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**Research Article**

**Social Networking for Learning in Higher Education: Capitalising on Social Capital**

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**Abstract**

This study explores the evolution of student-led social networking groups initiated and sustained by a cohort of undergraduate students over a 3-year time frame. The study contributes to this growing area of research by exploring the impact of peer-led, peer-supported informal learning through social media networks. Social capital is a useful lens through which to understand the findings, and particularly in interpreting descriptions of the evolution of the group over time. The findings suggest that students build bridging social capital to support the transition into higher education, form relationships and learn collaboratively through a large cohort-based Facebook group. Over time, this form of social capital and the use of the Facebook group declines due to a lack of perceived reciprocity and an increased perception of competitiveness amongst peers. However, there is accompanied by a subsequent rise in the building of bonding social capital between closer peer relationships facilitated through the use of various WhatsApp groups. The findings have implications for considering how social networking might support the student journey towards more nuanced, more personalised collaborative learning and a move towards more self-directed learning.

## **Introduction**

The annual global report describing emerging technologies likely to have an impact on learning and teaching, the NMC Horizon Report, reported in 2014 that both collaborative learning and social media were likely to drive changes in higher education within the next one to two years. The 2015 NMC Horizon Report (2015, p.22), additionally highlights the trend for the desire to blend the formal and the informal learning opportunities, and within this context describes social media as making learning “ubiquitous”. Globally it is recognised that higher education is evolving in these directions.

The authors of this study were aware, anecdotally, that the blending of the formal and informal learning experiences was happening within a cohort of undergraduate students in higher education today, and that this activity was being driven by the students themselves with social media being one of the tools used to do this. This study explores the evolution of those student-led social networking groups over a 3-year time frame. The study contributes to this growing area of research by exploring the impact of peer-led, peer-supported informal learning through social media networks. The paper will be of interest to all educators who seek to understand how we might encourage a bottom-up, student led approach to blending formal and informal learning, and how the design of our curricula and classroom based activities might support this.

The paper reviews the literature to explore whether social networking has a role in higher education and which theoretical frameworks can be helpful in interpreting such activity. Focus groups with current undergraduate students were conducted to explore their views on how their relationships over social networking groups impacted upon their overall learning experiences and how this was influenced by the classroom based activities. Our research objectives were to understand the student perspective on how groups were created and how they matured. We also explore how and why the use of a Facebook group over a large student cohort declined over time, and how this was associated with an increase in the volume of private messaging through Facebook and a further increase in the use of a different social networking tool, WhatsApp, across smaller groups with complex judgements being made about how and when to share information.

Social capital is a useful lens through which to understand the findings, building on the work of Putnam (2000), Huysman and Wulf (2006), Ellison (2007), Steinfield (2008), and Cheung et al (2011), particularly in interpreting descriptions of the evolution of the group over time. We are using the term social capital in this study to consider how the networks of relationships between the social networking group members existed and how this enables that ‘society’ to function.

## **Literature Review**

### ***Does social networking have a role in higher education?***

Participants within this study describe how they used two different social networking tools to communicate with peers, Facebook, a social networking website, and WhatsApp, a mobile messaging app. In early 2016 WhatsApp self-report that they have reached a billion users worldwide, and Facebook 1.5 billion users. The vast majority of Facebook and WhatsApp users are doing so via a mobile device. (Facebook 2015, WhatsApp 2016).

The potential for social networking sites, and in particular Facebook, to support learning has a growing body of literature (Hrastinski 2006, Maloney 2007, Selwyn 2009, McLoughlin et al 2010, Hughes 2010). Many of these authors focus on quantifying how the site is used by students in relation to their University experiences. This research takes a different methodological approach, working with the students involved to explore their views on how, if at all, social networking has facilitated learning. The research literature exploring instant messaging in an educational context is relatively sparse with a few emerging examples (Khatoon 2015, Willemse 2015, Kaliyadan 2016), and yet Lauricella et al (2013) and Gallardo et al (2015) report that peer to peer communication about academic work is happening through instant messaging, and that WhatsApp is the most popular application to support that communication.

