Organizational Learning as an Organization Development Intervention in Six High-Technology Firms in Taiwan: An Exploratory Case Study

Bella Ya-Hui Lien, Richard Y. Hung, Gary N. McLean

Organizational learning (OL) is about how individuals collect, absorb, and transform information into organizational memory and knowledge. This case study explored how six high-technology firms in Taiwan chose OL as an organization development intervention strategy. Issues included how best to implement OL; how individuals, teams, and organizations learn; and the extent to which OL activities contributed to organizational performance. Five themes emerged as findings: (1) using language with which employees are familiar, (2) implementing OL concepts that are congruent with employees’ work or personal life, (3) putting individual learning first and diffusing it to team learning and organizational learning, (4) using the knowledge management system to create an opportunity for individuals, teams, and the organization to learn, and (5) linking OL to organizational strategy to improve organizational performance.

Organization development (OD) is a planned change approach to help organizations grow and improve their performance (Beckhard, 1975; Beer, 1980; McLean, 2006). In order to improve performance in the knowledge economy era, organizations are encouraging employees to embrace change, take risks, break from the bureaucracy, and find revolutionary ways to ensure the company’s future. This involves eliminating barriers to communication between individuals and groups and helping people engage in the type of decision making that is most appropriate for the situation (Korth, 2000). OD provides processes by which organizations can manage such change.
Most organizations must relate to their environments to gain the resources and information needed to function. These relationships influence organizational strategies to deal with their environments (Cummings & Worley, 2004). From a strategic change perspective, organizational learning (OL) has become an important OD intervention by which to transform organizations (Cummings & Worley, 2004; Marsick & Watkins, 1994; McLean, 2006). OL is the process of how learning occurs in organizations; it facilitates greater alignment among an organization’s strategies, culture, and competitive environment. Strategic OD involves organizational transformation and is often associated with significant alterations in the firm’s business strategy, which may require modifying the corporate culture, as well as internal structures and processes to support new directions for the organization. Garvin (1993), for example, suggested that the highest stage of OL is the learning that results when it is tied to the strategic objectives of the organization and is targeted at performance improvement.

OL is important in today’s knowledge economy (Argyris & Schön, 1996) and usually involves different ways of perceiving, thinking, and behaving in organizations. Yet few studies have discussed how individuals collect, absorb, and transform information into organizational memory and knowledge. While the growth and sharing of knowledge is recognized as one of the most important elements in becoming a learning organization (Easterby-Smith & Araujo, 1999; Marsick & Watkins, 1994; Senge, 1990), what has been missing for many researchers and practitioners in the OD field is an expanded theoretical foundation for describing how people learn and perform in an organization (Raybould, 1995; Salisbury, 2001). The research reported in this article addresses this gap.

Research Purposes

In order to develop an expanded theoretical foundation and understand better how the existing theory can be put into practice, the purposes of this study were to determine how learning happened in the six identified high-technology organizations in Taiwan, how knowledge was created to solve their organizational problems, and the processes and content of their OL at the individual, team, and organizational levels. Identifying the specific processes and content of OL in these organizations will help OD professionals understand and perhaps modify their practice based on the outcomes of the research. Furthermore, it is important from an OD perspective to determine if the OL programs or activities in these organizations helped them achieve transformative change to improve performance. Determining otherwise would raise serious questions about the usefulness of the OL construct and perhaps cause OD professionals to reconsider the applicability of OL to their practice.
Research Questions

High-technology firms in Taiwan are an important context in which to study OL because such firms play an increasingly important economic role and exist in an environment characterized by rapid change, ambiguity, and hypercompetition (Collins & Clark, 2003; D'Aveni, 1998). Just as DeVol (1999) concluded that high-tech industries are playing an increasing role in the U.S. and regional economies, so also are they in Taiwan, with the government goal to make Taiwan a “high-tech island” (Chang & Chen, 2002). In order to sustain competitive advantage, many companies in Taiwan have adopted the concept of OL as an OD intervention strategy (Lien, Hung, Yang, & Li, 2006). However, how OL is implemented and how it influences organizational performance is not well understood, though it has attracted the attention of industry practitioners and scholars alike (Hung, Hsia, & Lu, 2002; Lien, 2002).

