Chapter 8
Applying SOAR Strategies to Curb Digital Distractions While Note Taking and Studying

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ABSTRACT

Students are distracted by mobile technology in the classroom when learning from lectures and outside the classroom when studying. Students are susceptible to distractions because they are not fully engaged in learning. In the classroom, they record notes mindlessly that capture just one-third of important lesson ideas. When they study outside the classroom, they study information in a piecemeal fashion and employ mindless repetition strategies. These weak and unengaging learning strategies open the door for digital distractions. One potential means to engage students in meaningful learning and to offset digital distractions is an integrated strategy system called SOAR, which stands for select, organize, associate, and regulate. This chapter describes SOAR and how instructors can maximize SOAR's components to curb digital distractions by improving student note taking in the classroom and study behaviors outside the classroom. The chapter concludes by specifying how instructors can teach students to SOAR on their own.

INTRODUCTION AND BACKGROUND

Students are distracted by digital devices both in the classroom when attending lectures and outside the classroom when studying. In the classroom, students should be paying attention to the lesson and recording lecture notes, yet many students bring portable devices like laptops and smart phones to the classroom, which distract their attention and note taking. Surveys in the last decade (e.g., Aguilar-Roca et al., 2012; Morehead, Dunlosky, Rawson, et al., 2019; Peverly & Wolf, 2019; Witherby & Tauber, 2019) showed that 22%–64% of college students bring laptop computers to class for note-taking purposes. However,

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when students were asked how they use laptop computers during lectures, 81% reported checking emails, 43% reported surfing the internet, 25% reported playing games, and 35% reported other non-academic activities (Fried, 2008). Another observational study found that students engaged in off-task computer activities (e.g., using social media websites) for nearly two-thirds of class time (Ragan et al., 2014). Additionally, seventy to ninety percent of college students text during lectures (Kornhauser et al., 2016; McCoy, 2016), and they send or receive 12–20 text messages per lecture period (Dietz & Henrich, 2014; Pettijohn et al., 2015). One study (Kuznekoff & Titsworth, 2013) showed that when students received and responded to text messages during a lecture, their note taking decreased by 18%–40%. This study also found that digitally distracted students recalled 50% fewer lesson ideas than non-distracted students (Kuznekoff & Titsworth, 2013), consistent with other studies showing that classroom digital distractions decrease note taking and achievement (Carter et al., 2017; Flanigan & Titsworth, 2020; Glass & Kang, 2019; Hembrooke & Gay, 2003; Kuznekoff et al., 2015; Ravizza et al., 2017).

Students face the same digital distraction temptations outside the classroom when they study for tests (Flanigan & Kiewra, 2018; Morehead, Dunlosky, Rawson, et al., 2019). More than 60% of college students wander off-task to read emails, check Facebook, or surf the internet while studying outside of the classroom (e.g., Jacobsen & Forste, 2011; Judd, 2013; Junco & Cotten, 2012; Mokharti et al., 2015; Rosen et al., 2013). Calderwood et al. (2014) observed college students studying during a 3-hour period and reported that students were distracted by their digital devices 35 times on average. Similarly, Junco and Cotten (2012) reported that students spent an hour on Facebook and sent more than 70 text messages per day while completing schoolwork. These digital distractions outside of the classroom have been found to decrease students' study time, schoolwork completion rates, assignment performance, course grades, and cumulative college grade-point average (Calderwood et al., 2014; Junco & Cotten, 2012; Lepp et al., 2014; Ravizza et al., 2014).

Instructors can perhaps curb digital distractions by following the instructional strategies recommended by Flanigan and Kiewra (2018), such as (a) improving student awareness of digital distractions, (b) adopting and enforcing classroom technology policies that limit unwarranted use of mobile technology, (c) planning active learning activities, such as small-group work and class discussions, to keep students engaged, and (d) using mobile technology as a teaching tool. However, such instructional strategies rely heavily on the instructor and do not tackle the core problem: Students are susceptible to distractions because they are not engaged in learning, and they are not engaged in learning because they do not really know how to learn effectively (Kiewra, 2021).

College students often use weak learning strategies when recording notes and when studying. Regarding note taking, most students record verbatim notes that capture only one-third of key lesson ideas (Flanigan & Titsworth, 2020; Jairam & Kiewra, 2010; Luo et al., 2016). Verbatim note taking is associated with "mindless" low-level processing (Mueller & Oppenheimer 2014, p. 1166), and incomplete note taking is associated with low achievement (Peverly et al., 2003; Williams & Worth, 2002). Regarding studying, students commonly (a) study notes in linear form (e.g., outlines or lists) rather than convert notes to graphic organizers, (b) learn in a piecemeal fashion (e.g., using flashcards to memorize individual facts one at a time) rather than meaningfully associate information, and (c) employ redundant practices (e.g., rereading or recopying their notes) rather than creating and answering practice questions mirroring those likely to be on the actual test (Daher & Kiewra, 2016; Dunlosky et al., 2013; Jairam & Kiewra, 2010; Morehead, Dunlosky, Rawson, et al., 2019; Wissman et al., 2011). As a result, student learning is not engaging, challenging, or productive, which opens the door for digital distractions (Flanigan & Kiewra,