"I Have a Life": Teacher Communication & Management Outside the Classroom

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ABSTRACT

Over the past decade, there has been an increase in educational software use within classrooms as well as continuing demand on K-12 teachers extending beyond in-class activities. Yet, we still do not have a deep understanding of current teacher behaviors outside the classroom. Our paper presents insights on how to better design for technology use in this space by reporting on key themes such as communication, privacy and student technology at home. These findings translate into design implications to increase transparency with student data, the need to design first for technology students have access to in the home (e.g. mobile) and designing for the teacher need of setting personal boundaries within communication tools.

CCS CONCEPTS

• **Human-centered computing** → Collaborative and social computing

KEYWORDS

Teacher; Homework; Student Privacy; Big Data; Digital Divide; ICT; Teacher Communications; Social Media;

1 INTRODUCTION

Teacher activities span beyond the in-classroom experience. Throughout the school year, teachers for kindergarten to grade 12 (K-12) undertake tasks outside the classroom such as creating content for class, marking, and professional development. The use of electronic communication technologies, such as email, text messages, and social media, have become common for teachers and important to consider when designing technologies between teacher, parent, and student life. Past research has focused on activities within the K-12 classroom.

In this work in progress, we explore teacher communication and management outside the classroom, specifically looking to understand current behaviors, activities, and needs. Through 17 semi-structured interviews, we report on themes around communication with parents, teachers' approaches to social media management, unawareness of potential student privacy issues regarding big data and the impact of student access to technology at home. A key design implication emerging from this work suggest a need for teachers to have greater control over parental and student boundaries to protect their privacy and personal space.

2 RELATED WORK

K-12 schools use a variety of educational technologies inside the classroom that can also be used outside the school. Recently, a variety of cloud-based applications, such as Remind, Class Dojo, Duolingo, PowerSchool, and Canvas Student, have become available for classroom use. Remind and Class Dojo are self-categorized as communication apps that allow teachers to share and track communication to students and/or parents. These applications are positioned to sell both to individual teachers and at the district level. As schools look to lower the cost of technology, the use of these cloud-based platforms continues to increase in usage. The subsequent tracking of a student's behavior by these applications is a noted privacy concern and focus within the CCI-SIG Community. Big data includes information about student behavior, surveils them and quantifies the students, ultimately treating children in an educational environment as consumers. With this research, we also specifically probed teachers around their approaches to handling student data, and their understanding of privacy and big data. In doing so, we wanted to better understand if they were taking any steps to protect the students when using these apps inside and outside of their classroom.

Discussions around digital divides within HCI date back to CHI's inception in the early 1990s [1]. A digital divide refers to an economic or social inequality where the low-socioeconomic status (low-SES), has less access to or use of information and communication technologies (ICT). Over the past 30 years, discourse around the digital divide has covered topics such as privacy and security, usability, and impact within academia, to name just a few. Within education, the term *Digital Divide*, (also known as *Tech Gap* or *App Gap*), refers to low-income students having unequal access to new technologies and software applications, thus creating a divide between those who
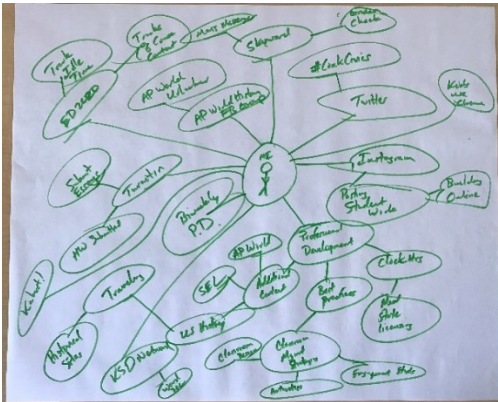
Figure 1: P3's mind map.

have the technology and those who do not. These students without access to technology are deemed low-SES. Research has suggested that this divide is shrinking; however, a new concern is emerging. Low-SES students who tend to use tech for "less productive" activities are doing so more often than their high-SES counterparts. Our work builds on this past research on the digital divide by investigating these topics through the K-12 teacher lens.