This study addressed the following questions related to the six high-technology firms studied in Taiwan:

1. How did these organizations experience OL as being best implemented?
2. How did these organizations’ individuals, teams, and whole organization learn during the OL process?
3. To what extent were the OL activities within these organizations perceived to contribute to organizational performance?

Theoretical Framework

This section describes the theoretical framework, specifically related to OD and OL, on which the study was based.

Organization Development. There has been no agreed-on definition of OD, though there have been many attempts. Burke (1994), for example, using a cultural perspective, defined OD as a planned process of change in an organization’s culture. French and Bell (1999), from a long-term effort perspective, suggested that OD aims to develop the problem-solving capabilities of organizations, while Beckhard (1975) and Beer (1980) focused on OD as a process of organizational change. McLean (2006) provided a holistic definition of OD:

Organization development is any process or activity, based on the behavioral sciences, that, either initially or over the long term, has the potential to develop in an organizational setting enhanced knowledge, expertise, productivity, satisfaction, income, interpersonal relationships, and other desired outcomes, whether for personal or group/team gain, or for the benefit of an organization, community, nation, region, or, ultimately, the whole of humanity [p. 9].

When OD emerged in the 1960s, it focused primarily on individual and group-level interventions (Rothwell, Sullivan, & McLean, 1995). Later, the
field expanded to encompass organizational-level interventions, including strategic change (Chapman, 2002). According to Cummings and Worley (2004), organizational transformation, a recent addition to strategic OD that is still in its formative stage of development, aims at transforming organizations by changing the basic character or culture of the organization.

Within the context of this study, the definitions offered for OD and our emerging understanding of strategic OD suggest that certain interventions, such as OL, might be effective in bringing about organizational culture change and serve a transformational role in the organization.

**Organizational Learning.** OL refers to the capacity of an organization to change and improve continuously. OL helps organizations to move beyond their current situation by solving existing problems and ultimately transforming the organization. It results in the development of a learning organization where empowered members take responsibility for strategic direction.

OL can be viewed as a technical or a social process. The technical view assumes that OL is the effective processing, interpretation of, and response to information, both inside and outside the organization (Easterby-Smith & Araujo, 1999). The social perspective of OL focuses on the way people make sense of their experiences at work. However, Argyris and Schön (1996) believed that organizations learn through individuals acting as agents, and they defined OL as the detection and correction of errors. According to Korth (2000), Argyris and Schön’s work linked individual learning to organizational learning and came from an OD perspective, emphasizing double-loop learning.

Kim (1993) posited that while OL has gained considerable attention, there is little agreement on what OL means and how to use it to create a learning organization. Senge (1993) also stated that there is no formula for creating a learning organization. These conclusions were borne out in this study: each participant organization has its own definition of OL.

According to Lundberg (1995), there are three common components to the OL definitions: learning is more than the sum of each member’s learning; OL is not just about rearranging or redesigning the elements of organizations but is a form of meta-learning that requires rethinking of patterns as they relate to the environment; and OL embraces both cognitive elements that are shared by organization members and repetitive organizational activities. These components all are relevant to OD, but while Lundberg identified these components, there is no evidence that they exist in OL organizations. This research, then, was designed to determine if these factors exist in these six organizations and whether they support organizational change and improve organizational performance.

**Literature Review**

The OL literature draws a distinction between two complementary research trends (Gond & Herrbach, 2006; Miner & Mezias, 1996): behaviorist
approaches view OL as an adaptive capacity of organizations with respect to their environment, while cognitive approaches focus on the evolution of knowledge and view learning as a cognitive shift.

