



Foster strengths and circumvent weaknesses: Advantages and disadvantages of online versus face-to-face subgroup discourse

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ABSTRACT

This article points out some advantages and disadvantages of online over face-to-face subgroup discourse. Using a mixed methods study methodology, five online graduate-level courses were investigated and the experiences from twenty-two participants were described to identify key advantages and disadvantages of subgroup structures used to evaluate graduate students' and instructors' experiences. Outcomes revealed that online small group discussions have more advantages over face-to-face ones. Online small group discussions can be an effective strategy to interweave whole-class discussions with small group discussions in order to reduce overall information loads in large classes while providing more opportunities for interaction. However, online small group discussions have some disadvantages over face-to-face discussions. The findings may have implications for both practitioners and researchers studying online small group discourse. They could serve as a base for researchers to further explore the issue to achieve fruitful online discourse.

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1. Introduction

In face-to-face classes, many instructors utilize a small group strategy to provide a more focused and in-depth discourse. In online courses, one method to reduce information overload is to divide a large class into discussion subgroups (Qiu, 2010). This strategy is intended mainly to decrease the amount of information that needs to be processed in large classes with the goal of fostering greater participation in subgroup discussions, to promote focused and deeper inquiry, to increase opportunities for online collaboration, to maintain proper participation, and to help discussion thread development (Qiu, 2010; Qiu, Hewitt, & Brett, 2012). Although a great deal of research has been conducted to investigate small group learning (e.g., Bales & Strodtbeck, 1951; Davie, 1988; Davis, 1969; Hoffman, 1965; Maier, 1971; Stahl, 2006), not many studies have explored the advantages and disadvantages of online versus face-to-face subgroup discussions.

This mixed methods study explored the advantages and disadvantages of online subgroup discourse over face-to-face one with the purpose of fostering strengths and circumventing weaknesses in each mode of delivery. Not all aspects and factors that contribute to advantages and disadvantages of online and face-to-face small group discourse can be taken into account in this study. This research explored advantages and disadvantages by analyzing data from interviews of 10 online graduate course instructors and 12 online graduate students at one Canadian institute and five online graduate-level course datasets from the institute Web Knowledge Forum (WebKF) databases. Web Knowledge Forum, the second generation of CSILE (Computer-Supported Intentional Learning Environment), provides a group work environment with the features of threaded discussions to support knowledge building and online learning community building. It is online teaching and learning facilitation software. The information provided by this study may benefit interested researchers, online course instructors, and online learners. The findings will add to our knowledge of advantages and disadvantages of online and face-to-face small group discourse.

2. Literature review (has been rewritten)

Some peer-reviewed journals focus on studies on small group research. For example, the journal Small Group Research has been publishing articles on research, theoretical advancements, and empirically supported applications about all types of small groups since 1970.

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In the 1990s, small group research focused mainly on face-to-face small groups. For example, [McLeod, Lobel, and Cox \(1996\)](#) reported that diverse work groups have potential performance advantages over homogeneous groups, at least with respect to creativity task requiring knowledge of different cultures. On the other hand, they found that members of heterogeneous groups may have had more negative affective reactions to their groups than did members of homogeneous groups. In the past 20 years, researchers have focused on small group issues between face-to-face and computer-mediated communications.

Comparing face-to-face and CMC small groups [Hollingshead, McGrath, and O'Connor \(1993\)](#) found that group communication support systems provided some benefits and some drawbacks for their users. They discovered that face-to-face groups performed better on negotiation and intellectual tasks than did their computer-mediated counterparts. Results of [Straus' \(1996\)](#) study reported that, although CMC learning environments might introduce new process, patterns of interaction and performance in computer-mediated groups did not depart substantially from face-to-face groups. This study also revealed a contrast to some ideas that electronic communication reduces inhibitions. It argued that participation in CMC was associated with individual differences in extraversion. Individuals dominated in both media despite that more equal participation were found in CMC learning environment. This study also revealed that, although CMC groups were less satisfied with the process, media had few effects on information sharing or performance.

[Jonassen and Kwon \(2001\)](#) identified that "research has shown that when group problem solving is computer mediated, communications become more task oriented with clearer role expectations, while face-to-face communications are more cohesive and personal" (p. 35). They noted that CMC group decisions more closely resembled the general problem-solving process, while the face-to-face group interaction tended to follow a linear sequence of interaction. [Yoon and Johnson \(2008\)](#) described development patterns of each virtual learning group as either linear progression (a straight movement through those phases) or adaptive progression (a backward movement to a previous phase for adaptation before proceeding).