3   EXPLORATORY STUDY

Our main objectives were to 1) identify main communication activities K-12 teachers engage in while outside the classroom; 2) understand the current teacher behaviors and pain points around these activities; and, 3) identify the role of technology and possible areas for improvement. To address our research goal, we took a 2-pronged approach.

First, we recruited five local teachers who had taught an average of four grades in the last five years and had at least one representative for each grade from 1-12. This was our approach as we did not want to limit what grades we initially investigated or make assumptions that certain grades should be excluded or behaved differently than others within this space. At the beginning of the semi-structured interviews, participants created mind maps, similar to [5], to break the ice and give participants time to brainstorm all activities they participated in outside the classroom related to their job. After the mind mapping exercise, participants were asked to provide specific examples of what they had written on the mind map (Figure 1), similar to [4]. The interviewer then asked for more details around the examples, encouraging detailed stories. The in-person interviews afforded us with the opportunity to have face-to-face interactions with the participants, which allowed us to complete the mind map exercise.

We then recruited an additional 12 teachers for remote semi-structured interviews. By conducting these interviews remotely, we were able to select participants from across the United States and explore a more diverse group rather than only looking at teachers from one state (Table 1). These participants were asked the same questions as the first group. All interviews were completed during July 2018 and were recorded and transcribed by two coders independently. After the coders met to review common themes, following common Grounded Theory techniques.

4   FINDINGS & DISCUSSION

4.1 Behavior & Motivations of Communication

Communication was reported for a variety of reasons, including performance updates, getting to know the students' home situations and environments, or just simply connecting to increase trust. We also saw themes around high school students having less parental involvement than that of their middle and elementary school counterparts, specifically the older the student, the less likely the parent would communicate with the teacher. Our participants considered parents as the

P	Grades Taught (in last 4 yrs)	Yrs Teaching Experience	State
1	9,10,11,12	7	WA
2	4	30	WA
3	8,9,10,11	10	WA
4	1,2,3,4,5	5	WA
5	7,9,10,11,12	5	WA
6	3	6	NC
7	2,3	3	NY
8	5,6,7,8	4	CO
9	9,11,12	4	CA
10	2,3,4,5,6,7,8,9,10,11	22	MO
11	6,7,8	5	NY
12	7,8,9,10,11,12	26	NY
13	5,6,7,8	5	AZ
14	2,3,4,5,6,7,8,9,10,11	6	GA
15	5,6	4	ME
16	8,9,10,12	6	CA
17	4	3	WA

Table 1: Participants teaching experience

primary contact for the student until grade 7, then with some participants communication would start to include the student, but overall communication outside of the classroom would start to decline.

Participants used a range of technologies to communicate with parents, including, email, physical notes sent home, school Facebook page notifications, school meetings, third-party mobile apps (e.g. Remind and ClassDojo), LMS/Grading systems (e.g. Canvas), and Google Hangouts (via Google Classroom). The communication method used was based on the parent's preference and/or the purpose of the communication. This was a result of teachers trying to mitigate a common pain point for teachers – not getting responses from parents. Parental preferences for communication methods was determined by a trial-and-error approach, where teachers would try different methods until a parent responded. Communication methods also changed depending on the reason why the teacher was contacting the parent. For example, P11 tells us:

"If it's a more serious issue, then I would call." – P11, Grades 6, 7 & 8

4.2 Privacy & Big Data

Participants indicated they used technology in the classroom that collected student data on cloud applications; however, expressed little to no concern over the student's privacy. Two participants expressed some concerns around the data being captured, while four participants, as illustrated by P17 below, were intrigued by the idea this could be a concern.

"[hmmm]I haven't thought about [that]." – P17, Grades 8 to 12

The remaining 11 participants simply indicated they had no concerns and seemed to have no understanding of how privacy could be an issue with these applications. A few participants made assumptions that if a student did not post pictures of themselves or connect their account to a personal account, there was no need for concern. For example, P8 describes how school logins adequately protected students' privacy.

