

Electronic [re]constitution of groups: Group dynamics from face-to-face to an online setting

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Received: 1 June 2006 / Revised: 20 October 2006 /

Accepted: 20 October 2006 / Published online: 6 December 2006

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Abstract The authors work as online tutors for a BSc (Hons) physiotherapy programme at Coventry University in the United Kingdom. This paper represents a stage in our developing understanding, over a 3 year period, of the impact of group dynamics on online interaction among physiotherapy students engaged in sharing with their peers their first experiences of clinical practice. The literature exploring online interaction tends to situate meaning either in theories borrowed from conventional face-to-face interaction or on virtual interaction. Research focusing on ‘blended learning’ that combines face-to-face and online interaction is limited in terms of considering how group dynamics impact groups that are constituted and reconstituted in the two very different learning contexts. Using a case study approach, the authors consider how group dynamics change as groups move from face-to-face to online collaboration in pursuit of learning objectives. We characterize typical features of the cases and draw conclusions based on similarities and differences. Findings suggest that group learning is linked to group cohesion, which appears to be mediated by social and cognitive factors that students bring with them. Social presence appears vital to positive group dynamics and is a precursor to cognitive presence, which develops when groups rise above their desire to be sociable and supportive. Group dynamics, whether positive or negative, and their consequent impact on interaction appear to be relatively stable across contexts once the group scene is set through face-to-face interaction. Engagement and interaction of individual students, however, can alter when face-to-face interaction moves online.

Keywords Group dynamics · Online discussion forums · Blended learning

Introduction

Groups generally function to achieve a task, build and maintain the group and develop individuals within the group (Adair, 1986). Group dynamics, or changes in the group over

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time, influence how well it functions to fulfil these aims. The potential for collaborative learning within groups in higher education is well recognized and is traditionally exploited through face-to-face, and more recently online, interaction. Despite a growing body of research and literature that elucidates how group dynamics might impact learning within online groups, there appears to be a gap in the literature in understanding how group dynamics might change as a group moves from face-to-face to online interaction, as occurs within programs utilizing a blended learning approach. Understanding how students interact and how groups develop online is important (Beuchot & Bullen, 2005), yet provides only a partial understanding in a blended context.

Blended learning can take different forms, which frequently include synchronous or asynchronous online discussion forums (Harasim, 2000). Combining face-to-face and online discussion in a university context has been found to provide a superior learning environment compared to traditional classroom interaction alone (Althaus, 1997). There appears, however, to be limited understanding of the dynamics of online discussions in the context of programs involving lengthy work-based placements. Two studies that have been conducted in social work (Quinney, 2005) and occupational therapy education (Wooster, 2004) suggest that there are potential benefits. Notwithstanding an interest in potential benefits, our own study was concerned primarily with understanding the processes at work, which could potentially apply to other student groups. Therefore, in an attempt to link group dynamics to learning potential and outcomes, our own research explored: (1) how group dynamics impact online interaction; (2) whether interaction changes when the medium shifts from face-to-face to online contact; (3) how to optimize support for online collaboration.

Background theory and empirical evidence

Literature on conventional face-to-face interaction in groups, group dynamics, learning in small groups and learning communities is extensive. Alpay (2005) provides a good overview of what we know about the dynamics of conventional face-to-face interactions, albeit largely drawn from psychodynamic theory, and applies this to online interaction to suggest ways of encouraging and enhancing interaction. Socio-biological theories of group processes also have considerable explanatory potential. For example, Caporel and Brewer (1991) highlight how, as human beings who evolved in the context of group living, we need to belong to social groups. This need is met more through groups that have high levels of personal interaction (Baumeister & Leary, 1995). Interpersonal attraction between individuals influences group cohesion (Hogg, 1992), which is characterized by commitment and showing an interest in one another (Tubbs & Moss, 2003), further enriching interaction (Murphy, 2004).

