Contemporary Management Research
Pages 173-188, Vol. 4, No. 3, September 2008

An Exploratory Study of the Team Learning Typology Based on Environmental Fit

Yong Tae Bang
Paichai University
E-Mail: bangyt@pcu.ac.kr

ABSTRACT

This study defines team learning as one which is complete when the team encounters and drives environmental constituents towards the path of achieving its assigned goal. Based upon fit to both external and internal environments, four types of team learning are proposed: synergistic, isolated, alienated, and destructive. Case studies of team projects in Korean and Japanese companies show that team projects with high evaluation from the top manager and/or customer succeed in dealing with both external and internal environmental factors, while team projects with low evaluations fail to meet the demands of internal environmental constituents. Some theoretical and practical implications are suggested in the conclusion.

Keywords: Team Learning, Environmental Fit, Team Project

INTRODUCTION

Jelinek (1979, p.157) says “organizational learning codifies individual intuitions and let them adopted, adapted and applied by other members.” We can thus interpret organizational learning as an integration of individual learning for heightening its performance. A learning organization possesses five factors: “visionary leader, concrete, measurable action plan, fast information sharing, vigorous inventiveness, and implementation capability” (Wick & Leon, 1993, p. 49). The organizational learning combined with right strategic orientation and human resources leads to corporate growth.

It should be taken into consideration who the key player is to perform organizational learning. This paper adopts team instead of group as the relevant terminology in that team is flexibly composed and aims at a special target without being

burdened by routine works. Katzenbach & Smith (1993, p. 111) suggest to distinguish between teams and other forms of working groups as follows; “that distinction turns on performance results. A working group's performance is a function of what its members do as individuals. A team's performance includes both individual results and what we call "collective work-products." A collective work-product is that, which two or more members must work on together, such as interviews, surveys, or experiments. Whatever it is, a collective work-product reflects the joint, real contribution of team members.”

The consequential question may be what type of team learning contributes to high evaluation of team project. This paper has the research purpose of exploring the validity of team learning typology based on environmental fits for project evaluation by dealing with Korean and Japanese corporate cases.

LITERATURE REVIEW

Organizational learning has attracted many scholars in management studies. There are diverse definitions of organizational learning by researchers; “organizational learning is a process of detecting and correcting error.” (Argyris & Schon, 1978) “Organizational learning means the process of improving actions through better knowledge and understanding.” (Fiol & Lyles, 1985) “A learning organization is an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights.” (Garvin, 1993) “An entity learns if, through its processing of information, the range of its potential behaviors is changed.” (Huber, 1991) “A learning organization must be grounded in three foundations (1) a culture based on transcendent human values of love, wonder, humility, and compassion; (2) a set of practices for generative conversation and coordinated action; and (3) a capacity to see and work with the flow of life as a system.” (Kofman & Senge, 1993) “The ability of an organization/manager to learn is not measured by what the organization or manager knows (that is, the product of learning), but rather by how the organization/manager learns-the process of learning. Management practices encourage, recognize, and reward those managers whose behaviors reflect five dimensions: openness, systemic thinking, creativity, a sense of efficacy, and empathy.” (McGill, Slocum, & Lei, 1992) “Organizational learning occurs through shared insights, knowledge, and mental models...[and] builds on past knowledge and experience -- that is, on memory.” (Stata, 1989) “Organizational creativity is the creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social

system." (Woodman, Sawyer, & Griffin, 1993) "An organization can be compared to a learning system with distinctive characteristics that are able to meet the demands of its internal and external environments." (Yeo, 2005)

It seems that definitions of organizational learning mentioned above do not deal with concrete measurements or constituting factors, thereby making it difficult to compare the team project evaluation based on those measurements or factors. Organizational learning is preceded by team learning that each member performs as a group. Organizations should consider their basic building block to be the group than the individual (Leavitt, 1975, as cited in Stewart, 2006). This study defines team learning as that, which is completed when the team encounters and drives environmental constituents towards the path of achieving its assigned goal. In that sense, 'to meet the demands of its internal and external environments' by Yeo (2005) and 'not by what the manager knows, but rather by how the manager learns' by (McGill, Slocum, & Lei, 1992) have something to do with the definition and typology of team learning in this study.

