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A phenomenological study of teamwork in online and face-to-face student teams

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Abstract Team-based projects are widely used in both traditional face-to-face and online programs in higher education. To date, the teamwork experiences of students in each modality have been documented primarily through evaluative research conducted over short spans of time and limited by a priori frameworks. The literature also reflects a lack of agreement about what constitutes the phenomenon of teamwork in each modality. In order to address these limitations, we conducted a phenomenological study examining the lived experiences of teamwork among students in both face-to-face and online MBA programs in Iran. Our analysis revealed striking commonalities in the experiences of both groups, including a shared desire for effective leadership to alleviate the problem of free riders, as well as substantial time and effort invested in retaining reliable teammates from one team project to another. In other respects, face-to-face and online students' experience differed strongly. For example, while face-to-face participants pursued teammates with similar beliefs about how teamwork should be accomplished, online participants found themselves pre-occupied with staying connected with their teammates and struggled to establish common communication channels with each and every team member. Overall, our findings suggest that while training and support for student teamwork can partly build on the shared needs among students in both modalities, the nature of the experience in each modality may be so different in vital respects that engaging in one mode of teamwork does not necessarily prepare students to participate well in the other mode. Other implications and limitations of the research are discussed.

Keywords Student teams · Lived experience · Online teamwork · Face-to-face teamwork · Business education

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Introduction

Today's organizations are increasingly relying on teams to achieve their strategic and operational goals (Cohen and Bailey 1997; Edmondson et al. 2007). Therefore, employees' orientation toward teamwork and ability to serve as effective team members are considered valuable assets in the workplace (Bennett 2002; Ferrante et al. 2006). In response, team-based activities have increasingly been encorporated into curricula in higher education generally (Bolton 1999; Chen et al. 2004) and business education in particular (Baldwin et al. 1997; Clark and Gibb 2006), with the goal of preparing future employees for team experiences.

Despite an increase in the implementation of team-based learning in business programs, challenges encountered by student teams often make school teamwork a "less-than-satisfying experience" (Werner and Lester 2001). Negative teamwork experiences have been found to discourage students from active participation in future team settings (Pfaff and Huddleston 2003; Schultz et al. 2010), including work teams (Riebe et al. 2010; Ruiz Ulloa and Adams 2004), and thus can have a negative impact on the transfer of teamwork skills from educational settings to workplace environments (Baldwin and Ford 1988).

While teamwork problems have persisted in traditional business education, online management programs have been growing rapidly (Kalliath and Laiken 2006; Redpath 2012) and likewise make extensive use of team-based assignments (Allan and Lawless 2003; Lee et al. 2006). At the same time, the high rate of dropout among online students (Frankola 2001; Worley 2000) has been associated with a lack of student-to-student social interaction (Williams et al. 2006), which suggests that online programs should also devote further attention to how they utilize and support team-based activities among students.

We suggest that to formulate more effective teamwork supports, both traditional and online postsecondary educators would benefit from a clearer understanding of what the experience of teamwork is like for student team members and how students perceive the phenomenon of teamwork. A substantial body of research exists on student teamwork in each course modality, and it has resulted in creating innumerable practical recommendations for team training and teamwork support. Yet, there remains a lack of agreement among reseachers and educators regarding which factors are central to the phenomenon of teamwork and which are not (Salas et al. 2005). Moreoever, most of the existing findings and practical recommendations in the literature are based on students' ratings of those aspects of student teamwork that researchers assumed to be important based on a priori theoretical frameworks. Largely missing from work in this area are studies capturing students' intact accounts of their team experience and how they live through the inevitable ups and downs of working in teams. Without having access to the world of student teamwork from the point of view of the ones who are living through it, efforts to accurately identify and address problems faced by students are, in our view, hamstrung.

Furthermore, capturing the lived experience of teamwork in traditional as well as online learning environments may enable a more comprehensive comparision of face-to-face teamwork with online teamwork. This comparison is important because it may allow us to identify core characteristics of teamwork that are common across both modalities and those that are unique to the lived experience of each modality. Postsecondary educators could potentially use such findings to tailor their teamwork support to the modality of a particular course or program. Comparing the two types of team experiences may also contribute to a broader long-running debate among scholars on the equivalency of team experience between conventional face-to-face and online programs (e.g., Bell and Kozlowski 2002; Berry 2002; Martins

et al. 2004). The present study sought to enrich scholarly understanding by investigating the lived experiences of face-to-face and online teamwork as described by MBA students in Iran, comparing the experiences in each modality, and identifying priority areas for research and development in the coming years.