Two well-known theories help to explain why groups might cohere. The first, “social comparison theory” (Festinger, 1954), stresses the role of pre-existing similarities in attitudes and values between people in groups. People tend to affiliate with those relatively similar to themselves, on whom they rely for comparison in order to validate their own opinions, attitudes and beliefs. The similarity of others affirms their own views, increasing their confidence in attitudes and behaviors (Hogg, 1992). The second theory, “social exchange theory,” emphasises cost-benefit aspects of social relations. Interactions are considered in terms of rewards and costs to the individual (Thibaut & Kelley, 1959) and, unsurprisingly, individuals strive to maximise their rewards and to minimise their costs (Forsyth, 1999). Group cohesiveness will be greater where the rewards of belonging to the

group outweigh the costs. The notion of “reciprocal altruism” explains the development of co-operative relationships within groups where an individual may help someone if that person can be expected to reciprocate in the future (Spoor & Kelly, 2004).

The development of shared mood and emotion within groups has attracted recent interest (Spoor & Kelly, 2004) and has implications for group dynamics online as well as in face-to-face groups. Although Alpay (2005) argues that online discussion forums limit the expression of emotion, it is well recognized that there are distinct socio-emotional dimensions to all channels of communication (Tanner, 2005) and that online interaction is no exception (see for example, Rovai, 2002; Seepersad, 2004; Walther, 1992). Moods and emotions are generally experienced as either affectively positive or negative and have associated behavioral expressions and levels of physiological arousal. Positive emotions might foster cooperation between individuals. Negative moods and emotions that signal some type of threat, however, stimulate behaviors to negate the threat, such as hostility. “Emotional contagion” occurs when the moods and emotions of one individual are transferred to others, evident in automatic and unconscious mimicry and synchronization of emotional behavior within the group known as “interaction synchrony” (Spoor & Kelly, 2004).

The social psychological theories above, although helpful in highlighting factors that influence group interaction, are generic theories that fail to connect the social and emotional climate in groups with learning potential. They also focus exclusively on face-to-face interaction. The literature on computer-supported collaborative learning does connect the social and emotional climate in groups with learning potential, and demonstrates increasing understanding of the social and psychological factors influencing online interaction (Cramphorn, 2004; Davis & Denning, 2000; McConnell, 2005; Oren, Mioduser, & Nachmias, 2002; Salmon, 2000; Wegerif, 1998), but most of this work focuses exclusively on virtual interaction.

In a virtual context, Beuchot and Bullen (2005) explore interaction and inter-personality in online discussion forums and highlight the importance of establishing “social presence” online prior to asking students to engage in cognitive tasks. The term “social presence,” which can refer to the properties of a medium that influence social cues and, therefore, interaction (Short, Williams, & Christie, 1976) is used by Garrison, Anderson, and Archer (2000, p. 94) to refer to “the ability of participants in a community to project themselves socially and emotionally” within their community. Beuchot and Bullen (2005) suggest that social presence is a necessary precursor to “cognitive presence” or intellectual engagement. This link is also supported by Salmon (2000), who associates superficial exchanges with online socialization and information exchange that can progress to joint knowledge construction and development as group interactivity increases. However, Salmon identifies the online moderator as a significant influence in moving students to more advanced levels of cognition.

The interplay between learning and group dynamics is also evident in a large comparative study of community formation and cohesion in asynchronous learning networks and traditional courses, which highlights the centrality of social and emotional factors to group cohesion (Rovai, 2002). Finding no significant difference between virtual and face-to-face groups, Rovai highlights the importance of spirit, trust, interaction and learning. He conceptualizes spirit as being recognition, friendship and bonding between members. Trust involves credibility and benevolence, such that members care about and can rely on one another and help one another in their learning. Learners are able to expose gaps in their learning, knowing that others will support (and not ridicule) them. Interaction may be directed toward the assigned task and/or towards social exchanges, while learning is the commitment to a common educational purpose.

It is by synthesizing the preceding social psychological theories and empirical work with that of Davis and Denning (2000) that we have come to understand the complexities of, and influences on, group dynamics and how they impact learning in a blended learning context. Davis and Denning’s research was conducted in a virtual group context with post-graduate students, in which they identified characteristics associated with successful collaborations or learning communities. They separate these characteristics into “group dynamics” and “learning dynamics.” Positive group dynamics are characterized by risk taking, facing rather than avoiding conflict, social activity, humor, expressing interest, reflection, and feedback/disclosure. Learning dynamics incorporate the mechanisms through which learning might be promoted, such as the building or scaffolding of ideas, challenging, experimenting, meta-communication, and reflection. Davis and Denning synthesize group and learning dynamics to form a grid based on levels of activity in these domains. Using a continuum from low to high on both axes of the grid, they identify the extent to which group and learning dynamics interact to constitute a learning community and offer vignettes of how groups might perform differentially (Fig. 1).