Different organizational learning typologies are suggested by scholars; generative vs. adaptive learning by Senge (1990), operational vs. conceptual learning by Kim(1993), cognitive vs. behavioral learning by Daft & Weick (1984), higher vs. lower level learning by Fiol & Lyles (1985), and single-loop vs. double-loop learning by Argyris & Schon (1978). These typologies give easily understandable meanings of organizational learning, although breaking down them into sub factors still remains undone. This paper tries to fill out the undone task by clarifying details of team learning typology. One of the exceptional studies is Druskat & Kayes (2000), who include relationships and tasks processes into their team learning framework in order to find out which sub factors give impact on team learning and team performance.

METHODOLOGY

This study has an exploratory nature whose objective is not to test hypotheses but to suggest hypotheses to be testified by future researches. For the purpose of identifying factors that are relevant to team project evaluation, a case study is preferable to a survey because of its explanatory power. The prerequisite for a case study is to have maintained a close relationship with the interviewee because disclosing corporate information to outsiders is a very sensitive issue. The three cases were, therefore, selected by judging the accessibility to the interviewee and the credibility of the interviewer from the interviewee's standpoint. The Korean case interviewee is an alumnus of the author's

university, and Japanese interviewees are members of a study group composed of alumni of a graduate school attended by the author. They were asked to disclose any team project significant to their companies, not to their departments. All three team projects unexpectedly dealt with similar topics of information system building. Three interviewees took the role of project manager in their respective projects. The fact that they controlled the whole work process as project manager guaranteed the inclusiveness of their explanations.

Open-ended interviews were carried out in order to, not only hear facts related to the projects in terms of fit of external and internal environments, but also to ask their opinions and insights as a project manager. Questions are focused on customer relation management (external environment) and relations with top management and other sub units concerned with the project (internal environments). As to each project, after the initial 2-3 hour on-site interview ended, full descriptions of each project were put in writing. When something missing was found or complementary information was needed, additional phone interviews were performed for less than an hour. As the interviewees refrained from exposing their company name and their own, only corporate nationality was noted. The business domain of a Korean company (K1) and a Japanese company (J2) is IT service/solutions, and that of the second Japanese company (J2) is life insurance. Team project evaluation was measured high or low by asking the interviewee the response of top management and/or the customer.

RESEARCH MODEL

Bang (2000) proposed four types of team learning based upon fit with both external and internal environments. External environments are made up of customers and competitors as the main components, while internal environments are composed of top management and sub units (divisions, departments etc.). A source of incompatibility between internal and external fit is tunnel vision. “Managers bent on creating efficient, well-oiled, internally consistent organizations often ignore their environments. …In contrast, some firms are so preoccupied with adapting to their environments that they are in a constant state of flux.” (Miller, 1990; Hedberg, Nystrom, & Starbuck, 1976, as cited in Miller, 1992).

Synergistic team learning occurs when a team creates new knowledge with maximum fit to the external and internal environments in carrying out its project. The ultimate objective of the team project is to achieve high evaluations from a key person

i.e. the customer. In order to achieve such a favorable evaluation, it is taken for granted to consider the external environment.

It is a top priority to constantly collect, analyze, and utilize information on industrial trends; how the customer composition is changing; how customer values are transitioning; where the competitors in the same as well as other business domains are going; what kind of strategy a firm should make in this situation; and which benchmarking is available and so on. Chee (1994, p. 155) emphasized "supplementing competitive advantage through diverse coalitions between firms such as technology exchange, co-research, market exchange, functional combinations." In addition, fit to external environment improves when the firm tries to draw the picture that market and industries are proceeding, to create the vision it hopes to achieve.

