Effective Policies to Maximize Smartphone Utility in Classrooms

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ABSTRACT

With cellphones playing an increasing role in the lives of students, their presence is inevitably felt in the classroom setting. Most research has pointed to the negative effects of cell phones in classrooms, claiming that GPA and test scores have improved, and even that the "achievement gap" is closed, when cellphones are banned in class. However, cell phones also have potential to augment a student's learning experience. This study thus aims to determine what administrative policies and student actions are most effective in maximizing a cell phone's usefulness while minimizing its negative effects. Our procedure is separated into two parts, with each part analyzing a different population–the teachers and the students. Results corroborate claims that fully banning cellphones in class is the most effective policy, although further research is needed to confirm this finding fully.

BACKGROUND AND INTRODUCTION

A majority of students now use cell phones for school-related work (Thomas & Muñoz, 2016), **but at what cost?**

Major prevailing cell phone policy: **prohibit cell phones** either in class or from school altogether, with 88% of schools following one of these two policies as of 2010.

- Duncan, Hoekstra, & Wilcox (2012) found significant negative correlation between in-class phone use and final grades
- Beland & Murphy (2015) found exam scores increased with a phone ban
- Nikhita, Jadhav, & Ajinkya (2015) even found that "Mobile Phone Dependence" was prevalent among teens in India.
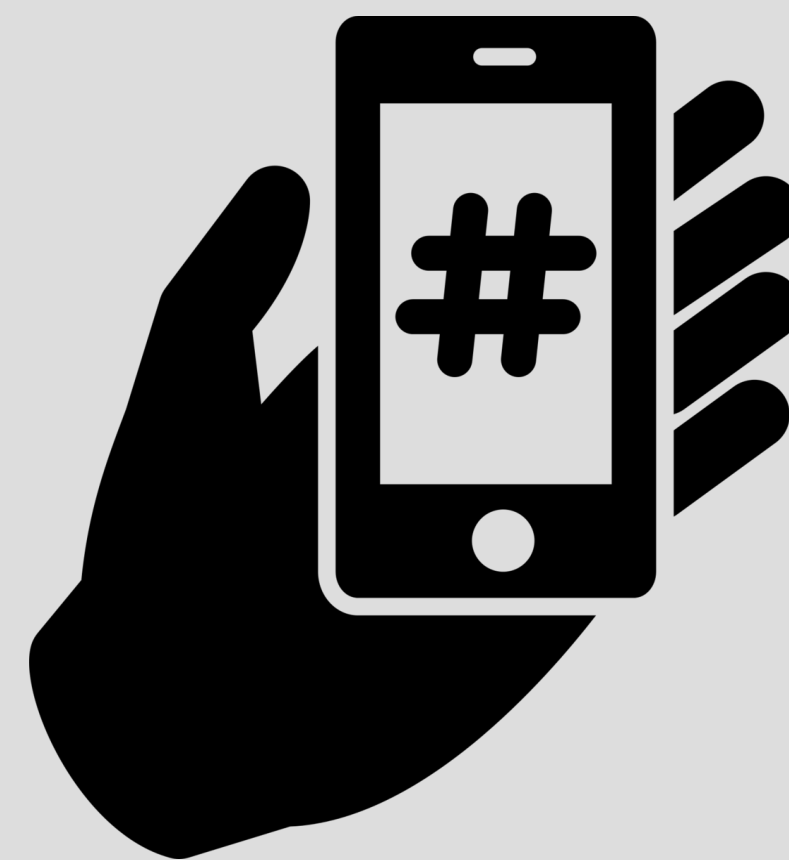
Goal: find a policy which maximizes a cell phone's benefits while minimizing its drawbacks

RESEARCH METHODOLOGIES

Part 1: Surveying Teachers

7 teachers from at least 5 departments (Math, Social science, English, Science, etc.)

Asked about each teacher's **policy** on devices, **how distracted** they find students in their class, and what policy they feel would be wise to implement.

RESEARCH METHODOLOGIES cont'd

Part 2: Observational Study of Students

3 classes (from teachers who have taken my survey), **each observed 3 times, 4 students** randomly sampled each time to take a questionnaire (with a candy reward to reduce nonresponse bias)

1. Self-reported questionnaire: observe the class, record general productivity, percent of distracted students, and the class agenda.