The distinction between group and learning dynamics is particularly useful in our context because it highlights differences between groups in terms of the social and emotional climate evident in both face-to-face and online interaction (group dynamics), and the ways in which thinking, reasoning and reflection are used within groups to stimulate increased understanding (learning dynamics). Notwithstanding some limitations in the model with respect to our own findings, which are explored presently, it seemed to offer a

<p>High</p> <p>↑</p> <p>Learning Dynamics</p> <p>(building ideas, challenging, reflecting etc)</p> <p>↑</p> <p>Low</p>	<p>I’m OK, you’re OK</p> <p>High on learning dynamics, low on group dynamics.</p> <p>Members show little concern for each other personally and will tend to work independently rather than interdependently</p>	<p>Tough love</p> <p>Groups who manage both group and learning dynamics get as close as possible to being a learning community. Characterized by hard work, collaboration but possibly anxiety.</p>
	<p>Fragmented by technologies</p> <p>Being low on both group and learning dynamics may have very little activity</p> <p>Characterized by indifference, not concerned with the group process and ineffective in its learning objectives</p>	<p>Summer Holiday</p> <p>High on group dynamics but low on learning dynamics may mean that this group has fun but achieves little learning.</p>
	<p>Low Group Dynamics High</p> <p>(risk-taking, facing conflict, social activity, humour, expressing interest etc)</p> <p>→</p>	

Fig. 1 Adapted from Davis and Denning’s (2000) learning community grid

tentative organizing framework for analysis. We do acknowledge that our participants differed from those in Davis and Denning's study in that they were undergraduate, rather than postgraduate, students in a blended, rather than virtual, learning environment.

Research context

The total cohort within the BSc (Hons) physiotherapy program is large ($n=131$), although interactive and practical work is conducted in seminar groups of approximately 20 students. The relative intimacy of the seminar groups allows students to get to know one another well. A blended learning approach offers an ideal way of facilitating and supporting student healthcare professionals in making the transition to the practice setting for the first time. The students spend the first 18 months of the program in the University, and in close proximity to peers, developing the necessary knowledge and skills to prepare them for practice. This is followed by a 15-week period of practice-based learning, during which the students are dispersed across an extensive geographical area, often in isolation from their peers. It is well known that the step into clinical practice is highly stressful for healthcare students (Di Giacomo & Adamson, 2001) and there is potential for isolation. Therefore, any intervention that alleviates stress that has been found to be supportive, such as online contact with peers (Clouder & Deepwell, 2004), can only be of benefit.

Once out in practice, each seminar group had access to an online social forum and an online critical incident forum. Both forums were private to the group. Each group was facilitated by one of the team of online tutors, who were allocated to groups with which they were most familiar. Each group set its own ground rules for the online forums. Notwithstanding the benefits of social contact with peers provided by a social forum, in pedagogical terms the aim of the critical incident forums was to provide a learning opportunity that enhanced reflection on practice through "social negotiation or collaborative sense-making, mentoring and joint knowledge construction" (Zhu, 1998, p. 234). The students were asked to post critical incidents or significant events in the critical incident forums. Brookfield (1990) suggests that critical incident technique provides a means of exploring experiences and the inherent assumptions that we bring to those experiences. Therefore, we adopted it as a means of structuring collaborative critical reflection around the challenging experiences confronting students in practice. Although postings were not formally assessed, students were asked to reference ideas generated online in their module course work, which involved writing a reflective account of three critical incidents they encountered on their placement.

