Mastering Virtual Teams: Training Virtual Project Teams to Be Successful [1]

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Introduction

This is the age of the virtual project leader. In fact, today it is actually rare to lead a team that is physically located in one place. Projects propel someone, somewhere to lead a project to successful completion. This may be the result of a global merger, acquisition, new partnership, alliance or joint venture and new projects and services launched globally. It is not even uncommon to find a person who manages a functional area like human resources to find that they are also virtual team leaders on new organizational initiatives.

It's been our experience that very quickly most virtual project team leads find that leading a remote team requires a special set of competencies. No doubt that the traditional leadership principles apply to remote teams, but virtual project team leaders have unique challenges. First, they have to rely on communication technology to send and receive information. As a result, they need to modify the ways in which they communicate, give feedback and gather information. It's not as easy as going to the cubicle next to you or walking up to the next floor to seek information or get answers to tough questions. There is also the need to have a common language in which all team members are fluent. Time zone differences create very real problems and have a disruptive effect on team members' personal lives.

The first step was to understand what it is specifically that our remote leaders, teams and individuals find difficult about being remote project team members.

Virtual Team Definition and Needs

We use the following definition for virtual teams:

A virtual team is a group of people who are working on the same business or business issue, but are located at different geographic sites and rely mainly on some form of technology to facilitate the work discussion. This includes situations when only one team member works from remote location, when the team works together only temporarily or when the members work only some of their time remotely.

We have asked virtual project leaders about their biggest challenges and invariably the answer is the greater burden and responsibilities it places on them. We used a "Team Effectiveness" model and to structure our virtual workshop questionnaire in *remote leadership areas* to formulate individual questions.

The areas we specified were:

- Communication and Information sharing
- Coaching and Development
- Relationships

[1] *Second Editions are previously published papers that have continued relevance in today's project management world, or which were originally published in conference proceedings or in a language other than English. This paper was originally presented at the PMI Global Congress North America 2012 in Vancouver, BC, Canada and included in the congress proceedings; republished here with author's permission.*

- Leadership & Direction Setting
- Structure & Roles
- Tasks
- Decision making
- Reward and recognition

From over 200 responses we have made the following observations of areas of greatest challenges and needs when trying to lead a virtual team. It is important to note that these responses were from current virtual project leaders leading complex international team members on various high-tech products.

Leadership Area	Positive/Negative Comments
Leadership and direction setting	Most comments were generated in this area. Positive comments outweighed the negative comments. But there were enough negative results to include it as a need for developing remote team leadership.
Communication & Information Sharing	This was the next most commented on area. Positive comments also outnumbered the negative comments. But the negative comments were significant enough to include it as a developmental need for remote team leadership.
Coaching & Development	This was the other area that stood out. This area didn't score well at all and it came out as the most difficult.

Another concern expressed by virtual team leaders was in the area of social dynamics when brainstorming ideas, solving problems during planning and execution of major projects. Physical separation, and cultural dynamics and the limitations of technology in difficult situations involving complex communication patterns makes it difficult to speak one's mind freely and openly. A March 2009 study done by VitalSmarts, shows "when it comes to holding crucial conversations virtually, most of us clam up instead of speaking up." (Grenny, 2010, p 20) This kind of virtual team culture of silence in the virtual business world is a breeding ground for poor decision making, poor morale and lost productivity.

Task and Social Dynamics in Virtual Teams

Virtual teams exist in two interrelated realms. The first is the technical task context where the project work is planned and executed according to some timetable and sometimes a budget. The second is adaptive and more social realm where problems and their solutions may not exist immediately. They have to be worked on in novel ways requiring team members to make some adjustments in their attitudes and expectations. The specific character of a team's dynamics depends in part on whether the team's task environment is more technical or adaptive. Undoubtedly, this is a continuum and most projects require both technical and adaptive problem solving solutions.

A common model used in team development is the Tuckman model: Forming; Storming; Norming; Performing. The assumption is that a team progresses over time through these stages toward better communications, decision making and performance. It is still a useful model but does have some limitations when applied to virtual team environments. It just isn't dynamic and useful enough when applied to complex virtual teams, existing in adaptive environments or involved in multicultural issues. We feel that virtual teams require a new model that accounts for all the complexities of their work environments.