### ***Theoretical frameworks for social networking in education***

Gunawardena et al (2009, p.4) argued that existing learning theories need to be reconsidered in the context of technology enhanced learning, defining collaborative learning through social networking as “the practice of expanding knowledge by making connections with individuals of similar interests”.

Ellison et al (2007) question whether the use of Facebook to support learning is at only a superficial level between the members of the online group, exploring whether students are simply creating connections with each other rather than this developing into a supportive meaningful, relationship or a community of practice. The findings within our study suggest that it is more complex than this. Some interactions between peers appear relatively superficial if considered on an individual basis, between Student A and Student B for example, and yet collectively, these relatively superficial personal relationships are still a powerful, support network when considered collectively across the whole cohort. This is particularly powerful at the start of the evolution of the group when students

are transitioning into higher education settings. Putnam (2000) would describe this as bridging social capital. In addition, some interactions between peers evolve into very close, supportive, reciprocal relationships, a concept Putnam describes as bonding social capital which become more useful and therefore more influential to individuals as they journey through their time at University.

### ***Social capital***

The term social capital is used in a wide range of contexts, both within and outside of the study of education, and as such has a wide range of definitions. In its broadest sense, and aligned most closely with Coleman's (1998) definition, social capital can be considered as the resources, or benefits, that are built through social relationships. The definition most closely related to the findings of this study is that of Huysman and Wulf (2006, p.1), who wrote:

*“Social capital refers to network ties of goodwill, mutual support, shared language, shared norms, social trust, and a sense of mutual obligation that people can derive value from. It is understood as the glue that holds together social aggregates such as networks of personal relationships, communities, regions, or even whole nations”.*

The concept of social capital has been proposed by numerous authors to be appropriate for the study of social network sites (Ellison et al 2007, Bohn et al 2014). Previous studies using social capital ideas to research social networking (Ellison et al, 2007 and Steinfield et al 2008) have attempted to measure social capital. This critical study does not replicate their methodology; instead the concept of social capital is used as a theoretical lens through which to consider how relationships between the social networking group members grew and how this influenced the sharing of explicit and tacit knowledge. Putnam (2000) argues that there are two ways of viewing social capital, bridging social capital formed around relatively weak ties, and bonding social capital formed in close relationships. The findings of this study suggest that this differentiation of the forms of social capital is evident in the way my participants chose to learn together with peers at different stages of their journey through their degree programme.

Penard and Poussing (2010) explain that individual decisions on whether to invest in social capital are a trade-off between the expected costs and benefits. Donath and Boyd (2004) suggest the social networking sites facilitate social capital because they make it easy for members to build such ties cheaply and easily. Similarly, Haythornthwaite (2005, p.125) proposes that social network sites provide “technical means to activate weak ties”.

## **Method**

This research set out to explore the evolution of a student-led online community and is presented as an analysis of the views of the students' themselves, their perceptions and understandings of the informal learning opportunities it facilitated. This study is therefore presented as a phenomenological research study using qualitative research methods.

Aligned with this phenomenological paradigm we approached this research from an interpretivist position. Interpretations of the reality, its meaning and an understanding of the implications for future educational practice have therefore been constructed within a social and cultural context, gradually developing an understanding of theories relating to the learner experience in a grounded theory approach to analysis (Glaser and Strauss 1967).

Full ethical approval was attained from the University of Bradford, the home institution for both students and authors, incorporating the principles in the 'Ethical Guideline for Educational Research' (BERA 2011) relating to recruitment of participants, gaining informed consent, conduct in facilitating focus groups, and the handling and storage of data. Both researchers were known to the student population, particular ethical considerations were given to this aspect of consent.