Research approach

An action research approach was adopted over the discussion forums' 3-year period of operation. The main objectives for the use of this approach were to optimize the learning potential for students and develop our facilitator skills through an iterative process that allowed for change. Action research, which has been termed a "vehicle for learning" (Coghlan & Brannick, 2005), is based on a cycle of action and reflection (Revens, 1998) that involves planning, taking action, evaluating the action and further planning in response to findings. One of the distinguishing criteria of action research, therefore, is improvement (Breakwell, Hammond, Fife-Schaw, & Smith, 2006), so it seemed an ideal means of ensuring rigorous evaluation and scope for further iterations of a learning strategy

to which we were all relatively new. Changes that were made following evaluation include leaving discussion threads open for the full 15-week period whereas previously they were locked at the end of each of the three placements that comprised the 15-week block. Although some threads became quite long, locking them had the effect of stopping interaction and starting afresh, which some students found inhibiting. In addition, by increasing our emphasis on the introduction of the forums, ensuring students could access them and post and thread messages prior to leaving the university, we improved participation in the second cohort. Finally, rethinking facilitator input as the forums began to gain momentum allowed us to renegotiate teaching hours.

Data is comprised of the discussion threads of the six seminar groups, transcripts of focus groups conducted with each group at the end of the 15-week period, and written student evaluations. Each online tutor analyzed the discussion thread transcript for their group, developing conceptual categories related to student interaction and learning dynamics, most specifically looking for evidence of collaboration in building on ideas, critical engagement and reflection. We then shared analyses of our groups' discussion threads, written evaluations and focus group transcripts. Working together, we identified different emphases on issues and clustered categories into themes, which were then linked with relevant literature.

A case study format is adopted as a means of highlighting the spectrum of differences between groups. We acknowledge that our findings are grounded in a particularly novel context and are therefore are not generalizable. However, it seems likely that they are transferable to other blended learning situations. Groups have been given numerical identifiers to ensure anonymity.

Reflections on findings

Rich learning

Biggs (1999) points out how no two groups of learners are the same, which certainly reflects our experiences. However, of the six groups studied, Groups 1 and 2 were remarkably similar in that they appeared to be cohesive, exhibiting positive group dynamics characterized by commitment, clearly liking and showing an interest in one another (Tubbs & Moss, 2003). For example, Group 1 demonstrated commitment and interest not only by the quality of their interactions but also by the volume, i.e., 275 separate postings and 4–10 responses for each of the 25 specific incidents described (of note is that all group members contributed bar one, who subsequently left the course).

Both groups had developed very sociable and supportive relationships while in the University setting and appeared to actively want to maintain the groups as a social entity while on clinical placement. Interactions, via the discussion forums, display a nurturing approach to their learning focused on their critical incidents. The conditions necessary for effective group interaction—social activity, humor, and expression of interest in one another's experiences as well as willingness to disclose and receive feedback (Davis & Denning, 2000)—were apparent in discussion threads, as the following exchange illustrates. Student 1 begins:

Hi everyone, Hope you are well and enjoying your two weeks off and I hope your placements have gone well so far! I'm trying desperately hard to motivate myself to write my critical incidents, so any help would be much appreciated...

The student goes on to describe a critical incident and her interpretation of it, and asks some questions of her peers. Student 2 responds by first validating the idea, an important aspect of social comparison (Festinger, 1954):

I can identify with you... I also found it quite strange... Maybe it is to do with the fact that...But it might also be to do with... PS will miss you, see you in June.

However, this student develops the idea further and opens up other possibilities showing a readiness to share and question tentative ideas and assumptions. She demonstrates a willingness to explore experiences as a potential means for deepening learning online that is characteristic of “cognitive presence.” Her comments also support the notion that “cognitive presence” stems from “social presence” (Beuchot & Bullen, 2005).

A third student identifies with the discussion, adding “I think I know what you mean,” while a fourth tentatively offers an alternative perspective in discussing an opposing experience, which is at odds with the conversation adding, “...don’t know if that will help, but that’s my experience.” Finally, the first student closes the discussion:

Hi guys, I just wanted to thank you very much for your replies to my critical incident topic, they were all really helpful in getting me over my writer’s block...

The students appeared to enjoy the online contact and were able to ask questions openly, thus “building or scaffolding ideas” (Davis & Denning, 2000, p.79), and informing one another’s critical reflections. The majority of students contributed actively online, possibly supporting the suggestion that “social loafing” is less likely to occur in cohesive groups (Alpay, 2005, p.10). These groups appear to have scored highly in both learning and group dynamics, which are perceived to be essential for the establishment of an on-line learning community (Davis & Denning, 2000). The interactions of these groups lead us to suggest that students are possibly motivated initially by the wish to be sociable and supportive of one another during a period of intense learning. However, that sociability is a precursor for enriching learning in situ, in the practice environment rather than back in the classroom. The move from face-to-face to an online context appeared to have been almost seamless in terms of the emotional and social climate or the learning dynamics in these groups.