2. Questionnaire for students: 4 students per class will be asked about their productivity, their cell phone usage, and their thoughts on the class.

RESULTS

Teacher Responses

"I believe cell phones **should not be seen and heard** in the classroom. However, to deny that they do not exist is also wrong, so they should be available to students ONLY WHEN INCORPORATED INTO THE LESSON (which, IMO, should be **rare**)"

"**Cell phones are a part of life**. We need to model and teach students how to manage them."

"**Simple rules**, clearly explained followed with gentle reminders and persistent enforcement."
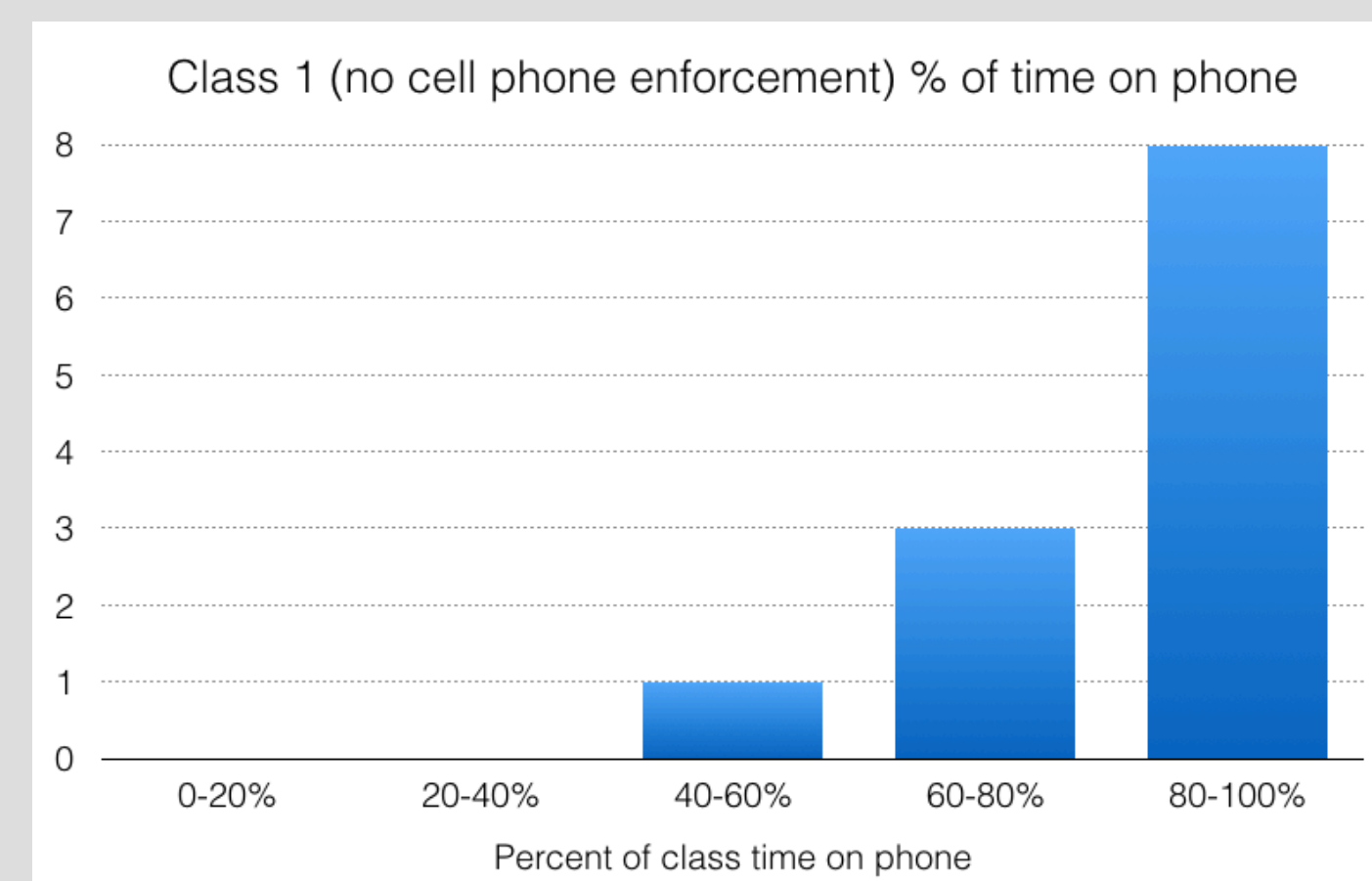
"Those who pull out the phone despite my request are **clearly addicted** to their screen."