High	Alienated Team Learning	Synergic Team Learning
Fit to external environments	Destructive Team Learning	Isolated Team Learning
Low	Low — Fit to internal environments — High	

Source: Bang, 2000

Figure 1 Types of Team Learning

While the external environment provides clues to the mission of project team, the internal environment acts as a limitation to the implementation of the team mission. However elegantly a team draws its vision and creates the framework for its mission, they both lose meaning if not accepted by the organization. A team should thoroughly investigate corporate culture and climate, in other words what and how the firm has been doing so far if it wants to seek internal support and understanding. In practice, it is top management that exerts dominant influences on the formation of corporate culture and climate. Thus the top management support grants legitimacy to team activity. Improving fit to internal environment this way will contribute to smooth finish of the team project.

It should, however, be kept in mind that heightening the fit to both external and internal environments does not necessarily mean compliance with a given environment. The perspective should be focused, not on static fit, but on dynamic fit. If a team lowers

its target level only for the compliance with a given environment, it gains nothing but a sub-optimal target. If this is the way a team project is built, an irretrievable gap is formulated between the ever-changing environment and the ever-stagnating organization. Consequently, a syndrome occurs that prefers an incremental innovation to a revolutionary one. Chee and Lee (1989, p. 219) suggest that "strategy be understood as a tool not only to respond to environmental threats but to take advantage of environmental opportunities."

A team is said to have experienced isolated learning when it emphasizes fit to the internal environment and pays insufficient attention to the external environment in the new knowledge creation project. The team regards external environment as a given, and takes the internal environment for an influential factor. As a result, the team makes an effort to create harmony with other sub-units for maximum positive effects on its project. The reason that a team falls into the trap of isolated learning lies in its inability to scan the external environment or its insensitivity to environmental scanning. Even though the team feels the need for environmental scanning, it cannot help investigating superficially when information collection requires too heavy an effort and time for the team. Furthermore, in an age of information flood it is not as easy as it seems to be for a team to distinguish relevant information from the irrelevant. By passing through "the surveillance filter, mentality filter, and power filter" (Ansoff, 1990, p.66) overloaded information may be lost or distorted. Even when a team can discern the relevance of information, it is of no use if the team has no capability to utilize that information. In contrast to the external environment, internal environment is easy to comprehend and evaluate, and the fact that stakeholders for the team project exist within the organization may lead the team to isolated learning.

Alienated team learning is when a team innovates organizational knowledge with the ever-changing external environment taken into consideration, while little interaction done with other sub-units in the organization. When a team deals with outer-oriented projects or consists of outer-oriented members, it is more likely to fall into an alienated learning pattern. Pursuing the project in that direction, however, is not consistent with the interests of other sub-units and has the risk of being unable to put the project into action. Opposition, interruption, and uncooperative attitudes of other sub-units may cause the team not to be able to align the input needed for the completion of the project, and fall victim to departmentalization, or a sub-optimal state. Bolton & Leach (2002) highlight departmentalism as a key factor in explaining the differential effectiveness of local

government strategies. On the other hand, an organization that is satisfied with a successful track record so far and denies destroying the status-quo to be insensitive to new innovation may turn a deaf ear to the team project.

The fourth type of team learning is destructive learning done by a team that performs a project with contents and processes inconsistent to the external and the internal environments. When a team lacks the capability of sensing and scanning the environment as well as harmonizing with internal stakeholders, the new knowledge is far from expectation. The team turns out to have given serious impact on the organization, let alone itself. In other words, both organizational effectiveness and members' career development come to be hurt. The main reason for destructive team learning may be sought in the team composition. In the dimensions of cognition and behavior, members may possess closed and shortsighted attributes. Problem solution and relationship management are other aspects in which the team finds itself awkward. "Group think," coined by Janis (1982), explains that excessive cohesion and closed, uniform thinking style can be related to destructive learning. It is a requisite to constitute a team with diverse experience and background for preventing destructive learning.