This study has also been used to pilot a 'Students as Researchers' initiative for the institution. 'Students as Researchers' is described by the Higher Education Academy as a pedagogic approach to supporting students in their engagement with undergraduate research (Walkington 2015) and is a broad term to describe a range of activities. In this pilot initiative the University of Bradford provided an opportunity for an undergraduate student to play an active role in a small research study outside of their own formal curriculum, and we present this as a co-authored paper between staff and student.

## ***Sampling***

The sample population consisted of 189 final year students, all in the same cohort of an undergraduate pharmacy degree. The sample population were invited to participate in focus group discussions by email. An initial focus group was held with four participants. Following analysis of this initial data, a second focus group of an additional six students was held. Theoretical saturation was deemed to have been reached with this sample size of ten students.

### ***Data collection***

Semi-structured focus groups were held to collect data for analysis. We observed participants explore and challenge each other's views as Bryman (2012) proposes, facilitating a better understanding of the collective views with participants reaching a deeper level of conversation. In addition, the verbal and non-verbal interactions between the participants during the focus group provided a new layer of information to interpret (Krueger 1994). The semi-structured nature of the focus groups allowed enough flexibility to explore topics that we had not known to ask about, particularly the decline of the online Facebook community, and which turned out to be the most interesting part of the findings.

### ***Data analysis***

The two authors, one an academic member of staff and one an undergraduate student, followed guidance from Denscombe (2010) on the different depths to which we worked with the transcriptions, initially taking a superficial look, by repeated listening to the recording and reading of transcripts, followed by a more detailed analysis considering more than just the words themselves, but also the context and things which may have influenced a comment. We completed this first level of analysis independently, providing some degree of data verification. Together we completed a thematic analysis of the transcripts, following Bryman's (2012) guidance on coding. Initially creating a large number of descriptive codes, and then grouped these into factors. The iterative nature of the analysis alongside repeated immersion in the literature led to the identification of the overarching theme of social capital, elements of which appear throughout the study.

### **Findings and Discussion**

The overall aim of this research is to explore the evolution of a student-led social networking group and whether this has been used to facilitate formal and informal collaborative learning experiences. Initially the research focused on the use of a Facebook group, moving later into additionally exploring the use of WhatsApp groups. The chronological journey of the participants' use of the initial Facebook group provides a useful framework to organise and discuss the findings and this is presented in three phases; its creation, its maturation, and its gradual decline. The findings of the study demonstrate a relationship between the evolution of a social networking group and the concept of a developing, and subsequently, declining form of social capital. This paper focuses particularly on the latter part of that evolution, namely the fall of Facebook and the rise of WhatsApp.

### ***Creation of the Facebook group***

Focus group participants described how the closed online group was set up in the first semester of the first year of an undergraduate course by two students. Membership grew steadily over this first year. At the time of the study, semester 1 of year 4, participants reported that approximately 150 out of a possible 189 students were members of the group.

Clear themes emerged from analysis of the focus group discussions relating to the importance of social networking in building early relationships with new peers. Our work supports, at least in part, the proposals that social networking can support the overall socialisation into higher education (Selwyn 2007, Madge et al 2009, Yu et al 2010). Lin (1999) concluded that relationships help create social capital. Judele et al (2014) argue that effective collaboration can only occur if social relationships and a sense of community have been built. Cheung (2011) describes the evolution of the subjective norm to engage in Facebook which appears to be repeated within the context of this study. Similarly, participants attribute engagement in the online group as closely linked to course related information, perhaps indicative of the reasons why this group had started to develop a community identity, the common bond that defined their community, an important factor in successful collaboration as proposed by a number of researchers including Garrison (2009) and Rambe (2012).

### ***Maturation of the Facebook group***

This study explored students' perceptions on how and where, if at all, collaborative learning occurred on social networking sites. Participants did perceive learning to have occurred with numerous descriptions of examples of knowledge sharing activities such as the posting of own notes, the shared creation of online file sharing mechanisms to host relevant resources, answers to activities within their learning packs. In addition, they shared examples of how interaction between the group had supported learning beyond merely the posting of content.

