Constant Connectivity, Selective Participation: Mobile-Social Interaction of Students and Faculty

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Abstract

Smart-mobile devices, as the iPhone, move users beyond voice and textual communication, by enabling ubiquitous online connectivity and changing mediated social interaction. We report the results of a study of the mobile-social practices of students who use such devices, and the ways in which hierarchical relationships between students and professors were affected by the use of smart-mobile devices. The common premise is that because such devices enable continuous interaction, students are constantly using social networking and communication applications on the go, across different types of relationships. Our study shows that in hierarchy-based interaction mobile-social communication is more limited than could be expected. Social norms and usability issues both played a part in shaping students' mobile-social practices, resulting in "selective participation" – as students carefully crafted their mobile interaction to maintain hierarchical distance.

Keywords

iPhone, mobile devices, user studies, social apps, mediated communication, students, academia

ACM Classification Keywords

 J.4 Social and Behavioral Sciences

General Terms

Human Factors

Introduction

The fast and extensive diffusion of wireless communication in the past 15 years, outpaced that of any other communicative technology [1], and affected socialization, consumption and entertainment habits. The perpetual connectivity afforded by smart mobile devices is believed to have created a culture of constant engagement through the use of social networking applications and interaction tools. Though dissolving hierarchical boundaries may not be an advantageous step, especially when considering the academic tradition of institutional distance between faculty and students, the introduction of popular mobile-social tools may contribute to such change, and entail further exploration. The research question guiding this study is "how do smart mobile devices shape college students' mediated professional interaction practices?". Based on Grounded Theory [2] inquiry and analysis, and complemented by cooperative inquiry techniques and questionnaires, we looked for the answer in users' experiences and perspectives.

Previous Work

Mobile communications "affect every aspect of our personal and professional lives either directly or indirectly" [3]. Smart-phones' affect goes even deeper in that they emulate miniscule sized computers and offer a variety of tools that range from entertainment to education. Social tools (e.g. social network applications, email, microblogging apps, etc.) are among the most popular mobile applications. College students are part of what is defined as the "digital generation" [4-5] – knowledgeable, almost native, adopters of interactional technology. Previous research has situated mobile tools used by students either in the context of mobile learning [6], or in a social context [7-9] distanced from the academic environment. Research that discussed the issue of mediated social interaction between students and faculty in academic settings [10-12] has rarely addressed the opportunities to use mobile social applications for interaction between faculty and students. They did find, however, that students use both mobile [8] and online tools [10, 13] extensively in different social contexts . [14] found that social ties of different strength created a minute difference in the types of interaction tools that were used. When use of social networking tools, which are extremely popular with students [7, 15] was examined, students were found to be reluctant, even antagonistic, about the possibility of using them for student-faculty interaction [11]. Our study differs from previous studies in that it examines specifically the effect of the use of smart-mobile devices andmobile-social applications for professional interaction between students and faculty. We examine whether the rapid uptake of smart-mobile devices, and the continuous connectivity associated with them [2] brings a change in the inclination to use mediated tools, specifically mobile applications, to reduce hierarchical boundaries and interact with faculty outside the classroom.

Methodology

The emphasis of this study was on gaining an insight into the effect of mobile connectivity on students' mediated interaction patterns with faculty. To achieve

this, qualitative methods were used in conjunction with cooperative inquiry and quantitative questionnaires.

We report the findings of a study that included 2 groups of students who received iPhones as part of a University of Maryland-sponsored program. This program aimed to enhance the academic experience of students by enabling ubiquitous internet access through the mobile and wi-fi networks on campus, complimented by creating designated mobile academic applications for students and faculty to use.

for any type of professional email, even if it's short, I'll never use my mobile, I'll always wait to get home to my laptop, because I like to look at … all the sentences, and make sure that the formatting is the way that they'll see it too. If I email my friend I can use this (mobile), usually I still try to have some sort of coherent, complete, sentences even with friends." (Ben)

As Grounded Theory [2] guided this study, theoretical sampling, rather than systematic sampling, was implemented. Thus, participants were not randomly selected, but rather purposefully because of the richness of data they may convey and the mobile device they used. The first group consisted of 13 freshmen honors students (mean age 18.7, *SD = .5)*, participating in the University mobility project. The second was comprised of 22 students participating in the mobility project through a communications class, with a wider variance in ages (mean age = 20.1, *SD=1.1)*. Students in both groups were computer savvy (100% computer ownership) and the large majority of students in both groups had a social network profile (95%). Both groups received the same questionnaire, in which demographics and data about their interaction habits (e.g. perceived time spent using different communication tools, their reasoning for using these applications the effect hierarchical relationships had on their actions, etc.) were elicited through closed and open ended questions. Due to recruitment limitations only the first group participated in focus groups and personal interviews. 3 focus groups (60-90 minutes each) were conducted, and were comprised of a semi-structured discussion. During the focus groups,

participants also participated in cooperative inquiry, a unique form of engaging users as design partners [16]. Several participants later participated in personal interviews, which expanded the discussion of the topics that emerged from the focus groups. Data were analyzed using Grounded Theory, where codes and concepts arise from the data and are then axially referenced to reveal higher-level themes.

