Risks and Rewards of Personal Electronic Devices in the Composition Classroom

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Student ability to bring personal electronic devices (PEDs) into the composition classroom has existed for a comparatively short time. From the late 1990s when campus Wi-Fi and technology advances brought laptops to higher education, to the explosion of smartphone technology in the mid-2000s, the technological options available continue to increase each year, disrupting and shaping pedagogy, creating multiple, deictic literacies, and challenging what “writing” and “composition” mean in a wired, digital world. While it is clear that PEDs are now part of the composition landscape, the relationships between students and their device use in developmental writing courses are less clear. In order to explore what these relationships are, how students are using PEDs in class, and what opportunities, distractions, affordances, and possibilities open in a classroom where PEDs are part of pedagogy, curriculum, and daily activities, the study “Risks and Rewards of Student Use of Personal Electronic Devices in Basic Composition Classrooms” (IRB # 01332), investigates these questions; its results and implications are discussed here.

For purposes of this discussion, personal electronic devices (PEDs) are defined as laptop and tablet computers, smartphones, and any other portable devices that allow or provide internet connection, word processing and document or ebook viewing, mobile computing, and various other capabilities to the user. Such devices often (if not typically) include access to thousands of apps, including those relevant to composition: grammar, spelling, and punctuation; dictionary and thesaurus; editing and proofreading; style and syntax; and games or tutorials designed to teach writing. Students taking hybrid, multi-day hybrid, or online courses also use
PEDs to access a learning management system (LMS), read course materials including
e-textbooks, participate in discussion forums and social media for the course, use online tools to
create presentations, documents, and other assignments, and email instructors and classmates.

In 2015, PED use among students is ubiquitous. According to the Pew Research
Center’s April 2015 survey of US smartphone use, 85% of Americans ages 18-29 own
smartphones. Among this age group, 44% reported that they had used their smartphones within
the last year to take a class or access educational content. Pearson Education’s 2014 mobile
device survey of college students reports similar findings: 89% of respondents own a laptop and
84% own a smartphone; 45% own a tablet and 8% own a hybrid (tablet/laptop) device. Device
usage is nearly identical, with 91% using a laptop, notebook, or Chromebook, 83% using a
smartphone, and 45% using a tablet. Nearly all students own and use both a laptop and
smartphone and are using them on campus, where 91% have Wi-Fi access. Eighty-nine percent
are using a laptop 2-3 or more times per week to do coursework, 33% of tablet users are doing
so, and 56% of smartphone users are doing college work on their phones more than twice a
week. On a typical day on campus, use rises even higher: 72% use a laptop for college work,
37% use smartphones, and 21% use a tablet. Only nine percent will make it through a class day
without doing coursework on some type of PED. As more writing programs integrate Web 2.0,
digital multimodal literacies, and techno-pedagogy into their philosophies and practices, PEDs
are becoming increasingly important in and out of the classroom. Experience using PEDs to do
coursework, collaborate, and create prepares students for workplaces and careers outside the
university, where they will need such skills.

Theory

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1 Among all respondents making less than $30,000/year, 33%, used smartphones to take a class or access educational content, suggesting that younger, lower-income respondents more typical of traditional college student demographics are likely to use smartphones for educational activities.
Grounded theory provides the framework for the study. The relative newness of PEDs in the classroom, as well as their constantly changing capabilities and affordances, creates an open space for research directed towards, and theories about, student/device interactions and how they shape learning, writing, and critical thinking. In this environment, data is gathered from students themselves, who are best situated to observe their own device use and report its results. The core variable addressed in this study is whether student PED use during face-to-face class sessions in a hybrid composition course affects users in a positive or negative way, resulting in enhanced learning, collaboration, and mastery of course objectives, or resulting in distraction that impairs the classroom experience and may ultimately affect learning objectives and course mastery. Students using PEDs over the course of a semester might be expected to experience both positive and negative results, depending on secondary variables such as material being taught, what is happening in class (lecture, activity, peer review), and individual conditions, such as whether the student is preoccupied with personal events, tired, or experiencing high stress levels. In this environment, qualitative research that collects and analyzes student responses about their own behavior and feelings over time, best facilitates understanding and analysis. Grounded theory allows new trends and patterns to emerge from the data untainted by previous assumptions or research.

