Blended learning for developing effective virtual teams: a proposed intervention format

Cristiano Ghiringhelli [1*], Alessandra Lazazzara [1]

[1] Department of Educational Human Sciences, University of Milano-Bicocca, Milan, Italy

Abstract

The aim of this exploratory study was to develop a blended learning approach to fostering the skills and competencies required by leaders and members of international virtual teams. Three levels of analysis were brought to bear in designing the proposed intervention format: first, the factors likely to influence the effectiveness of a virtual team; second, the needs and challenges related to the early stages of the virtual team membership; third, the role of the human resource function in promoting – via training and development programmes – the knowledge and skills needed for virtual teams to be successful. The research questions included: What are the perceived benefits and challenges associated with the early stages of virtual collaboration? What factors must be carefully defined and managed when running a virtual team? What training needs are perceived by inexperienced virtual team members? How can training and development initiatives contribute to the effectiveness of virtual teams? A qualitative approach based on the model developed by Bal & Gundry was used to analyse data from five interviews with virtual team members at Nielsen TAM Italy. The outcomes informed the proposed blended training programme.

1. Introduction

New developments in Information and Communication Technology have brought the collaborative and social nature of work to the fore, making organizations increasingly more likely to adopt virtual teams. Within information-oriented and geographically distributed organizations in particular, virtual teams foster collaboration, learning and the execution of complex tasks in groups of co-workers required to coordinate their efforts over long distances. More generally, a marked shift from physical to virtual workplaces is now underway (see [2]). In light of these changes, academic research has increasingly focused on the factors believed to play a role in the successfulness of virtual teams. For example, aspects such as trust, organizational culture, human resource policies and practices, job tasks, virtual team design and the characteristics of the technological platforms used to support virtual teams have been examined with a view to identifying the social processes enabled by virtual teamwork and the strategies required to maximise its effectiveness [3-5]. Another crucial variable affecting the outcomes of virtual teams is leadership style, which contributes both to team performance and to the learning and development of team members [6-10].

Despite growing research interest in virtual teams and the factors underpinning their success, few studies have investigated the training and development (T&D) initiatives needed to create effective and successful virtual teams. Nor has much attention has been paid to how the human resource function can promote acquisition of the specific set of

*Corresponding author. Email: cristiano.ghiringhelli@unimib.it

virtual teams, leadership methods and processes typically found in virtual collaborative settings, and general insights into cross-cultural issues. The aim of this seminar is to provide a targeted introduction to the principles underpinning the functioning of virtual teams, and to create a positive atmosphere between virtual team members and trainers that will facilitate the entire learning experience. Indeed, from the trainers' perspective, one of the main purposes of this live meeting will be to establish a strong psychological contract with the leaders and members of the participating virtual teams.

The next steps in the training will take place in an e-learning environment providing two types of ongoing support. First, the trainers will be available to be consulted throughout the entire virtual teaming experience. Second, e-seminars and brief (TED-style) talks on specific issues will be offered to both virtual team leaders and members. They will be clearly labelled and organized by topic so that they may be easily located and viewed again as required, in line with specific emergent needs. They will be designed to provide practical guidelines that participants can apply to their real-life virtual team experience. Finally, the trainers will be ready to modify or add to the e-learning contents to cater for the specific needs of virtual team leaders and members as they unfold over the life cycle of the team.

Periodically, brief milestone sessions will be held, using a live meeting format. At these sessions, each virtual team will report and evaluate its progress in relation to the assigned technical task and associated intermediate deliverables, as per the work schedule jointly defined at the start-up meeting. From the learning point of view, each of these live milestone meetings will facilitate two main activities. First, in-depth analysis of the ongoing virtual team experience: participants will be given the opportunity to exchange views both with their peers and the trainers and this will entail sharing, critical analysis and discussion of their team's activity to date. Second, each milestone session will include a formal training component based on project management, social leadership and cross-cultural topics. The trainers will draw out the connections between the formal contents presented and the experience, observations and events previously reported by leaders and members, and guide participants to identify appropriate next-step learning tasks. This will also help the trainers to define the e-learning resources required by leaders and members at the next stage in their learning process. It is critical to take into account that as participants gain more experience, the trainers will increasingly be challenged to provide personalized insights and inputs that are relevant to the specific characteristics of individual teams and their members.