For learning as adaptive process, the organization is viewed as a goal-driven adaptive system (Levitt & March, 1988), and OD and change are incremental (Miner & Mezias, 1996). For the latter, learning as cognitive change, the organization focuses on knowledge acquisition, information sharing, information interpretation, and organizational memory (Huber, 1991; Newell & Simon, 1972), and OD and change refer to radical logic. From an OL perspective, Moynihan's study (2005) pointed out that most OD interventions target narrow process improvements rather than a deep understanding of effectiveness. Furthermore, Moynihan's study elaborated on two frequently neglected aspects of OL: learning forums that included routines and the role of organizational culture.

Slater and Narver (1995) suggested that on the one hand, market orientation and learning orientation are inherent and inseparable; on the other hand, a learning orientation mediates the market orientation and performance. Hurley and Hult (1998) further suggested that beyond market orientation, OL links to innovation.

Few of the sources reviewed in this section, however, provided evidence for their conclusions. Rather than basing their studies on empirical data, they were based on assumptions about organizations and the constructs of OD and OL. It is therefore important that exploratory research be undertaken to begin to provide evidence of these conclusions. This exploratory study was designed to explore these concepts further.

Research Methods

This exploratory case study included in-depth interviews, a review of existing organizational documentation, and observations in six Taiwanese high-technology organizations. A multiple qualitative case study methodology was appropriate for exploring a concept for which there has been no previous research in a given context (Stake, 1995; Yin, 1989). According to Yin (1989), case studies are the preferred strategy for research that asks “how” and “why” questions. The use of multiple cases adds confidence to the findings and increases the reliability of the study (Miles & Huberman, 1994).

Participant Organizations. Initially, participant organizations were identified through published literature, including trade journals. Additional participants were identified based on existing relationships. Twelve companies were identified and contacted; six agreed to participate. The participant organizations were, as intended, all high-tech companies listed in Taiwan's top 200 companies; five were considered to be HR benchmark companies in the high-tech industry (CommonWealth, 2002). The number of employees ranged from two thousand to twenty thousand. The six high-tech companies were in
either the integrated circuits (IC) industry or the information industry. All focused on new technology research and development, had a high percentage of technology employees, and focused on innovation and developing new products.

**Interview Participants.** The study lasted for a year (2003) and included interviews with leaders who were influential in developing OD interventions and influencing OL. On-site observations and a review of documentation were completed by the first two authors. As it was expected that HR practitioners would be most likely to provide reliable information regarding OD interventions, including organizational learning, senior managers in the HR department were identified to provide the informants needed for this study. Therefore, in each company, two HR managers or HR practitioners doing OD-related work were interviewed. Twelve individuals were interviewed across the six organizations. A detailed description of the interview participants is provided in Table 1.

**Research Procedures.** Each interview lasted appropriately two hours. Open-ended, semistructured questions and probes were used to elicit each participant's view of OL in his or her company. The interview protocol asked, What does OL mean to you? What do you do when you implement OL? What are the connections among individual, team, and organizational learning? How do individuals, teams, and organizations learn when OL programs are being established? What are the results from implementing OL in your organization? With the participants' permission, and after providing assurances of anonymity, the interviews were tape-recorded. Since all interview participants spoke both Chinese and English well, Chinese was the primary language used, with English interspersed.

During the interviews, participants were requested to share any documentation that they had related to the questions included in the interviews. This process resulted in six hundred pages of documentation (company histories, annual reports, human resource documents, internal training materials, and relevant newspaper articles). Permission was also sought to observe the OL activities in the high-tech companies. At least one on-site observation was made in each company; each observation lasted for one to two hours so the observer could understand more fully the application of OL in each company.

**Data Analysis.** The verbatim transcripts (using the original Chinese and English, as used by the interviewees) were read through twice by the first two authors without making any notes to get an overview of the information that the participants provided. Then, through continued reading, the data were read again, with the readers coding the categories of themes as they emerged. These were discussed among the research team members, and concurrence was reached on the categories. Then, reading through the transcripts again, they identified themes within each category and again discussed the findings with the research team members. The company documents provided by
participants were included in the text analysis. Observation field notes also provided useful information in understanding the situations the interviewees described.

