

Dynamic Interactions Between Two Models of Team Development and Learning: Implications for Performance and Human Resource Managers

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Team-based activities have become commonplace in many organizations. Research on team effectiveness has included studies on the effect of several variables, including goals, reward systems, team composition, type of task, and norms conducive to innovation. These all can be seen as the context for a team's ability to develop and learn. This article extends the existing research by briefly reviewing two dominant theories of team development and learning (the stages of development model and the punctuated equilibrium model) and then proposes, using seven propositions, a synthesis of the two models, showing how they need to interact to ensure optimal team effectiveness. Several implications for human resource development are identified.

Team-based activities, including tasks, new product teams, and top management teams, have become commonplace in many organizations (Marks, Mathieu, & Zaccaro, 2001; Waller, 1999). Research on team effectiveness has included studies on the context (for example, goals and reward systems) in which teams operate (Kirkman & Shapiro, 1997; O'Leary-Kelly, Martocchio, & Frink, 1994), criteria for team composition (Campion, Papper, & Medsker, 1996; Forester & Drexler, 1999), the effects of diversity (Early & Mosakowski, 2000; Jassawalla & Sashital, 1999; Lovelace, Shapiro, & Weingart, 2001; Randel & Jaussi, 2003), norms conducive to innovation (Amabile, Conti, Collins, Lazenby, & Herron, 1992), and the types of tasks appropriate for team, versus individual, assignment (Campion et al., 1996).

These all are important variables or dimensions and may be seen as providing a context in which team development and learning does or does not occur. Indeed, it may be that a team's ability to develop and learn may be most critical for high performance. This claim may be particularly true in fast-paced environments where teams, especially cross-functional teams, often have short life spans.

This article focuses on two models of team development and learning: the stages of development model (Tuckman, 1965) and the punctuated equilibrium model (Gersick, 1988, 1989, 1991; Gersick & Hackman, 1990). Both have been cited frequently, but little effort has been made to compare or integrate them. By examining the dynamic interactions between the two models and by proposing propositions that synthesize or integrate the two models, I attempt to extend the research on team effectiveness.

An Analysis of Two Dominant Models of Team Development and Learning: Significance and Relevance

Both models are well known, but both have been subject to criticism and controversy, including questions on whether they are competing models or measuring different things. For example, it has been questioned whether the stages of development (SOD) model (Tuckman, 1965) is a description of reality or a goal (Seeger, 1983), or whether "phasic" (that is, stage) models such as Tuckman's are too simplistic; whether, in fact, the structure of group activities is much more complex than a phasic model, which stipulates orderly progress through a few stages. For example, Poole (1983) argues that depending on the nature of the task, groups may move through stages in different orders. Seers and Woodruff (1997) questioned whether the punctuated equilibrium (PE) model (Gersick, 1988, 1989) describes a team's process of development or a team's task pacing under a deadline.

Yet both continue to be cited in the literature and applied to additional types of teams and work scenarios or tasks, broadening the generality of the models to different group environments. For example, Lim and Murnighan (1994) have shown how the PE model applies to two-person bargaining. Furthermore, Furst, Reeves, Rosen, and Blackburn (2004) have used both models to better understand how and why "the evolution of virtual project teams may be more complex and challenging than for co-located teams" (p. 8). Finally, the importance of time, a variable that both Tuckman and Gersick emphasize in their models, has received increased attention in the literature (for example, see Goodman, Ancona, Lawrence, & Tushman, 2001).

Little effort has been given, however, to synthesizing the SOD and the PE models (Marks et al., 2001). An exception is the work of Furst et al. (2004), who attempt to show some parallels between the two models but do not examine possible dynamic interactions. This article briefly reviews both models and then, using seven propositions, identifies such dynamic interactions and

suggests ways in which the two models need to be integrated in order to optimize team development and learning.

Stages of Development Model. The SOD model is based on Tuckman's review of the literature (1965) on the development sequence in small groups, with special emphasis on ". . . the question of change in process over time" (p. 384). Based on that review, Tuckman proposed a four-stage model of team development. Each stage addresses both interpersonal relations (labeled group structure) and the content of interaction as related to the task at hand (labeled task activity). These four stages are identified as forming, storming, norming, and performing. (Tuckman and Jensen [1977] later added another stage, adjourning, but that stage is not relevant to this article.) In the forming stage, team members share information about themselves and attempt to learn something about the nature of the task. During the storming stage, conflicts emerge as the team members strive to identify appropriate roles and responsibilities, including possible challenges to leadership, and they respond emotionally to task demands. In the norming stage, teams agree on ways of working together, and, optimally, an open exchange of opinions about task activity is legitimated. In the performing stage, teams become a problem-solving instrument, based on the changes in group structure and task activity accomplished in prior stages.