A sequence of stages can still be used similar to the Tuckman Model but encapsulating the dynamics associated with a team's task, especially a team that uses technology to communicate and collaborate. A parallel series of stages related to the team's social dynamics – how team members interact, resolve differences and make decisions. Project leaders and team members must navigate and make sure the task and social dynamics are adhered to ensure good performance and feelings of being part of a project team.

The goal of the task dynamics is to produce results productively. The goal of social dynamics is to produce team unity and high team performance so that team members maintain motivation, morale, trust and good communication interactions.

The virtual environment does not contain many of the traditional means of managing task and social aspects of team dynamics. Project leads and team members need to be skilled on how they develop and implement strategies to manage those dynamics. Project leads and team members jointly have to understand the stages of each type of dynamic. The table presented below provides a list of the task and social stages and the issues associated with each. (Duarte, 2006, p189)

Task and Social Dynamics for Virtual Teams

Task Dynamics			Social Dynamics	
Stage	Description	Task Activities	Description	Social Activities
1	Inception	Set goals, Generate plans, Generate Ideas	Interaction/ Inclusion	Ensure team member inclusion, Ensure opportunity for participation Define team roles
2	Problem Solving	Select technical problems to be resolved, Solve problems with set know answers, Solve ambiguous problems	Position status/ Role definition	Address status of team members, Clarify and refine roles and expertise
3	Conflict resolution	Resolve conflicts about different point of view, Resolve conflicts from different interests	Power/resource Allocation	Address power differences among team members, Address interpersonal relationships, Address how different solutions affect power allocation to different functions, regions, countries
4	Execution	Perform tasks, Address organizational barriers to performance	Interaction Participation	Ensure equal participation, Ensure effective interaction and communication

The four task stages associated with task dynamics are:

Stage 1: Inception. This stage involves the generation of ideas related to defining the goals of the project team and how the goals might be accomplished and the overall plans to achieve them. Stage 2: Problem Solving. This stage involves choosing the correct means by which to address issues and solve technical problems. Issues and problems can have knowable and the correct answers or can be unique with no existing answers. Stage 3: Conflict Resolution. This stage involves the resolution of conflicts that emerge from different points of view. Team members may have different approaches to technical issues. Conflicts can also occur from different stakeholder groups and their interest in the project features and benefits. Stage 4: This stage involves performing the team's work plan and overcoming and organizational barriers that prevent the projects from achieving its objectives. Barriers can include power struggles, issues over ownership, and resource conflicts.

The four stages of social dynamics simultaneously parallel the task stages and includes:

Stage 1: Interaction and Inclusion. Team members define their individual contributions to the team and begin to interact as a group to develop the team's charter and work plans. Stage 2: Position Status and Role Definition. Team members interact to define or redefine their roles and status in relation to one another. The focus is on their roles as experts or their organizational unit's position relative to the project. Their personal or expert status relative to other team members may be under challenge as problems and solutions get discussed. State 3: Allocation of Resources and Power. The team addresses issues regarding the allocation of resources and power that result for the team's activities or from particular approaches to problems. This may be the most conflict prone state if stakeholders come from many different functional areas being impacted by the project. State 4: Interaction and Participation. This stage involves participation and interaction among team members in performing work and in overcoming barriers that inhibit the team's productivity.
There are several other factors affecting a virtual project team dynamics and complicating this model even further such as time, team environment and the team's composition. The project lead must exercise "mindful" attentiveness to determine whether or not the team's dynamics are healthy and whether intervention is required.

How Project Simulations Help Build Virtual Team Competencies

Simulations provide a powerful context for applying both individual and collective virtual team learning experiences. Simulations can take advantage of the opportunity to maximize active and enjoyable involvement in a powerful virtual team learning process. Participants generate creative, emotional tension that encourages them to explore, conceptualize, inquire, experiment, and critically analyze task and social issues. Simulations place virtual team members in another time and space where they become agents of their own learning, and shift the simulation into a virtual learning laboratory, while providing a metaphoric structure for analyzing past, present and future circumstances. With the focus on learning rather than teaching, they build upon the collective experiences and knowledge of all the virtual participants, and make the lessons come "alive" in real time. They also provide an opportunity to explore from various new perspectives and encourage new thinking and using new behaviors in a complex virtual world.