Testing times—friends in adversity

In the classroom, Group 3 appeared to be a cohesive group ready to offer one another social and intellectual support in the context of an easy rapport, which began to shape interaction online. However, three members of the group experienced difficult first placements and naturally they posted messages around their issues. A highly emotional tone and the use of strong, and at times unprofessional, language (replaced by asterisks below) more than compensated for loss of visual cues to portray a sense of group solidarity and friends in adversity:

Hi everybody. [Student A] says hi to y’all, she’s nice and happy now with her placement, got over the problems with [*****] educator. She hopes you are all doing well...

Slandorous postings, including the naming of individual educators and hospital units, portrayed high levels of emotional contagion typical in groups with good rapport (Spoor & Kelly, 2004). Emotional contagion, which is usually passed on via mimicry of facial expression and posture (Spoor & Kelly, 2004), was conveyed through the use of strong

language and passionate discourse eliciting highly supportive responses from the group. When one student stated “I don’t think I can be strong anymore—my confidence is shattered ...I’m even thinking about going back on my medication,” another replied “I don’t think I can do this anymore, I want to come home.”

A worrying aspect of this contagion was a student posting her concerns about a future placement, escalating the negative mood within the group, which seemed unable to progress to explore the issues dispassionately and in any depth. This group might have been expected to fall into Davis and Denning’s “tough love” domain, which they acknowledge can be characterized by anxiety. However, the group illustrated how emotion that escalates beyond anxiety can get in the way of learning.

Intervention by the online tutor was aimed at encouraging in-depth exploration of the perceived negative experiences and inspiring students into mutually beneficial reflection:

It is time that you turned your thoughts and replies to a more objective and critical tone. You need to ask yourselves some difficult questions such as: Do I have a part to play in this? How do I come across? Are there any others factors that might have influenced the situation?

The intervention succeeded in triggering meta-communication and reflection with the result that students managed to work effectively through many of the issues. One student reflected, “It is now clear that the reasons behind my dilemmas were not all the educator’s fault, it was partly to do with me. I was unable to see it from her point of view.”

The interaction of this group highlights the importance of timely and effective facilitation where a group with good social dynamics and learning potential becomes too emotionally charged to move their thinking beyond very superficial understandings. It also highlights the possibility that cohesion that is cemented by a perceived threat might be detrimental to student learning if there is no mechanism or catalyst, such as a facilitator, to move students to reflect critically on experiences.

A “mess” of a group

Assumptions tend to be made about the general desirability of meeting face-to-face in order to enhance subsequent online interaction (Alpay, 2005). However, not all groups establish cohesion even in a face-to-face context, and a particular group in this study was a case in point. Davis and Denning (2000) would label this group “fragmented by technologies”; low on both group and learning dynamics. However, since the fragmentation was evident even prior to attempting to engage interaction online, this group highlights a shortfall in Davis and Denning’s model as an organizing framework for analyzing blended interaction. Very little activity occurred online. One student who logged on to the critical incident forum was disappointed to find she was in the minority stating, “just thought I’d log on and see if anyone else had—obviously not.”

Despite pleas of “can anyone give me any feedback please,” another student’s attempt at posting a critical incident was ignored. Encouragement from the facilitator failed to improve on the level of apparent disinterest in sharing ideas, despite the fact that from the “tracking” facility we know that all of the students in the group did log on periodically. The social forum was used by a small number of students mainly for information exchange, such as “what is your placement like? I’m there next—are there any tips I need to know? Is there anyone I need to avoid?”

