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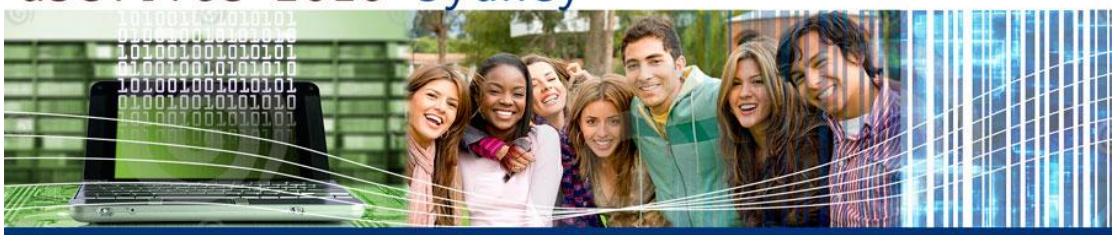

Getting together out-of-class: Using technologies for informal interaction and learning

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This paper presents the results of a study of the way in which university students use technologies for out-of-class interactions. The study investigated the usefulness and usage frequency of technologies such as mobile phones, social networking and email for informal interaction, compared to face-to-face interactions occurring in physical settings. The results seem to confirm that while informal, spontaneous interactions between students were most common face-to-face, some technologies performed a critical supportive role for 'just-in-time' information sharing and coordinating face-to-face meetings. However, technology usage was limited due to social barriers that were sometimes exacerbated in technological settings. Building on these results, the study also considered the specific use of technologies for informal learning. Working on the basis that informal interactions are foundational to socially based informal learning, the study explored opportunities for technology use outside of the classroom, for collaborative and educational benefit.

Keywords: informal interaction, informal learning, out-of-class, communication

Introduction

In recent years there has been increasing acknowledgement of the importance of socially based, informal modes of learning that occur outside of the classroom. These types of 'out-of-class' interactions in Higher Education settings are commonly referred to as students' *informal learning* experiences (Jamieson, 2009; Livingstone, 2001) and are characterised by their unplanned nature, happening anywhere, at any time and without the presence of a teacher. While informal learning can also refer to self-directed study, in the context of this paper informal learning is predicated on informal social interactions between students. These informal 'out-of-class' learning experiences and interactions with peers are reported to have a positive impact on student satisfaction and learning and are also known to build students' sense of self-worth and confidence (Krause, McInnis, & Welle, 2003; Kuh, 1993).

Many Higher Education institutions have recognised the importance of informal learning outside the classroom and have developed dedicated spaces to make this possible. This includes repurposing existing venues such as libraries to support "…student-led, socially-based, informal learning" (Jamieson, 2009, p. 4) where students are physically co-located. One example is the Saltire Centre at Glasgow Caledonian University, which features a mix of open and semi-enclosed spaces and provides mobile equipment to give students flexibility to shape the environment to suit their needs. With a design based on privacy, openness, flexibility, and community engagement, this space is a good example of combined conditions that support informal interactions and learning in physical settings (Jamieson, 2009).

Less attention has been given to how technological settings can be used to support informal learning in Higher Education. However, online applications such as chat rooms, desktop sharing environments and virtual worlds can also clearly support such activities. The proliferation of social networking communities (SNCs) and other ubiquitous, Web 2.0 technologies provide students with a myriad of opportunities for informal interaction and engagement beyond both the classroom walls and the physical environment. For example, SNCs such as Facebook have been used for socially-based learning (Madge, Meek, Wellens, & Hooley, 2009; Selwyn, 2007) and educational institutions have begun to establish dedicated online spaces to "…augment 'conventional' interactions and dialogue…" (Selwyn, 2007, p. 4), in an effort to encourage informal learning.

The potential for informal interaction between students is enhanced if the conditions of the particular environments are favourable. While informal interactions are foundational social processes that underpin informal learning, it is important to recognise that interactions happen in different ways in face-to-face and technological settings (R. E. Kraut, Fussell, Brennan, & Siegel, 2002; Olson & Olson, 2000). The conditions in each domain (physical or virtual) differentially affects how interactions can occur and the ways in which individuals can work with each other (Fitzpatrick, Mansfield, & Kaplan, 1996; R. E. Kraut et al., 2002). For example, proximity and copresence are common triggers for informal interactions in face-to-face environments, especially if people have shared purpose for being somewhere (R. E. Kraut et al., 2002; Olson & Olson, 2000; Schroeder, 2006). Being in close proximity in a computer laboratory, library or other common area may create social obligation to interact (Fayard & Weeks, 2007) while a sense of copresence – a sense of 'being there with others' – involves mutual awareness of other people's availability for engagement (Goffman, 1963). However, it is less obvious how these conditions of informal interaction – proximity and copresence – are negotiated in technological settings for the purposes of informal learning.