Most common policy: **Warnings, but never confiscation**

For this policy, teachers believe **~60%** *of their students are engaged during a lecture.*

Classroom Observations
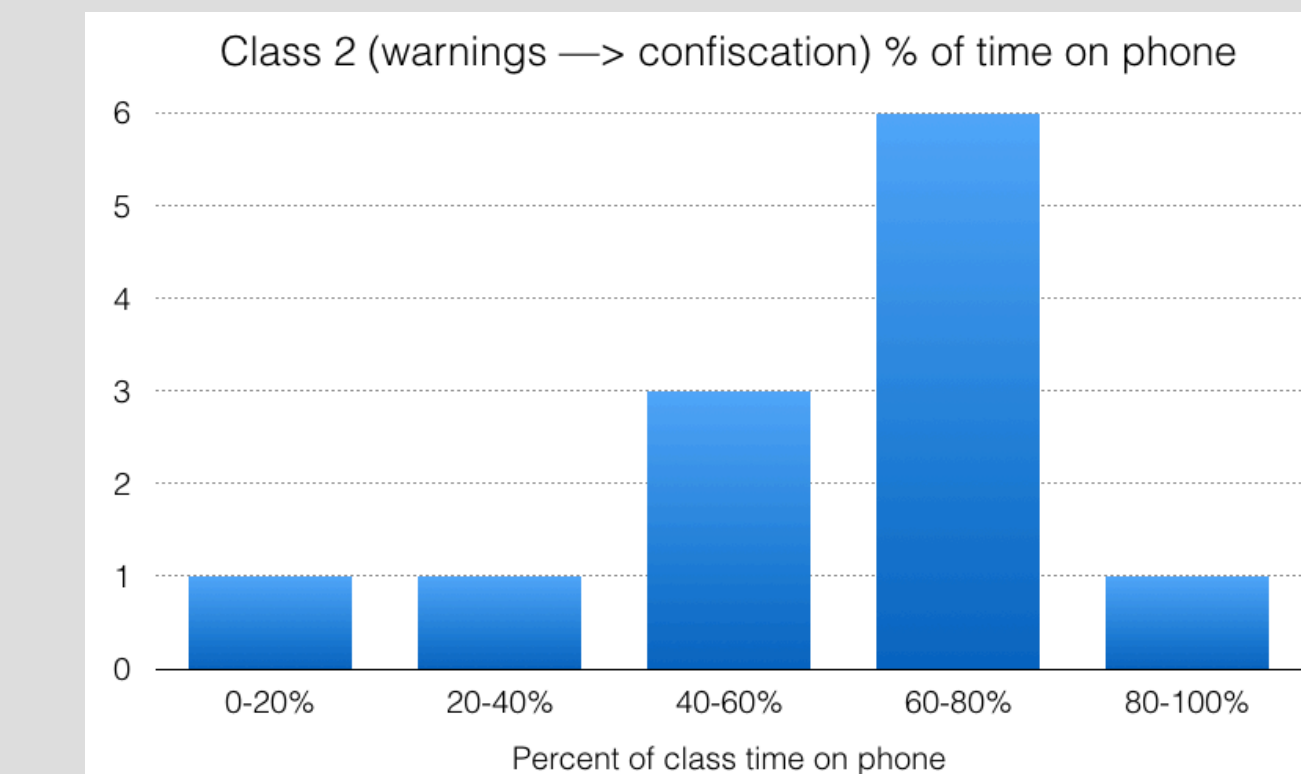
Class 1: no cellphone enforcement

Class 1 (no cell phone enforcement) % of time on phone

On average, **~20%** of the class was engaged to the lecture.