Miles and Huberman (1994) suggested three concurrent steps for the analysis process: data reduction, data display, and conclusion drawing and verification. Data were analyzed in this manner within cases and across cases. The specificity of the semistructured interview protocol was a factor in leading to these themes. An unstructured interview protocol may have resulted in different themes and may have been more appropriate for an exploratory study.

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Current Job Title</th>
<th>Age</th>
<th>Years of HR Experience</th>
<th>Years with Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. S</td>
<td>Z (semiconductor/IC industry, 11,660 employees, capital: $100 million)</td>
<td>HR director</td>
<td>35+</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Miss H</td>
<td>Z</td>
<td>Training manager</td>
<td>30+</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mr. C</td>
<td>F (electronic industry, 2,800 employees, capital: $2 billion)</td>
<td>Training manager</td>
<td>40</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Miss Ho</td>
<td>F (semiconductor/IC industry, 20,000 employees, capital: $40 billion)</td>
<td>HR manager</td>
<td>30+</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Mr. Z</td>
<td>T (semiconductor/IC industry, 20,000 employees, capital: $40 billion)</td>
<td>KM manager</td>
<td>40+</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Mr. G</td>
<td>T (semiconductor/IC industry, 12,000 employees, capital: $3 billion)</td>
<td>HR specialist</td>
<td>35+</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Mr. O</td>
<td>U (semiconductor/IC industry, 12,000 employees, capital: $3 billion)</td>
<td>HR manager</td>
<td>30+</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Mr. J</td>
<td>U (semiconductor/IC industry, 12,000 employees, capital: $3 billion)</td>
<td>HR specialist</td>
<td>30+</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Mr. V</td>
<td>S (semiconductor/IC industry, 2,000 employees, capital: $4 billion)</td>
<td>HR manager</td>
<td>40+</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Mr. P</td>
<td>S (semiconductor/IC industry, 2,000 employees, capital: $4 billion)</td>
<td>KM director</td>
<td>40+</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Miss D</td>
<td>W (semiconductor industry, 4,000 employees, capital: $8 million)</td>
<td>HR general manager</td>
<td>30+</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Mr. U</td>
<td>W</td>
<td>HR specialist</td>
<td>25+</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

This study was triangulated based on three sources of data (interviews, observations, and documentation) using three perspectives to interpret the data, verified by the members of the research team (Patton, 1990). In the analysis process, the verbatim transcripts were coded independently by two members of the research team. Efforts were then made to critique and evaluate each other’s coding. During the nine months required for text analysis, the authors evaluated each other’s coding and checked initial theme categories. No preset conceptual categories were used in text analysis, though the specificity of the questions asked may have directed the interviewees’ responses in such a way as to create the emergent categories. Documents and observation field notes served as supporting sources when there were differing opinions on coding and analyzing. The themes and the categories to which they belonged were debated and modified when there were differences until a consensus was reached. In addition, the conceptual figure presented in the findings began to emerge after several modifications during the text analysis discussion among the research team members. In retrospect, it would have been helpful to share the categories, themes, and conceptual figure with the interviewees to confirm the accuracy of our interpretations. This did not happen, however.

Findings

The findings are presented according to the three research questions: (1) How did these organizations experience OL as being best implemented? (2) How did these organizations’ individuals, teams, and whole organization learn during the OL process? and (3) To what extent were the OL activities within these organizations perceived to contribute to organizational performance? Five themes emerged from the process described: (1) using language with which employees are familiar, (2) implementing OL concepts that are congruent with employees’ work or personal life, (3) putting individual learning first and diffusing it to team learning and organizational learning, (4) using the knowledge management system to create an opportunity for individuals, teams, and organization to learn, and (5) linking OL to organizational strategy to improve organizational performance. The five themes are presented as they relate to the research questions. The direct quotations of interviewees were originally primarily in Chinese; they have been translated into English by the first two authors and checked by a third scholar who is fluent in both languages.

**How Did These Organizations Find it Best to Implement OL?**

Two themes emerged in response to this research question: using language with which employees are familiar and implementing OL concepts that are congruent with employees’ work or personal life.