As the usage of Web 2.0 technologies such as SNC, wikis and blogs becomes more widespread, it is anticipated that social software will influence how students interact and relate to each other and with learning resources in both physical and virtual environments (Madge et al., 2009). To date there has been little research into the impact of these technologies on pedagogical practices and "…educational social relations…" (Madge et al., 2009, p. 141), suggesting that this is a fruitful area of investigation. Against this background, the motivation for this study was to explore how technology mediates the out-of-class interactions (OOCI) between students, and how student learning may be mediated through these informal interactions. More specifically, the study explored how often and how useful students felt technologies such as mobile phones, social networking and email were for informal interactions and for learning, compared with face-to-face interactions occurring in physical settings.

Method

Five third-, fourth- and fifth-year students from an Architectural 'studio' (subject) at an Australian university were recruited for this study after obtaining human ethics clearance. The studio contained only 13 students in total and required students to work collaboratively to solve architectural problems. There was one three hour class scheduled each week and part way through the semester students also undertook a two-week trip to the United States (US), to collaborate with US-based architectural students. A combined experience sampling method (ESM) and day reconstruction method (DRM) approach was used to gather data over a ten-week period from five of the 13 students sampled from the class (Khan, Markopoulos, & IJsselsteijn, 2007). Students were asked to submit twice-weekly online reports about their OOCI with other classmates in the subject. Among other things, students were asked to report about the locations of their interactions (e.g. home, campus, work), communication medium(s) (e.g. face-to-face, email, social networking, discussion forums, instant messaging), and whether they had learned anything new during their OOCI. Follow-up interviews were also conducted with students to delve deeper into their experiences.

Results and discussion

Participants submitted their ESM/DRM reports through a questionnaire setup in Google Docs. The questionnaire responses (n=97) and the follow-up interviews (n=5) were anonymised then analysed using quantitative (descriptive statistics) and qualitative (grounded theory) methods. Only a subset of data is reported for this short paper due to space limitations.

Communication mediums

Most OOCI occurred face-to-face, on campus, during the hours of 9am and 12pm. Typically this was when the students ran into each other in the Architecture building or nearby cafés or common areas. Participants preferred face-to-face interactions for 'getting things done', often over longer periods of time (10 minutes or more) - "It's always easier to work together if you're face-to-face". Technologies were seen as a fallback option if face-to-face interaction wasn't possible - "Actually there was one time where ... we talked to each other through email and through MSN because we couldn't meet each other … but if we got the chance to meet we would rather meet face-to-face...". Some participants also felt that instant messaging could work as well as face-to-face for quick interactions - "Face-to-face is the best. MSN is the next one, because at the same time you are typing to each other." Though instant messaging (e.g. MSN) was mentioned in the interviews, it was not reported in any the ESM/DRM responses.

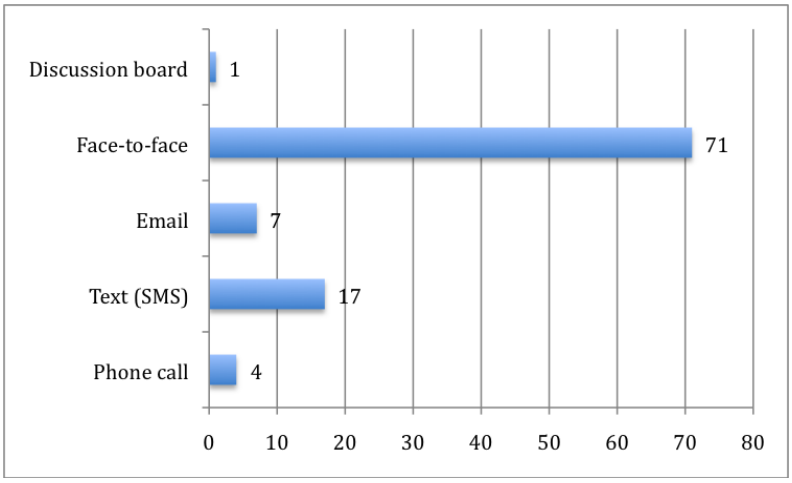

Figure 1: Frequency of reported mediums for out-of-class interactions

Text messaging was the second most commonly used communication medium (17 of 29 technology-based interactions; 59%) with most of the shorter technology-based OOCI lasting 5 minutes or less being conducted by in this way. Interestingly, text messaging was often used as a precursor to face-to-face interaction as students tried to determine their classmates' locations and coordinate meetings. Overall, mobile phones were singled out as the most useful technologies for OOCI because the participants usually always carried their mobiles with them for calling and text messaging (it was noted that they weren't as likely to use that medium for checking emails) - "Yeh, I'm still very much like, the person who picks up the phone and calls someone and talks over the phone, or you know... I use my mobile all the time, so if anything, that's the only other way I make contact with people".