[Hobman, Bordia, Irmer, and Chang's \(2002\)](#) study detected that, at the beginning, CMC groups exhibited more relationship and process conflict than face-to-face groups, but in later stages, these differences were not apparent. [Paulus \(2009\)](#) suggested that students should remain in the same groups long enough to negotiating common ground and to develop such strategies. However, at all times, CMC and face-to-face groups exhibited similar amounts of task conflict. [Zornoza, Ripoll, and Peiro \(2002\)](#) tested the differences in quality and frequency of conflict management behavior as a function of the interaction between task and communication medium in CMC and face-to-face small groups. The results suggested that CMC was not the most suitable medium for idea-generation tasks or for intellectual tasks than face-to-face medium for small groups.

[Becker-Beck, Wintermantel, and Borg's \(2005\)](#) study suggested that CMC groups only performed better when generating tasks required little richness of communication environment. They witnessed lower completion of tasks with higher adaptive requirements in CMC. They argued that only anonymity condition produced equal outcomes in face-to-face and CMC. [Campbell and Stasser \(2006\)](#) examined decision-making in CMC and face-to-face Groups. Their results indicated that, when given a set of instructions and ample time to discuss the task, the CMC groups had the highest solution rates. Analyses of the CMC discussion logs indicated that the groups, who were given extended time, repeated and recalled more unshared information. [DeWever, Keer, Schellens, and Valcke \(2008\)](#) reported a significant positive impact of assigning roles to students in online small groups. However, this positive impact depended on the moment of the introduction of the roles. They found higher levels of social knowledge construction in discussion groups where roles were introduced at the beginning of the discussions and faded out toward the end. Whether positive or negative, group dynamics and their consequent impact on interactions among participants may appear to be relatively stable across contexts when the group activities are designed through face-to-face interaction ([Clouder et al., 2006](#)).

[Zhan, Xu, and Ye \(2011\)](#) reported that both active and reflective learners performed significantly better in the online learning community intervention than those who were in the face-to-face intervention. Their results also indicated that, in the face-to-face intervention, active learners performed significantly better than reflective learners, while reflective learners performed significantly better than active learners in the online intervention. [AbuSeileek's \(2012\)](#) study revealed that the computer-based environment enabled the participants to blind their identities and reduce their anxiety from face-to-face debate, and so this ability to blind their identities was very helpful in developing their communication skills and enabling all group members to perform their roles significantly. [Clouder et al. \(2006\)](#) studied how group dynamics change as groups move from face-to-face to online collaboration in pursuit of learning objectives. They found that engagement and interaction of individual students could change when face-to-face interaction moves online, mainly due to the disadvantage of lack of visual cues ([Tiene, 2000](#)).

To create learning environments that provide functions similar to face-to-face ones, some researchers used multimedia and synchronous media. [Van der Kleij, Schraagen, De Dreu, and Werkhoven \(2009\)](#) noticed that lower levels of perceived satisfaction with group processes and outcomes in video-teleconferencing groups as compared to face-to-face groups. They ascertained that the interaction process in video-teleconferencing groups was more formal, lecture-like with long turns. They uncovered no performance differences between face-to-face and video-teleconferencing groups. [Graetz, Boyle, Kimble, Thompson, and Garloch \(1998\)](#) found individuals in the teleconferencing condition appeared to have a more positive impression of their group relative to participants in the face-to-face and electronic chat conditions. [Sins, Savelsbergh, van Joolingen, and van Hout-Wolters \(2011\)](#) studied online chat groups and found that, compared to face-to-face communication, chat slowed down the working process and in general, chat groups took longer time than face-to-face groups to complete a given learning task.

Online small groups [Oliveira, Tinoca, and Pereira \(2011\)](#) observed that the instructor's presence as supportive and facilitator role could heavily influence the types of interactions and production in small groups, particularly at the earlier stages. They believed that, whenever possible, special care should be given to the construction of the online small groups. [Salmon \(2004\)](#) also identified disadvantages of online small groups. In her findings, she listed the challenge of students taking a risk online, as they might feel embarrassed to write poorly constructed and non-contributing entries. She also noted the lack of visual clues, different cultural norms to working in groups, the lack of time to schedule reading and writing of notes and the need for appropriate and engaging moderator presence. She argued that, while many advantages existed in online communication, there were some disadvantages that could be further investigated.

It is also the case that collaboration seems not often naturally happen in an online small group ([Wang, 2010](#)). [Garrison and Cleveland-Innes \(2005\)](#) found that the design of the online small group activities had a significant impact on the nature of the interaction and whether students approached learning in a deep and meaningful manner. Their conclusion was that structure and leadership were found

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