Kris M.Y. Law · Kong Bieng Chuah

Editors

PAL Driven Organizational Learning: Theory and Practices

A Light on Learning Journey of Organizations

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Springer

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Dedicated to all the PAL's and PAL-to-be's

Preface

It is my enormous pleasure and satisfaction to give a brief account of the PAL story as its preface.

Through wisdom is a house built;

And by understanding it is established;

And by knowledge shall the chambers be filled with all precious and pleasant riches.

(Old proverb of wisdom)

We can almost see the analogy of the above saying in the running of an organization in today's competitive environment. An organization has to learn and improve continuously to keep up with the world that is moving so fast. No longer is the wisdom that built the house, so to speak, enough to maintain the riches in it.

Knowledge is central to the sustainable development and growth of the organization. Be it an individual or an organization, the ability to make good use of knowledge comes with, and only with, sufficient level of understanding and experience. Such understanding and experience can only be brought about by a conscious process of learning and application. It is not surprising that many managers, entrepreneurs as well as researchers in the West have been paying increasing attention to the concept and importance of organizational learning (OL) and learning organization (LO). Unfortunately, for an organization, it is an organism only by analogy. It is not in its inherent nature to learn, let alone improve. Yet, for many of today's organizations, without continual learning, profits and successful products or services will be hard to come by.

For OL to be useful and effective, there must be leadership and commitments from the management together with motivation and effort from the staff. Most of all, the goal of OL must be clear to all. It must be seen not only to add value to the development and improvement of the organization but also to benefit the staff in some perceivable way. In other words, OL is a process that needs all the usual functions of management, i.e., planning, resourcing, directing, monitoring, evaluation, and controlling.

A simple Google search will reveal that a great deal has been written about OL and LO in the last two decades. But it seems that much of the exposition remains at conceptual level. Real-life success stories of OL implementation are few and far between. It appears that barriers to OL are still an issue today as they were two decades ago.

This book is the culmination of invaluable efforts of Kris Law, Y.C. Chau, K.F. Kwong, and Chris Cao Rui who worked with me studiously and tirelessly on this long-running industry-based research and their respective Ph.D. thesis.

Together with our collaborating industrial partner, we have travelled a long OL journey that started more than a decade ago.

Together we have developed the OL framework which we termed PAL, short for project action learning.

Together we have come to understand that the four PAL pillars are prerequisites for successful PAL implementation.

Together we have put in place and pushed a practical wavelike implementation strategy which has taken us through thick and thin over more than a decade of OL experimentation and realization in real industrial settings.

And together we have arrived at this juncture of the OL journey, able to look back with considerable satisfaction that PAL is a proven OL vehicle to take an organization toward the LO destination.

This is a book based on our decade-long implementation experience and is written for OL practitioners who may wish to jump on to our PAL vehicle and embark on the OL journey.

But naturally, continuous success needs continuous efforts. Winston Churchill's saying very aptly closes the preface:

Now this is not the end.

It is not even the beginning of the end.

But it is, perhaps, the end of the beginning.

Kong Bieng Chuah

Acknowledgments

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About the Editors

Dr. Kris M.Y. Law is currently a teaching fellow at The Hong Kong Polytechnic University and was a visiting researcher at the National Taiwan University. Her Ph.D. was awarded by the City University of Hong Kong for her work on a research project in the field of OL and development. She is also a consultant in organizational development and competence development with a wealth of hands-on project experiences. Her specialties and interests are in the areas of OL and development, technology innovation and management, competence management, and business entrepreneurship. In addition, she is also a certified yoga teacher.

Dr. Kong Bieng Chuah is the associate head and associate professor of Systems Engineering and Engineering Department, City University of Hong Kong. He is a core faculty member of the engineering doctorate, M.Sc. engineering management, and BE industrial engineering and engineering management programs. His current academic interest centers on project management and project-based OL. He is a consultant in project management and OL and regularly conducts project management courses and workshops in Hong Kong's industrial organizations. In addition, Dr. Chuah is a mechanical engineer with expertise in engineering metrology and surface roughness characterization. He advises on engineering measurement problems and calibration setups.

Part I
From Individual Organizational Learning

Chapter 1
Organization and Individuals

Kong Bieng Chuah and Kris M.Y. Law

Abstract Knowledge is central to the sustainable development and growth of the organization. Be it an individual or an organization, the ability to make good use of knowledge comes with sufficient level of understanding and experience. This chapter provides an overview on the definitions of organizational learning (OL), from various theorists' perspectives, and it is also stressed that: with emphasis on empowering of individuals to take action, action learning therefore fosters OL by allowing effective learning to take place within organizations at both individual and organizational levels.