Email was considered to be good for some forms of organisation but response delays meant it was not reliable for maintaining ongoing connections, and worked better as an information dissemination or 'notification' system - "…we do send out emails, like forward emails to everyone to talk about something but the thing is, people rarely reply or they reply really late, so it's more like a notice rather than a conversation".

Generally these results indicate that synchronous (i.e. real time) technologies such as text messaging and phone calls are more suited to informal interactions than asynchronous technologies (e.g. email), because their faster, more responsive nature provides each person with mutual awareness of the other's location or availability for face-to-face engagement. This might illustrate a form of extended copresence – a sense of 'being there with others' in technological settings that leads to informal interactions.

Social barriers

The study found that the nature and degree of social relationships between classmates impacted on how they chose to communicate with each other. For example, instant messaging was only deemed

appropriate to use with classmates who were also well-known acquaintances, even if both parties had shared their instant messaging details and could see each other online and were 'available' - "…physically... we still chat even though it's not about the project, but we still chitchat about small things. But when MSN, like, you see people online but you don't talk to them, necessarily".

It appeared text messaging and face-to-face interactions were more appropriate between classmates who weren't very well acquainted – "I'd always text rather than ring because you're not interrupting something... you never know what people are doing…and then there's no sort of like, social awkwardness "; "…I'd probably go and talk to her, because I feel more comfortable texting and then talking to someone in face, then phone. I don't know why". In a face-to-face scenario, the cues and clues of physical proximity and copresence made it easier to gauge people's openness to engagement "…because you engage … people's reactions on their face a lot more, so you can be a bit more careful with how you sort of present stuff … it's pretty subtle". These findings seem to confirm Zhao and Elesh's suggestion that "…copresence for social contact requires prior acquaintanceship…" (2008, p. 578).

The implication of these results is that that while Higher Education institutions may set up online forums to encourage informal interactions and learning, the problems of social protocols, reticence and awkwardness from the physical world continue to have relevance, which may temper expectations about the use of these media for socially based, informal learning interactions. However, repeat OOCI in technological settings did help to support group membership and social capital (Fitzpatrick et al., 1996) - "…I've been texting to the other people more often now…"; "we talked to each other through email and through MSN because we couldn't meet each other, but ... we did so because there's no chance to meet";

Informal learning

A large proportion of ESM/DRM responses indicated that students had learned something new during their OOCI (73 of 97; 75%) (see Figure 3). The area in which students reported most commonly 'learning' something was concerned with assignment work, for example "… brainstorming new idea for intervention on the site".

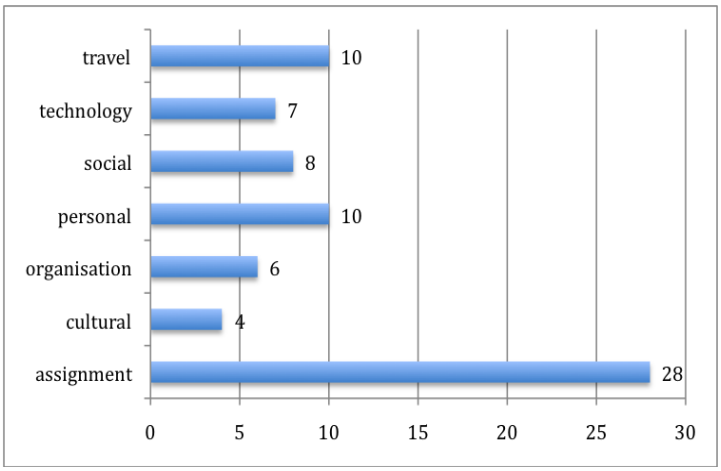

Figure 2: Things 'learned' during out-of-class interactions

Interestingly, many of the areas in which students' reported learning something were not academically-related – they were concerned with personal and social issues, as classmates got to know each other better. This reinforces the notion that at a fundamental level informal interactions are social encounters; they are not formal, scheduled, or timetabled. As such informal interactions, in an educational setting, can potentially help to establish social capital fostering better working relationships, and perhaps, informal learning. (R.E. Kraut, Fish, Root, & Chalfonte, 1990; R. E. Kraut et al., 2002),

Finally, students' also reported learning by sharing their individual work and experiences online. This could occur, for example, when one student looked at another classmate's project photos on a social networking site: "It's not, like, intentionally learning, but you've got to see stuff that probably you don't

see before, in the photos…". Or when one classmate taught new software skills to another – "... he ended up showing me Bing and how you could get a perspective view and things like that which was really helpful; like I had no idea that you could actually do that".

