

## SoTL Grant Application Form

**(2016-2017)**

**To be considered for funding, your research proposal must align with the following definition of the Scholarship of Teaching and Learning, SoTL, endorsed by the University Faculty Council in January of 2014:**

*"The rigorous investigation of student learning, with the purpose of developing novel teaching methodologies and practices that can lead to the measurable enhancement of student learning. The results of the investigation are made public through quality scholarly outlets and widely-accepted conferences and general or discipline-specific journals."*

Proposals are due to the Office for Teaching, Learning, and Assessment by **Thursday, September 15<sup>th</sup>, 2016** and should be [submitted online](#). Award recipients will be notified by Tuesday October 6<sup>th</sup>, 2016. Funded recipients will need to submit a final report for the grant project to TLA by September 1<sup>st</sup>, 2017.

### I. Basic Information

Title of Project: The Impact of Personal Technology use on the Classroom Environment

#### Investigator(s) Information

##### **Principal Investigator:**

Name: Molly Andolina \_\_\_\_\_  
 College: Liberal Arts & Social Sciences \_\_\_\_\_  
 Department: Political Science \_\_\_\_\_  
 Phone Number: 773-325-4709 \_\_\_\_\_  
 Email Address: [mandolin@depaul.edu](mailto:mandolin@depaul.edu)

##### **Other Investigators (Co-Pi):**

Name	College	Department
Benjamin Epstein	Liberal Arts & Social Sciences	Political Science

For each investigator, please include an abbreviated CV using the SoTL grant CV template.

Will your project involve human subjects?  Yes  No

If Yes, you must include evidence of IRB approval or exemption, or of having applied for IRB approval or exemption. Please note that before any granted funding can be made available, you will be required to provide evidence of IRB approval or exemption.

Currently in the process of applying for "exempt" approval. Both PIs are trained.

## **Requested Funds**

Amount Requested (up to \$2,500): \$2,500

## **II. Project Abstract (250 words or less)**

This project evaluates the effect of personal technology use in the classroom on students' perceptions of their learning environment. We will survey 500 DePaul undergraduates in a variety of classes to determine how they assess the impact of student technology use in the classroom on the learning environment. Qualitative and quantitative measures included in the data collection will allow us to evaluate the how a variety of factors shape perceptions of the learning environment, including instructor set rules about the use of technology; the enforcement of classroom rules; size of the class; student major (both generally and as it relates to the course topic); level of class (introductory vs. upper level); student use of technology outside the classroom; and student attitudes toward technology generally. We will also survey at least 10 faculty members to assess their perceptions of the impact of technology on their classroom environment. Our study offers a systematic exploration of how the presence of these technologies might differ based on the characteristics of students, instructors and the classrooms.

## **III. Project Description (1000 words or less)**

### **Purpose of Project**

We are interested in evaluating the effect of personal technology use in the classroom on students' perceptions of their learning environment. This deserves rigorous investigation for three primary reasons. First, not only are personal communication technology like smartphones owned by the vast majority of students, but they are becoming more central to their interaction with the rest of the world, including not only texting and calling, but news gathering, gameplay, shopping, and social media use, among others. Moreover, in the "ubiquitous computing" (Brown and Petitto 2003) environment of college campuses, laptops are also widely used for both educational purposes, including note taking, research, and web queries, but also for personal entertainment, shopping and communication. Thus, the mere fact that these devices are used by students both inside and outside the classroom for everything informational and interpersonal calls for a systematic investigation into how students are affected, positively or negatively, by the presence or absence of these technologies in the classroom and as a means of understanding how best to educate our students in an increasingly digital world.

Second, prior research suggests that instructors and students approach the use of personal technologies like smartphones and laptops differently (c.f., Baker, Lusk & Neuhauser 2012). What may be perceived as a potential distraction by instructors is often considered an educational tool by students, or vice versa. This study includes a comparison of the perceptions of students and instructors regarding technology use and regulation in the classroom, which will help provide a more holistic understanding of the perceptions of the two key stake-holders involved.

Finally, and most importantly, our study offers a systematic exploration of how the presence of these technologies might differ based on the characteristics of students, instructors and the classrooms, as detailed below.

## Research Questions.

We are interested in collecting data to answer the following two research questions:

- (1) What is the perceived impact of student technology use in the classroom on the learning environment?
- (2) What are the factors that shape this learning environment? Factors under consideration include instructor-set rules about the use of technology; the enforcement of classroom rules; size of the class; student major (both generally and as it relates to the course topic); level of class (introductory vs. upper level); student use of technology outside the classroom; and student attitudes toward technology generally.

## Theoretical Framework

Research into the use and impact of technology in the classroom has grown more robust as technology itself has infiltrated every aspect of our daily lives. Cell phones are nearly ubiquitous in college classrooms. As many as 95% of college students bring a cell phone to class with them and almost as many (92%) use them to text message during class time (Tindell & Bohlander 2012). While somewhat fewer students bring laptops to class, they are nonetheless highly pervasive, and almost as prone to distraction, with significant majorities are using classroom laptops for non-academic activities (Ragan *et al.* 2014).