Findings

Our analysis revealed that 2 forces affected students' use of mobiles, and specifically social applications, when communicating with their professors – *sociability and usability*. The convergence of the two on the mobile device created a new form of interaction - "selective participation".

Sociability

The communication content and the norms and social influences governing it, as well as the etiquette related to status, defined students' choice of appropriate application and device for professional communication with faculty.

The communication content

Most students differentiated their communication medium according to the purpose of their message. Professional or academic matters were limited to email or face to face interaction, while other mediated communication channels, specifically social networks and chats, were extensively used for banter and for social coordination between peers but never with faculty.

The purpose and content of communication not only influenced participants' choice of application, but also their choice between a mobile device and a stationary computer. Most students agreed that computers were

"I would never Facebook a professor, I don't even know if any of my professors have Facebook. Unless they personally say "I'm on Facebook" I'll always email a professor. I don't think I'll even necessarily call a professor on the phone. Texting – depending on the professor, probably not, though. Tweeting? No way. I don't know that they even do it." (Allison)

preferable platforms for constructing articulate correspondence reflecting the writer's capabilities and intensions. As such, computers were used for "official" communications, or where the content of the message was important. "I prefer a more professional level when talking to professors", was the recurrent reasoning behind selecting email for communicating with faculty. More than face to face interaction, email allows students the composure and measured ability to communicate their questions, requests and ideas, as it established a platform for a "less awkward dialogue about issues". Wishing to create a proper impression on faculty, students preferred to use their emails from their computers and not their mobile devices, as the latter suffer from usability issues that will be detailed in the following sections.

Communication partners, hierarchy and norms

All participants partitioned their use of applications and devices according to the identity of their communication partner: preference for a particular channel was the result of several factors, such as the partner's identity, technological capabilities and status.

Social applications played a substantial part in users' interaction within the users' cohort, but were disregarded as an acceptable interaction channel with their professors. The ease of mobile social interaction did not appease students' reluctance to use these tools for professional communication. Professional communication was limited to conservative, structured channels, such as email or face-to-face meetings, not just because of the breadth of expression they allow, but mostly because they are considered "OK", "appropriate, "suitable" for maintaining respectful distanced relationship with faculty. When asked about

the option of contacting their professors through mobile applications of their favored social tools, such as Facebook, etiquette and status-related concerns such as *"It is inappropriate"; "they don't want me minding their business and I don't always want them to see my social business"; "The convenience isn't worth it* [lowering the hierarchical boundaries]", guided students. The mobile promise of constant connectivity, it seems, didn't elasticize the boundaries created by etiquette, distance and hierarchy.

Yet when faced with an urgent notification they had to respond to, students often found the constant connectedness of mobile email applications efficient and useful: "it cuts response times. When I absolutely need to I do communicate with them on my mobile email because they will get back to me as soon as they can".

Usability

Usability concerns were expressed by both students groups. They mentioned keyboard, screen and layout design as the most influential usability factors affecting students' adoption of mobile-social applications. One example, which was the most often-cited reason for students' refusal to engage in interaction that entailed extensive typing, was keyboard design. Writing composed emails was postponed until a regular computer keyboard was available. Screen size caused a similar reaction – the smallish screen, which in many cases couldn't display a complete message in a readable way (prevented users from being able to review their messages before sending them. Flipping the screen horizontally or vertically didn't help – some part of the message was almost always cut (*"having a bigger screen, I think, for me, at least, would make a big difference"*).

Students' reaction to usability issues was twofold: while for casual interaction with their peers and friends they were willing to overlook usability issues to some extent ("*It's not that bad to [use the keyboard to] type, because updating [status] is not writing much anyway*"), they were more reluctant to face these issues when engaged in professional interaction.

Selective Participation

In order to maximize the affordances of constant mobile connectivity, while circumventing usability obstacles, the majority of users maintained constant background connection to passively retrieve notifications and updates, not only from their friends but also from their professors, through continuous refreshing of their email inboxes and social applications (32% mentioned refreshing their email inboxes for this purpose "all the time", and 55% did the same "several times a day"). Yet they refrained from engaging in reciprocal exchanges. While they read every bit of information that came their way, this information was filed as "important" or "unimportant", yet rarely replied to while on the move. In rare occasions, replies were sent when the message was urgent or important. In comparison, within a social context mobile replies were more common, especially when the message was very entertaining (e.g. hot gossip and practical jokes).

This engagement pattern allowed users to be "in the know", and avail themselves to others as they see fit, according to hierarchical boundaries, while minimizing the frustration arising from usability problems. Usability issues appeared to be more pronounced in situations affected by social hierarchy than in peer-to-peer interaction, creating the practice of selective participation. Mobile devices were mostly used as

"I check my email, my Gmail, if I have to send an email or if it's something I can write quickly, that is more urgent, then I do send it off my mobile…. But if I have my laptop I would probably take out my laptop and use it" (Jenny)

passive receptors of information, for example about administrative issues such as class cancellation, but mobile-social applications were not used for one-on-one interaction with faculty. While awareness of status differences and interaction tools appropriateness dictated much of the students' unwillingness to use mobile-social applications for communication with their faculty, usability issues played an almost equal part in students' use (or non-use) of mobile-social applications, and foreshadowed any of their inclination to use such tools.