Prior research

An extensive review of literature on face-to-face and online student team experiences suggested that both streams of research have employed a primarily evaluative approach to the phenomenon of student teamwork. An evaluative approach is used to investigate what leads to positive or negative perceptions of teamwork among students. Researchers typically choose a specific set of characteristics of team experience based on an a priori framework and solicit student ratings of those pre-determined factors by means of a survey. They also ask students to report their overall satisfaction with their team experience and then examine the associations between students' ratings of teamwork characteristics and their overall team satisfaction. In the face-to-face team literature, for example, the factors most frequently associated with student team satisfaction include high quality of communication (Ruiz Ulloa and Adams 2004; Werner and Lester 2001), cooperation (Hansen 2006), even distribution of workload (Bacon et al. 1999; Napier and Johnson 2007), and clarity of goals and roles (Hansen 2006; Ruiz Ulloa and Adams 2004). In addition to these aspects of team processes, a number of contextual factors have been established as predictors of team satisfaction. These include the number of checkpoints for progress during the team project (Hansen 2006; Jessup 1995) and the amount of in-class time dedicated to group work (Bolton 1999; Pfaff and Huddleston 2003). In previous studies, students have also highlighted challenges that led to negative team experiences, including "free riding" by teammates (Ashraf 2004; Bourner et al. 2001; Joyce 1999), scheduling conflicts (Burdett 2003; Jessup 1995), and a lack of participation in group meetings (Hassanien 2007; Napier and Johnson 2007).

In the context of online teams, student team satisfaction has been associated with open and effective communication (e.g., Ku et al. 2013; Lin et al. 2008), the level of autonomy provided to group members (Mundell and Pennarola 1999), strong leadership (e.g., An et al. 2008; Miles and Mangold 2002), and psychological safety (Ortega et al. 2010). Challenges that students have rated as negatively influencing their online team experience include a lack of commitment among group members (Clark and Gibb 2006), difficulty in getting to know teammates sufficiently (Lee et al. 2006; Gabriel and MacDonald 2002), and difficulty in exerting pressure on free riders (Olson-Buchanan et al. 2007).

While each of the literatures on face-to-face and online student teams has provided valuable insights into the nature of students' team experiences, their contributions are primarily limited to evaluating team experience based on a priori frameworks. Given the methods employed in past research (i.e., student surveys), students' perceptions of their teamwork experience have been captured only with regard to what previous literature had suggested to be important. Further, within each literature, there is inconsistency with regard to the factors that researchers have chosen to include in their investigations. This inconsistency stems from a lack of agreement regarding which characteristics are central to the phenomenon of teamwork and which are not (Salas et al. 2005).

Beyond the abovementioned streams of research that focus on teamwork in particular modalities, researchers have also compared face-to-face teamwork with online teamwork by

examining the effect of teamwork modality on student ratings of different team processes and outcomes (Bell and Kozlowski 2002; Driskell et al. 2003; Martins et al. 2004). While some of these studies suggest that online teams can be just as satisfying to students as face-to-face teams (Berry 2002; Chidambaram 1996), others have identified differences in student experiences between the two modes of teamwork. Face-to-face teams, for example, have been found to face less difficulty in achieving mutual understanding and task coordination (Straus 1996; Straus and McGrath 1994), engaging in high-quality interactions (Andres 2002), maintaining motivation to work together (Graetz et al. 1998), and creating a sense of group cohesion (Hambley et al. 2007). Online teams' challenges are often attributed to the lack of nonverbal cues in text-based communication and the potential time delay in conversations among teammates using asynchronous media such as e-mail (McGrath 1990). In contrast, a number of studies suggest that online student teams may actually experience a greater sense of community and better quality communication (e.g., Benbunan-Fich et al. 2003; Hansen 2008), as the lack of physical presence and the possibility of social isolation can promote greater appreciation of the importance of communication with peers.

The majority of empirical studies comparing the student experiences of teamwork in face-to-face and online communication modes have been conducted in laboratory settings and have involved short-term tasks carried out in specific communication conditions. As such, it is worth noting that laboratory experimentation has been criticized for failing to yield meaningful and transferable results with regard to the study of groups in general (McGrath et al. 2000) and online teams in particular (Martins et al. 2004). Focusing on time frames shorter than those of a typical team project may also hamper researchers' ability to capture core elements of student teamwork that require time to evolve—particularly those that result from team interactions (Marks et al. 2001; McGrath et al. 2000).