Research on the impact of technology in the classroom is somewhat mixed. Scholars have documented both positive (c.f., Evans 2012) and negative assessments of technology on student life and learning, with some supporting the notion of multitasking as a 21<sup>st</sup> Century skill and others' providing evidence that multitasking undermines student learning (Fried 2008; Rosen *et al.* 2011). There is also a debate as to whether technology's pervasiveness a troublesome reflection of the rise of neo-liberal values, in which education is a means to an end, or if it is simply a fact of modern-day life to which universities need to adapt (Hassoun 2015).

Some of the debate about classroom technology is a result of the myriad ways in which the research has been framed. Early research focused mostly on the use of laptops; more recent studies have centered primarily on the impact of cell phones. Some studies focus on student and faculty attitudes toward the use of technology in the classroom, often documenting a gap between student acceptance and faculty frustration (Baker *et al.* 2012; Ali 2013; Harrison *et al.* 2015; Hassoun 2015). Other research suggests that students who are more likely to use cell phones earn lower grades (Kraushaar & Novak 2010; Fried 2008) or perform more poorly on tests of learning (Gingerich & Lineweaver 2014). Still others have created experimental situations documenting decreased proficiency by students who perform key tasks while using technology (Chaklader & Bohlander 2009; Rosen *et al.* 2011). Finally, studies indicate that the distraction created by non-academic use of technology in the classroom is not limited to the perpetrator but negatively influences the focus of students seated nearby (Fried 2008; Sana, Weston & Cepeda 2013; Gingerich & Lineweaver 2014).

We enter this discussion with a study designed to bridge some of the divide in the previous literature. Our research question focuses on impact, including a self-reported student assessment of the impact on their personal learning (as others have done), but adding measures of the broader classroom environment which has received little to no attention. In addition, instead of limiting our study to either cell phones or laptops, we will include assessments of both technologies. Finally, our sample includes both faculty and

students, pairing different faculty approaches with students to better understand the ways in which the classroom culture is affected by instructor rules and the enforcement of those rules.

### Research Methodology

We plan on surveying 500 students in courses offered at DePaul. No personally identifying information will be collected. Each survey, conducted via Qualtrics will include qualitative and quantitative data on:

- student major
- age
- gender
- number of credits earned (or class level – freshman/sophomore/junior/senior)
- class rules regarding technology use in the class
- perceived enforcement/implementation of technology rules
- class size
- class level (intro/upper level)
- observed use of technology in the class
- level of pedagogical use of technology by instructor
- perceived effect on the learning environment
- perceived impact on personal learning in that class
- perceived utility of devices as a learning tool
- general attitudes toward the use of personal technology in the classroom

We will also survey 10 faculty members regarding their use of technology, classroom policies and their perceptions of the impact that the use of technology by both students and instructors has on the classroom environment. The survey includes both qualitative and quantitative measures, including: to

- age
- number of years teaching
- technology policy
- rationale for technology policy
- perceived enforcement/implementation of technology rules
- class size
- class level
- observed use of technology in the class
- level of pedagogical use of technology by instructor
- perceived effect on the learning environment
- perceived utility of devices as a learning tool

The combination of qualitative and quantitative data will allow us to conduct various modes of analysis and lend deeper insight into the impact of technology in the classroom.

### Impact of Project

The completion of this project will further the development of teaching methodologies and teaching practices in two fundamental ways. First, we hope it will help instructors at DePaul understand how the use of personal technologies in the classroom affect the learning environment to assist instructors in developing policies and organizing the classroom environment in a way that best supports student

learning. Second, we plan to publish the results in an academic journal focused on teaching in order to share findings with the greater academic community and contribute to the on-going conversation on the topic.

#### Dissemination of Results

We plan on sharing the results of our findings with the instructors who agreed to participate in the faculty surveys along with the political science department as a whole. We also aim to report the findings in a peer-reviewed journal to share the findings broadly among the academic community.

### **IV. Project Plan and Timeline**

Fall 2016: Obtain IRB approval; Finalize questionnaires and create Qualtrics surveys; Obtain consent from participating faculty

Winter 2016: Implement first round of student and faculty surveys

Spring 2016: Implement second round of student and faculty surveys

Spring/Summer 2016: Data analysis

Summer 2016: Write up findings

### **V. Budget**

Provide a detailed, itemized budget of how proposed funds will be used. If applicable, provide information about any external funds you have secured for this project and/or matching funds from DePaul University (including in-kind contributions).

Student incentives (\$750) – Each student who completes in the survey will be entered into a lottery to earn a gift certificate to the DePaul Barnes & Noble bookstore; Two separate lotteries (one for each quarter) with the money divided into first, second and third place prizes in increments of \$150; \$125 and \$100, respectively.

Student assistant to convert questionnaire into qualtrics and help monitor the results. (\$1500) A student worker would greatly aid us in converting the surveys into qualtrics, testing the application and monitoring the data. We plan for 25 weeks @ 5 hours/week @ \$12/hour)

Miscellaneous printing costs (\$250). This will allow us to print informational/consent forms in compliance with IRB regulations.