchers call "educational interventions." Perhaps they won't change the behavior immediately, but maybe they will become part of a change process.

Below you will find a set of questions for students, which they can answer online or in class. They answer for themselves, not for the teacher, other classmates, or anybody else. After they've answered the questions, they get a copy of what research has to say about those questions. The research answers provided are brief, accurate portrayals of the findings, and they're written in way that students will understand the implications. Most of the research on multitasking is complex, complicated, and written primarily to inform subsequent inquiry in this area.

You are welcome to use and adapt these materials — there's a downloadable Word doc at the end. The objective is to confront students' beliefs about multitasking with the evidence. Will that change their behavior? Hopefully it will, but if it doesn't at least students will be attempting to multitask while fully aware that there are consequences.

References

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Multitasking: A Self-Check Quiz for Students

Instructions: Take a few minutes and jot down your honest answers to the questions below. These answers won't be collected or reviewed, so there's no reason to fudge or spin your responses.

Imagine you are studying for an important exam. Answer the following prompts, thinking about a 15-minute time window during your study session.

Would you use any of your devices during that 15 minutes for purposes other than studying? Which one(s) and for how long?

How long would you study before using one of your devices?

Does switching tasks during study time have any consequences? If so, what are they?

Imagine you're in class, it's a challenging course and one of the first in your major. The professor is lecturing. He/she uses PowerPoint slides but does not make them available to students. A significant portion of the test questions comes from material that is covered in class.

Would you be taking notes? By hand or on a laptop or tablet?

Would you have your phone with you? Would it be on?

If you received a text in this class, would you look at it? Would you answer it?

Imagine you are taking in a course where you are tested on the required reading assignments.

Does using devices (e.g. phone, iPad, laptop) slow you down when you're reading assigned material? If so, how much?

General Questions

Have you ever kept track of how much time you're on your devices while studying or in class?

Can you listen, take notes, and be on your device simultaneously? In other words, how good are you at multi-tasking?

Does multitasking in class lower, raise, or have no effect on quiz and/or exam scores?

Does regularly multitasking in a course affect your grade in the course?

Multitasking: A Look at Some of the Research

Now that you've taken the self-check quiz. Here's what some research studies have found regarding the efficacy of multitasking in class and while studying.

A note about the evidence presented here—these studies are examples. The widespread use of electronic devices has resulted in much research on multitasking in general and specifically on its use in classrooms and when students study on their own. Even though the studies do ask different questions and use different designs to answer those question, the findings are amazingly consistent. What's briefly highlighted in each section is corroborated by lots of other studies.

Imagine you are studying for an important exam. Answer the following prompts, thinking about a 15-minute time window during your study session

Would you use any of your devices during that 15 minutes for purposes other than studying? Which one(s) and for how long?

In a study where participants were observed for a 15-minute study period, the students were on task 65% of the time. The more devices available, the more often students used them. (Rosen, Carrier and Cheever, 2013)

To observe the actions of 60 undergraduates, each studying alone for three hours, researchers used surveillance cameras and outfitted the students with a head-mounted, point-of-view video cameras and mobile eye trackers. On average the students were distracted by media unrelated to studying 35 times for six seconds or longer during the study session. (Calderwood, Ackerman and Conklin, 2014)

How long would you study, before using one of your devices?

During a 15-minute study period, off-task behavior increased significantly at the 4-5 minute mark with the most off-task behavior at the 10-minute mark. (Rosen, Carrier and Cheever, 2013)

Are there any consequences when you switch tasks during study times? If so, what are they?

When asked about the effects of using devices as they studied, 53.3% of the students predicted that doing so would negatively affect their performance; 23.3% said there would be no effect on performance and 23.4% predicted that using devices as they studied would improve performance. The students who anticipated negative effects were correct. (Calderwood, Green, Joy-Gaba and Moloney, 2016)

Students in introductory psychology courses reported how long they studied for an exam and how many of 23 different social media applications and electronic devices they used during that study time. The researcher divided the students into three groups; low users (0-2 applications and devices); medium users (3-6 applications and devices), and higher users (over 7 applications and devices). Low users scored 4.74 point higher on the exam than high users and that was a statistically significant difference (Patterson, 2017)

Imagine you're in class, it's a challenging course and one of the first in your major. The professor is lecturing. He/she uses PowerPoint slides but does not make them available to students. A significant portion of the test questions comes from material that is covered in class.

Would you be taking notes? By hand or on a laptop or tablet?