Overall, what is missing from the comparative research on student teamwork is a methodological openness to exploring the student experience of teamwork by adopting an approach that captures real-world student teamwork over a long time span. The above considerations may help to explain some of the inconsistencies in the results of past comparative research on student teamwork and may enable us to contribute to the unresolved debate in the literature about the equivalency of teamwork in face-to-face and online programs.

Study design and context

This study followed the guidelines for hermeneutic phenomenological research articulated by van Manen (1997). Hermeneutic phenomenology examines peoples' "lived experience" of a particular phenomenon in depth. This approach enabled us to examine the phenomenon of student teamwork "pre-reflectively" and to explore it the way it is immediately experienced, "without taxonomizing, classifying, or abstracting it" (Van Manen 1997, p. 9). Further, since most research on student teamwork has been based on data from Western educational contexts, we took the opportunity to focus instead on Iranian business education to enrich the breadth of cultural contexts informing academic research on student teamwork. While Iran may be different in many respects from Western educational contexts studied previously, it is important to note that Iranian business education employs primarily Western teaching methods (i.e., lectures, tutorial classes, case studies, team-based assignments, and interactive class discussions) and teaching materials, including American textbooks. However, due to technical limitations, students involved in this study did not have convenient access to synchronous,

many-to-many Internet conferencing tools, such as multi-party Skype calling, to discuss team projects.

We used a purposive sampling design (Patton 2002) to select information-rich cases for in-depth study. To be included in the student sample, each participant had to be studying in a traditional or online MBA program in Iran and had to be involved in at least one team assignment at the time of data collection. In many instances, the timing of interviews and the interviewees' stage of progress through their programs allowed participants to reflect on their experiences in more than one project team. This is an important point of difference from many previous studies, which have gathered data regarding a single team experience.

Participants

All participants were recruited through email. Invitations were sent to a total of 25 online and 12 face-to-face students. Ultimately, we recruited ten participants studying entirely online and eight students studying face-to-face. It was not possible to recruit equal numbers of students in each modality, but the sample size for each modality was within the range of 6 to 12 participants that van Manen (2002) suggested as adequate for explicating the meaning of a phenomenon under study.

The online students resided in six different cities or towns across Iran. Their average age was 29, and all but one student was employed in a paid job at the time of the study. Seven of the online student participants were employed full time, two were employed part time, and the last was engaged in unpaid volunteer work. Six of the online students were male, and four were female. The face-to-face students all resided in the same metropolitan area. Their average age was 25, and all but two were employed at the time of the study. Five worked full time, one worked part time, and two were unemployed. The face-to-face students included six men and two women. While it would have been ideal to obtain gender balance in each modality, this was not possible given the available volunteers.

Data collection and analysis

Participants' lived experiences of student teamwork were gathered via two rounds of in-depth semi-structured interviews. The first author conducted both rounds of interviews via telephone. At the beginning of the first interview, all participants granted their verbal consent to participate in the research. The first round of interviews was conducted in the beginning of the Fall semester of 2009. Each interview was approximately 1 h in length. During this round, participants were asked to explain their background, provide demographic information, and discuss their team assignment(s) during the current semester. Using open-ended, narrative-seeking questions, the interviewer encouraged participants to describe what they thought, felt, and experienced during each of these team assignments.

The second round of interviews was conducted after each participant informed the first author that his or her team(s) had submitted their team assignment(s). The timing of the second interview ensured that the interviews captured at least one complete team assignment for each participant. Each interview in this round lasted approximately 45 min. The second interview gave participants the opportunity to share additional thoughts or feelings about their team experiences.

Before beginning to analyze the data, we undertook a process of "bracketing"—a phenomenological technique which involves making explicit our understandings, beliefs, assumptions, and presuppositions—so that we could be mindful of them throughout our research (Van Manen 1997). The analyses of interview data collected from face-to-face and online student participants were conducted separately, but followed the same steps. First, all the interview transcripts were coded using van Manen's (1997) selective approach to isolating thematic statements which seemed "particularly essential or revealing about the phenomenon" (Van Manen 1997, p. 93) of teamwork. These significant statements were then clustered into a set of themes. Finally, in order to verify whether each of the identified themes belonged to the phenomenon of teamwork essentially (as opposed to incidentally), we used the method of "free imaginative variation" and asked ourselves "Is this phenomenon still the same if we imaginatively change or delete this theme from the phenomenon?" (Van Manen 1997, p. 107).

After determining the essential themes for each mode of teamwork, we compared the themes that emerged from the accounts of participants in each modality. Some themes appeared in both modes of teamwork, while others were unique to the lived experience of participants in one modality or the other.

