

# A TALE OF TWO GENRES? BRIDGING THE GAP BETWEEN GROUP AND ORGANIZATIONAL LEARNING RESEARCH

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## Abstract

Advantage in the marketplace for firms engaged in knowledge work is believed to flow from core competencies and the way the knowledge is created and shared. Several models describe the way in which knowledge is created and shared within organizations. Each tends to have its own strengths and weaknesses. The knowledge creation spiral and group learning models are reviewed and a new group knowledge work model is proposed. The model portrays relationships among group learning processes and knowledge sharing practices.

## Introduction

To meet the needs of highly complex and rapidly changing environments, teamwork has become a major focus for many businesses as they seek to become more competitive, flexible and agile. Teamwork and team learning are the critical link between the learning individual and the learning organization. With continual collaboration and experimentation coupled with ongoing reflection, a team utilizes its potential to generate new ideas, thereby increasing its ability to produce the desired business results.

Much has been written about how to form teams, the types of teams, what makes teams effective, leadership within teams and their importance in supporting organizational learning (Argote, Gruenfeld, & Naquin, 2001; Crossan, Lane, & White, 1999). The importance of learning in teams has been recognized in both the organizational learning and the emerging group learning literature. Yet these two streams of work have developed in parallel with little exchange of ideas (Argote et al., 2001). The group learning literature has stressed internal group processes through which new knowledge is created as group members interact with their environment and each other (Dechant & Marsick, 1991; Kasl, Marsick, & Dechant, 1997; Watkins & Marsick, 1993, 1996; Dixon, 1994). In contrast, organizational learning research has provided insights into the processes and technology required for information and knowledge sharing (Nonaka, 1994; Nonaka & Takeuchi, 1995; Nonaka & Konno, 1998; Crossan, et al., 1999; Kim, 1993).

The framework developed in this paper integrates elements from the group and organizational learning literatures. This paper seeks to bridge the gap between these two literatures by building a systematic

conceptual framework to explain how the practices supporting the flow of knowledge and group learning processes interact to enable learning and the development of core competencies.

## Group and Organizational Learning

**Group Learning.** The writings co-authored by Dechant, Kasl, Marsick and Watkins explicitly consider the role of the group in learning organizations (Dechant & Marsick, 1991; Kasl, et al., 1997; Watkins & Marsick, 1993, 1996). Group learning has been defined as “a process through which a group creates knowledge for its members, itself as a system, and for others. . . . [It is] an interrelated set of processes in which collective thinking and action play a central role” (Kasl, et al., 1997, 229). Similarly, Watkins and Marsick (1996, 6) define team learning as “the mutual construction of new knowledge and the capacity for concerted, collaborative action.” These definitions of group learning suggest the idea that learning includes both cognitive and action-oriented behaviors.

Until recently, few researchers wrote specifically about group learning. The socio-cognitive constructs associated with group learning need to be operationalized and tested at the group or team level (Akgun, Lynn & Byrne, 2003). Edmondson (1999) utilized a single team learning behavior scale including items related primarily to information gathering, reflection and group processes. Dechant and Marsick (1993) developed a theoretical learning model explicitly considering both cognitive and action-oriented behaviors: framing, reframing, integrating perspectives, experimenting, and crossing boundaries. Their analysis found the items associated with the five constructs were highly interrelated; factor analysis did not support distinct constructs. Three of the proposed constructs were cognitive (framing, reframing, integrating perspectives) while two are actions (crossing boundaries, experimenting).

Groesbeck (2001) utilized concepts from these researchers to test the distinctiveness of five group learning concepts: interpreting (similar to framing and reframing), crossing internal and external boundaries to obtain and share information (2 concepts), collaborate, and experiment. Three constructs emerged: collaborate, interpret and experiment. Items relating to integration did not form a distinct factor, but loaded to

the factors relating to interpret and experiment. The three constructs are described in Exhibit 1.

**Exhibit 1.** Group Learning Constructs.

Construct	Definition
Experiment	Team action is taken to test hypotheses or to discover and assess impact of actions. May involve systematic, planned testing or trial and error to observe the results of actions.
Collaborate	Individuals seek or give information, views, and ideas through interaction with other.
Interpret	Team members develop or modify their frameworks or mental models of their work and its place in organizational processes. Involves reflective thinking or making sense of the results of experimentation and collaboration.