In a laboratory study that involved six different classroom environments, students who wrote notes by hand out performed students who took notes on a laptop. (Downs, Tran, McMenemy and Abergaze, 2015)

In a classroom setting where students sat either in a laptop-free zone or a laptop zone. Those in the laptop-free zone who were taking notes by hand scored significantly higher on exams than predicted by pre-class academic indicators. Those in the laptop zone performed significantly lower than predicted. (Aguilar-Roca, Williams, and O'Dowd, 2012)

Would you have your phone with you? Would it be turned on?

In a cross disciplinary survey, 95% of the students reported bringing their phones to class and 91% said their phones were set on vibrate. Only 9% reported turning their phones off. (Tindell and Bohlander, 2012)

If you received a text in this class, would you look at it? Would you answer it?

92% of 269 students said yes to both questions. 30% said they read and answered texts every class session. (Tindell and Bohlander, 2012)

In two different marketing major courses, 94% of the students reported receiving texts while in class and 86% said that they'd texted while in class. (Patterson, 2013)

Would you be using your phone, tablet, or laptop for purposes not related to what's happening in class? Taking a peek at Instagram? Viewing a favorite website? Firing off a quick text? For how long would you do this?

In an upper-division management information course, students had “distractive windows” (games, pictures, email, web surfing, etc.) open 42% of the time during class. Researchers found they underreported their use of email by 7% and use of instant messaging by 40% (Kraushaar and Novak, 2010).

Imagine you are taking in a course where you are tested on the required reading assignments.

Does using devices slow you down when you’re reading assigned material? If so, how much?

Students in a general psychology course read a 3,828-word passage online. The group that texted while they were reading took between 22 and 59% longer to finish than students who didn’t text or texted before they started reading. And those were the percentages after the time spent texting had been subtracted from the reading times. (Bowman, Levine, Waite, and Dendron, 2010)

General Questions

Have you ever kept track of how much time you’re on your devices while studying or in class?

In multiple sections of a management information systems course, researchers found that students had non-course-related software applications open and active 42% of the time during class. (Kraushaar, J. M. and Novak, D. C., 2010).

Can you listen, take notes, contribute, and be on your device simultaneously? In other words, can you multitask effectively?

47% of marketing majors reported that they could text and follow a lecture simultaneously. (Clayson and Haley, 2013)

In a study where researchers put students into three groups; 1) those who didn’t text, 2) those who texted some, and 3) those who texted a lot. The students who didn’t text recorded 33% of the details presented in the lecture. Low-texting students had 27% of the details and high texters only had 20% of the details. (Kuznekoff and Titsworth, 2013).

Does multitasking in class have any negative consequences? For example, does it affect quiz or exam scores? Have you experienced any negative consequences?

In a principles of accounting course where half the students were allowed to text during the lecture and half had their phones off, those with their phones off scored significantly higher on the quiz (Ellis, Daniels and Jauregui, 2010).

In several communication courses, students who did not text scored a full course grade higher on a multiple-choice exam than students who were actively texting. (Kuznekoff and Titsworth, 2013)

In this study, researchers created six different classroom environments; three where students were distracted by social media and three where they weren’t. Students in the three environments that involved social media performed worse on a multiple-choice exam than those not using social media. (Downs, Tran, McMenemy and Abegaze, 2015)

Does regularly multitasking in a course affect your grade in the course?

Yes, it does, according a large study that involved 1,839 students. Use of Facebook and texting while studying were negatively associated with overall college GPA. (Junco and Cotton, 2012)

So, here's the bottom line. . .

You weren't a student in any of these studies, so it's unknown how using electronic devices when you study, prepare for an exam, and read assigned materials, affects you and your ability to learn. But how it affects a lot of other students is known and the results are uniformly not good.

If you'd like to see if you're different, an outlier among your peers, try this quick exercise. Take a 15-minute study interval and jot the time when you check your phone, the time when you get back to the books, the time a text comes in and you look at it, etc. That way you won't be kidding yourself about how much time you're studying and how time you spend doing something else. Note where you started reading or working the first homework problem and note where you are when the 15 minutes are over. Now do 15 minutes of studying with all of your devices off and out of reach. How much did you get done? How well do you understand what you've done?

In class, turn your phone off (even just for part of the period) and take notes. Compare that set of notes with a set taken when you were dealing with your phone as you took notes.

Perhaps you know that very old saying, "knowledge is power." And that applies when it comes to knowing if and how multitasking impedes your efforts to learn. You may decide to live with consequences or you may decide your behavior needs to change. Those are choices you're in charge of making. If you do decide to make some changes, knowledge about the effects of multitasking may provide the motivational power.

Download the self-check quiz and research findings.

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