Below are Korean and Japanese team project cases introduced and analyzed based on the framework of team learning typology.

CASE STUDY FINDINGS

Case Descriptions

K1 company decided to do an information strategy project for exploring tasks that may improve productivity, information management, and establishing long-term direction of corporate information technology. The project period was five months with thirteen members and included an external consultant.

With regard to top management commitment, he drew the vision and object of team project clearly, showed his preferred strategy and method, and fixed the deadline. When asked, he actively granted his support. Such top management support enabled the team to articulate where to go and how to proceed.

Regarding the team task process, the analysis framework, which the consulting company had in hand, was adopted. Exploration for new tools other than the existing one is only possible when there are time allowances for the project, but it is rarely available in reality. The first step of the project process was to define the key success factors, give

priorities among these factors through surveys to the senior managers, and compose the business function model by way of business activity analysis. Final conclusion on business reengineering and information support was made with focus on the most effective of business activities.

At the initial period of interaction among team members, team cohesion was low, as a result of personality differences. At this period the members from the consulting company explained their research method to company members. At the interim period ideas presented by each member were discussed in terms of their validity. As the senior managers' response to the interim report turned out to be friendly, members' trust of the team leader was strengthened. At the later period, decisions on priority and final report preparation were the main tasks. Bringing the output into existence was given the foremost emphasis, which resulted in different burden on each member. The member whose burden was not heavy felt isolated, but when the final report got good score from top management, everything ended with satisfaction.

Team leader took the role of explaining to the other members each member’s progress when that member had finished his part on each step, and coordinated team members. He put emphasis on logic when it came about strategic issues, but matters on how-to-do were decided by majority.

Management evaluated team project after its completion. They were attracted by systemic and logical methods, and chose to implement the alternative of three-year action planning. One of the most precious harvests of this project is that management recognition was renewed on the necessity of investment and establishment of new organizational unit.

J1 company started the team project by aiming at the improvement of work efficiency with the establishment of common data base. The project had been performed for three years by two separate teams, one of which is business process team and the other is system development team, each team being composed of ten members respectively. The business process team which is the object of this case study started its activity as a new business unit. Its role was suggesting ideas on information system to the system development team, reporting to the top management, and negotiating with sales department. The sales department participated only in the listening phase of project contents.

Due to the parallel features of the large scale system and customization system, which were contradictory to each other, the first project done ten years before completed main frame during seven-year period. Judging that parallel implementation of both projects was nearly impossible, at that time the higher priority of large scale system came to be developed first. This second project was developing a customized system reflecting on the customers' request for revision of the large scale system developed as a first project.

Top management did not show high commitment to the project, because it was thought that the commitment shown ten years prior was enough.

Concerning team project process, the existing working tool was adopted because it was state-of-art tool at that time. At the first phase system development study and requirements analysis were done for the objective analysis of business work. It took three to four months on average to finish the first phase of work, but could take even six months, depending on issues. This means that not all issues were resolved at the same time. This phase was led by four chief clerks (*kakaricho* in Japanese). The work contents at the second phase were to define and classify requirements into the necessary and unnecessary, and whether the existing one was continuously usable. The image of requirements was made in detail by twelve team members for three months. The third phase was led by a system development team, the main work being program design. The business process team checked the contents of the program design in order to certify that its demands had been met. The contents of the fourth phase were internal design, making it detailed in terms of customers and works. The fourth phase took four months. It had been more than one year since the project started. The contents of the fifth phase were program development for the system team and work replacement for the business process team, and took one year though not very difficult to do. Work examples of the business process team are notifying customers of newly changed systems, and explaining work contents to those in the organization who did not participate in the project. Two years after the project started, system development team and business process team cooperated again to check the work at the sixth phase. The sixth phase became difficult to perform, and it was decided that the old and the new system would coexist temporarily. It meant that when problems would happen in the new system, it could be substituted by the old system. The period of the sixth phase was scheduled to be six months, but an additional three months were needed to complete the work.