"Everything they use to log in is school-made accounts, so the most it'd be linked to is their school Google account, which doesn't have their photos on it or really any private information outside of their name." – P8, Grade 8

It was clear most participants were unaware of the issues big data posed with the quantification and consumerization of their students' behaviors. This suggests an opportunity to design tools in which teachers can be educated on the connection between student data, privacy and the effects of big data.

4.3 Student Technology at Home & Equality

Teachers limited homework that required technology if not all students had access to the technology (e.g. use of a computer or broadband Internet) at home. If the teacher thought that one or more of the students in a class did not have access to a necessary technology, the teacher would not assign digital homework.

"Not all of my students have access to technology at home, I believe that by assigning paper homework that all students are then given the chance to do the homework." – P9, Grades 11 & 12

We repeatedly heard from teachers on this topic of teaching for equality when it came to homework and digital access outside the classroom. Further, about a third of our participants were uncertain if their students had access to computers or broadband, leaving it ambiguous if students had access to the required technology or it was just assumed some students might not have access. In contrast, when asked if their students had mobile phones, our teachers reported their students did own mobile devices.

"Believe it or not, yes. Even the 3rd graders. [And] I only have maybe one student that has a computer." – P15, Grade 3

Lack of computers or broadband in low-SES homes is still impacting teachers' willingness to assign digital homework and thus provide opportunities to teach students how to use these technologies.

4.4 Personal & Professional Social Media Management

Most of our participants did not use social media for school-related activities outside the classroom. Only two participants reported wanting to do school activities that involved social media in the future. In both these instances, Instagram was the proposed platform. Here, they indicated a preference for using Instagram because they did not have to directly connect with the students to see their contributions, thus maintaining a personal boundary. P15 describes this need and the pressure she feels constantly pushing against it:

"You feel like you're always on display. It's like I must live at the school or something, but I don't, I have a life." – P15, Grades 5 & 6

Facebook was the only social media platform mentioned as being used outside the classroom for school activities, and this was done through an official school Facebook page:

"We have a Facebook page for the school <for general school updates>. I don't have any social media specifically for my students." – P9, Grades 9, 11 & 12

Five participants reported that their school had rules in place which prevented them from using social media for school work, citing privacy concerns. In terms of personal social usage teachers told us they would put privacy filters on their social media accounts, so parents and students cannot access photos or even ask to become friends unless the requester has a mutual friend. This was something participants described as something they learned from colleagues early on in their career:

"I think it was honestly like a conversation we had, my first year of teaching that that's something that you should put in place immediately. So that your students couldn't add you." – P6, Grade 3

4.5 Setting Professional & Personal Boundaries

A key theme expressed by the participants was the need for teachers to set boundaries with parents and students. This applied to social media, when running into parents or students in a personal setting (e.g. grocery store or local), as well as providing access to personal life (e.g. providing mobile phones numbers). All but five of our participants mentioned that they used a third-party communication tool such *(*e.g. ClassDojo or Remind*)* to communicate with the parents. A benefit of such apps involves the ability to send quick messages to any device, as defined by the receiver. As P13 tells us, we also found that these apps allowed participants to leverage communication through their mobile phones but also keep a barrier from personal devices.

"It's also a way for me to be able to communicate with the parents without giving them my personal cell phone number. I like to set boundaries." – P13, Grade 5

While these apps appear to satisfy teachers' needs to set boundaries, they also introduce new pain points. As P13 describes below, the pressure to be always available to parent and students was a concern.

"I don't like the parents to know when I read their message because if they send me a message at 10:00 at night...you can set teacher hours...I don't want them to know I read it at 10:00 or 11:00 at night ...I'm going to respond to you at 6:00 AM. That's the time I had set aside." – P13, Grade 5

Given this need for establishing and maintaining boundaries, design considerations should be given to how best to maintain privacy boundaries for teachers. For example, including mechanisms where read notifications for teachers can be turned on/off, and the ability to set after-office hours are valued, thus ensuring teachers can mark their (un)availability.

5 CONCLUSIONS

This paper describes work-in-progress findings related to the communication of teachers while outside the classroom. As this work matures, we expect to see strong design guidelines emerge.

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