The avoidance of hypotheses and preconceived attitudes towards student PED use further makes grounded theory an optimal framework for analysis. Some previous studies (Lepp and Barkley 2013 and 2015, Elder 2013) work from an authoritarian perspective that assumes PEDs are inherently negative and distracting\(^2\), partly because they disrupt established non-digital pedagogies or instructor practices, and may push towards student-driven

\(^2\) Lepp and colleagues approach their research from the position that PEDs increase sedentary behaviors, anxiety, and poor academic performance; consequently their research does not address course-related use. Elder bases her argument on the effects of cell phone use on multitasking, including use while driving.
construction and authorship of virtual and physical learning spaces. Elder, for example, seeks to “shed light on explaining how and why cell phones are distracting and thus potentially detrimental to students’ learning” and characterizes cell phones as devices used “to access internet, communicate with friends, and play games” (585); therefore, the study only examines smartphones as sources of distraction during lectures and fails to consider course-related or affordance-based use. This approach creates lacunae in our understanding of how PEDs might function as instruments of disruptive, student-centered learning in a digitized world where writers produce, disseminate, and authorize their work.

As Erin Frost noted in 2011, “by letting student innovation drive pedagogical practice—just as social media creators let user innovation drive the digital structures they produce—composition teachers can be assured of having a text for critique that blurs the lines between “private” student underlife and “public” classroom practice and legitimizes the creation of student-produced learning spaces” (269). Another problem with instructor and researcher-driven data is that, as Selfe and Hawisher noted, students may be much better situated to construct in-class, PED-based learning experiences than their instructors, who “may remain unsure of how to value the new-media literacies or even how to practice these new literacies themselves” (217). Student-driven exploration of PED uses, based on grounded theory, allows emergence of such student-authored learning spaces and non-instructor-driven themes, contributing to our body of knowledge about PED use and its learning value in ways that might not arise from instructor-mediated approaches.

Method

The study was conducted at Utah Valley University with students taking English 990/1000 (Basic Composition), a hybrid course, during four semesters: Fall 2014, Spring 2015, Summer second block 2015, and Fall 2015. Twenty-six students participated. A total of seven
sections were involved. All sections met online one day per week and used Canvas LMS to access assignments, required readings, discussion forums, course calendars and syllabi, and to submit work and communicate with the instructor. All students were required to use word processing programs exclusively (MS Word, OpenOffice, Google Docs) to compose text-based assignments, digital presentation tools (PowerPoint, Prezi, Emaze, Nearpod) for multimodal assignments, and to choose among a variety of other online tools to create their final project proposals.

Student participation was voluntary and anonymous; students were required to read a consent form, but not required to sign it for reasons of preserving anonymity. The IRB overseeing the study prohibited the instructor from offering any incentives for students to participate, which may have decreased the number of respondents. The study was conducted over a period of four semesters, including one summer block session. Those who elected to participate took an anonymous, 10-question, multiple choice survey four times per semester via SurveyMonkey. Duration of each survey was estimated to be 5-10 minutes, resulting in total time spent per respondent of 20-40 minutes during the semester. The link to this survey was posted on the Canvas (LMS) shell for the instructor’s course and also on the class Facebook page. The instructor also reminded students verbally during face-to-face class sessions. Participants took the survey during weeks 4, 8, 12, and 16 of each semester the study was conducted. Although the study was not completed prior to this writing, only one set (one week) of answers remained to be collected. Preliminary data gathered up to and including week 12 of the study’s final semester thus likely provides a representative view of the entire data set.

All students were encouraged during each semester of the study to bring PEDs to each class session and to use them however they wished, including the discovery of new and innovative ways to use the devices. To limit noise, students were instructed to keep their
devices on “silent” or “vibrate” at all times; those whose devices made sounds during class had to bring small treats for the class during the following session. All sections included a class Facebook page and mandatory use of Canvas LMS. Lesson plans for face-to-face class sessions included at least two activities per week that incorporated device use, such as a visual rhetoric scavenger hunt in which students, working in small groups, located examples of visual rhetoric on campus, took pictures with their devices, posted these images to the class Facebook page, and discussed them after returning to class. Some variable conditions occurred, however. During the final two semesters of the study (Summer block 2015 and Fall 2015), students were required to use Google Docs (rather than Microsoft Word or OpenOffice) for writing assignments and peer reviews, four of which occurred during face-to-face class sessions not held on lab days. Fall 2014 students were able to use Pearson Writer free of charge with an access code provided by the instructor, but that option was unavailable to students in the successive three semesters.