Punctuated Equilibrium Model. The PE model (Gersick, 1988, 1989), based originally on studies of special project groups and subsequently on laboratory studies, states that teams develop not through a series of stages but rather through a period of stability, or equilibrium (phase 1), in which they try to establish a working agenda and develop norms that guide early project efforts. This framework guides the team until the project's midpoint, when the equilibrium is disrupted, or punctuated, at which point the team examines its processes, attempting to improve its performance in order to meet quality levels, delivery dates, and other requirements.

Gersick (1988) found that the structure of the transition point consistently was marked by a set of five characteristics: (1) ". . . progress began with the completion or abandonment of phase 1 agendas . . . ; (2) team members expressed urgency about finishing on time; (3) transitions all occurred at the midpoint of their official calendars . . . ; (4) new contact between teams and their organizational contexts played an important role . . . ; (5) transitions yielded specific new agreements on the ultimate directions team work should take" (pp. 27, 28). Significantly, Gersick (1988) found that transition point work focused on solving task problems rather than internal interaction problems.

Phase 2 was a second period of stability, with activities shaped by the decisions made during the transition point. Completion is the last period of activity, focusing on editing and preparing materials for external use. Furthermore, probably because internal interaction problems were not specifically addressed during the transition point, Gersick (1988) found during the

completion period that groups “expressed more positive or negative feelings about their work and each other” (p. 30).

Dynamics Between the Two Models and Proposals for Integration

An important activity that occurs in phase 1 of the punctuated equilibrium model is developing norms that will guide the team’s behavior and activities until the transition, or punctuation, point, which occurs midway through the team’s task (Gersick, 1988, 1989). However, if the team is new and the members are not already familiar with each other, then it will be important that the team first go through the forming stage, according to the SOD model. This is because it is in the forming stage that team members familiarize themselves with each other, especially regarding their backgrounds and potential contributions to this task, and with the task itself (Tuckman, 1965). Indeed, even if the team members are familiar with each other, that history may not be relevant to the current task, reinforcing the importance of the forming stage. Without this activity, I predict that the norms chosen in phase 1 may well be dysfunctional. Furthermore, without a storming stage, during which team members raise any emotionally charged questions about roles, responsibilities, and task demands (Tuckman, 1965), it seems likely that emotionally charged issues will remain beneath the surface, also leading to the likelihood that some, or all, agreed-on norms might well be dysfunctional.

PROPOSITION 1. Unless a team progresses satisfactorily through the forming and storming stages according to the SOD model, dysfunctional norms will be prevalent during phase 1 of the PE model.

According to the punctuated equilibrium model, decisions made early in phase 1 remain unchanged until the transition point (Gersick, 1988). Significantly, such frameworks, for both task activities and interaction patterns, “were established *implicitly* [author’s emphasis] by what was said and done repeatedly in the group” (p. 17). One consequence of this may be, as already identified in proposition 1, that without explicit attention being paid to task activities and interaction patterns, the probability of dysfunctional norms, such as those that lead to groupthink, will increase, and the activity occurring in phase 1, according to the PE model, will be suboptimal, leading to less-than-satisfactory progress on the team’s task. Furthermore, it seems likely that the dysfunctional norms will lead to interaction patterns that are consistent with relational rather than task conflict (De Dreu & Weingart, 2003), also adversely affecting the team’s performance. Relational conflict, sometimes called emotional or affective conflict, consists of differences that are viewed as personal attacks and foster distrust and avoidance rather than attempts to resolve an issue. Task conflict, sometimes called cognitive conflict, focuses on substantive

issue-related differences of opinion rather than on people. These dynamics lead to the prediction that the presence of dysfunctional norms, together with relational conflict, will increase both the importance and urgency of the transition point according to the PE model:

PROPOSITION 2. *Teams that fail to progress satisfactorily through the forming and storming stages, according to the SOD model, will need the transition point sooner and more urgently.*