RESULTS

Classroom Observations

Class 2: warnings but never confiscation

Class 2 (warnings —> confiscation) % of time on phone

On average, **~40%** of the class engaged to the lecture.

Class 3: consistent cellphone enforcement

Class 3 (cell phones banned) % of time on phone
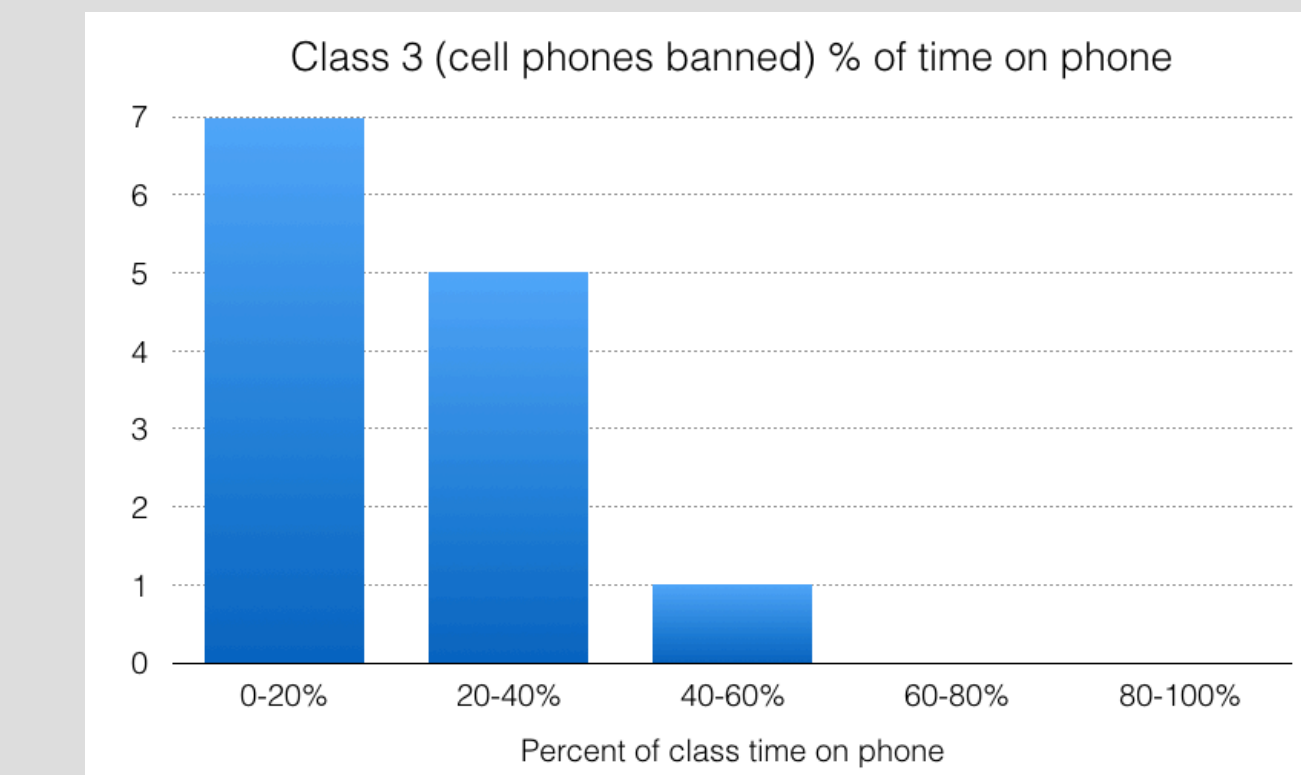
On average, **~70%** of the class engaged to the lecture.

CONCLUSION / FUTURE WORK

Based on this research, **completely banning cell phones** remains the best policy to enforce for student success.

Future work could include policy research (what are other schools doing?), hearing the thoughts of administration (e.g. Principal Diorio), and measuring engagement level with some type of testing.

ACKNOWLEDGEMENTS / REFERENCES

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