When the team is close to completing its assignment, a final meeting will be held to wind up the training programme. Each virtual team will present its internal client with the outcomes achieved in relation to its assigned task. It will also be required to submit a short report on the main lessons learned by the team in terms of virtual teaming skills.

This blended learning approach offers at least four advantages. First, it has the potential to foster the development of the wide range of knowledge, skills and capabilities required to successfully contribute to international virtual teams. In designing it, we drew on our ad hoc analysis of the training needs of virtual teamers, which indicated that both formal declarative and knowledge and the competence acquired from hands-on virtual team experience are required. We thus developed a training setting and a learning process to match this evidence, in which declarative knowledge allows virtual team members to situate their practical experience to date within a framework of meaning, while experience provides them with the opportunity to reflect on 1) their own and other team members' behaviours, feelings and outcomes, 2) technical, multicultural, linguistic and soft-skill factors, 3) successful modes of contributing to virtual teams based on lessons learned and guidelines that have become personal capabilities.

Second, a blended learning approach such as this affords the opportunity to learn virtual teaming skills in a supportive environment, which is the optimum condition for learning. Having to work with other cultures, languages, and behavioural approaches can generate considerable stress for inexpert team members. By guaranteeing constant support to learners and institutionalizing a learning process within the organization, we will provide a setting that is simultaneously both reassuring and goal-oriented. Its message to learners is: "of course you are expected to attain this goal by participating in a virtual team. But you are not alone. You can bank on us: we will provide you with ongoing backup and help you to address any issues you encounter, whether technical or behavioural".

Third, this blended learning proposal is fully in line with the learning approaches adopted in advanced organizational settings, in which learning activity is embedded in – or at least very close to – daily practice. These approaches are not only defined by organizational constraints (time, costs): more importantly, adult learning requires experiential training approaches, in which formal learning is rooted in informal, practical and situated learning that is practice and by multimodal way [75, 78, 79, 80, 81, 82].

Fourth, the proposed training method will ensure that participants also develop capabilities preparing them to help colleagues facing similar challenges in the future. Thus, they may be expected to act as "champions" in the context of further training initiatives, aimed at disseminating virtual team competences among their more inexperienced colleagues.

EXPECTED BENEFITS OF THE PROPOSED BLENDED LEARNING APPROACH

1. Cross-fertilization between formal and informal learning
2. Supportive and reassuring learning setting, though goal-oriented
3. Fit with adult learning theories as well as organizational constraints
4. Learners as future champions in dissemination programmes

5. Conclusion

The aim of this research in progress paper was – by identifying the specific training needs of relatively inexperienced virtual teams – to define a role for T&D in enabling effective virtual teams and to propose a suitable learning approach for developing the knowledge and skills needed for successful virtual collaboration. Based on the results of this preliminary stage, we have developed an intervention research model to be adopted in a future study on the role of blended learning in supporting virtual teams.

Three levels of analysis have been taken into account in this research: first, the factors likely to influence the effectiveness of a virtual team; second, the needs and challenges related to the early stages of the virtual team's life cycle; third, the role of the human resource function in promoting – via T&D initiatives – the knowledge and skills needed for virtual teams to be effective and successful.

We interviewed five employees of an information-oriented organization who had recently been assigned to global virtual teams in the context of a joint venture partnership. The interview protocol was informed by Bal and Gundry's model of effective team working [1], [52], which sorts the factors influencing successful team working into three main areas: people, processes and technology. We obtained four main outcomes.

First, the issues perceived as most critical when working on virtual teams concerned processes and people. Technology was only of slight concern or not at all, as perceived by our informants. It is possible that the technological solutions and tools provided by Nielsen are so user-friendly that they do not pose a challenge.

Second, leadership was seen as playing a crucial role in the success of virtual teams, especially in relation to building trust and solidarity, defining shared objectives and tasks, identifying mutual interest, and promoting internal legitimacy; leading the decision making process, driving and sustaining commitment; providing tailored technical and social guidance to meet the changing needs, skills, competencies and behaviours over the life cycle of the team. Indeed, not only did leadership processes emerge as the most important contributor to effectiveness and success of virtual teams. Surprisingly, and in keeping with an emergentist perspective, a social dimension of leadership was also identified. In the emergentist view, leadership is an outcome of group dynamics [66], so rather than there being just one formal leader, the leadership function may be shared among team members [67]. Consequently, leadership is not only an individual, but also an organizational trait [69]. In light of this theoretical framework, we believe that the construct of social leadership [72] came particularly strongly to the fore in this exploratory study and merits further study.