Conclusion

This study suggests that technology-based OOCI do and can play a role in students' informal learning activities in Higher Education, but certain technologies are better suited to these activities than others. Generally, students appear to favour face-to-face interactions in their OOCI and use technologies to support these interactions. Technologies that are synchronous and are used in short bursts or periods seemed to support informal interactions between students. Students appeared reticent to use some technologies for informal interaction with their student colleagues, partly because of a lack of familiarity with their fellow students. This would suggest, consistent with other research, that students' existing social relationships are a key determinant of how social networking technologies are used among groups of students (see Gray, Annabell, & Kennedy, in press). This study showed that students were engaging in informal learning in their OOCI particularly in the area of assignment preparation and discussion, which suggests there is potential for harnessing technologies to foster informal student learning experiences. The results from this study have been foundational in the preparation of a further investigation that will consider how technologies could be better used to assist or encourage interactions between students and staff in university settings.

References

Fayard, A.-L., & Weeks, J. (2007). Photocopiers and Water-coolers: The Affordances of Informal Interaction. *Organization Studies, 28*(5), 605-634. https://doi.org/10.1177/0170840606068310

Fitzpatrick, G., Mansfield, T., & Kaplan, S. M. (1996, 24-27 Nov). *Locales framework: exploring foundations for collaboration support.* Paper presented at the Sixth Australian Conference on Computer-Human Interaction, 1996, Hamilton, New Zealand.

Goffman, E. (1963). *Behavior in Public Places*. New York: The Free Press.

Gray, K., Annabell, L., & Kennedy, G. (in press). Medical students' use of Facebook to support learning: Insights from four case studies. *Medical Teacher*.

Jamieson, P. (2009). The Serious Matter of Informal Learning. *Planning for Higher Education, 37*(2), 18-25.

Khan, V. J., Markopoulos, P., & IJsselsteijn, W. (2007, 21 June). *Combining the Experience Sampling Method with the Day Reconstruction Method.* Paper presented at the Chi Nederland Conferentie, Eindhoven.

Krause, K.-L., McInnis, C., & Welle, C. (2003). *Out-of-Class Engagement in Undergraduate Learning Communities: The Role and Nature of Peer Interactions*. Paper presented at the Annual Meeting of the Association for the Study of Higher Education (November 13-16, 2003).

Kraut, R. E., Fish, R. S., Root, R. W., & Chalfonte, B. L. (1990). Informal Communication in Organizations: Form, Function, and Technology. In I. S. Oskamp & S. Spacapan (Eds.), *Human Reactions to Technology: The Claremont Symposium on Applied Social Psychology* (pp. 145-199). Beverly Hills, CA: Sage Publications.

Kraut, R. E., Fussell, S. R., Brennan, S. E., & Siegel, J. (2002). Understanding effects of proximity on collaboration: Implications for technologies to support remote collaborative work. In P. Hinds & S. Kiesler (Eds.), *Distributed work* (pp. 137-162). Cambridge, MA: MIT Press.

Kuh, G. (1993). In Their Own Words: What Students Learn Outside the Classroom. *American Educational Research Journal, 30*(2), 277-304.

Livingstone, D. W. (2001). *Adults' Informal Learning: Definitions, Findings, Gaps, and Future Research*: Ontario Institute for Studies in Education, University of Torontoo. Document Number)

Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: "It is more for socialising and talking to friends about work than for actually doing work". *Learning, Media and Technology, 34*(2), 141 - 155.

Olson, G. M., & Olson, J. S. (2000). Distance Matters. *Human-Computer Interaction, 15*(2/3), 139-178. https://doi.org/10.1207/S15327051HCI1523_4

Schroeder, R. (2006). Being There Together and the Future of Connected Presence. *Presence: Teleoperators & Virtual Environments, 15*(4), 438-454. https://doi.org/10.1162/pres.15.4.438

Selwyn, N. (2007). *Web 2.0 applications as alternative environments for informal learning - a critical review*. Paper presented at the Paper for OECD-KERIS expert meeting - Session 6 - Alternative learning environments in practice: using ICT to change impact and outcomes.
Zhao, S., & Elesh, D. (2008). Copresence as 'Being With' - Social contact in online public domains. *Information, Communication & Society, 11*(4), 565 - 583. https://doi.org/10.1080/13691180801998995

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