Results

The first question asked students to identify the device or devices they used in class. Twenty of twenty-six respondents used smartphones (76.92%) 11 (42%) used laptops, and one brought a tablet, while 11% used more than one type of device. Next, students were asked how often they used their devices during class; 25 responded to this question. Forty-four percent used their devices more than once per class period, 36% about once, and 16% used their devices 1-4 times per week during class. One respondent used a device less than once per week. Of those times, 46% of students said that more than 75% of their in-class device use was course-related; 38% said their in-class device use was course-related 50-75% of the time, and 15% reported that less than 25% of use was course-related.
Next, students were asked how they used their PEDs for course-related purposes during class. During the given four-week period prior to response, 100% reported using Google or another search engine to find information related to class discussion. Fifty-four percent took notes on their PEDs, while 23% recorded class lectures or discussions, and 23% took pictures of the whiteboard. Two students further noted that they used their devices to read the textbook or other course materials online during class.

When asked what kinds of apps or programs they used to improve their writing and/or grades in the course, 23% responded that they used Pearson Writer, 30% used other grammar, spelling, punctuation, or writing apps, 77% used Google Docs, Evernote, Springpad, or other word processing or note-taking programs, and 15% used other apps or none at all. When asked what kind of apps they felt would help them succeed in the course, 73% chose grammar, spelling, punctuation, or writing apps, 65% chose MLA/APA style apps, 69% selected dictionary/thesaurus apps, and 8% chose other or none.

The next series of questions focused on device distractibility. Zero students reported that they found it distracting more than 75% of the time to be able to freely use PEDs during class; 4% found it distracting 50-75% of the time, 15% found it distracting 25-50% of the time, and the majority, 81%, found it distracting less than 25% of the time even when able to use PEDs freely during class. The follow-up question asked participants what was happening in the classroom at the time of distractions during the previous four weeks. Fifty percent indicated they did not have an episode of distraction during the previous four weeks. Thirty-nine percent reported that distraction occurred during lectures, while 8% were distracted during group activities and only 4% experienced PED distraction during peer review.

The next question was, “If you have experienced distraction with your PED during class in the last four weeks, what factors have been involved?” Sixteen percent responded that they
didn’t care about the material/activity, while 12% didn’t understand the material/activity. Seventy-one percent said they were distracted not because of anything in the class session, but because of personal mood or situation (fatigue, excitement, boredom, fighting with someone, etc.). Twelve percent said their distraction was prompted by other or more than one of the reasons above. Twenty-four students responded to this question.

The final question was: “Would you like to see more teachers encourage student use of PEDs in the classroom?” Sixty-five percent wanted this outcome “very much,” while 19% wanted it “somewhat,” 11% didn’t care or were neutral, and 4% actively did not want more teachers to integrate PEDs into the classroom.³

Themes

The first theme to emerge concerned equality, particularly as it affected device type and impact on learning and composing possibilities in class. The type of device students use shapes what they can do and how they accomplish tasks during the class period. Laptop users with bigger screens and keyboards might more easily be able to type notes, do peer review, compose and edit documents, and run software programs such as PowerPoint or Word, but are less able or unable to perform some functions associated with smartphones, such as taking images and posting them to the class Facebook page or a discussion forum. Conversely, students with smartphones would find it easier to record lectures, take images of whiteboard activity, use voice commands to perform activities or searches, and use writing apps and tools, but might find it more difficult to do tasks facilitated by larger screens and keyboards (although students did perform such activities on smartphones anyway).

³ These findings contrast Pearson’s survey, in which only 36% of college students wanted to use their devices more often in class, and 48% thought the current amount of use was “just right.” The discrepancy in findings could be due to the amount of in-class use each group experienced, an unknown variable.
Students unable to afford more expensive or newer PEDs may have a less optimal experience, depending on what affordances or capabilities their devices lack or what actions might prove more difficult to perform; they may consequently be less tech-literate than more privileged peers, effectively othering less-privileged students. The opposite is also true: students from less-privileged backgrounds learned and adopted PED technology and affordances during the study period to enhance their skills and writing ability and gain cultural capital. One non-traditional, less-privileged student who entered the course unfamiliar with computer skills in general and Canvas (LMS), multimodal composition, and Google Docs in particular, created as his final project proposal a Neighborhood Watch on Facebook for the town where he lived; another persuaded her employer, a health-care provider, to distribute her video and brochure on STD prevention to junior-high-age patients and their parents.

One possible solution to inequality might lie in the institution or department’s power to purchase PEDs for instructors to borrow. During the final semester, the instructor’s department acquired and made available to all instructors on a checkout basis a number of iPad Minis for class activities, thus creating an option for all students to access the same device capabilities during a given class period. When instructors design lesson plans that incorporate PEDs, the impact of various devices in a BYOD classroom must be considered.