Subsequent written and group de-briefing feedback described the group variously as *wicked*, *friendly*, *private* and *a mess*. Those students who were keen to learn were labeled as

geeks. Further probing revealed lots of very small groups within the larger group, in which students felt voiceless and not confident enough to post messages for fear of ridicule from a small number of disaffected students. This resonates with the findings of previous research conducted on resistant learners in book club discussions, where only five students disrupted whole groups of students (Hauschildt & McMahon, 1996). Group feedback, characterized by the above labels, suggested that it was devoid of spirit, cohesion or bonding (Rovai, 2002). The subsequent lack of a common learning culture is hardly surprising where students feel unable to project themselves socially and emotionally, even in a face-to-face context. Several students suggested that if they had been unlikely to meet any of the group face-to-face again following the online interaction they would have felt more able to voice their opinions and ideas more freely. However, the knowledge of having to spend another whole year in the company of their peers silenced these students. This finding adds a caveat to the claim that online environments are less inhibiting than face-to-face interaction for quieter and less confident students (Hudson & Bruckman, 2004).

This group illustrates how less cohesive groups where collaboration is limited can impact students' learning from their peers. Learning might be limited either because help is withheld, which is illustrated by student comments such as "people don't reply," or because active disapproval is evident, such as the labeling of *geeks*. Both behaviors are integral to processes of social positioning in culturally constructed and socially imposed worlds (Holland, Lachicotte, Skinner, & Cain, 1998). Since the dynamics of this group appeared to remain stable across face-to-face and online settings, it seems likely that the processes of shutting down of collaboration or social disapproval operate in similar ways in both aspects of the blended learning experience. This presents us with a considerable challenge; after Lindquist (1994), however, we are committed to listening to and working with resistance by acknowledging a need for and being flexible enough to adopt a different approach to facilitation, for instance.

Competing or finding a voice

Group 5 quickly divided into two subgroups once out of face-to-face contact: a small cohesive group and a larger group that did not engage in the online forums overall. Prior to this period of dependence on online contact, the group was considered by the tutor to be a strong, cohesive group who worked well together and had a strong social network. However, a marked competitive element and several dominant characters might have been expected to influence the dynamics of the discussion forum once the students had dispersed to their placements. Strangely, they did not. Some of the more dominant and competitive individuals were noticeable by their absence. Following a group debriefing session at the end of the 15-week period, it became evident that these students did not wish to share their ideas with peers with whom they perceived themselves to be in competition. They chose to opt out, withholding help (Holland et al., 1998) for the other students. As the assignment deadline approached, however, several strategic members did post messages in order to be able to reference the replies of their peers in their assignment, as the following excerpt illustrates:

I can't believe we have only six weeks left. From our (assessment) brief I think I am supposed to reference your reply comments as part of the write-up so I'd really appreciate your thoughts.

Davis and Denning's (2000) suggestion that if learning dynamics are high within a group individuals may show little concern for others and will be inclined to work independently

rather than interdependently, adopting an “I’m ok, you’re ok” attitude, seems to be an apt explanation for this group. Individuals need to have a motivation for joining and maintaining a group and they need to see the value of investing time in the discussion, as illustrated by the first two groups. However, time costs may simply outweigh potential rewards if there is a lack of perceived need to engage in the forum to achieve what for most students is their primary concern, completing the module assessment and doing well. Rovai (2002) suggests that when group work is absent, group identity will be difficult to establish and nurture and this seems to be what we observed within this subgroup of students. Learners did not appear to feel mutually interdependent, possibly because their contributions to the forum were not assessed.

The smaller cohesive subgroup became a tight learning community showing commitment to the forum and displaying support, empathy and a willingness to help others, seeing value in reciprocal altruism (Spoor & Kelly 2004):

THANKS to all of you that have commented—really useful. It’s actually great to hear that others of you have had similar problems and have some really good advice

Interestingly, it was the quieter students in the group when face-to-face that contributed most to the discussion forum on line. Sproull and Kiesler (1995) suggest that the online absence of individuals who dominate face-to-face interaction, which allows others to have an equal share of a discussion, can be attributed to the absence of cues that define the nature of the social situation. As a result, quieter individuals may be less concerned about embarrassment or being judged negatively by their peers. Similarly, Hudson and Bruckman (2004) suggest that quieter students feel less inhibited online because there is less of a sense of a judging audience, and therefore self-awareness is significantly lower.

This group illustrates how a change of the context in which the group functions can challenge prevailing group dynamics, as individual members experiment with new identities on the fringes of the group. Unlike the previous group, where the possibility of involvement and interaction online appeared untenable, the dynamics of this group were generally positive, with some individuals only requiring space to find a way into interaction, which was provided by the online context. This group also highlights how difficult it can be for teaching staff, interacting with students in a face-to-face context, to gain an insight into the dynamics within groups, but also how helpful this awareness might be, especially for facilitating online groups.