The transition point in the punctuated equilibrium model identifies a time when the team examines its framework and its actions. Phase 1 ends when either the team realizes that its path is not conducive to satisfactory performance or when phase 1 agendas have been completed. Following propositions 1 and 2, we predict that the former condition is more likely to prevail. That is, teams that fail to progress satisfactorily through the forming and storming stages are unlikely to have successfully completed phase 1 agendas. This implies two consequences. First, the framework guiding the team activities has been dysfunctional or at least suboptimal. Second, interpersonal relations (group structure according to the SOD model) have been problematic. Gersick and Hackman (1990) state that meetings for midpoint transition points typically last longer than other meetings. If the two consequences identified above unfold, the prediction is that the team will need even more time than that normally allocated to examine its framework and routines:

PROPOSITION 3. *The time necessary for the transition point analysis will increase in order to provide sufficient analysis of the team's framework and routines.*

How successful will the transition point analysis be? Several problems may need to be addressed. First, during the time prior to the transition point, patterned role relationships (Cohen, Fink, Gadon, & Willits, 2001) may have been established, making it difficult for team members to change their ways of interacting. Indeed, such patterned role relationships may turn into "self-sealing reciprocal relations" in which team members act so that the less desirable, or worst, behaviors of the others are reinforced (Cohen et al., 2001). Second, Cohen et al. (2001) also suggest that times of stress are not ideal times for reflection on and analysis of processes. Instead, "it seems most useful to work on group processes early . . . then build on this base for key tasks or time constraints, or both" (p. 128).

The possibility of these two problems suggests that reflection and analysis might be easier if the transition point comes earlier in the team's life cycle than the midpoint transition indicated by the punctuated equilibrium model:

PROPOSITION 4. *Moving the reflection and analysis exercise to an earlier point in the team's life cycle than the midpoint will improve the team's ability to reflect on, analyze, and improve its performance in the remaining time available.*

A third problem affecting the success of the transition point is addressed by Gersick and Hackman (1990). They indicate that the analysis may be conducted by the team, or the team may ask a facilitator to intervene. If the team performs the analysis itself, its success will depend heavily on the task skills and process skills of the team members, and therefore may be considered problematic unless team members possess skills such as facilitating, conflict management, and problem diagnosis and problem solving. Perhaps because of these potential limitations, Gersick (1988) reports that five of the eight teams in her study turned to a facilitator for help.

An intervention, however, is no guarantee of a successful analysis. Reviews of the intervention literature uncover little empirical evidence documenting the effectiveness of interventions (Goldstein, 1980). Kernaghan and Cooke (1990) obtained data from 114 groups working on project planning tasks to study the effects of interventions. They found that planning groups receiving feedback on their rational processes but not on their interpersonal processes did not outperform groups receiving no feedback. (However, for a few high-ability groups, feedback on rational processes did generate positive outcomes.) The importance of receiving interpersonal process feedback, especially for teams that are not high in ability, as well as feedback on their rational processes, is especially significant given that Gersick (1988) found that “in every team, transitional work centered explicitly on solving task problems, not on solving internal interaction problems” (p. 30).

Another perspective on the effectiveness of interventions is provided by Marks et al. (2001). Their framework suggests that interventions should target different processes, depending on the goals and environment. They identify three possible goals (performance, quality, and efficiency) and two possible team environments (complex and dynamic) and identify diagnostics appropriate to each goal or environment. This framework may provide a facilitator with a more sophisticated diagnostic tool with which to help the team during an intervention:

PROPOSITION 5. The effectiveness of an intervention at the transition point depends on the facilitator's (a) helping the team to examine interpersonal processes as well as rational (task) processes and (b) using a sophisticated framework such as that suggested by Marks et al. (2001) to conduct the analysis.

According to the PE model, teams have one transition point, occurring at the midpoint of the task cycle. Gersick and Hackman (1990) identify several reasons that task-performing groups retain habitual routines prior to the midpoint of the task cycle, that is, why inertia persists . . . “even when group members experience habitual behavior patterns as increasingly negative” (p. 80). These reasons include social impact, social entrapment, cost of change, and group norms.