During the second coding, another aspect of equality emerged when instructor observations and subjective student experiences were added to the data and re-analyzed: student-led exploration with PEDs discovered affordances to students who required accommodations. During the study, one hearing-impaired student found that a text-to-ASL app allowed his classmates to communicate with him without an interpreter present; increased interaction with peers during small group activities and peer review sessions resulted. Other students who required accommodations such as peer note-takers found that they could use
voice recording apps and take pictures of the whiteboard instead; in one section with multiple students who required peer-note takers, smartphones proved effective substitutes, according to student self-reports. Another student who required note-taking accommodations used a smartpen and notebook in addition to her smartphone; she reported that she learned much more with the assistive technology than she had in other classes where she depended on a peer note-taker.

The second theme to emerge was one of autonomous learning. More than half the time, nearly all of the students chose to use their devices in class for course-related purposes, rather than leisure or personal ones -- even when allowed to use them for any reason at any time. This pattern suggests that students experience benefits or rewards for so doing, and that students, when given the choice, can and usually do choose to perform educational activities on their devices rather than purely recreational or social ones. The range of activities performed shows that students are proactively searching for more information during class sessions, as well as actively using writing apps and recording class events for later review, fostering more multimodal engagement with course material than non-device users could experience. Students are using the writing apps available to them and want more; grammar, spelling, punctuation, dictionary and thesaurus, and MLA/APA apps are useful and desirable to them.

Autonomy also emerged as a theme for questions of distraction. This was the area in which student responses were most surprising. Despite previous studies (Lepp 2013, 2015, Elder 2013) reporting a negative correlation between cell phone use and academic performance, students in this study rarely found their phones or other devices distracting during class, possibly because they knew they could access their devices at any time if they really wanted to do so, or possibly because they chose to defer pleasurable or recreational activities

4 measured by GPA
until after class. These results imply that PEDs do not compromise autonomy and student choices about in-class behavior, and also that students are able to prioritize learning during class.

Autonomy and behavioral choices during class were less affected by external factors than internal ones. While it was not surprising that more students experienced distraction during lectures than during activities, what was not expected was the finding that, for a majority, their mood, feeling, or personal situation at the time was the biggest determinant of whether or not they became distracted. In a device-free environment, these might likely be the students who are doodling in their notebooks, mentally replaying a fight with their significant other, or thinking about where they can quickly get food after class; in 2015, the presence of a PED is not necessarily an irresistible invitation to use it for texting, game-playing, or social media surfing. Rather, students, like other people, are more vulnerable to distraction when bored, hungry, sick, or feeling strong emotions. Instructors may assume that they must control, or are in control of, their students’ thoughts, behavior, and attention during class, but survey results suggest that students are more autonomous than instructors may believe, and exercise control their own in-class behavior and experiences.

The last theme to emerge is potential. What type of pedagogical space do PEDs occupy in the classroom; how much of that is driven by multimodal, digital literacies outside the university and how much by courses, departments, and institutional requirements? That sixty-five percent would like more of their instructors to use PEDs more in the classroom is unsurprising; one semester into the study, 100% had so responded. Perhaps more instructors are integrating PEDs or at least adopting device-friendly classroom policies in the past year. Individual respondents may also have had limited opportunities to use PEDs in class prior to participating, or may have had past negative experiences with them. It is also possible, given
the pervasiveness of PEDs, that students simply tire of having to use them constantly, for everything. The potential of PED integration into daily class sessions becomes even less clear when we consider how rapidly technology has evolved: in the lifetime of one student graduating at traditional age, we have gone from floppy disks and modems to wearable tech and powerful, palm-sized computers that can perform an incredible range of functions. It seems likely that whatever we are doing, writing, and teaching now with the aid of PEDs might be obsolete in a decade -- or less.

Conclusions

As the composition classroom becomes more multimodal, deictic, and social, PEDs must and will become an increasingly familiar part of our learning space. Students, as Graupner and colleagues noted in 2009, “are entering the academy with not only advanced technology skills but also the expectation that academic programs will adequately prepare them for careers in a digital age” (15). PEDs, already in student pockets, purses, and backpacks, provide a portal to affordances, tools, apps, information, autonomous learning and writing, and engagement with relevant, transformational kinds of learning that will transfer to other settings. There may be risks in the way PEDs are used, but we cannot afford to ignore the opportunities and rewards of incorporating them into our composition curriculum.
Works Cited

Elder, Anastasia D. "College Students' Cell Phone Use, Beliefs, And Effects On Their Learning." 