1.1 Managing Learning in Organizations

Knowledge is central to the sustainable development and growth of the organization. Be it an individual or an organization, the ability to make good use of knowledge comes with sufficient level of understanding and experience. Such understanding and experience can only be brought about by a conscious process of learning and application. It is not surprising that many managers, entrepreneurs as well as researchers in the West have been paying increasing attention to the concept and importance of organizational learning (OL) and learning organization (LO).

OL has been seen as a conscious organizational goal driven process, with individuals as the learning agents for the organization (Argyris and Schon 1996).

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A predominant view of OL is Argyris and Schon's 'double-loop' learning concept, which has been shaped by a number of advances in social sciences and system theories (Argyris and Schon 1978). The essential feature of this primary learning approach was the notion of envisioning. Great emphasis was put on describing the human process of 'action learning' through experience via various feedback mechanisms interacting with each individual's sets of beliefs (Calveri and Fearson 2000).

The OL theorists of MIT proposed the more robust use of ideas emanated from systems thinking, as clearly expounded in Senge's five disciplines, the integration of individual learning and team learning towards the organization-wide collective sense of purpose (Senge 1990). Team learning is the central issue of concern, the range of OL literature covers development of OL tools to improve team communication such as dialogue, the effect of learning histories, leadership styles and management techniques, the role of organizational goal and strategy and the process of knowledge management (Isaacs 1993; Nonaka 1994; Roth and Kleiner 1998).

Business conditions of the nowadays market are demanding due to the ever-challenging market competition and fast pace of technological advancement. The concept of OL and LO has been accepted by organizations keen on developing and creating an environment to support learning, especially the high-tech or knowledge-oriented organizations (Lynn et al. 1998).

Such organizations usually adopt a project team or hybrid project-team structure. The project-based structure is adopted by the whole company or specifically applied to certain units or groups within the organization. In these organizations, team concept and team performance are highly valued and relied upon.

Not surprisingly, team learning has been proved to be gaining importance as an OL strategy (Osterman 1994; Chan et al. 2003). It has been well documented (Kotnour 2000; Poell and Van der Krogt 2003) and extensively studied (Cavaluzzo 1996; Flood et al. 2001; Katzenbach and Smith 1993; Meyer 1994; Roberts 1997; Senge 1990, 1992; Teare et al. 2002).

Senge (1992) explained that organization/team performance improvement is a result of collective intelligence of an organization/team, which exceeds the sum of intelligence of individuals. Knowledge gained by teams has been associated with realizable benefits in the form of improved performance (Wellins et al. 1991; Meyer 1994). This aligns well with the OL ideals and is similar to the core group theory, which explains how the power, knowledge, and influence of core groups interact with organization opportunities to gain learning and creativity for the groups concerned (Kleiner 2003).

1.2 Individuals in Organizations and the Interrelationships

LOs aim to transform old behaviours and patterns of thinking as well as to improve skill and know-how in order to adapt to the challenging dynamic environment. Thus, learning involves the linking up of knowledge/know-how systems, structures,

and processes (Nonaka and Takeuchi 1995; Ichijok and Nonaka 2007). It has been found that employees are willing to learn more systematically and intensively, if learning becomes a required part of their everyday work (Teare et al. 2002).

Much of an organization's knowledge resides in its people, and much of the learning is socially constructed and specific in context. Knowledge is interpreted, aggregated, and shared at the organizational level through the interactions of members in the organization (Page West III and Dale Meyer 1997). This knowledge becomes embedded in the routines and practices through the repeated rounds of experiences by individual members. This is consistent with the concept advocated by action learning.

Action learning has been proposed as one of the effective approaches to organizational development (Clarke et al. 2006) and a problem-solving approach for organizations facing complex problems (Loo 2006). It was first elaborated by Revans (1971) as a type of learning that comes from concrete problem-solving experience and critical reflection within a social environment, by encompassing a wide variety of management learning methods and activities of action and reflection with proper facilitation (McGrill and Beaty 1995).

Learning does not take place solely within groups in an organization (Lee et al. 2000). With emphasis on empowering of individuals to take action, action learning therefore fosters OL by allowing effective learning to take place within organizations at both individual and organizational levels (Revans 1982, 1998; Garvin 1994). For OL to be useful and effective there must be leadership and commitment from the management together with motivation and effort from the staff. Most of all, the goal of OL must be clear to all. It must be seen not only to add value to the development and improvement of the organization but also to benefit the staff in some perceivable way. In other words, OL is a process that needs all the usual functions of management, i.e. planning, resourcing, directing, monitoring, evaluation and controlling (Kjærgaard and Kautz 2008; Law and Chuah 2004a, b, 2006, 2007).