**Organizational Learning.** Senge (1990) defined the learning organization as one that continually expands its capacity to create its future. Consistent with this definition, much of the organizational learning literature focuses on the practices that enable of organizations to create knowledge and the practices that will enable it to share this knowledge across the organization. For example, Crossan et al. (1999, 524) proposed “the 4I framework of organizational learning containing four related (sub) processes – intuiting, interpreting, integrating, and institutionalizing – that occur over three levels: individual, group and organization”. A key proposition of the 4I model is that information must flow from individuals and groups up to the organization and then back out from the organization to groups and individuals to enable organizational learning.

In addition to the flow of knowledge between organization levels, a second key concept from the organizational learning literature involves the extension of private meaning structures into accessible space, so that new meaning may be constructed (Dixon, 1994). For example, Polanyi (1966, 61) described how the transfer of tacit knowledge requires the transferor to have a deep awareness of the meaning of communicable details and the transferee to undertake the “same kind of indwelling” with this tacit knowledge to allow the deeper meaning to emerge.

Organizational learning is achieved through a synergistic relationship between tacit and explicit knowledge in the organization, and through the design of social practices that create new knowledge by

converting tacit knowledge into explicit knowledge (Choo, 1996). In Nonaka’s (1994) spiral model of knowledge creation, knowledge moves upward in an organization, starting from the individual level, moving up to the group level, then up to the firm level, and finally to the inter-firm level. As the “knowledge spirals upward in the organization, it may be enriched and amplified as individuals interact with each other and with their organization” (Inkpen & Dinur, 1998, 457).

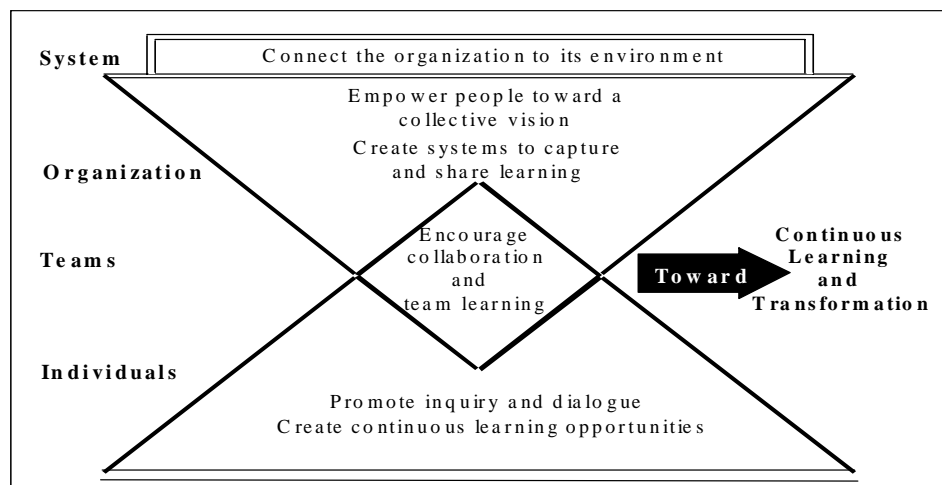
Although the tacit knowledge held by individuals lies at the heart of the knowledge creation process, gaining access to the benefits of that knowledge requires dynamic interactions between four modes of knowledge conversion (Nonaka, 1994). The four modes and practices associated with these modes are: *socialization* (the sharing of tacit knowledge between individuals through joint activities and physical proximity), *externalization* (the expression of tacit knowledge in publicly comprehensible forms), *combination* (the conversion of explicit knowledge into more complex sets of explicit knowledge through communication, dissemination, systematization of explicit knowledge) and *internalization* (the conversion of externalized knowledge into tacit knowledge on an individual or organizational scale). Organizational knowledge creation occurs when all four of these modes are managed to form a continual cycle. The reconfiguration of existing information and recontextualizing of explicit knowledge can lead to new knowledge (Nonaka, 1994) which is then embodied in actions, practices, processes and strategic initiatives.

**The need for an integrated group learning model.**

Marsick and Watkins (1999) stress the importance of extending the capacity to use learning as a strategic tool to generate new knowledge in the form of products, patents, processes and services, and to use technology to capture knowledge. Unless individual knowledge is somehow shared with other organizational members or groups, the knowledge will not be captured by the organization (Kim, 1993). Thus, understanding how to manage organizational learning involves a focus on three levels: individual, group and organization. Moreover, it particularly involves understanding how to support the learning and sharing of knowledge throughout the organization as well as within the work group. Exhibit 2 portrays the vital role of group learning as a key link between individual and organizational learning.

