Limit Distraction, Improve Performance with Nearpod

Independent research from Dakota State University shows that Nearpod prevents digital distraction and multitasking while learning

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Background

Pairing internet-connected classroom tools like computers and mobile devices with classroom teachers who provide real-time support and encouragement boosts engagement and produces significant gains in student achievement.[1] However, at the same time that these technologies can be harnessed for positive education outcomes, they can also distract and impair performance when students use them for purposes not related to the lecture or lesson. Evidence from psychology, cognitive science, and neuroscience suggests that students who use technology to multitask while learning or studying understand and remember less, become mentally fatigued, and have greater difficulty transferring what they have learned to other contexts.[2]

Nearpod enables instructors to limit distraction and multitasking during a lesson by broadcasting content and interactive learning elements to student devices in real-time. Over a two-year investigation into the impact of multitasking and prevention on learning, Assistant Professor of Social Studies Pedagogy at Dakota State University College of Education, Dr. Kevin Krahenbuhl assessed learning outcomes of students following real-time classroom lectures while using various digital technologies including Facebook and Nearpod.

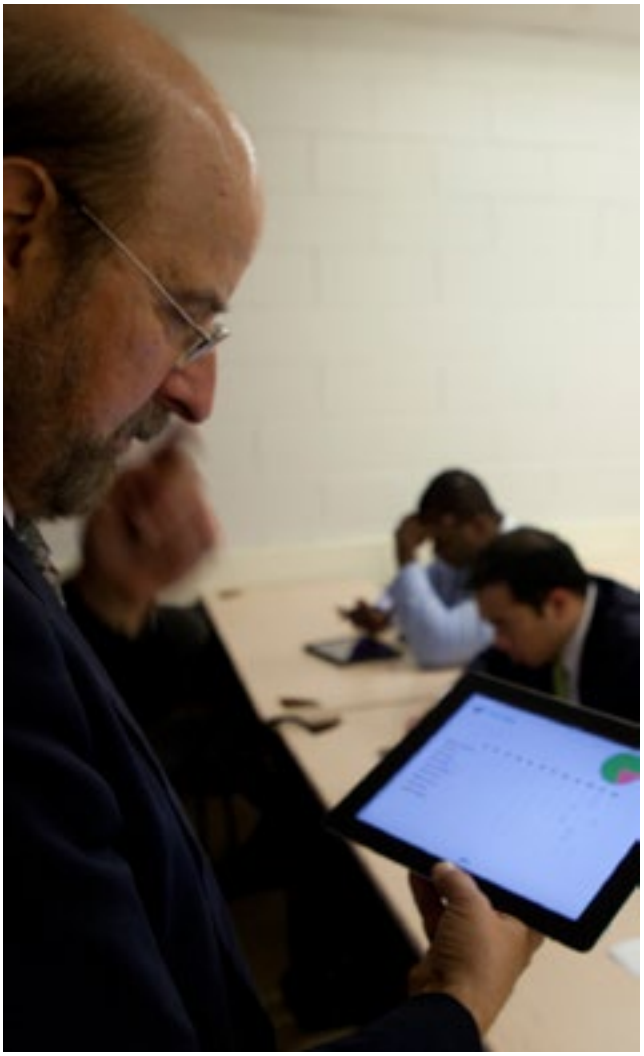
Through its Wireless Mobile Computing Initiative (WMCI), Dakota State University lends every full-time student a wifi-enabled tablet. Faculty incorporate mobile technology into their courses, and students are expected to make use of tablets to interact, collaborate, take notes, and submit assignments. "We've found the tablets to be very useful. At the same time, having devices in class increases the likelihood of student multitasking and makes it easier to get distracted," says Krahenbuhl. "It's been pretty well-established through research on cognitive load that multitasking means that you can do several things at once, but you're probably not going to do them as efficiently or effectively. We wanted to see if we could get a of measure of what the impact of multitasking was, and identify interventions for mitigating or reducing distraction."

[1] L. Darling-Hammond, M.B. Zielezinski, and S. Goldman, S. Using Technology to Support At-Risk Students' Learning. (Stanford, CA: Stanford Center for Opportunity Policy in Education, 2014)

[2] E. Wood, L. Zivcakova, P. Gentile, K. Archer, D. De Pasquale, and A. Nosko, "Examining the impact of off-task multitasking with technology on real-time classroom learning," Computers & Education 58 (2012)

