Virtual teams: Surviving or thriving?

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Abstract

Although the dynamics of face-to-face teams in an educational setting have been well studied (Slavin, 1989), the use of virtual teams raises new issues in relation to how the physical, temporal and social separation of learners affect the learning process. This paper reports on the experiences of using virtual teams on the MBA program at Universitas 21 Global, a completely online university, and the four stage team maturity model devised to act as a framework for guiding virtual teams.

Keywords

virtual teams, online collaboration, teamwork, asynchronous learning

Introduction

Many distance education programs involve learners working with each other on collaborative tasks as part of a virtual team (Zhang & Nunamaker, 2003). Unlike face-to-face teams, learners in a virtual team may be geographically distributed, work in different time zones, and may never physically meet. Virtual teams therefore rely heavily on asynchronous collaboration tools such as discussion boards and email, and to some extent synchronous tools such as video and audio conferencing to support interaction between learners. In the real world, employees are increasingly required to work in virtual teams (Townsend et al., 1998), so developing a learner's ability to work effectively as part of a virtual team can be considered an important pedagogical goal. Furthermore, virtual teams play an important role in peer learning (Bailey & Luetkehans, 1998) which is particularly relevant in the context of mature adult learners where the diversity of experience is particularly rich.

Virtual teams at Universitas 21 Global

In August 2003, Universitas 21 Global (U21G), a joint venture between Universitas 21 and Thomson Learning, launched its first academic program, the MBA, which is delivered entirely online. There are neither physical classrooms nor the need for learners to have face-to-face contact with other learners or with their professors. Instead, learners are given access to a range of web-based collaboration tools that include discussion forums, email, online chat and audio-conferencing that enable them to interact amongst themselves and faculty. Given that U21G learners may reside across the globe and study in different time zones, the learning approach is predominantly asynchronous to provide maximum flexibility. In addition, the global student base also affords a high level of cultural diversity.

The number of learners in a class varies between 20 and 35. Learners are given at least two assignments that involve virtual teams of between 2–4 individuals. These assignments typically involve analysis of a business case and the submission of a report. The team assignments may contribute as much as 50% to a learner's final mark, so there is a strong incentive for teams to do well. Team formation is generally pre-determined, although learners are free to make any preferences known to the professor beforehand. Learners are not only assessed on assignment deliverables, but also their contribution to the team effort via a mandatory peer assessment system.

Collaborative behaviour

Since the launch of the MBA, U21G has conducted over 200 classes. Not surprisingly, we have found that some virtual teams perform markedly better than others. In our role as lead faculty, which involves the monitoring of virtual teams in action, we have observed several patterns of collaborative behaviour that we believe have contributed to the poor performance or high performance of some virtual teams.

Coordination

Some teams suffered from a general lack of coordination. They took a long time to get started and generally experienced difficulties in meeting assignment deadlines. Members of such teams did not appear to have clearly assigned roles and responsibilities. Furthermore, the interaction between team members was observed to be *ad hoc* and irregular. One symptom of such teams is the uneven spread of effort throughout the time they had been given to complete the assignments.

Conversely, the more organised teams tended to re-affirm the overall goals and deliverables for the assignment early in the project life cycle, identify the tasks that needed to be completed, and divided responsibilities amongst themselves. Organised teams also tended to have an individual who assumed the role of an editor to assemble the documents produced by individual team members into a coherent whole. In some cases, the editor doubled as a project manager, reminding individual members of when their individual deadlines were due.

Social exchanges

In teams that performed poorly, social exchanges amongst team members were observed to be minimal. Social exchanges, which include 'idle banter' and 'small-talk', are *sine qua non* to healthy, thriving teams. Kerr and Murthy (1994) suggest that the use of technology tools for collaboration tends to increase an individual's attention to the task, resulting in teams that tend to have fewer distractions and diversions than face-to-face teams. Furthermore, Warkentin et al. (1997) explain that the difficulty in exchanging information has led virtual teams to lean towards task-oriented rather than social-emotional information. This slows the development of relational links among members.

Healthy teams, on the other hand, were observed to be socially bonded through discussion threads and email exchanges that transcend the scope of the assignments. They freely shared their academic and professional aspirations, and discussed cross-cultural culinary delights and vacation locations. The liberal use of 'emoticons' was also observed.

Deep and active discussion

Some teams appeared to adopt a 'get-it-over-with' mentality. Such teams were more pre-occupied with getting to the end of the assignment rather than the educational insights that the assignment had to offer. In such teams, the majority of the interaction was related to the division and completion of work activities rather than deep and active discussion about the problem at hand. Desanctis et al. (2003) describe deep discussion as challenging assumptions, reflecting upon the issue at hand, and debating one's position. Deep discussions require learners to critically analyse a problem and defend the appropriateness of potential solutions. Two possible reasons why these teams failed to engage in deep discussion include the fear of upsetting team harmony and not wishing to prolong the completion of a team assignment under the already time-pressured conditions. Cultural factors may also play a part, where open discussion is seen as improper or alien behaviour.

In face-to-face teams, the immediate and responsive nature of exchanges between individuals induces a certain degree of spontaneity and vitality, or what one might call the 'heat' of discussion. In many virtual teams, however, heated discussion tended not to arise and discussions were observed to be more clinical in nature. An explanation for this observation could be the predominant use of asynchronous collaboration tools. With asynchronous tools, the pressure of responding immediately to a question is lifted. A team member has time to mull over a message posted by another team member and to formulate an appropriate response (Vonderwell, 2003). As Koory (2003) notes, however, while written participation makes for a less spontaneous discussion, it does permit a more thoughtful and substantive class discussion than in a face-to-face situation.