Third, our findings suggest a twofold role for the HR function in promoting the development of virtual teaming skills and competencies. Specifically, the HR department must provide formal training initiatives aimed at reinforcing and amplifying the informal learning acquired from hands-on involvement in a virtual team. This applies to both leaders and members. The main areas in which technical and relational knowledge and competences need to be developed are English language skills, project management, leadership and cross-cultural issues, specifically in relation to virtual contexts. In addition, HR should sustain, promote and reward the informal learning acquired in the course of virtual team activities, as well as organically linking formal and informal learning opportunities. In short, on-the-job training must be associated with formal training and development initiatives delivered by HR.

Fourth, our exploratory study also pointed up the importance of the multicultural dimension of virtual teaming. Participating in a virtual team appears to strengthen members' feeling of being included in the organization, and makes their national identity less significant to them than belonging to a culturally varied team. More generally, working on global virtual teams allowed members to build up a more comprehensive view of the workings of their organization. Thus, the creation of virtual teams breaks down barriers and creates opportunities for collaboration that in turn foster the development of a multicultural perspective.

These outcomes prompted us to develop and propose a blended learning training programme designed to develop virtual teaming knowledge and skills. The particular blended learning approach that we suggest provides for the enhancement of a wide range of knowledge, skills and capabilities that are relevant to participating in virtual teams at the international level. It is also fully in keeping with the current learning approaches of choice in advanced organizational environments: by meaningfully linking formal and informal learning opportunities, it will encourage, reinforce and reward informal learning acquired during hands-on virtual team experience. Furthermore, it offers participants a supportive learning setting that reliably delivers ongoing backup from trainers and colleagues, while remaining goal-oriented and meaningful from the organizational point of view.

Finally, we expect that participants in the proposed blended learning programme will also develop the capability to help colleagues facing similar challenges in the future. This means that our advocated approach may also be exploited to disseminate virtual teaming skills more widely throughout the organization.

This qualitative study offers a starting point for a larger-scale project aimed at analysing the effect of a HR strategy based on training and development on the efficacy of virtual teams. Although the preliminary phase presents a number of limitations such as the small sample size and convenience sampling method used, its end goal was to gain fresh insights from which to develop new hypotheses for testing at the subsequent confirmatory step in our research programme. We therefore plan to conduct a new research project that will measure, on the one hand, the contribution of social leadership and cultural intelligence to the effectiveness of virtual teams, and on the other, to further test the effects of formal and informal training on virtual team performance. Indeed, our exploratory investigation not only indicated that social leadership skills and cross-cultural

competences play a key role in the functioning of virtual teams, but also pointed up specific non-technical training needs on the part of team members and suggested that virtual teams may provide particularly learning-inducing environment. As social learning frameworks suggest [73], observing and interacting with colleagues who have greater experience of virtual teaming may help newcomers to develop the knowledge and skills required for effective virtual teamwork. Therefore, we expect that social leadership and cultural intelligence will positively influence virtual team performance (H1). Furthermore, we expect social leadership and cultural intelligence skills to be enhanced as a consequence of joining virtual teams (H2). Finally, we expect that for virtual team members, receiving formal as well as informal training in project management, social leadership and cross-cultural skills will foster the development of their abilities in these areas more than will experiencing informal learning only (H3).