The collapsing of time and space found in well-designed and artfully crafted simulations makes it possible to recognize what is often clouded or seemingly invisible, tacit knowledge. This mode of learning is consistent with the core values of self-determination, teamwork, collaboration inherent in the project management profession. We also know that there is no panacea or "silver bullet" that, alone, can possibly address the complexity and expected chaos of interrelationships in complex project and social systems. Yet, we are finding that experientially-based, well designed simulations that incorporate the concepts and principles outlined in this paper and presentation have the potential to significantly accelerate the of individuals and teams working in virtual environments.

Most traditional education has focused on individual learning, rather than on team learning. Simulations are experiential programs and formulated on David Kolb's cyclical view of learning. The basic premise of Kolb's work is that learning is a circular four-step process. (Scharmer, 2009, p 30) Essentially, an effective learner must possess four distinct abilities: The first is the ability to act; the second is the ability to observe and reflect on that experience while doing the activity; the third is the ability to conceptualize around the experience; and, the forth is the ability to experiment with new behavior(s) that may have more efficacy than current or old behavior(s). The learning cycle appears as this: action provides the basis for observation and reflection. The observations coalesce into a new approach or behavior and new implications for action are then deduced; the new behavior serves as a guide for further action or experimentation that then creates new experiences. (

In the first stage of learning, there is immersion in the concrete action … just doing it. Virtual participants move through a simulated experience rather naively while storing up experiences without completely understanding them. In the second step, private experiences are examined through observation and reflection to obtain a whole picture or "Gestalt" of the experience. This image helps them answer and gain insight into key questions: What is going on here? What are key personal experiences with the simulation? When these questions are answered at the end of this step, a metaphor or story emerges. The metaphor can be further broken down to smaller components, facts or observations, but the important thing is the appearance of a total image. In the third step, the movement is into more abstract reasoning and conceptual understanding. From the vast amounts of data, connections are made to the image as patterns emerge from the set of experiences. New ideas, concepts, and theories develop that help explain the experiences. In the fourth stage, the new behaviors are tested with the fresh hope for better success. The primary focus is on discovering and selecting a way of examining a behavior in action and on developing an instinctive feeling about what new action to take to improve performance and deciding to test it. At this point, the process begins again at the first step in the learning cycle.

Other researches have expanded Kolb's four-step learning model. Chris Argyris augmented Kolb's model by inserting the notion of "mental models" into Kolb's abstract conceptualization stage. This implies that all individuals need to examine their own mental constructs if they really want to learn. These rules of behavior or "mental models" help us

interpret our own reality as well as that of others. They are our view of the world and pro-vide the context for interpreting actions and for determining how each piece of new information relates to a given situation. Mental models also influence how we involve ourselves into any new experience and determine how we interpret those experiences and develop new learning from them.

Argyris also presented two other concepts to expand on Kolb's model: (1) Single loop learning and (2) Double loop learning. In single loop learning, Argyris explains as learning by making corrections in our behavior without examining our original mental map. While in double loop learning, cognitive acts taken by individuals with the examination of their mental maps. In double loop learning, an error in reasoning or acting between the response of the simulated "real world" and a person's mental map causes an examination of old maps and to new ways of thinking and behaving. (Scharmer, 2009, p 30)

Argyris's concepts suggest two important points. First, that simulations and experiential training facilitates double loop learning, and, second, simulations help people examine their own mental models and this, in turn, provides important information for the individual skills.

However, explicit in this model is the fact that traditional educational methods have limitations for team learning. This is because individual learning does not necessarily create team learning and change. Even when individuals learn and make significant personal changes, this learning alone may not produce changes within the team, and in most cases individual learning is hard to transfer back to the virtual workplace because of the rigid team rules and practices. A paradox exists in that teams learn only when individuals learn, but team learning is much more than just a collection of individual members learning. This suggests that for teams to learn as a whole and change, they must learn as a total team. For the project management profession to have an impact on the virtual team based organization, we need to move beyond our current mindset to something that more effectively incorporates a model for team learning and change.