Bock et al (2005, p.91) highlighted the social-psychological motivator described as "anticipated reciprocal relationships" as a key driver in influencing an individual's willingness to share knowledge. This theme was echoed repeatedly in the analysis of both focus group discussions, particularly the concept of fairness in relation to intention and behaviours linked to knowledge sharing within the group.

These were implied in both a positive context:

*Participant P1: I was happy to share it with P4 and know I'd get back from him because we know we work equally as hard*

and also a more negative concept, when knowledge sharing was not equal, not fair:

*Participant P1: Because it got to that point where it wasn't an equal contribution. You're gonna get that anyway...but like it got to the point where it's like hang on a minute, I've put all this work in*

Students reported that as the group matured over the first year of its existence knowledge sharing became more common place. We propose that in accumulating bridging social ties during the early days of this student-led Facebook group this community of learners had cultivated an environment and a culture to facilitate the sharing of explicit and tacit knowledge. Nahapiet and Ghosal (1998, p.2) describe this as when "social capital facilitates the creation of intellectual capital".

In researching social networking sites, Ellison et al. (2007) link the interactions of an individual within a Facebook group to the formation of social capital, and more specifically with the increase in bridging social capital. The term bridging social capital is used to describe weak relationships ties, relatively distant connections between individuals who belong to some form of socially heterogeneous group. Bridging social capital facilitates the sharing of information, sometimes from relatively diverse perspectives, and can help to build a democratic, inclusive community of people.

#### ***Decline of the Facebook group – decline of bridging social capital***

The participants in this study had been a member of a specific Facebook group for almost three and a half years. Participants described how the Facebook site as a whole was no longer used in the same way as it had been previously. Fewer members were active, fewer posts were created and those that were were almost all administrative in nature, informing peers of impending deadlines for example. It would appear that it was no longer the subjective norm to post on the group, it was no longer the subjective norm to share knowledge, it was no longer the subjective norm to collaborate, perhaps this shift was so great that it was now considered unacceptable to post content to help each other to learn, as one participant describes:

*Participant P2: I remember lots of the questions and I went on Facebook and typed it all in. Like all the questions I could remember, it was a huge list that I put up. And then somebody actually said to me "oh why did you do that? You're like sharing all your knowledge to*



*everybody else, you shouldn't have done that, you should just you know, write it for yourself" kinda thing*

Participants shared examples of how they made judgements on who deserved a response to a question posted on the Facebook group, and these decisions were usually based on whether that person in the past had been mutually reciprocal, directly or indirectly, by helping other people. This contradicts Wasko and Faraj (2005) who argue that the decision to share knowledge would be dependent more on whether they perceived that this would enhance your own reputation within the group, rather than reciprocity itself. There are numerous references to times where students still wanted to help their colleagues, but they would do so in a private way, typically through the messenger function of Facebook. The following quote, whilst lengthy, captures the essence of the frustrations and the decision making processes used to determine whether to share knowledge in the context of declining interaction on the open Facebook page:

*Participant P2: .....like you know I know I've helped someone out and I ask them for the same and they say no and it's like, it's a bit rubbish.....hang on a minute, you might get a job because you did this that I told you...so hang on a minute, now it's getting to the time where you are getting your degree classification, and it's getting to the point where I want to do well and if you don't then I'm not going to help you. Yeah so if me and P4 speak and it's kind of like I know we're on the same page in regards to working, putting the effort in; I know if I had anything to share, I'd share it with him. Same with other people like Student A – you know you can share it and you know you will get the same back. Some people you think they don't even want to do pharmacy and you can see that, outside of the uni and inside and that gets you annoyed and you think "well, hang on a minute, you don't even care, so why should you get a job that I could get, when I actually care about it and you don't?" you see that in the group when people always comment for a laugh and you see that in the group...and you go and have your laugh but I actually want a serious job and that's probably contributed to it.*

The frustration at the lack of mutual reciprocity is clear from the opening statement and whilst the repeated use of the term 'hang on a minute' may be linked to the participant's local dialect, the tone and facial expressions used suggested indignation. Clear judgements are made as to who, and who does not, deserve to receive the shared knowledge, and that those judgements are, at least in part, made on a perceived difference in shared values highlighted in the suggestions that this participant is taking their learning serious, whilst others may not.

