Chapter 11
The Laptop, the Tablet, and the Smartphone Attend Lectures

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ABSTRACT
A large number of students bring laptops and other mobile instruments to their lectures. This chapter presents findings of a study that investigated the habits of mobile technology use in class among students. The study probes relations among four elements: (a) mobile technologies available to students in class; (b) students’ use of these mobile technologies in class; (c) students’ perceptions of these uses (i.e., how they estimate the contribution or damage of the use of these devices during the lecture); and (d) how intensively lecturers engage students via the mobile devices in the students’ possession. The findings indicate that the use of mobile computers promotes learning-supportive activities while the use of smartphones encourages distractive activities. The lecturers might not be fully aware of the new phenomenon and, accordingly, do little for their students.

INTRODUCTION
In recent years, an increasing number of students attend lectures with laptops, other mobile instruments such as tablets, and cellular devices at their side (Chen and deNoyelles, 2013; Melton and Kendall, 2012). This increasingly prevalent trend, known as BYOD (Bring Your Own Device), dovetails with the interest of academic institutes, which see this as an opportunity to give students the Internet access on campus that they need. Instead of developing and maintaining computer rooms, they let students bring their own devices and use them for scholastic purposes (Kobus, et al, 2013). This chapter presents findings of a study that investigated the use habits of mobile technologies in class among a sample of approximately 1,000 undergraduate and graduate students at a college in Israel, distinguishing between productive activities (those related to the topic of the class) and distractive ones. The study also investigated the effect of the way lecturers use mobile technologies in class on the learning process and how students perceive it.

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BRING YOUR OWN DEVICE TO THE LECTURE HALL

The mobile devices that students bring to campus are, in most cases, intended to be surrogates for traditional pens and notebooks (Gehlen-Baum and Weinberger, 2012). They give students an advantage by enhancing the temporal and spatial flexibility of learning processes. By providing access to the university’s computers, course sites, and other academic information systems, they allow students to connect with learning resources both on and off campus, assuring the continuity of the working and learning process. Instead of having to switch from one computer to another, students can manage and store their information on their personal devices. They can also organize information by themselves, streamlining the personal information management process that accompanies learning.

The availability of mobile devices also maximizes students’ access to information that may be supportive of teaching in class. The fact that students can access online resources continually makes it possible to enrich the range of illustrative and experiential learning aids in class, diversify sources of information, generate activity by referring students to authentic and relevant information during class, and create an interesting and involvement-intensive learning experience (Campbell and Pargas, 2003). The integration of mobile technologies into classroom learning has a salutary effect on learning motivation (Rau et al., 2008) as well as on active learning (Barak et al., 2006).

It is common knowledge, however, that students put their mobile equipment to uses that are not always consistent with the topic of the lesson (Gehlen-Baum and Weinberger, 2012). The presence of these devices in class subjects students to powerful temptations. Students can, at any moment, visit sites that have nothing to do with the lesson in progress, check and send email messages, chat on social networks, check the news, play games, and run other “apps” that distract them from classroom activity by luring them to the profusion of possibilities that the computer and Internet offer.

A study that tracked events in a class where a number of students used personal mobile technologies showed that those who had these devices tended to sit in the back rows, take less part in classroom discussion, and busy themselves with other matters by means of their mobile devices (Barkhuus, 2005). Instead of the technology encouraging greater student involvement, the exact opposite occurred: the students were less attentive, less involved, and less active. Another study, investigating the connection between student achievements and the use of mobile devices in class, found an inverse relation between the two: the presence of mobile devices in class not only failed to contribute to learning but even impaired it (Fried, 2008). The evident reason was difficulty in multitasking, i.e., performing several different cognitive acts concurrently—listening to the teacher while answering emails or visiting a social network (Kraushaar and Novak, 2010; Rosen, 2012). This phenomenon, known as media task switching (the switching of focus from one task to another), is so unhealthy and inefficient that it has pathological psychological implications (Rose, 2010). Continual attention to the screen of one’s mobile phone or computer in matters unrelated to a class in progress distracts one from the proper focus of attention, the ongoing lesson (Rosen, 2012). The result is “continuous partial attention,” concurrent superficial attention to several incoming sources of information (Rose, 2010).

The distractive effect of personal equipment pertains not only to the user but also to peers in the user’s surroundings. Sana et al. (2013) show that the presence of mobile devices in class may distract students who have no such instruments but are within eyeshot of their peers’ screens. An additional disparity was found between students’ actual use patterns in class and their self-reportage of these patterns. A study that compared find-
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