However, little attention is given to whether one transition point is optimal. Dorner (1996) indicates that having only one transition point is likely to be sub-optimal, leading to poor decisions. Dorner conducted a series of computerized simulations in which participants were asked to engage in planning exercises, such as promoting the well-being of the population in an imaginary area in West Africa or an imaginary town in northwest England. As a result of these studies, Dorner identified what he called the “logic of failure.” He found that participants courted failure (defined as disastrous side effects and long-term consequences) in predictable ways. “Poor” participant outcomes (failed outcomes) differed from “good” participant outcomes (successful outcomes) in clear and significant ways. Good participants made more decisions for each goal, made them more frequently, and more often “reflected on their own behavior, commented critically on it, and made efforts to modify it” (p. 26). Based on this research, I predict that teams will be more effective if they have multiple transition points rather than only the one at the midpoint of the cycle:

PROPOSITION 6. *A team’s effectiveness will increase if (a) it has more than one transition point, and (b) there is at least one transition point before the midpoint of the task cycle. (Also see proposition 4.)*

Gersick (1991) points out that teams are more likely to reevaluate past choices “. . . when they are reminded, by temporal milestones, that their time is finite . . .” (p. 24). We suggest that teams might use the stages of development (Tuckman, 1965) as a surrogate for temporal milestones. That is, if teams can increase their effectiveness by introducing multiple transition points (according to proposition 6), then each stage of development might provide a natural opportunity for a transition point. And since each stage of development does include attention to both task activity and interpersonal relationships (group structure), the concerns expressed in proposition 5 can be addressed. Furthermore, use of the four stages as trigger events helps to overcome the tendency to create the framework guiding phase 1 activities (according to the PE model) implicitly rather than explicitly.

PROPOSITION 7. *Teams will be more likely to overcome habitual routines, or inertia, and avoid the logic of failure if they use each stage of development as a trigger event to introduce multiple transition points.*

Human Resource Development Implications

This article has made several points with implications for HR managers, especially those who have training responsibility. First, Gersick discovered that new teams do not automatically move through the stages of development, with the increases in performance levels associated with each stage, but instead may follow a different model (the punctuated equilibrium model). This means that

HR managers will be remiss if they do not alert team leaders to this possibility in order that team leaders can address performance consequences identified in the seven propositions outlined in this article.

Second, HR needs to inform team leaders that if they follow the punctuated equilibrium model, the transition point reflection and analysis will not necessarily lead to a higher level of performance. Whether it does will depend on the skills available and employed as the team reflects on its performance in phase 1. Therefore, it might be appropriate and necessary for HR to offer its services at the transition point to ensure that requisite skills (in areas such as problem solving, conflict resolution, and interpersonal communication) are available to the team.

Third, Gersick observed that in phase 1, prior to the transition point, teams failed to explicitly discuss norms affecting team performance. This failure is likely to lead to norms developing implicitly, with dysfunctional consequences. Therefore, in phase 1, HR should encourage team leaders to promote a healthy dialogue among team members regarding issues such as expected levels of member participation, information sharing, expression of feelings, and task assignments.

Fourth, this article has suggested that the development of functional norms likely will depend on the team's ability to successfully move through the stages of forming and storming, according to the SOD model. Therefore, it is important that team leaders are knowledgeable about the SOD model and can assist their teams in efficiently moving through these two stages to increase the likelihood that the norms ultimately developed are functional rather than dysfunctional. HR training programs can ensure that this knowledge is acquired. The ability of team leaders to foster a healthy dialogue will contribute to this goal.

Finally, if, as Gersick suggests, teams are more likely to move through the punctuated equilibrium model than through the stages of development model, it is important that team leaders realize that using only one transition point is likely to have an adverse effect on performance. In order to encourage teams to reflect more frequently on both interpersonal and task variables that can affect performance, HR might encourage team leaders to consciously introduce the stages of development, especially the forming, storming, and norming stages, as surrogates for multiple transition points.

Summary

Teams are used widely in organizations, and several studies have examined variables that affect team performance. These variables are posited to provide a context for a team's ability to develop and learn. Therefore, to extend the research on team effectiveness, two dominant models of team development and learning were reviewed, and it was noted that there has been little effort to synthesize the two models. Subsequently, dynamic interactions between the

two models were identified, and a set of seven propositions was proposed to integrate, or synthesize, the two models, thereby contributing to high levels of team performance. Implications for HR development were discussed.

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