**Using Language with Which Employees Are Familiar.** The participants indicated that when they decided to implement OL, they first established goals that corresponded with the aims of OD. Most of the HR practitioners in this study combined OL with their training programs to educate members of their
organizations about why organizations need thorough OL to become a learning organization and obtain organizational effectiveness; few organizations used project-based programs, such as TQC (total quality control) to execute OL. For example, the HR director of company Z said:

In practice, when we try to implement an OD intervention such as organizational learning, we may not use the word used in school. When we decide to implement a program such as OL in our department [HR], most of the time we will think about how to get employees into this program. We use the language with which the employees are familiar.

The training manager in company F shared:

When we implemented OL, we were afraid that the employees would feel that we had added extra work for the employees. So we just embedded the OL in our existing project, such as our TQC program, because they are familiar with TQC and run it all the time in our company. We ask the managers to implement OL through TQC. When they have a TQC meeting, they ask employees to learn the OL concept and learn together to solve the problems.

Implementing OL Concepts That Are Congruent with Employees’ Work or Personal Life. One participant company extended the concept of OL to all of humanity, so it promoted communities of practice; communities of practice apply not only to employees’ professional lives, but also extend to their personal lives. Communities of practice became the mediator for this company to implement OL. For example, the HR specialist in company T said:

The ultimate goal of OL is to create an environment with superior life education. To create a learning organization is to create a superior life education environment. … We set up a lot of communities of practice in our company so employees could share their work or life values.

How Do Individuals, Teams, and Organizations Learn During the OL Process? OL in the respondent organizations involved individual and team learning with the knowledge dispersed throughout the whole organization. Three stages of learning existed in the organizations. Several interviewees agreed that their companies believe that individual learning and team learning can help the whole organization learn. This implies that individual learning and team learning are subsets of OL. Two themes emerged to answer this research question: (1) putting individual learning first and diffusing it to team learning and organizational learning and (2) using the knowledge management system to create an opportunity for individuals, teams, and the organization to learn.
Putting Individual Learning First and Diffusing It to Team Learning and Organizational Learning. One interviewee believed that when continuous learning becomes the core value of the company, everyone learns all the time, creating organizational learning. Some interviewees described their use of training as their strategy for individuals to learn first, subsequently followed by individuals influencing their teams to change the behaviors of team members. The HR manager in company F said:

We have a new vision, a new strategy, and our own core values. As one of our core values is for continuous learning to become successful, we believe that if everyone learns all the time, it will diffuse the value to the team to which he or she belongs, and later on the whole organization can learn.

The training manager in company Z said:

We use the competency concept to promote OL. First, we ask employees to define their competencies, and then their supervisors should help employees plan their own learning plan. … Based on the competencies the employees need, we arrange a self-learning system for each employee. In addition, we link the learning plan to performance appraisal to make sure they learn what they need to learn. … We also use a self-management mechanism to encourage employees to participate in cross-department activities, such as innovation proposals and process improvement programs. Then they will have opportunities to learn from others.

Figure 1, a document from a study organization, shows how individuals improve organizational learning through learning mechanisms, more specifically, by sharing culture and learning with their teams and, ultimately, throughout the whole organization.

Using the Knowledge Management System to Create an Opportunity for Individuals, Teams, and Organizations to Learn. All six companies identified the importance of knowledge management (KM) in learning. As a result, the KM system became these companies’ initiatives to create an OL environment. Several interviewees confirmed that their company’s intranet system helped study group members provide opportunities to connect individual, team, and organizational learning. For example, through a study group, individuals discussed what they knew and did not know. In turn, the group members provided feedback to each other. Furthermore, individuals changed, and the whole group changed. As another example, all of the companies talked about how their KM system became a platform for their busy technicians to communicate and share their experiences in order to solve problems. Through their intranet systems, they found a way to solve their problems, even leaving questions in the system and getting assistance.
immediately from corporate members whom they had never met. The other learning example is about individuals grouping as a community to discuss their thoughts and thinking. The KM manager in company T said:

We have a knowledge management platform and an e-learning platform to link with and help individual learning. We encourage knowledge sharing by using our knowledge management platform. There are many resources with real cases or reports in our company; we ask employees to put this information in our KM system. And this year, we are going to buy a search engine to improve our KM system. Then our engineers can look for information and have improved learning opportunities.