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Chapter 2
Organizational Learning as a Continuous Process, DELO

Kris M.Y. Law and Kong Bieng Chuah

Abstract Current literature on OL has different focuses, e.g. learning motivation; collective or team learning; learning process or system; learning culture; knowledge management; organizational development; and continuous improvement. Different perspectives are used to study OL by researchers from different disciplines. It can be said that there is no single framework for the study of OL. To have a better understanding of OL, it is thus critical to explore how an organization may be transitioned into an LO and how its OL process is initiated, driven, enabled, facilitated and measured. This chapter introduces OL as a continuous process called DELO (driving, enabling, learning and outcome). Each of the core components along the DELO process is discussed in detail.

2.1 Organizational Learning

Current literature on OL has different focuses, e.g. learning motivation; collective or team learning; learning process or system; learning culture; knowledge management; organizational development; and continuous improvement (Wang and Ahmed 2003). In this section, different focuses and perspectives of OL in the existing literature are presented, and OL is described as a continuous evolutionary process (as shown in Fig. 2.1).

OL can be defined from both knowledge-level or learning-level perspectives, some questions to be answered.

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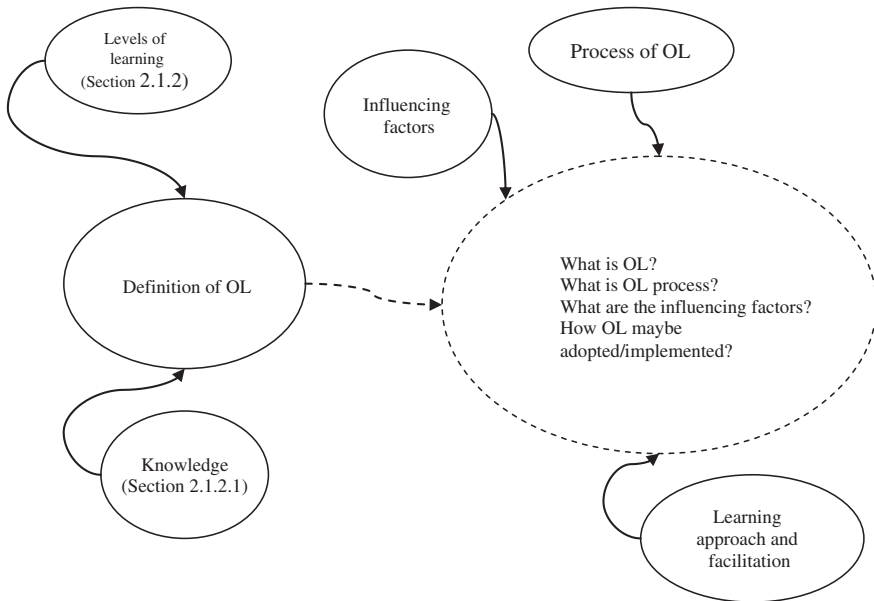
Fig. 2.1   The body of knowledge in OL

2.1.1 Perspectives of Organizational Learning

During the last two decades, much about OL has been studied and written, on subjects such as system dynamics (Senge 1990), action-based learning (Argyris and Schon 1996; Smith and O'Neil 2003), group process, personal creative process, and collective decision and action (Issac 1993).

   Some researchers believed that OL is a natural tendency of an organization fighting to survive (Levitt and March 1988; Kim 1993; Miller 1996). Other thought that it is not only a form of learning or just a prescribed set of processes in the theory of levels of learning in organizations, but also rather a philosophy of organizational development (Watkins and Golembieski 1995; Argyris and Schon 1996). Over the years, some theories of OL became conceptually more complex and others more specialized. Like Senge, who considers OL from a system perspective, Nonaka (1994) focuses on the interchange of knowledge in organizations. On the other hand, some authors prescribe OL as existing processes involving activities and means that organizations use to organize knowledge with the expectation of a higher level of its usage that lead to greater competitiveness (Fulmer et al. 1998; Pemberton et al. 2001). For these authors, OL is a process by which individuals accumulate and extend knowledge based on their past experiences and their perceptions, and share and propagate it in ways that help an organization to develop (Roth and Kleiner 1995, 1998; Lynn et al. 1998; Garratt 1999; Atul and Glen 2001; Ortenblad 2001).

   There is a wide range of beliefs of thinking about what OL is, how it occurs, and how it is applied and how it influences organization development. There is no

overarching framework, which cohesively pulls together all theoretical advances into a unified theory (Darnell 2004). A multidisciplinary approach advocated by Dodgson may still the desired way to study the complexity of OL (Dodgson 1993).

2.1.2 Learning at Different Levels

Some OL theories treat OL as a conscious organizational-goal-driven process, with individuals as the learning agents for the organization (Argyris and Schon 1996; Ortenblad 2002, 2004). These emphases of learning at different levels within an organization, however, contribute to the elusiveness of the definition of OL (Weick 1991).