Active learners and 'easy-riders'

With a mandatory peer assessment system in place, there is considerable incentive to actively participate in team assignments. However, certain team members still appeared content to contribute very little. Free-riding, of course, is not a phenomenon exclusive to virtual teams (Salomon & Globerson, 1989), but at U21G, a milder form of free-riding has been observed (what the authors have termed 'easy-riding') where a student 'disguises' their bare minimum contribution to the team. A similar concept known as 'social loafing' exists in the psychology literature; it refers to the tendency of individuals to shirk when their lack of effort can be easily hidden within the activities of the team as a whole (Harkins & Szymanski, 1989).

An easy-rider is a type of social loafer who may either face genuine difficulties coping with the study workload, or is simply an indolent student.

A model for virtual team maturity

We believe that the performance of a virtual team is not only a function of the intellectual ability of its members, but also the extent to which the members have learnt how to work effectively as part of a virtual team. In other words, some teams are more mature than others in their approach to virtual team working. Based on our observations of virtual teams at U21G, we propose a four-stage model of virtual team maturity.

Table 1: The four-stage model of virtual team maturity

	Interaction	**Organisation**	***Modus operandi***
Chaotic	No or minimal interaction	No defined roles, responsibilities or division of work	Neglectful, where work is frequently incomplete and learners show little care and attention
Surviving	Occasional work-related interaction, lack of deep discussion	Loosely defined roles, responsibilities and division of work	Reactionary, where work is completed in an *ad hoc* manner at the last minute
Organised	Frequent work-related interaction, some social exchanges and some deep discussion	Clearly defined roles, responsibilities and division of work	Planned, where work is completed in a systematic manner but where the team may not cope with unexpected events
Thriving	Frequent work-related and social interaction, much deep discussion	Clearly defined roles, responsibilities and division of work, and willingness to help others	Planned, where work is completed in a systematic manner and the team is able to deal effectively with unexpected events

The four-stage model represents teams at different stages of maturity, namely chaotic, surviving, organised and thriving. Chaotic teams represent the lowest level of virtual team maturity, are severely lacking in interaction and organisation, and most likely to suffer from motivational problems. Such teams, though relatively rare in U21G's experience, clearly need a high level of support. Surviving teams include those that adopt a 'get-it-over-with' mentality, doing the least amount of work to get by. The presence of easy-riders is often a characteristic of surviving teams. On the other hand, organised teams are able to competently complete assignments and, at the same time, develop a sense of social belonging and team spirit. Thriving teams are those that have developed a high level of social bonding, demonstrate a willingness to help fellow team members, and are able to complete assignments in the face of adversity.

Conclusions: Implications and lessons

Being able to work effectively as part of a virtual team is becoming just as important as being able to work effectively in a face-to-face team. Although the research in this paper lacked a rigorous and formal research methodology, the extent of our observations over 200 class sections provides a significant body of evidence to suggest that our findings have a sound empirical basis. The four-stage maturity model we have proposed is not meant to serve as a precise team profiling tool, but as a framework for faculties in identifying and guiding virtual teams. To this end, our findings are as follows:

- Provide clear guidelines on the roles each member is expected to play. In the absence of face-to-face interactions or prior engagement with one another, members of a virtual team are unlikely to have a convergent view on how the team ought to function, and what is expected of each member. One member for example, might be given responsibility for data collection, and another for literature search. Alternatively, a problem might be broken down into various components each of which is assigned to individual members.

- Provide a private space can be created to allow members to share thoughts outside the scope of assignment, such as family background and personal interests. Such measures minimise coordination problems and promote social exchanges among members in the virtual teams.

- Demarcate intermediate milestones with achievable goals. Rather than presenting the question and expecting a report at the end of a time period, incremental goals coupled with the associated learning objectives could be sign-posted to help nudge the virtual teams forward. In this way, any slippages

along the way can be detected early. Moreover, with the clear delineation of learning objectives, members become more perceptive of the knowledge and skills to be acquired, which sharpens the discourse among members of the virtual teams, promoting deep discussion.

- Consider assessing not only the output of team; e.g. the case study analysis, but also the discussion that led to it. Such discussions, evaluated according to predetermined generic criteria, can be used as evidence that learners had clearly debated issues surrounding the assignment, encouraging them to engage in deeper and more active discussion.

- Provide learners with exposure to different teams of varying style and performance. In the real world, virtual teams are unlikely to be perfectly formed and high performing. Hence, learners have much to learn from teams with easy-riders or dominating personalities, and also where there are problems of conflict, coordination and mistrust, particularly when learners are asked to reflect on how they solved (or should have solved) such problems. The professor, for example, may deliberately form teams with students of different personalities having formed a profile of each student in a prior activity.

- Introduce a peer assessment system where each member confidentially appraises one another's performance. At U21G, each individual rates the contribution of their fellow team members on a five-point Likert scale according to a set of criteria that includes data collection, coordination and creativity. These ratings serve as an adjustment to the final score awarded to the individual student. Members obviously need to be informed of the assessment criteria prior to a team assignment, commencing. Such a system helps to deter the problem of free- and easy-riding.

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