Conclusions

This study examined students' mobile interaction practices in academic settings. Flattening of professional hierarchy is not necessarily a desirable change in academic settings, but new mobile-social applications may make it possible. Yet contrary to expectations the way students employed selective participation when using social-mobile applications emphasized how well-established academic hierarchical boundaries are, and how limited is the effect new interaction tools have on them, as students shy away from dissolving these boundaries even when it is feasible. The use of mobile-social applications in professional interactions was determined by two forces: sociability and usability. Sociability – etiquette and hierarchy determined, to a large extent, the mobile-social tools they use to address professors and academic correspondence. Usability or lack thereof, caused students to reject the constant connectivity offered by smart mobile devices, in favor of computers, when addressing hierarchically superior communication partners. The need for eloquence and composure led users to prefer the more traditional computerized environment when drafting an email or a professional

message. However, students did use the affordances of perpetual mobile connectivity to create constant awareness to faculty notifications and professional exchanges. In most cases, students actively sought this awareness by continually looking for updates or refreshing the appropriate applications. This awareness, though, was not translated into positive synchronous actions, but rather for preparation for carefully planned belated interaction using non-mobile means.

It must be noted that although we sampled across two groups, our results may be limited because of the number of participants. Our study will be extended in the future by involving larger, and more varied, samples of users and by employing other methods (e.g. diary studies) to gain a better understanding of users' professional mobile-social practices and the motivations behind selective participation.

References

[1]   Castells, M. Fernandez-Ardevol, M., Qiu J.L., and Sey, A. *Mobile Communication and Society*. Cambridge, MA: MIT Press, 2007.
[2]   Corbin, J. and Strauss, A. C. *Basics of Qualitative Research:Techniques and Procedures for Developing Grounded Theory.*, 3rd ed. Thousand Oaks, CA: Sage Publications, Inc, 2007.
[3]   Katz, J. E. and Aakhus, M. *Perpetual Contact: Mobile Communication, Private Talk, Public Performance* Cambridge, MA: Cambridge University Press, 2002.
[4]   Oksman, V. and Turtiainen, J. "Mobile Communication as a Social Stage: Meanings of Mobile Communication in Everyday Life among Teenagers in Finland," *New Media Society,* vol. 6 (2004), 319-339.
[5]   Palfrey, J. and Gasser, U. *Born Digital - Understanding the First Generation of Digital Natives*. Basic Books, New York, NY, 2008.
[6]   Herrington, J., Mantei, J., Herrington, A., Olney, I. and Ferry B."New technologies, new pedagogies: Mobile technologies and new ways of teaching and learning," in *Hello! Where are you in the landscape of educational technology? Proceedings ascilite* Melbourne, Australia, 2008, 419-427.
[7]   d. boyd, "Why Youth (Heart) Social Network Sites: The Role of Networked Publics in Teenage Social Life," in *MacArthur Foundation Series on Digital Learning - Youth, Identity, and Digital Media Volume*, D. Buckingham, ed., MIT Press, Cambridge, MA:, 2007, 119-142.
[8]   Ito, M. and Okabe, D. "Mobile Phones, Japanese Youth, and the Re-placement of Social Contact " in *Mobile Communications*. vol. 31, Springer , London, England, 2005,131-148.
[9]   Taylor, A. S. and Harper, R. "The Gift of the Gab?: A Design Oriented Sociology of Young People's Use of Mobiles," *Computer Supported Cooperative Work (CSCW),* vol. 12, 2003,267-296..
[10]   Quan-Haase, A. "College Students' Local and Distant Communication: Blending Online and Offline Media," *Information, Communication and Society,* vol. 10, 2007,671-693.
[11]   Hewitt, A. and Forte, A. "Crossing Boundaries: Identity Management and Student/Faculty Relationships on the Facebook," in *CSCW '06*, November 4-8, 2006, Banff, Alberta, Canada, 2006.
[12]   Mazer, J. Murphy, R.L., Simonds, C.J. "I'll See You On "Facebook": The Effects of Computer-Mediated Teacher Self-Disclosure on Student Motivation, Affective Learning, and Classroom Climate," *Communication Education,* vol. 56, 2007,1-17.
[13]   Kim, H., Kim, G.J., Park, H.W. and Rice E."Configurations of relationships in different media: FtF, email, instant messenger, mobile phone, and SMS," *JCMC,* vol. 12, 2007,article 3.
[14]   N. Baym, Zahng, B.Z., Lin, M. "Social interactions across media: Interpersonal communication on the internet, telephone and face-to-face," *New Media & Society,* vol. 6, 2004, 299-318.
[15]   Stutzman, F. "Student Life on Facebook", *unpublished*.
[16]   Beyer H. and Holtzblatt, K. "Contextual design," *interactions,* vol. 6, , 1999, 32-42.