Watkins and Marsick (1996) describe group processes required for the mutual construction of new ideas and collaborative action, but focus less on the practices through which these group processes take place and the interplay between tacit and explicit

**Exhibit 2.** Learning Organization Action Imperatives Support Learning at the Team Level (Source: Watkins and Marsick, 1993, 10).



knowledge. Conversely, the spiral of knowledge creation posits four conversion modes required for knowledge to be shared and become embedded within the organization. That is, for organizational learning to occur, tacitly held knowledge must become explicit to be transferred from individuals and groups to groups and the organization through the four knowledge conversion modes (Nonaka, 1994). However, the knowledge conversion model does not describe the processes which must actually be occurring in order for individuals working in groups to learn collectively.

Dixon (1994) argued that it is not sufficient simply to have the meaning structures exchanged by members. Rather, organizations need to facilitate a learning cycle that involves the generation of ideas, the dissemination of information into the organizational context, interpretation of knowledge, and the sense of authority to act on what is known. We argue that integrating our understanding of the processes through which groups learn and the practices associated with organizational learning in Nonaka's (1994) knowledge conversion model can shed light on practices that will support the presence of group learning in organizations.

### The Proposed Model

We propose that the four practices of the SECI model work to support the processes of group learning. First, tacit knowledge is accessed from private meaning structures to enable collaboration through dialogue and other forms of sharing information. Second, the accessible knowledge is translated, categorized and contextualized as group members interpret explicit information to make sense of it and see where it fits within their focused area and overall within the organization. Third, new knowledge is put into action through experimentation to allow its conversion from explicit to tacit as individuals 'learn by doing.' Lastly,

the tacit knowledge gained from experimenting is interpreted within individuals' private meaning structures.

Interpretation processes may involve tacit (privately held) or explicit (publicly held or accessible) information. Conceptually there is an important distinction. Interpretation of explicit information can occur as group members share their divergent views but focus on a deep awareness of the meaning of communicable details so that others can undertake the "same kind of indwelling" to allow deeper meaning to emerge. Thus interpretation can have an outward (tacit to explicit) focus from one's personal mind toward group-oriented concerns, as well as an inward (explicit to tacit) focus as individuals integrate and make sense of information from collective mental models and personal experience.

With this background, the supportive interaction of SECI practices and group learning processes can be described. A sequential perspective of how the practices and processes relate is described in the following paragraphs.

*Socialization* includes practices that enable individuals transfer their tacit knowledge to others by sharing their experiences and expertise through interactions in and outside their organization. Socialization requires interaction over time. It occurs through opportunities to share insights stemming from experiences and expertise. Transmission of tacit knowledge requires proximity and interpersonal interaction (Nonaka & Konno, 1998; Davenport & Prusak, 1998; Hensen, 1999; Sole & Edmondson, 2002; Szulanski, 1996). An individual can acquire tacit knowledge directly from others by observation, imitation, and practice without using language. Mechanisms for tacit knowledge sharing include mentorship, apprenticeship, and repeated practice over

a period of time (Nonaka & Takeuchi, 1995; Spender, 1996).

*Collaboration* processes occur as individuals seek or give information, views, and ideas through interaction with other individuals or units without boundary. Boundaries can be physical, mental, or organizational. Boundary crossing involves bringing in ideas, insights, information or data from outside the group or from other individuals within the group. Collaboration is supported by socialization and externalization practices.

*Externalization* involves practices that support articulating tacit knowledge into explicit concepts through language. Tacit knowledge becomes explicit through metaphors, diagrams, analogies, concepts, hypotheses, or models (Nonaka & Takeuchi, 1995). Externalization requires practices that support communication of new insights and guidance of new thoughts (von Krogh, G., Ichijo, K., & Nonaka, I., 2000). Expressions used to externalize information are often inadequate, inconsistent, and insufficient. However, such discrepancies and gaps between images and expressions help promote reflection and interaction between individuals.

*Interpretation* of explicit information is a process through which group members develop or modify the frameworks or mental models of their work as well as their place in organizational processes. It involves reflective thinking or making sense of the results of shared information. Once tacit knowledge has been made explicit, it can be turned into information to share others (Gladstone, 2000). Unless the information is understood and interpreted by others in meaningful ways, someone's tacit knowledge made explicit is nothing more than data. Hence, without interpretation, group members may be data rich but information poor.

*Combination* includes practices where two or more pieces of explicit knowledge are combined into more complex sets of explicit knowledge through acquiring, integrating, synthesizing, processing, and disseminating existing internal and external information (Nonaka, I., Byosiere, P., Borucki, C., & Konno, N., 1994). Practices supporting combination could include visits to other operations performing similar work, customer supplier interactions, use of information and communication technology (ICT) networks and large-scale databases, financial reports, and market intelligent information.