In relation to the interaction among team members, when disagreements were expressed owing to the different experiences of members, compromise was made to solve the conflict. For each member took charge in different markets conflicting opinions led to the application of various systems to divergent markets. When it was impossible to compromise, the project manager drew a final decision. For instance, when the business process team indicated system shortcomings, which could not be overcome by a development team, the project manager coordinated the problem in the direction of taking priority to system development. The product development department eagerly yearned for system development that could deal with new product, which prolonged the project period to six months more than was initially scheduled.

Regarding team leadership, the leader kept silent in team meetings because he was less equipped with work knowledge and capability than the working-level members. The role of team leader was negotiating with other stakeholders in the organization, which was the reason the team leader was appointed.

Top management delivered a low grade to this project, because of the prolonged period for completion of the project. Such a bad team project management was due, primarily, to poor communication between the team and top management. Top management had no doubt that the project would work well because he regarded the project as an extension of the original project done ten years earlier. Teams in the organization do not get any punishment or penalty for poor evaluation, but the byproduct is no competitive consciousness arises in the team.

J2 company applied for public bidding by one of the top large retailers. Its proposal showed the real time communication among headquarters, business divisions and stores by effectively combining video, audio and text data through a satellite telecommunication system. Satellite telecommunication has the advantages of instantaneousness and broadness by which managerial policy, sales and product information can be rapidly transmitted, education and meetings can be held effectively, and work efficiency can be heightened through exclusive lining of intra-company telecommunication.

The team was in a full time operation by requisitioning members from four business divisions. Team members worked together at a specific time, and separately at other times depending on necessity.

Top management's commitment was absolutely paramount in competing with other rivals for the public bidding, but after taking the bidding, its commitment was rarely shown, with the exception of special occasions, including problems of delivery,

functioning, cost soaring, etc.

Interaction among team members was carried in the form of social gathering (*konshinkai* in Japanese) to strengthen cohesion, especially between members who have contradictory viewpoints. The decision making style was logic-centered or majority-centered depending on the nature of issues. When an alternative, for instance, was logically splendid but had a high cost burden, the decision was made by majority. If it seemed impossible to reach an agreement, the project manager exerted his veto power, leading to a final decision. However, a person with a different opinion can exercise his authority as a team member by appealing to senior managers, whose positions are higher than that of the project manager. At that point, the senior manager would hear all of the members' opinions and make a final decision.

Team leadership was required to exert competency in terms of sense and flexibility of a team operation. The leaders ought to discern which issue is to be decided in a formal meeting and which other issues need addressing in an informal setting. In addition, the leader should show negotiation power when seeking the cooperation of other units. If he does not possess a network within the organization, no cooperation is expected from other units.

Evaluation of the project by top management was high because the project was finished as scheduled. The ordering company was much satisfied with the delivery and the performance of the system. The success was to a large extent explained by good management of inter-unit relations and member's deep affection for the project. Team members were treated with monetary incentives, good scores for compensation renewal, and higher probability of joining the next new project. Repeated success in team projects endowed members with a greater chance of promotion. On the other hand, failure in the project resulted in no particular penalty but the penalty of having a lower reputation within the organization.

Case Analysis

Of the three cases in Korean and Japanese firms, one project received a low evaluation while the other two projects received high grade from their top managements. The explanation for the evaluation gap among team projects may be sought by the team learning typology presented in this study (Figure 2).

Teams that did synergistic learning managed both external and internal environments well. Concerning external environment fit, the team was good at clearly

explaining to and ensuring the customer (ordering firm) the advantages of the information system. The team that could not do synergistic learning communicated with the customer in order to satisfy individual customer's needs that were not met at the first project done ten years before.