The HR director in company Z said:

We have study groups, not just a book for them to read. We ask members in a study group to reflect on what they read and apply it to their real work situation, and then they need to present it to their supervisor. … We also collect good presentations or reports and post them to the bulletin board; then they can learn from each other. … Every quarter, our employees can, through study group presentations or the intranet, discuss their thoughts or work experiences. That is the basic format of our team learning.
The HR manager in company S shared:

We even have a community of practice focus on knowledge management. We provide space and invite benchmark companies to share their KM experiences. Everybody wants to know the real successful case, so we run this kind of community every two weeks. It is quite successful. From study group to community of practice, employees get used to sharing knowledge and learning how to share. It all links together, and it seems that we gradually create our own learning organization.

**How Was Organizational Learning Perceived to Have Influenced Organizational Performance?** The results of OL are not easy to measure. Most companies in our study claimed that they do not use direct indicators to measure the effects of their OL programs, but they use employee overall job satisfaction questionnaires or other qualitative data, such as informal conversations with employees, to confirm and correct their efforts at implementing OL. Some interviewees addressed how they combine performance management systems with OL. Some set up employees’ key results areas to check employees’ performance when they participate in training.

**Linking OL to Organizational Strategy to Improve Organizational Performance.** Although most companies agree that it is difficult to measure the results of implementing OL, these companies describe their belief that OL is connected to organizational performance. The HR manager in company W asked:

How do we know whether our organization reaches its goals? We have a scorecard to balance employees’ performance. For example, everybody in our company should have an ICP [individual competency profile]. We compare it to his or her position profile, and, if there is a gap, then we provide training or other techniques to help him or her improve. … Everybody has his or her own balanced scorecard, and the company has its business balanced scorecard. If we follow the strategy and deploy it to every level, performance should be OK.

The training manager in company Z said:

For performance, we focus on satisfaction and turnover rate. We care about how the learning process proceeds for engineers; we evaluate their satisfaction once in a while to make sure they are satisfied with their learning. We do not particularly focus on the results of OL programs.

Figure 2, a document from the study company, uses communities of practice to explain the relationship between OL and performance. The aim of Figure 2 is to link organizational learning (all kinds of communities of practice, CoP) to measurable performance (the Plan-Do-Check-Action [PDCA] cycle).
Conclusions and Discussion

From the findings related to each of the three research questions, the research team developed a model to depict the overall conclusions about OL in the respondent high-technology organizations in Taiwan. This is presented below, along with the appropriate explanation and discussion of the model.

**OL Processes.** The OL processes that emerged from this study are described in Figure 3.

Based on the study themes, the proposed model for OL processes answers the first research question. The model has three parts: the goals for using OL...
as an OD intervention, OL strategy and OL techniques to implement OL concepts, and the results of implementing OL. From the findings, the goals in implementing OL can be summarized as improving organizational effectiveness, enabling individual active learning, and improving products and service quality through learning and innovation. Strategies for implementing OL included combining performance management and development programs related to OL, setting up a knowledge management system to enable learning, and cultivating a supportive, open, and flexible culture for employees to detect errors and make decisions about improvement. The techniques for implementing OL included forming study groups to encourage people to absorb new knowledge or insights, training study group facilitators with dialogue and empathy skills, and creating communities of practice to help employees share their experiences and improve their innovation capabilities.

Hendry (1996) confirmed the positive effects of using communities of practice to promote OL. He argued that in the case of transformational change, the psychological engagement required for reframing is not normally possible without a deeper level of involvement among stakeholders in the system. It occurs, for example, when participants take part in communities of practice where new cultures are constructed through experiential learning and reworking of cognitive structures, an approach important for OL to occur. In the proposed model, the results of implementing OL are connected to the goals. The results should be evaluated based on the company’s goals in implementing OL concepts. These six companies evaluated their results in many ways, often intuitively and qualitatively, but not specifically based on the effectiveness of OL implementations.