Findings

Each theme in this section captures one aspect of the lived experience of teamwork as lived through and described by our participants. The themes are organized in three sections: those that were common across both modalities, themes that were unique to online teamwork, and themes that were unique to face-to-face teamwork. The names of the participants were changed throughout this section in order to preserve their anonymity.

Themes common to face-to-face teamwork and online teamwork

Four themes arose from our analysis that were common to face-to-face and online students' experiences of teamwork.

Need for effective leadership All of our study participants believed that a team needs one of its members to act as the head of the team. In most cases, this person was referred to as the "team leader." The team leaders in this study were most often elected by the team members and expected to fulfill a distinct set of duties such as dividing the tasks among team members and then "pressing" fellow teammates to fulfill their assigned responsibilities.

Although some level of authority was assumed to exist in the role of the team leader, those participants who had taken on the role of leader were uniformly frustrated by their lack of resources to exercise this authority, particularly when it came to dealing with free riders.[1] Both online and face-to-face team leaders felt that ultimately, only instructors or teaching assistants had the power to force participation, through grades. The most coercive measure that team leaders could take with passive team members was to

[1] The terms "free rider" and "free riding" were literally used by one participant from the face-to-face group and one from the online group, while other participants used closely related terms (e.g., "shirker," "lazy fellow").

threaten that either their name would be removed from the final submission or their lack of effort would be reported to a higher authority, meaning the course instructor or the teaching assisstant. Saba (a face-to-face student), for example, had experience with using the former measure in her project team:

> One of us refused to work; I told him that I would not put his name on our project. This strategy was effective, and he got back to work.

Elaheh, another face-to-face student, became so upset about a free rider's lack of participation that she decided to led her team to "separate friendship relations from work relations" and "rat her out." However, in most cases, team leaders expected course instructors to use their power and take responsibility off their shoulders:

> I think the instructors should be harder [on team members]…. They should give feedback to the lazy fellows…. After all, the instructors are the ones who assign the grade.… They should be in touch with them, you know? But…I think the instructors are also lazy in their job, because this job is entirely put on me as the team leader, you know? [But] I am not their boss; I am just the head of the team. (Mahdi, online student)

Making an equal commitment For both online and face-to-face students, satisfying teamwork required a fair division of the team's task. Students sought to see that everyone worked equally hard and committed an equal amount of time and energy to teamwork. When a teammate's workload or their reward was perceived as unequal, it was certain to be noted by their fellow team members:

> In this project, I worked harder but she [my teammate] got a higher grade… During the semester, I committed most of my time to work on the project but the [instructor's] grade disappointed me. (Maryam, online student)

Participants recognized both legitimate and illigitimate reasons for their teammates' levels of contribution to differ. For example, a teammate might be hit by a personal problem or go through a very busy period in his or her paid work. When teammates did not contribute their fair share, others covered for them, but they drew a clear distinction between teammates who were absent due to personal issues and free riders:

> He [one of my teammates] was a hard-working one who was hit by a personal problem for a while; but she [my other teammate] was essentially a shirker. She didn't even learn a lesson from all those problems that she had [getting a lower grade due to her free ridership] that "I should really work in my team hereafter." (Elaheh, face-to-face student)

Sharing ideas and responsibilities As the participants described them, responsible team members respected the rule of equal commitment by working on their assigned tasks. Yet, they recognized that teamwork was not all about division of labor and working independently on one's equal share; it also required stepping outside one's own responsibility and sharing ownership of the whole task. Otherwise, teamwork would be reduced to, as Payam (face-to-face student) described it, "an individual work done together." Such sense of shared ownership was best manifested when team members were covering for each other and instilling an atmosphere of cooperation within their team:

> We were great together.…We worked together, all together.... Everyone felt responsible…. Everyone had a sense of belonging to the task and wanted it to be done. It wasn't like them saying, for example, that "now that he/she doesn't work, I don't work either." No one intended to shirk. (Elaheh, a face-to-face student)

Another manifestation of the sense of collectivity among team members was in their exchange of ideas with each other when developing a plan of action to complete the project by the deadline or when giving feedback on each other's piece of work. Giti (an online student) portrayed such idea-sharing as a way of sharing responsibility among team members:

> Yes, we divided the task, but we also commented on others' work. Each of us was assigned a responsibility; the team leader assigned this responsibility. And yet that responsibility was not only ours. I mean if there was an error or mistake, no individual was held accountable for it; because others had also given feedback on her work.