Contextually, it is important to explain that the final year of the participants' programme is the only stage of the course that contributes to the final degree classification, thus making any assessments much higher stakes than historically, and one student did comment on this when probed. Also, many students had recently had interviews for graduate positions, which perhaps influenced some of the direction and tone of the conversations.

Whilst students may not recognise the term bridging social capital, we would argue that the following snapshot of a conversation between peers demonstrates that they did recognise the value of it and felt an emotional connection to the overall experience. When discussing the decline in the volume of Facebook interactions:

*Participant P4: it ...(Facebook)...has the potential to help a lot, but as I said, and P1 was saying, because we've learned who tends to contribute and who just sponges off other people, people are less willing to contribute on it now*

*Participant P3: again this sad*

*Participant P1: Because when it worked, it worked*

*Participant P4: When it works, it's brilliant, it's really, really good yeah*

Bock et al (2005) highlights the influence that culture, the evolved context, and climate, the contextual situation at a point in time, have on knowledge sharing behaviours. It appears that the group had entered into a new climate where extrinsic awards, in the form of degree classification and securing a graduate job, are playing a greater role in reducing knowledge sharing behaviours as the students approach the end of their studies and are thinking about future competition for jobs. Bock et al (2005) conclude that in contrast to more traditional socio-economic views from writers including Hyoungh and Moon (2002), extrinsic rewards may even hinder, rather than promote, knowledge sharing. My findings support this theory. Does this suggest that collaborative learning experiences have the potential to have the greatest impact if experienced earlier during a degree programme? Further research is needed to explore this question but it may have implications for the design of curricula.

### ***The fall of Facebook and the rise of WhatsApp – the rise of social bonding capital***

Our research highlights that this group of students do however still post questions, share knowledge and learn collaboratively with their peers in an online environment but in an evolved, and different way. Through an iterative analysis of both the data and the literature, we propose

that bridging social capital, which previously sustained collaboration amongst the large numbers of students in the Facebook group, was declining and had been damaged through a lack of reciprocity and an increased perception of competitiveness amongst peers. Instead, we propose that bonding social capital has increased within smaller, closer knit relationships and that yet again, through a bottom up, student-led approach, social networking has facilitated this collaborative learning, but this time using a different tool, WhatsApp.

Putnam (2000) first distinguished between bridging social capital formed around weak relationship ties, and bonding social capital formed in closer relationships. These bonding ties are can provide emotional support not usually seen in bridging ties. Within this study, participants reported an increasing use of private messaging through Facebook's own tools as the group evolves for all the reasons discussed above. Burke et al (2011) call this directed communication, messages being directed to particular others, rather than open broadcasting to the whole group, and conclude that this type of interaction is likely to build closer ties, and can improve bonding social capital.

Both focus groups discussed how they also used WhatsApp, an instant messenger app, as an alternative form of social networking to chat to and to learn with peers, both groups did so without prompting and early in the discussions, suggesting that this is significant for them. Participants reported that WhatsApp groups were commonly used within Team-Based Learning (TBL) teams, in fact when probed on whether they thought most groups used one, we had a unanimous 'yeah' and laughter, and clearly this was the subjective norm. Participants explained further how and why they were using WhatsApp. These are used in much smaller groups than the open Facebook group, and when asked what the ideal size of a group was on this application, participants answered in the range of 4 to 9, most suggesting 5 or 6. In addition, participants were members of WhatsApp groups comprised of friends. Students distinguished this from their membership of the Facebook group.