Thus, it can be said that both high and low evaluation team managed a good fit to external environment. The difference between those teams is found in the fit to internal environment. The synergistic learning team effectively managed the relationship with top management who was most interested in the project. The top management clearly showed his aspired vision and the managerial information system matching with the vision, which helped the team articulate concrete action guidelines. When the team visited business field or work floor and contacted the responsible officer, top management ordered the officer to provide the team with full cooperation. Thus all supports came to be fully equipped. Top management of another synergistic learning team also gave full support to every matter conceivable, and granted autonomous power to the team in other matters.

Learning type		High evaluation team Synergistic learning	Low evaluation team Alienated learning
External environment management		Setting work direction, contents by interaction to get demands, understanding of customers	Communication with customer for system development satisfying customer demands
Internal environment management	Relation with top management	Clarification of principles, objective/Full support to work/Active involvement to take the bidding	Lack of apprehensive communication
	Relation with other sub units	Opinion exchange with managers/Project manager role in co-ordination of teams, work proceeding	Compromise of teams conflict/Schedule failure due to acceptance of demands of end-user department

Figure 2 Team Learning Typology and Team Project Evaluation

Contrary to the synergistic learning team, the alienated learning team was judged to have failed in maintaining good relationships with top management. Top management did

not feel it necessary to commit to the team project since they thought of the project as a residual of the previous project. Surprisingly, no one from the first project participated in the second project. There may not have been conformity between what members of the previous project said and the top management commented. If that is the case, the team ought to have clearly made the direction of where to go by discussing with top management the new problems, different from those of the previous project. Then, the time schedule could have been reduced and resource waste prevented, leading to a higher evaluation by top management.

Another internal environmental factor is relationship management with other sub units. Synergistic learning teams showed their excellence using two-way communication with senior managers or the coordination with other teams involved in the project. On the contrary, the alienated learning team gave up on producing high-quality projects through discussion and dialogue with the other team, satisfying themselves with sub-optimal results by compromise when faced with limitations, and failed in scheduled management as a result of their inability to deal with the requests of other departments

CONCLUSION, IMPLICATIONS AND LIMITATIONS

Conclusively speaking, project teams with high evaluation did synergistic learning, while team with low evaluation could not do synergistic learning (in the case it did alienated learning). In addition, the synergistic learning teams received satisfactory evaluations from the customer (bidding company) or top management respectively, while the alienated learning team failed to cater to top management.

This study shows the following theoretical implications; team learning in an organization can and should be classified with multiple choices, not with either-or dual choices so that theory can digest reality in a more inclusive way. Compared with previous typologies (i.e. Argyris & Schon, 1978; Daft & Weick, 1984; Fiol & Lyles, 1985; Kim, 1993; Senge, 1990) the typology suggested in this paper clearly indicates measurable factors, thereby making it possible to contrast a team learning type with another type in more concrete terms and to show reasons for differential evaluations among team projects.

This study also has some practical implications. When a company decides to nominate employees for a project team, it is advised to consider potential candidates for team leader on the basis of his/her relationship management capability, especially with inside stakeholders such as top managers and other unit supervisors concerned with the

team project. The middle manager, described as the linking pin by Likert & Likert (1976), needs training and education programs for relationship building, skill and wisdom conducive to improving the fit to internal as well as external environments.

In spite of the above-mentioned theoretical and practical implications, this study is exposed to some methodological limitations. Firstly, the small number of cases is insufficient for guaranteeing the validity of the four types of team learning to team evaluation. Yin (1984, p.36) emphasizes “applying replication logic to multiple case studies not for statistical but for analytic generalization.” In this paper, only synergistic and alienated team learning are compared and contrasted, but the other two types (isolated and destructive team learning) are not analyzed because of the absence of relevant cases. Secondly, the project topic for case analysis needs to be diversified. We have no confidence in whether findings shown in this paper can be applied to other project topics than MIS-related ones. Finally, interviewing other participants involved with the team project is necessary to supplement and confirm the interview with the project manager, though he said that other members do not fully understand the project as well as he does, and that as they are now scattered throughout different parts of the company, it is very awkward to contact with them, let alone give them instruction regarding their day-to-day activities. Follow-up studies are expected to complement these shortcomings and improve the analytic generalization of the findings in this study.