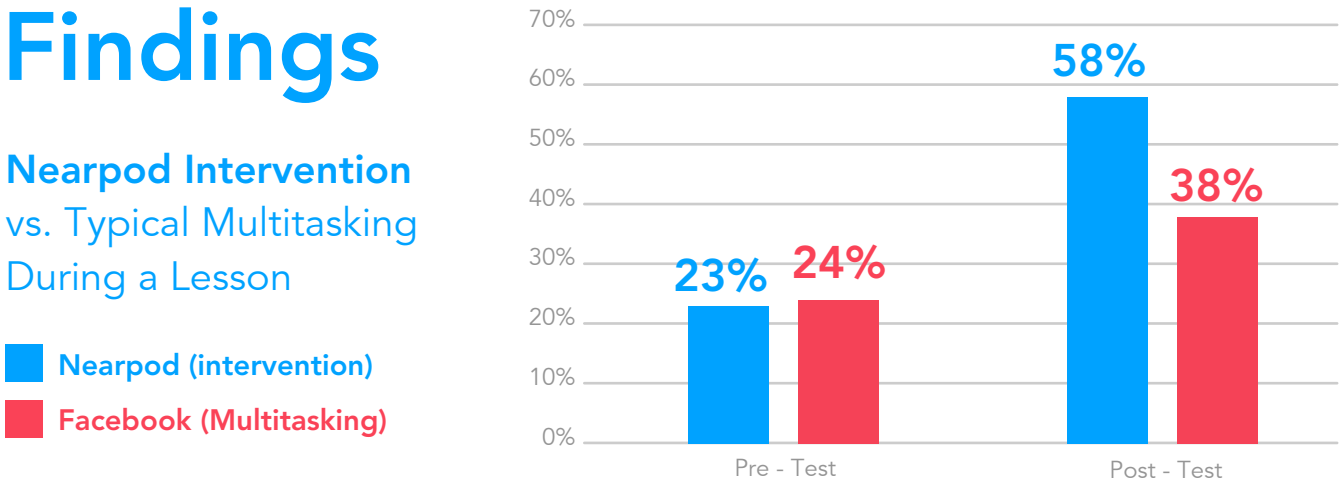
Background

To compare the relative impact of technological interventions for reducing distractibility, students were assigned to an experimental condition (multitasking or intervention), administered a pre-test, and then presented a 30-minute lesson on a topic that they did not have prior exposure or background information about. Students in the Facebook (multitasking) group followed the lesson while engaging with peers and others as they normally would on the social media site. Students in the intervention condition used Nearpod on their tablets to follow the lesson. Student learning was measured after the lesson through a post-test.



Findings

Nearpod Intervention vs. Typical Multitasking During a Lesson



Pre- and post-test scores of students using Nearpod (intervention) and Facebook (multitasking) while following a lecture.

Krahenbul and Assistant Professor of Education, Dr. Gabe Mydland recently shared some of their findings at the Society for Information Technology & Teacher Education International Conference in a presentation called, Investigating the impacts of multitasking on Facebook during class. Students in the Nearpod, intervention condition scored an average of 58% on the post-test, while those in the Facebook, multitasking condition scored an average of 24%. The difference in average post-test scores suggests that efforts using Nearpod to prevent multitasking while learning had a positive impact on learning outcomes. Krahenbul says, "it's promising that this could be a great free tool that people can use and get results in reducing the distractibility of students."

Dakota State University has been using the results of this work to inform students about study habits, self-management, and the myth of multitasking. "We talked the students through the bigger, long-term implications of what this looks like. This was only a 30-minute lecture, so what if the similar disparity were spread throughout a semester? The difference in what was learned between the two groups would become dramatic," says Krahenbuhl.

Today's students are growing up with technologies and devices that have the potential to deepen learning. But as individuals attend to multiple tasks at once, their ability to focus on either one erodes, and when that multitasking happens during class or while studying, learning suffers. In order to maximize the educational benefits associated with technology, we should help students use devices smartly and leverage tools that mitigate distraction. student's relationship with the material.

Nearpod's features enable creative expression

According to the survey, Nearpod is effective at connecting students to their teacher and their peers. Not only does Nearpod offer endless collaboration, gamification and competition opportunities between students, but it also offers unique abilities to teachers, such as sharing student work with the rest of the class anonymously. The sense of community that these features help to build in classrooms means that students feel accountable for their work, which is critical to David Havens' 'social motivation' variable. This also may account for why, when compared to other classroom activities, about 50% of students indicated that they 'participate more,' and about 40% 'learn more' when using Nearpod.

Find out more

Preliminary results of Krahenbuhl and Mydland's research suggest that using Nearpod to limit student distraction and multitasking contributes to positive learning outcomes. They plan to synthesize and share about classroom interventions on distractibility in an article this summer. For more information and to follow their work, find Dr. Kevin Krahenbuhl at @DrKrahenbuhl and Dr. Gabe Mydland at @GabeMydland.

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