Growth of the individual within groups

The final group presented shows a progression from individuals engaging when circumstances allow (as occurred in the previous example), to individuals working strategically to achieve interdependence rather than independence in their learning. Recognizing the greater potential for success as a collective, Group 6 shared the common understanding that working together would improve the quality of the learning experience for them all. This was observable through a strong pro-active engagement with the classroom task, which was the norm. The students openly encouraged one another to join in so that they each benefited in terms of learning. Behaviors that influence the “success” of individuals run in parallel to those which enhance group success, a fact that these individuals, and subsequently the group, recognized. Nevertheless, there remained room in the group for individual personalities and preferences of learning style, which were acknowledged and respected by other students. As such, this group adopted a “tough love” ethos (Davis & Denning, 2000).

The transition to online interaction prompted noticeable changes in the contributions of some members and continuity in others. Two members have been selected and given names in the archetypal style. The ‘Strategist’ continued behavior demonstrated in class: if we all play the game, then each of us will benefit. The student worked hard in posting material right from the beginning, and exhorted the other students to respond by using direct invitations. For example:

Have any of you had similar experiences or what do you think generally? I would really appreciate your thoughts.

She was also active in responding to other students’ postings and, in contrast with the early postings of other students that focused on the immediacy and emotional experience of placements, she focused strategically on the demands of the assessment. The direct invitations to respond to her postings continued throughout the forum, receiving more challenging responses in the later stages of the group, possibly when the others felt they had more to give. For instance, after some discussion about a critically ill child a student asks “was the child in pain? If so maybe it would have been best not to [resuscitate]. Some times you have to be cruel to be kind.”

The ‘Mother’ had been a quiet member of the group in class. However, online, it became apparent that she was responding to each of the other student postings. Her responses were often full and were typified by caring and thoughtfulness and a high degree of tact, serving to nurture the other students. The nature of the support changed as the group matured, becoming more direct while still demonstrating great insight and tact. Retrospectively, it was difficult to identify this behavior from in-class interactions, supporting research that suggests that students who are reserved and rarely contribute in class make insightful contributions online (Jewell, 2005).

Interestingly, this group had little need for a facilitator probably because it bore the characteristics of a well developed learning community. However, the group highlights that each group is made of individuals who are free to behave independently, and even as the collective interdependence creates the group, each member can engage and disengage from the group or change the way they contribute.

What have we learned?

The influence of group dynamics within a blended learning context is complex. However, we tentatively make some broad observations within our own particular situation. Notwithstanding the one exception, positive group dynamics were generally present in the groups studied, possibly due to the similar pre-existing attitudes and values (Festinger, 1954) of the students as developing health professionals. Group dynamics, whether positive or negative, appear to be relatively stable across contexts when the foundation for online interaction is established during a lengthy period of face-to-face classroom contact. The quieter students who found a voice online do challenge this assertion, although whether their increased participation in their groups altered the social and emotional climate of those groups is unclear. We did not continue to study the groups once they resumed face-to-face interaction, although this final phase has potential to further our understanding. Perhaps these students serve to remind us that “ultimately it is individuals who learn, not groups” (Brookfield, 1986, p.60).

The potential that positive group dynamics generated for learning varied between groups, depending on individuals and levels of social and cognitive presence within the

group. The quality and volume of postings for Groups 1 and 2 were remarkable and their content seemed to benefit members greatly, although the interaction appeared to be largely driven by the desire to be supportive, especially when compared with the final group (Group 6). Group 6 exhibited the prerequisites for a powerful learning community, based on the development of individual members that created a comfortable group ethos and a strategic approach to learning. Social presence appears to be vital for establishing positive group dynamics; individuals, however, need to transcend the desire to be sociable and supportive in order to develop the readiness to share and, importantly, to question tentative ideas and experiences as potential for learning online. Group 3 illustrates how groups that exhibit cohesive tendencies, positive dynamics and motivation, but fail to question ideas or probe assumptions that might lead to deeper understandings require a good facilitator to raise their game.