Sticking to known quantities Whether they were members of face-to-face or online teams, students wanted to know who they were working with so that they could work comfortably and communicate effectively. By "knowing" each other, participants meant a variety of things. Some, like Tirdad (online student) and Jalal (face-to-face student), felt they needed to know their teammates' time schedules and the amount of time and energy they were willing to commit to teamwork. Others, like Ladan (online student) and Shaheen (face-to-face student), wanted to know about their teammates' work ethic or sense of responsibility toward teamwork.

Understandably, this degree of knowlege could not be achieved overnight. Both online and face-to-face students had to team up with new acquaintances during the first semester of their programs, since in most cases they did not know any of their classmates. As time went by, participants got to know better who they were working with; but it generally took an entire semester or even longer for the members of both online and face-to-face teams to eliminate the percieved "distance" among themselves:

> We didn't know each other in the first semester…. We were a little, let's say, distant from each other. That's why we couldn't comfortably communicate.… But by the end of the first semester or even well into the second semester, I can say that communication has become much, much stronger. (Tirdad, online student)

At the end of their first teamwork experience, participants attempted to refine the compostion of their project teams based on what they had learned about one another. They said farewell to free riders and kept the "appropriate" teammates. As researchers, we were surprised to learn that this trial-and-error process could continue throughout the duration of an MBA program. Maryam (online student) described the increasing challenge of forming teams as she neared the end of her program:

> We are now in the second year. [It's not easy] to find a new teammate. The composition of almost all teams has been fixed, and there is only one semester left.… There's no time to become closer, to [get to know] each other. I'd rather take an individual project or if I have to, I will team up with my former teammate [who was a free rider] but work with her more cautiously.

One way to deal with this challenge, according to many participants, was by going after teammates that share a common background. For example, those who had a similar educational background, came from the same hometown, or had some prior interaction with the student—however brief and short—would be favored over complete strangers. In most cases, the students preferred to stick to these types of teammates as much as they could across different team projects, even though these acquaintances might not always prove to be the best teammates:

> I still team up only with classmates who have an electrical engineering background [same as me] ... It is very risky to team up with new people. (Payam, face-to-face student)

Themes unique to online teamwork

Our analysis revealed three distinct themes associated with online teamwork that were absent in face-to-face students' lived experience of teamwork.

Staying connected Usually dispersed across different parts of Iran, online teammates were liberated from the obligation to meet in the same place and at the same time; however, this freedom brought additional challenges of coordination. According to Tirdad, one of the online participants, while they are not in the same time and place, teammates "have to *want* to be in the same time and place."

As mentioned earlier, in the context of this study, online teammates were limited to using either synchronous one-to-one (e.g., text chat or telephone) or asynchronous one-to-many (e.g., email, discussion board) modes of communication and had to sustain separate connections with each of their teammates. This required knowing how each teammate preferred to be reached (i.e., through which communications medium). One team member might be comfortable using chat or email, while another preferred the telephone. It often took almost the entire first semester for several teammates to identify a reliable common communications medium. Rambod, another online student, explained the challenge:

> I've always been available on the web at work and at home…. But my teammates didn't provide the same possibility…. They went online in certain hours or minutes during the day, logged in, checked their messages, and then disconnected from the Internet to get back to their job. So our communication was somehow weak... [Also] some of my teammates were older [than others] and didn't use web-based tools a lot. They preferred telephone. They preferred to be reached via their cell phone when they were at work … [So] we decided to handle most of our coordination via phone, because others were more comfortable with it.

Focusing on the task Most of the online students in this study chose to take a fully online program so that they could spend "the least time possible" on their studies, including their team assignments. They sought to make the most of their study time, and this made their communication very task-oriented. For example, Rambod stated that "when I contact someone I know exactly what I want to take out of it" and mentioned that this helped him set the stage

for developing "professional relationships" with peers. Participants like Giti admired such task-orientedness and described it as one benefit of online teamwork:

> I prefer this [online communication] over face-to-face [interaction]…. I feel like in this [online setting], we are more focused on the agenda. When we get together to discuss a specific subject, as I've usually observed in my previous team experiences, the first half an hour is spent talking about the weather or the news or something else. But when [our communication] takes an online form, we contact each other whenever it's really needed. Whenever we really need to know each others' opinion, we contact each other and irrelevant discussions rarely take place.

Managing masked communications For online students, faceless and, in many cases, voiceless communication seemed to act as a mask that hides their facial and vocal expressions. This feature of communication among online team members came with both advantages and disadvantages. On the one hand, online team members were free from the discomfort of feeling that they were not brave enough to speak their minds in front of their teammates. They could look confidently into their computer screens and say things that they would not have said if they had been face-to-face with their teammates. Giti, for example, felt more comfortable when she used online communication tools to criticize her teammates for "not working hard enough and wasting time" in the team assignment.