*Experimentation* includes processes where action is taken to test hypotheses or to discover and assess the impact of actions or new mental models. It may involve systematic, planned testing or trial and error to observe the results of actions.

*Internalization* practices facilitate the embodiment of explicit knowledge into action and standard practices. Documents help individuals internalize what

others have experienced by experiencing them indirectly. These practices enable people to benefit from others' experiments without actually having to re-experience other's trial and error. Internalization practices include opportunities for reading or listening to others success stories, interaction with people who have different expertise and specialization, and increasing familiarity with concepts through continued practice using simulations or experiments to support "learning by doing."

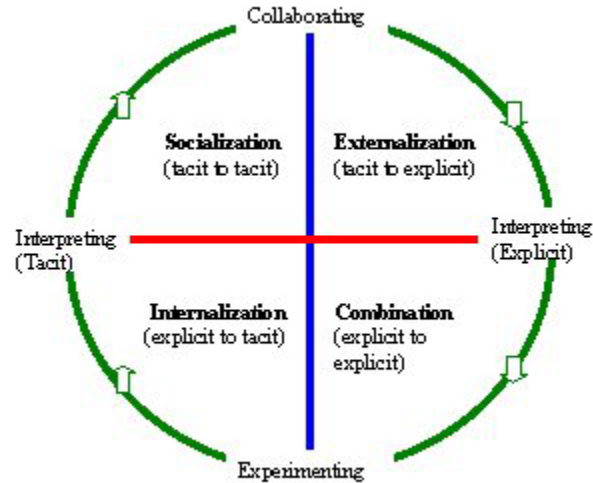
*Interpretation* of tacit information is a process where group members develop or modify individual frameworks or mental models of their work and its place in organizational processes. It involves reflective thinking or making sense of the results of experimentation toward commonly understandable perspectives.

While the SECI practices supporting group learning processes may be described in the sequential process just described, this sequential view is too narrow. The proposed integrated group learning and knowledge creation (GLKC) model that integrates the SECI knowledge creation spiral model (Nonaka, 1994; Nonaka & Takeuchi, 1995) with group learning models (Groesbeck, 2001) is depicted in Exhibit 3 below. This portrayal suggests that each of the group learning processes is most strongly supported by two of the SECI practices. For example, collaboration can occur as group members are involved in socialization and externalization practices. Similarly, each SECI practice is most strongly associated with two group learning processes. For example, while conducting a training session (a practice to externalize knowledge) can enable collaborative processes, it also can support the interpretation of explicit concepts by both students as well as teachers who later recognize they have learned more than the students they were teaching as they engaged in the training experience.

### **Implications and Future Research**

Senge (1990) stated that unless groups can learn, organizations cannot learn. Given the imperative for group learning, the proposed group knowledge work process model has useful implications for researchers and practitioners. One important contribution that flows from this model is a framework to assess both learning-enabling practices and the processes which take place as people learn. The practices which support learning are *means* to support the group learning processes, not an end in themselves. The tendency to put broad-based, organization-wide programs (practices) in place will not be successful unless the processes through which people act and think change.

**Exhibit 3.** Group Learning and Knowledge Creation Model.



A second contribution of the proposed model is a clearer specification of the roles of tacit and explicit information in group learning. While heterogeneity among group members can enable groups to learn through a broader base of experience upon which to draw, the GLKC model emphasizes the need for individuals' tacit knowledge to be made explicit to group members, utilized and then incorporated back into the tacit knowledge that is used in tasks. For example, effective interpretation processes require more than just the opportunity to share. They also require the use of tools to draw out or enable the transfer of tacitly held information. Hence to reach the collective synergistic potential of the group, the proposed model highlights the need for both externalization of knowledge and combination practices as groups seek to interpret the data available to them.

The proposed model suggests several avenues for future research. First may be the opportunity to refine the constructs used to assess each of the eight constructs in the model. A second need is to test the hypothesized relationships among the constructs in the model. Researchers could study the strength of the correlation or causation between each of the group learning processes and the four SECI practices. For example, such research could determine if socialization and externalization practices are most strongly associated with the presence of collaboration. Third, research is needed to determine the relationship between the group learning processes and practices in the GLKC model and group or organization-level outcomes. For example, future research could study the extent to which the group learning processes mediate the relationship between the presence of SECI practices

and organization effectiveness, creativity, team viability and group member satisfaction.

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