Virtual Team Learning in Serious Play

Team learning is in many ways similar to individual learning. In both, there must be action and reflection of that experience, the examination of current and old mental model errors and then further experimentation. However, team learning and reflection are more complex and dynamic than individual learning.

Our approach of: discovering … unearthing … examining individual shared mental maps as the basic first step for learning at the team level. These shared mental models create a team view of the world. Individuals have their models stored in habits, routines and mindsets, whereas team and organization models are stored in the collective memory through cultural norms, values, policies, rules, and procedures. For these collective mental models to be of value, the shared mental model must be tested publicly. In this manner, the team creates a double loop learning model through shared experiences with that model. The collective experiences can lead to the team developing new values, norms, policies, and procedures.

Exhibit 1 presents the team learning model. Each step is similar to the Kolb experiential learning cycle, but each step in the model represents a team learning level. Public Observation and Reflection is the process of collective review and involves the collaborative process of team members sharing common experiences while suspending final judgment. The important point is that members talk about their experiences, the context, and their responses to their individual mental models. Shared Meaning is the process of coming to a common understanding, refining the beliefs, values and the updating the shared mental model. Joint Planning involves the team in collaborative design of the new actions and the testing of those actions. Coordinated Action has members involved openly and honestly discussing their common experiences. All these steps are open and public.

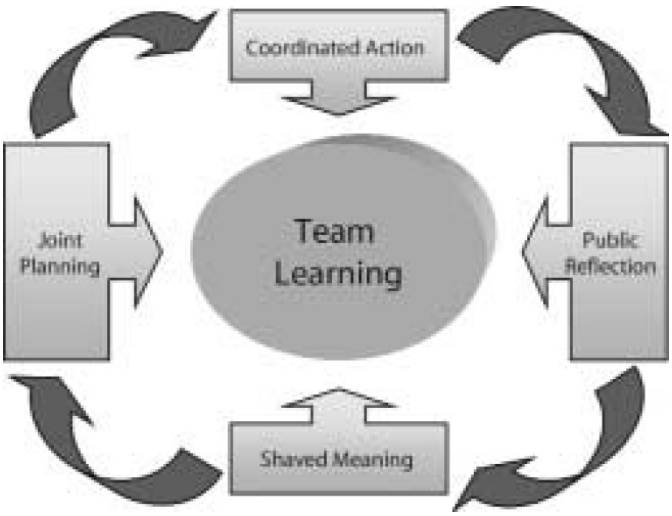

Exhibit 1: Team Learning Model

There are two necessary requirements that direct and drive the process: (1) Dialogue and (2) Consensus. Dialogue is the process of collaborative reflection and is the process by which organizational members create shared meaning. Consensus is the process of reaching convergent thinking through discussion, advocacy, and inquiry. It is the means by which people gain agreement, make decisions, and take action. Using these two techniques in each step of the model promotes the beginning of organization learning.

How Project Simulations Can Help: The Reality of the Virtual Team

A good project simulation provides a powerful and positive context for applying both individual and collective learning principles. Participants are transported into virtual learning space and immersed into a real life-like project where they have the opportunity to maximize active and enjoyable involvement in the learning process. These virtual project spaces generate an appropriate level of creative, emotional tension and encourage the learners to explore, conceptualize, inquire, and experiment while they critically analyze all project variables simultaneously. Organized into virtual team members, participants become an agent

of their own learning, shifting the virtual classroom into a "project learning laboratory." With the focus on learning rather than on teaching, participants build new knowledge and skills, and test out new behaviors and perspectives. A good project management simulation creates an environment of open exploration of the tough issues and differences without the repercussions that might result by confronting those issues directly on real projects. Simulations provide safe learning conditions, allowing participants to venture into new territory, take risks, confront the unknown, while providing for the discovery of new possibilities for action and uncover common ground, and project dynamics. They allow us to bring in different experiences, personal styles, and mind maps to explore on a "practice field for collective experimentation and decision testing."