On the other hand, online team members worried that their true feelings could be "hidden behind the text." Lack of nonverbal cues could bring about misunderstanding, as Tirdad described well:

> When you and I have face-to-face communication, you may say something that offended me, but I wasn't offended enough to explicitly tell you so. You only recognize from my face that I didn't like what you said. But [in online communication], we need to react a little sharply. I mean, we have to explicitly tell them that "what you said was wrong and offended me." Here, the exact words need to be said to make the other notice [your feelings]. But whether we react sharply or stand on ceremony, each has its own problem. If we react sharply, the other side may get it all wrong that what they did was extremely wrong. If you say nothing, on the other hand, they may do it again and again.

Themes unique to face-to-face teamwork

Two themes revealed the unique aspects of face-to-face teamwork as experienced by our participants.

Togetherness in group meetings For face-to-face participants in this study, teamwork entailed a particular form of togetherness. Some teams held meetings to literally produce every piece of their group projects together. Other teams got together to coordinate and divide the task among themselves and again later to aggregate their completed parts. Regardless of the strategy a team took to complete a project, group meetings were a taken-for-granted element of teamwork. Showing up at group meetings prepared and ready to engage was an essential way to demonstrate commitment. Team members understood that the more the team was inclined toward doing everything together, the longer team meetings would be; however, participants

like Elaheh believed that "when people sit together and share ideas, it may take longer but yields much better results."

As in online teams, free riders in face-to-face teams were identified as villains, though they were more conspicuous by their absence from team meetings or by turning up at meetings empty-handed. In Amir's team, for example, the free rider did both:

> He [the free rider] became a little busy [at work] and couldn't arrange a time to even attend our group meetings. It happened once or twice that we divided a huge book among ourselves and everyone had to read and summarize fifty pages of that book. This friend of ours attended our meeting but didn't bring anything. My teammates had a dispute with him for one or two hours, but eventually they got back to being friends. This shook our nerves though. After all, one piece of our work was missing.

Working in harmony Many of the face-to-face students' stories revolved around the extent to which their team members worked "in harmony." Harmonious teamwork took place when the teammates shared a mutual understanding and common approach to teamwork. When team members agreed upon doing their work together at the same place and time, they were ready to devote the time and energy to do so. If, on the other hand, they were all interested in minimizing the time they devoted to study, the team would work smoothly through the process of task division. Dealing with teammates of contradictory beliefs about teamwork could prove so challenging that it would break up a team. Even a close friendship might not be enough to overcome differences of opinion regarding how teamwork should unfold:

> Some of my classmates insist that we have to get together and do everything together. Others firmly insist that we should make good use of our time and [divide the task]. I don't consider this teamwork. During the first semester, I teamed up with someone who had essentially this kind of attitude. He believed that everyone should do one share of the task [independently] and the parts should then be aggregated and submitted to the instructor. We are still very close friends, but we've never worked in the same team [since then] because I couldn't get along with that [approach]. I used to say "What kind of teamwork is that?!" (Farid, face-to-face student)

Discussion

Our phenomenological study of the lived experiences of teamwork among face-to-face and online students in Iranian MBA programs revealed that there were four salient aspects of the lived experience of teamwork that transcended the modality in which students chose to learn (online or face-to-face). In both modalities, students characterized working in a team as taking responsibility for an equal part of the team task while sharing ownership of the whole task. They also expressed the need to be led by one team member whose responsibilities could be neither divided nor shared among the members of the team. Equally salient to the lived experience of both groups of participants was engagement in an ongoing, time-consuming process of getting to know their temmates, particularly in terms of their work ethic and sense of responsibility toward teamwork. As time passed and students progressed through their programs, they would favor working

with "known quantities"—even if they had proved to be less than ideal teammates—rather than risk teaming up with less familiar partners.

Unique characteristics of the teamwork experience in each modality were also revealed by our analysis. For face-to-face participants, the togetherness of group meetings was viewed as part of the necessary effort to work as a team. Such togetherness seemed most effective when face-to-face students teamed up with students who shared a similar work style and personal beliefs about how teamwork should be accomplished. Online participants had greater freedom in their personal schedules than face-to-face students did, but found themselves pre-occupied with staying connected with their teammates and managing communications through which they felt their feelings were masked by text-based media. While online teammates often felt a great deal of uncertainty about their teammates, one thing they could safely assume was that they shared a desire to remain task-focused and minimize the time devoted to their studies.