In order to test these hypotheses, the future study will adopt a quasi-experimental design [83].
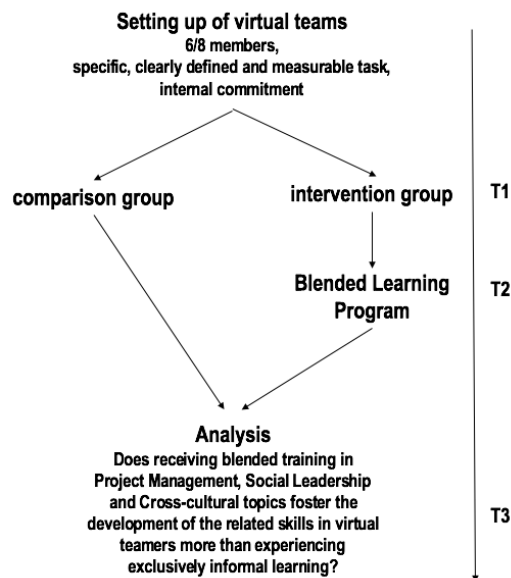
Figure 3. The next step: research design

At T1, during the early stages of virtual team membership, we will measure team members' project management, social leadership and cross-cultural skills as well as the team's overall efficacy. At T2, the organization, assisted by the researchers, will provide specific training in project management, social leadership and cross-cultural topics to the virtual team leaders and members assigned to the virtual team intervention group. At T3, the measures administered at T1 will be repeated. We will then analyse whether gains in project management, social leadership and cross-cultural skills have influenced the efficacy of virtual teams, while controlling for the effects of baseline skills – as measured prior to delivery of the blended learning programme – and selected demographic variables (see Fig. 3). The study will be conducted with Nielsen TAM employees based in units that are still at the early stages of virtual team adoption, having only recently been acquired by Nielsen.

We hope that our findings to date have contributed to identifying the specific training needs perceived by inexperienced newcomers to international virtual teams, as well as to defining a learning approach designed to meet these needs and create the optimum conditions for effective virtual teams.

Setting up of virtual teams
6/8 members,
specific, clearly defined and measurable task,
internal commitment

comparison group   intervention group   T1

Blended Learning Program   T2

Analysis
Does receiving blended training in Project Management, Social Leadership and Cross-cultural topics foster the development of the related skills in virtual teamers more than experiencing exclusively informal learning?   T3

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Tables

Rel.	First-order categories	Second-order categories	Aggregate dimensions
*****	focus on the activities/functions of the team leader: giving advice, leading decision making, building/maintaining trust and solidarity, defining shared objectives, common tasks and mutual interest, as well as reinforcing internal legitimacy. The team leader also has to adapt his/her actions in line with the development of the team	Team facilitation	PROCESS
*****	forms, feedback processes, repository, and cloud solutions required to keep team members in contact with one another and give them access to updated work progress information. opportunity to track the actions of other team members promotes integration.	Alignment	
***	meeting agenda, in order to create momentum for the virtual team and maintain commitment over the time. meetings must follow a set organizational format, so that team members are aware of what preparation and actions are required before, during and after a meeting	Meeting structure	
*	little reference made to performance measurement	Performance measurement	
*****	need to identify the most appropriate size of team (trade-off resources/neatness) and to select members based on clear criteria, such as whether they hold the task-related and non-task-related skills and abilities required by virtual teams (the most frequently mentioned were training, knowledge, language ability, time orientation and general expertise)	Team selection	PEOPLE
*****	mainly not financial in nature: approval from team leader and other team members, enhanced reputation, endorsement and acknowledgment	Reward structure	
*****	specification of personal objectives (in terms of setting goals and clarifying roles and responsibilities: transparency) and team objectives (usually defined during initial discussions among team members	Specification of objectives	
*	need to leverage on existing skills, knowledge and organizational choices to ensure effective meetings	Meeting training	
**	need for the data shared among team members to be stored in a protected area	Security	TECHNOLOGY
*	virtual teams apply technologies already used within the organization	Selection	
/	/	Location	
/	/	Training	

Table 1. Perceived key factors influencing the efficacy of virtual teams

First-order categories	Second-order categories	Aggregate dimensions
Functioning effectively and successfully contributing as a member of a virtual team means being familiar with the cultures, behaviours, social rules and habits of the other members	Cross-cultural	PEOPLE
Need to develop the specific competencies and skills of effective and successful virtual teamers (both leaders and members) given that traditional competencies and skills are inadequate for virtual environments	Project Management specific to virtual environments	PROCESS
Main activities and responsibilities of the virtual team leader concern people and processes (see table 1)	Leadership	PROCESS AND PEOPLE
Training needs rooted in the history of the unit	English language competence	PEOPLE

Table 2. The role of formal learning in sustaining effective virtual teams