A good project management simulation is very engaging. They are unique in that the activity of participation and immersion in a simulation contains its own motivation and outcomes, and the learning involved is not just a means to some external end such as passing a multiple-choice test. Simulations provide the learner with the opportunity to operate from various viewpoints, and participants are not solely dependent on a teacher. Participants reason for themselves, test out different assumptions and useful virtual team management practices, make decisions on their own, and receive prompt and accurate feedback that challenges their reasoning. Good interactive simulations focus less on the teacher and more on the learning that occurs among participants and create real-time understanding of existing team task and social dynamics in a stimulating and results-oriented way. When all the members of a project team go through the same experience they create their own movement toward more effective virtual team approaches. A simulation's experiential format evokes current virtual team issues in a way that is particularly intense. This intensity supports and encourages team reflection on what is happening. Virtual simulated projects experiences give team members a safe environment where members can talk about the project and the team's real problems and issues. They work together to understand the similarities and differences in three areas: (1) the way the project dynamics work during the workshop, (2) the way they work on a day to day basis, and (3) how they want them to work in the future. They work together to arrive at their shared mental models, and reach consensus on a plan for achieving the kind of team performance that they experienced during the program.

Conclusion

This paper presented a new use for simulations as not only a vehicle in supporting individual learning but also can and have been used in training virtual project teams. The conceptual framework presented suggests that simulations can contribute to virtual team learning in several specific ways:

1. Simulations can help individuals learn best and useful virtual team management practices and learn new skills behaviors and values.
2. Good simulations and properly designed workshop formats can provide participants with an experience of how to manage virtual projects successfully.

3. Good simulations provide participants with a condensed experience of the dynamics of virtual projects within their organizations and the sources of serious problems.
4. A virtual project simulation workshop conducted with in tack teams can result in the development of new and better approaches for planning, executing and teamwork.
5. Acting, experiencing, sharing mental models, reflecting, and joint planning can help transform the virtual experience into team action.
6. Through the simulation experience and metaphorical learning and discovery process, participants can learn to take responsibility for learning how to learn on their own and carry the lessons of continuous learning back to the job.
7. Simulations create a framework for both dialogue and inquiry, which are key elements for team learning, and assist in viewing problems from different angles. This better enables participants to both think about and dialogue with others about complex and difficult issues that are not always easy to discuss on real virtual projects.

The challenge of navigating virtual team projects calls for faster knowledge transfer that captures full understanding of the dynamic relationships within a team's virtual environment. This equates to a generalized "systems" view as well as practical knowledge about how to manage in virtual environments. Improving organizational learning requires more than one person moving in the right direction. All organizational members have to be able to move nimbly. They can accomplish this by: sharing different multiple perspectives on given problems; really learning to listen to each other with complete understanding; asking powerful questions of each other to gain better insights; and, by gaining a genuine understanding of the necessary steps for collective movement in a well-defined direction. We have found that well designed project simulations that incorporate the concepts and principles outlined in this paper have the potential to significantly accelerate individual and virtual team enlightenment and learning.

Citations

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Lawrence Suda is the CEO and an Officer at Palatine group/Management Worlds, Inc. with over 30 years project and program management consulting and training experience to numerous government and private sector companies. The Palatine Group/Management Worlds specializes in creating computer-based simulations for project management and leadership training. Larry's career emphasis is on organization behavior, project management, operations management, strategic management and enterprise-wide project management for leading companies and government agencies throughout the world, including: NASA, US Navy, Departments of Commerce, Treasury, Energy, Health & Human Services , Agriculture, DAU and others and in the private sector to such companies as General Electric, Proctor & Gamble, ALCOA, URS, Verizon, Boeing, Lockheed/Martin, Hewlett-Packard, Perot Systems, PPG Industries, United States Steel and others. Before founding Palatine Group/Management Worlds, Larry worked in the private and public sectors at the US Environmental Protection Agency and was an Assistant Professor at the University of Maryland. Mr. Suda is a frequent speaker at PMI and IPMA Conferences in the United States and Europe and has led workshops for PMI's Seminars World in various locations around the World. He is an adjunct professor at Drexel University teaching Global Project Leadership. He can be contacted at lsuda@thepalatinegroup.com.