Some of the experiences of participants in our study echoed the results of prior research on face-to-face and online student teamwork. For example, both streams of research on face-to-face and online student teams have identified the distribution of workload and the degree of free riding in the team as predictors of satisfying teamwork experiences for students (e.g., Ashraf 2004; Bacon et al. 1999; Clark and Gibb 2006; Olson-Buchanan et al. 2007). These factors were also raised by the participants in our study as they described the importance of effective leadership and making an equal commitment. As in our study, previous research on face-to-face student teams has also documented the detrimental effects of low participation in group meetings and the positive role of group cohesion on student team satisfaction (e.g., Hambley et al. 2007; Hassanien 2007). Finally, consistent with our online participants' reflections on managing masked communications, research on online student teams previously indicated some of the advantages and disadvantages associated with a lack of nonverbal cues in online interactions among team members (e.g., McGrath 1990; Ortega et al. 2010).

These commonalities aside, our phenomenoogical study captured several aspects of student experience of teamwork that were not documented in prior research, including students' ongoing effort to stick to known quantities as teammates, the link between the need for effective leadership and making an equal commitment, and the effect of teamwork modality on team formation—these findings will be further discussed later in this section. Moreover, the unique methodology adopted for this study enabled us to avoid two major shortcomings of previous research: (1) fragmentation due to a lack of agreement about what constitutes the phenomenon of teamwork and (2) methodological blindness to students' own perceptions of the phenomenon of teamwork. First, the method of free imaginative variation (Van Manen 1997) helped us distinguish essential and invariant features of student teamwork in each modality from particular or incidental ones. This resulted in condensing the phenomenon of student teamwork into six essential themes (i.e., core characteristics) for face-to-face team experience and seven for online team experience. Therefore, the present study addresses the call for the development of a more manageable framework of core characteristics of teamwork (Salas et al. 2005; Warkentin et al. 1997) in both face-to-face and online course modalities and provides a more focused direction for future research about how to improve the experience of teamwork for students.

Second, the phenomenological technique of bracketing enabled us to take a "pre-reflective" approach (Van Manen 1997) as we were gathering and analyzing students' accounts of their team experience in each mode of teamwork, rather than imposing an a priori theoretical framework. Such pre-reflective access to students' experience of teamwork allows for understanding how students live through ups and downs of working in teams and also for accurately

identifying challenges laid before student teams as they progress through a lengthy program. Educators may be able to use this information to tailor their supports for teamwork to what students report as key needs and core concerns. The more we focus our energy in these ways, the more students may profit from their team-based activities (Bacon et al. 1999) and the more likely they are to actively participate in future teams (Pfaff and Huddleston 2003; Riebe et al. 2010) and transfer their teamwork skills to workplace settings (Baldwin and Ford 1988).

The present study also contributes to research comparing student experiences of teamwork in face-to-face and online modalities. While the majority of comparative studies have been conducted in laboratory settings and focused on short-term tasks (Gilson et al. 2015; Ortiz de Guinea et al. 2012; Warkentin et al. 1997), the greater time scope of our data collection provided students the opportunity to reflect on teamwork experience that sometimes stretched over several semesters of an MBA program. For example, our findings revealed that our participants' face-to-face and online team experiences shared four characteristics: need for effective leadership, making an equal commitment, sharing ideas and responsibilities, and sticking to known quantities. While these four elements highlight the ways in which student team experiences in face-to-face and online programs are equivalent, they also pinpoint areas where there is a shared need among online and face-to-face students for additional training and support from educators.

A common characteristic of student teams' experience in both the online and face-to-face modalities has received little attention in prior research: the desire to stick to known quantities. Our data revealed that students dedicated substantial time and energy to forming and re-forming teams, and considerable personal frustration accompanied these machinations. We were forced to wonder how aware instructors were of this aspect of the team experience they were prescribing in their syllabi. Future research should study this phenomenon in a broad-based fashion, since it may have important implications for instructors' choice of team formation methods. Currently, there are few studies that systematically compare the effectiveness of different methods of team formation (Moreno et al. 2012), and existing practical recommendations for the most appropriate grouping approaches remain inconclusive (Oakley et al. 2004). Self-selection, which was used as the main grouping method in both of our face-to-face and online research contexts, has been advocated by many scholars and educators due to its association with higher initial team cohesion (Bacon et al. 1999) and lower incidence of free riding (Aggarwal and O'Brien 2008). However, as evidenced in our study, self-selection may still present substantial challenges to students across the duration of an entire academic program. In our view, teamwork training modules should prepare students for the fact that forming and maintaining teams is a high-stakes, long-term, trial-and-error process—particularly in MBA programs, which frequently involve graded teamwork in nearly every semester. Students should enter into this aspect of their studies with their eyes wide open, and instructors should consider alternative methods of team formation, such as forming teams randomly (Clark and Gibb 2006) or on the basis of one or more student characteristics (e.g., Ettington and Camp 2002; Moreno et al. 2012).