These observations have led us to propose a tentative model, building on Davis and Denning’s work, that elucidates the influences that come into play in a blended learning context. In developing the extended model, in light of our findings, we challenge Davis and Denning’s thinking in two respects. First, we question whether groups that are low on group and learning dynamics are necessarily “fragmented by the technology.” Given the complexities of interaction illustrated by the “mess of a group,” this appears too easy an explanation and has resulted in us re-labelling this group as the “fragmented group” in the figure below. Second, the “summer holiday” domain seems tenable in principle, but given that none of our groups displayed positive group dynamics, without any transference into learning we cannot substantiate Davis and Denning’s conceptualization of this domain at present. Perhaps it is more accurate to suggest that any learning in this type of group is incidental, and groups with weak learning dynamics would require considerable input from an online facilitator. This aspect of the model requires further exploration. Our own tentative model is presented in Fig. 2.

We attempt to illustrate the movement from face-to-face to online interaction and back again (phases appear as three boxes). The final transition has not been studied and will require further work. There is, however, evidence that anticipated face-to-face contact

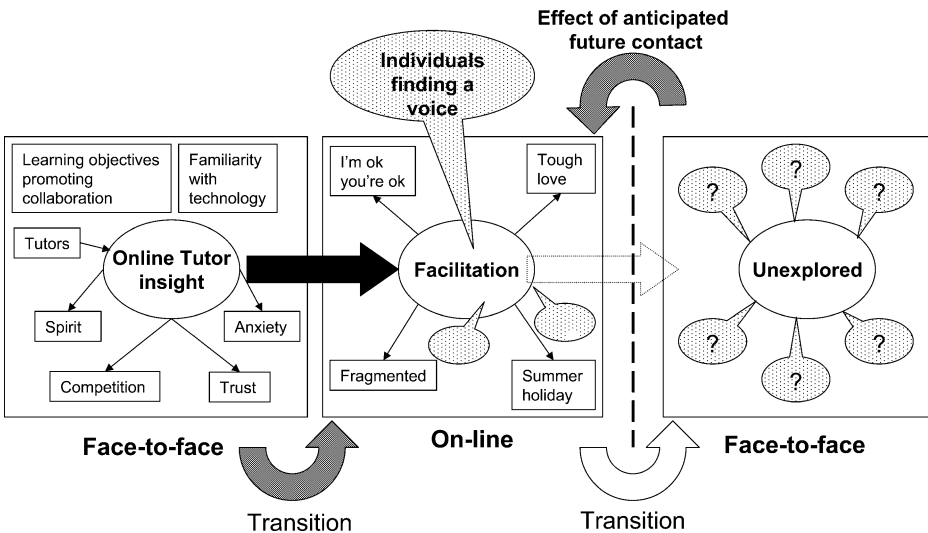


Fig. 2 Factors influencing group dynamics and learning dynamics in blended learning

following online interaction influences that interaction; it is therefore identified as an influencing factor (by a backward arrow). Our findings support the assertion (Alpay, 2005) that the importance of a good facilitator cannot be underestimated, and as a consequence we include the online tutor as a central feature of the model and a link from one context to the other. The initial face-to-face phase contains a number of boxes making explicit contextual factors such as levels of anxiety, competitiveness, spirit and trust, which give rise to social and learning dynamics prior to online interaction. Tutor insight gained from other tutors and direct contact with groups appears helpful in predicting the climate within each group in preparation for adopting the optimal approach to facilitation. Other factors, such as familiarity with technology and learning objectives, which promote collaboration, are included in this phase as contextual factors that might influence subsequent online engagement.

The online phase represents the essence of Davis and Denning's domains, with the addition of the facilitator as having a vital and differential role within each of the groups. The speech bubbles make visible individuals who appear to emerge online having found a voice in the new medium. Whether group dynamics and learning dynamics alter following the transition back to face-to-face contact, especially following the emergence of individuals online, is currently unclear. We have more work to do, especially in testing and further developing our model. However, the insight we have gained from exploring group dynamics and their impact on learning has enhanced our understanding of how the potential benefits of online support for health and social care students in practice settings might be optimized.

Acknowledgements We wish to thank the reviewers for their constructive comments and contributions, which have challenged and enhanced our thinking in writing this paper.

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