*Participant P4: So Facebook...is...everyone from pharmacy, but WhatsApp, you're with your mates*

This supports the findings of O'Hara et al (2014) who argue that messaging systems, including WhatsApp are being used to continue social relationships with close ties. Still within the context of using WhatsApp with learning peers, participant S2 (who is close friends with S4) explains some of the decision making processes she goes through when considering how to use social networking to help her solve a problem:

*Participant P4: I'd probably ask S4 first if I had a problem, then I'd ask the team next, then I would post on Facebook*

We propose this is evidence suggestive of bonding social capital. Her closest ties are with her friend (S4). The bridging social capital she has accumulated with the weaker ties on the Facebook group are still useful to her, but she has learnt that she gains greater return on her investment from those closer to her.

There is a need for further research in the broader area of social networking between students and we agree with the suggestion from Gallardo et al (2015) that universities should consider how they are to take advantage of these trends in social networking in order to best support their students.

### **Conclusion**

The overall aim of this study was to explore the evolution of a student-led social networking group in order to understand how, if at all, this might support collaborative learning through social networking. The phenomenological approach to the study provided an opportunity to work with students in focus groups to understand their perceptions of how this online group evolved over three and a half years, and what impact this may have had on their overall journey through their time at university.

The concept of social capital has been used as a theoretical framework through which to explore the use of social network sites for learning. The evolution of social networking structures was more complex than we had expected and much more interesting as a result. Putnam (2000) argues that there are two ways of viewing social capital, bridging social capital formed around relatively weak ties, and bonding social capital formed in close relationships. The findings of my study suggest that this differentiation of the forms of social capital is evident in the way my participants chose to learn together with peers at different stages of their journey through their degree programme.

I presented the evolution of the Facebook group in three distinct phases; the creation, the maturation, and the decline. In the early days, the interactions with others on the online social networking site were very important to the students in building relationships with their new peers in the offline classroom, building a number of new weak ties and the accumulation of bridging social capital, thus supporting the overall transition into higher education and enhancing their relationships in the classroom. Over the course of the first year of their course, students began to collaborate by responding to course related questions from their peers.

As the community matured the structure of the group became more formal and a set of ground rules established, which elicited both positive and negative reactions in my participants. Students shared examples of how they had been part of some powerful collaborative learning experiences online and articulated the benefits of such knowledge sharing. We propose that in accumulating bridging social ties during the early days of this student-led Facebook group, this community of learners had cultivated an environment and a culture to facilitate the sharing of explicit and tacit knowledge.

Participants described how, over time, the open use of the Facebook group declined with fewer people interacting and some of the deeper collaborative learning opportunities apparently lost. Students themselves analysed the reasons for this with complex judgements being made about fairness and mutual reciprocity related to knowledge sharing, suggesting a breakdown of bridging social capital. However, as public Facebook use was declining, the use of private messaging was increasing as more meaningful friendship groups were formed. We argue that this suggests that bonding social capital has increased within smaller, closer knit relationships and that yet again, through a bottom up, student-led approach, social networking has facilitated collaborative learning, although this time using predominantly a different tool, WhatsApp. In this study, participants described the use of WhatsApp as almost universal within their cohort and yet there is very little literature exploring the use of WhatsApp, or other forms of instant messaging, in education. This is an area of research where further studies are needed.

There are limitations to this study. Sample numbers are small, it could be argued that findings are not transferable to the whole cohort, and most certainly not beyond that. This is however a qualitative, exploratory, phenomenological study and does not have generalisability as an aim.

Collaborative learning through social networking has occurred within this cohort of students. The fact that this was student-led tells us as educators that we must work with students in understanding these shifting pedagogies. There are significant implications for educators as individuals and for institutions as a whole.

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