Our findings also reveal an important link between two commonalities in face-to-face and online student team experiences: need for effective leadership and making an equal commitment. According to our participants, a principal responsibility of a student team leader is to organize teamwork fairly and ensure that every member of a team delivers their assigned work on time. However, team leaders in our study often felt "toothless" to press their fellow teammates to produce work, and their team members expressed disappointment over what they considered unfair grading of team submissions. This suggests a need for additional

support from course instructors or teaching assistants to empower team leaders to alleviate the free rider problem. Given that free riding is a widely experienced phenomenon in teamwork assignments (Maiden and Perry 2011; Schippers 2014), leaving team leaders and other team members to sort this problem out for themselves does not seem justifiable. One way to tackle this issue is to make changes to the reward structure of courses, such that the team leader would be given both authority and accountability for the team's overall performance. Ferrante et al. (2006) provide an example of this approach in a face-to-face business course.

By comparing the unique characteristics of teamwork experience in each learning mode, our work highlighted how teamwork modality altered the most essential criterion along which students seek homogeneity within a team. For our online participants, establishing a common communication channel with each and every team member was of utmost importance. However, our face-to-face participants sought homegeneity among all team members in terms of personal beliefs about how teamwork should be accomplished. It appears that teamwork modality not only affects students' main criterion for homogeneity (i.e., common communication channel in online teams versus mutual approach to teamwork in face-to-face teams) but also changes the level of homogeneity that students pursue within a team (i.e., dyadic level in online teams versus collective level in face-to-face teams). Researchers and educators in both face-to-face and online learning environments should take both aspects of homogeneity into account when examining different methods of team formation.

The last and perhaps most important implication of our findings, if they prove to be typical of teamwork experiences in other online and face-to-face programs, relates to what employers expect of MBA graduates. In our study, the challenges presented by online and face-to-face teamwork, and the skills and knowledge developed through each modality, were in several respects so different that it may make little sense to speak generically about the "teamwork skills" acquired in an MBA program. In other words, we may not be able to assume that graduates of a face-to-face MBA program can participate well in online teamwork or that graduates of an online MBA program can be effective face-to-face team players. Since the enterprises of the future will require both types of teamwork (Clark and Gibb 2006; Salas et al. 2002), both online programs and face-to-face programs may make quite valuable but distinct contributions to the workforce.

Limitations and suggestions for future work

This study has a number of limitations worth mentioning, which also suggest opportunities for future research. First, as van Manen (1997) noted, phenomenology is not designed for scientific generalizations, causal explanations, or solving problems. Rather, its purpose is to provide a careful description of the lived experience of a phenomenon. Our hope is that on the basis of our phenomenological description of student teamwork, researchers can build a theoretically integrative and empirically testable framework that is focused on the core characteristics of student teamwork and can be used to uncover how to prepare students to successfully transfer their teamwork skills to workplace settings.

The trustworthiness of the results of phenomenological research (and more generally any form of qualitative research) is often questioned by researchers working in positivist paradigms. There are, however, a number of strategies that qualitative reseachers employ to ensure trustworthiness (Creswell 2007; Lincoln and Guba 1985). In this study, for example, we used the technique of member checking to ensure that participants' words were transcribed and interpreted correctly. We also "bracketed out" our assumptions and pre-understandings about face-to-face and online teamwork before we engaged in data analysis. Neverthlesss, complete

bracketing is impossible in hermeneutic phenomenological research (Van Manen 1997). Although we strove to keep our pre-existing assumptions and prior knowledge of the current literature in check while engaging in the data analysis process, our own experience may still have influenced our interpretation of our participants' experience.

As noted earlier, this research study was conducted in an Iranian educational context. As such, the findings may not be fully generalizable to other countries. However, compared to Western contexts, we believe that cultural influences on our research findings are minimized by the fact that students in most Iranian business programs are exposed to Western teaching methods (e.g., case studies, class discussions) and Western teaching materials (many in English). Nonetheless, examining Iranian business education enriches the empirical research on student teamwork, which has focused primarily on Western educational contexts. Since national culture can impact how students view and experience teamwork (e.g., Li et al. 2014), we believe it would be worthwhile to employ a phenomenological approach to the study of student teams in a wider range of national contexts (including Western countries). Our example may pave the way for others to carry out such research.

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