REFERENCES

Ansoff, H. (1990). *Implementing strategic management*. N.J.: Prentice-Hall.

Argyris, C., & Schon, D. (1978). *Organizational learning: A theory of action approach, Mass*. Addison-Wesley.

Bang, Y. (2000). Typology of team learning and management of environmental fit. *Annual Bulletin of Japan Academy of International Business Studies*, 6, 229-237.

Bolton, N., & Leach, S. (2002). Strategic planning in local government. *Local Government Studies*, 28(4), 1-21.

Chee, Y. (1994). Uruguay Round agreement and the strengthening policy of Korean companies competitive advantage. *Kyongyounghakyonku of Korean Academic Society of Business Administration*, 23(2), 145-158.

Chee, Y., & Lee, J. (1989). The impact of competitive strategy choice on corporate sales performance. *Kyongyounghakyonku of Korean Academic Society of Business Administration*, 18(2), 219-243.

Daft, R., &. Weick, K. (1984). Toward a model of organizations as interpretation system. *Academy of Management Review*, 9, 284-295.

Druskat, V., & Kayes, C. (2000). Learning versus performance in short-term project teams. *Small Group Research*, 31(3), 328-353.

Fiol, C., & Lyles, A. (1985). Organizational learning. *Academy of Management Review*, 10(4), 803-813.

Garvin, D. (1993). Building a learning organization. *Harvard Business Review*, July-Aug, 78-92.

Hedberg, B., Nystrom P., and Starbuck, W. (1976). Camping on seesaws: Prescriptions for a self-designing organization, *Administrative Science Quarterly*, 21(1), 41-65.

Huber, G. (1991).Organizational learning: The contributing process and the literature. *Organization Science*, 2(1), 40-57.

Janis, I. (1982). *Group Think*. Boston: Houghton Mifflin.

Jelinek, M.(1979). *Institutionalizing innovation: A study of organizational learning system*. N.Y.: Praeger.

Katzenbach, J., & Smith, D. (1993). The discipline of teams. *Harvard Business Review*, Mar-Apr, 111-120.

Kim, D. (1983). The link between individual and organizational learning. *Sloan Management Review*, Fall, 37-49.

Kofman, F., & Senge, P. (1993). Communities of commitment: The heart of learning organizations. *Organizational Dynamics*, 22(2), 5-23.

Levitt, B., & March, J. (1988). Organizational learning. *Annual Review of Sociology*, 14, 319-338.

Likert, R., & Likert, J. (1976). *New ways of managing conflict*. N.Y.: McGraw-Hill.

McGill, M., Slocum, J., & Lei, D. (1992). Management practices in learning organizations. *Organizational Dynamics*, 21(1), 5-17.

Miller, D. (1992). Environmental fit vs. internal fit. *Organization Science*, 3(2), 159-178.

Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization*. N.Y.: Doubleday.

Stata, R. (1989). Organizational learning: The key to management innovation. *Sloan Management Review*, 30(3), 63-74.

Stewart, G. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of Management*, 32(1), 29-55.

Wick, C. & Leon, L. (1993), Individual learning nurtures. *Personnel Journal*, 72(11), 49-

52.

Woodman, R., Sawyer J., & Griffin, R. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, 18(2), 293-321.

Yeo, R. (2005). Revisiting the roots of learning organization. *The Learning Organization*, 12(4), 368-382.

Yin, R. (1984). *Case study research: Design and methods*. CA: Sage.