**How Individual and Team Learning Contribute to Organizational Learning.** This study found that there was an expectation of the six companies that individual learning would contribute to the learning of individual teams and, ultimately, to their organization. Many of the organizations supported these relationships through the establishment of communities of practice.

Moynihan’s study (2005) pointed out that organizational routines and organizational culture influence organizational learning. The forms of organizational routines or culture are shaped when members in organizations engage in all kinds of organizational CoPs (Lave & Wenger, 1991). In CoP, members not only share their individual knowledge, but also socially construct their own knowledge through social learning (Wenger, 2004). From the perspective of a cognitive approach to organizational learning (Gond & Herrbach, 2006), learning includes knowledge acquisition and sharing, through different kinds of CoP—a form of team learning—in which individuals can easily transform their learning into organizational learning. Just as in Figure 1, organizational learning takes place when effective team learning happens through all kinds of communities of practice.

There are four ways to describe how individual and team learning contribute to organizational learning. First, individual learning happens in
training programs in organizations and through discussion with group members. Second, effective team learning usually happens in cross-functional projects. Third, OL happens when the whole organization recognizes the importance of continuous learning. Fourth, OL can combine with knowledge management systems to sustain the effectiveness of OL.

**Contributions of Organizational Learning to Organizational Performance.**

First, the extent and capacity of learning, according to respondents, should be driven by top management to influence organizational performance. Second, the content of learning is influenced by the organizational culture. Third, there was a general observation that organizational learning as an OD intervention promotes sharing and learning of information and experiences from one employee to another in an open and flexible manner. Such sharing is perceived to influence organizational performance in a positive way.

These themes confirm the findings of Yeo (2003) and Johnson (2002) that the key factors in OL are top management support and the organization’s mission and vision. The findings also confirm that learning by managers plays a key role in the creation of knowledge for organizations. Managers are viewed by most observers as the ones most responsible for introducing change and learning in organizations (Carlopio, Andrewartha, & Armstrong, 2001). The difficulty of evaluating training and making a connection between training and performance confirms the conclusions of McLean (2005).

This study concluded that the learning organization is an advanced state of OD (DiBella & Nevis, 1998). OL as an OD intervention can help organizations transform. However, transformational change within organizations requires a basic shift in attitudes, beliefs, and reframing of cultural values (Bartunek, 1988). For transformational change, the resources, time, and effort expended on an intervention need not be large to induce such change if the system has already reached a certain development point. In order to improve OL, strategic thinking is needed to make individual, team, and organizational learning happen.

**Contributions to Practice and Future Research**

This study contributes to the body of knowledge in OL from an OD intervention perspective by providing a model that explains how OL is implemented in six high-tech companies in Taiwan. Furthermore, it expands on the contribution of individual and group learning to OL and describes how OL is perceived to contribute to organizational performance. This study also suggests that communities of practice and knowledge management are important in understanding how OL is implemented.

This was an exploratory case study situated in a specific industry in one country. There is a need for much more research into the relationships between OD and OL. The inclusion of more countries and more industries would permit cross-cultural and cross-industry comparisons. In particular, there is a need...
to continue to focus on the measurement issues raised in this study related to learning and performance. How do we determine the effectiveness of OL as an OD intervention? Few suggestions emerged in this study; most organizations continue to use anecdotal data to determine the effectiveness of training and OL, yet organizations increasingly are demanding that OD professionals be positioned to answer this question. In spite of this, all of the organizations that participated in this study were firmly convinced that OL had contributed to its performance. Because of this, there remains an ongoing mandate to continue to research the issues related to OL so we can strengthen the theory and our understanding of how OL works.

References


Bella Ya-Hui Lien is an associate professor at National Chung Cheng University, Chia-Yi, Taiwan.

Richard Y. Hung is an associate professor at Toko University, Taiwan.

Gary N. McLean is a professor at the University of Minnesota, Minneapolis.