The paradox of OL is that it is not merely the sum of individual learning (Argyris and Schon 1978), but the learning at different levels within an organization directed towards some preset organizational goal (Lipshitz et al. 2002). Distinct approaches to OL, which include behavioural learning and cognitive learning, have been discussed (Fiol and Lyles 1985; Yeo 2002). Cognitive development is the organizational change that affects the interpretation of events and the shared understanding among organizational members (Daft and Huber 1987; Daft et al. 1988; Daft and Weick 1984; Simon 1991). Conversely, behavioural development is the new response or action based on the existing interpretations. Argyris and Schon embraced these into their learning theories (1978) as single-loop learning and the higher level cognitive 'double-loop' learning.

Early research demonstrated a strong emphasis on the role of individual learning in OL. Argyris and Schon's (1978) 'double-loop' learning concept focuses on the learning-action role of individuals who are interpreting their experiences without addressing the group or cultural dimensions. This 'double-loop' learning extends single-loop learning by questioning and modifying underlying concepts. Besides, emphasis was also placed on the human process of 'action learning', i.e. through experience via various feedback mechanisms interacting with each individual's sets of beliefs (Calveri and Fearson 2000; Smith and O'Neil 2003; Forman 2004). Such learning, then, requires action and feedback, as well as a mindset to change existing beliefs, to apply new insights to improve the organization.

Senge (1990) termed the higher levels of learning as generative learning. He stated the five disciplines as the core principles for individuals involved in OL: '(*individual learning*) should prepare the individuals for being part of the group (*personal mastery*) …and to prepare receptivity to others' learning, experience, questions, and manner of thought (*mental models*). A viewpoint that is sufficient for understanding business cycles and system relationships is required … (*systems thinking*). …guiding purpose and shared values (*shared vision*)'.

Individuals are the learning agents of collective learning for learning to occur at the organizational level (Mumford 1992; Easterby-Smith 1997). Team learning is the central issue of concern in OL. The insights and innovative ideas occur to individuals. However, knowledge generated by the individual does not come to bear on the organization independently. Effective OL requires that ideas are shared and actions taken, with common meanings developed within the organization (Argyris and

Schon 1978, 1996; Daft and Weick 1984; Huber 1991; Delaney and Huselid 1996). Today, it is generally accepted that OL is multi-levelled (Giesecke and McNeil 2004).

Deutero-learning is an even higher level of learning, which involves both the single-loop and double-loop learning (Argyris and Schon 1978). Organizations are then more than ad hoc collections of individuals with structured relationships; individual learning and learning in groups become institutionalized as organization artefacts (Hedberg 1981; Shrivastava 1983). 'Members learn about previous contexts for learning. They reflect on and inquire into previous episodes of OL, or failure to learn….they discover…., they invent…., they produce….and they evaluate and generalize….'. Therefore, OL needs to consider the individual, team and learning at different organizational levels (Crossan et al. 1995, 1999).

Companies should pay great attention to issues of team performance (Mintzberg 1983; Matlay 2000; MacBryde and Mendill 2003). Team performance is emphasized as teams are the 'building blocks' in an organization, and improvement tasks or major functions are generally carried out projects assigned to different teams rather than individuals (Poell and Van der Krogt 2003). Under such 'inherent' conditions, systematizing learning in a project team makes sense (Roth and Senge 1996). With major tasks assigned as projects and project teams as the building blocks of organization, working in projects creates mutual interdependence and interconnection. Team based and project driven are the keys to effective OL in this thesis.

2.1.2.1 Knowledge Perspective

OL encourages anticipatory learning (Giesecke and McNeil 2004). As we have seen earlier, shared visions and systems thinking are two of the emphases of OL. Individuals acquire new knowledge and incorporate it into the workplace so that the collective set can reach its shared visions. In addition to shared visions, it was clearly expounded in Senge's five disciplines: systems thinking is the integration of individual learning and team learning towards the organization-wide collective sense of purpose (Senge 1990).

Sets of processes for knowledge creation and models for establishing processes to spur new knowledge were introduced (Nonaka and Takeuchi 1995; Allee 1997; Narasimha 2000; Maier and Remus 2003). It is inevitable that knowledge is a critical part in the OL context; attention should be paid to who learns what and where the knowledge is rooted (Leymann and Kornbluh 1989; Burgoyne 1999; Bierly et al. 2000; Bollinger and Smith 2001).

There have been debates about the entities of learning and location of knowledge (Argyris and Schon 1978; Cook and Yanow 1993). According to Dogsdon (1993), these knowledge-related issues involve the means the organization uses to disseminate information throughout its ranks and the ways that the information is processed and stored. This is what recent researchers have stressed: knowledge management.

Different approaches of knowledge management (from mechanistic, systematic to behaviouristic) are plentiful in the OL literature. The mechanistic approach concerns the technical and technological issues of knowledge accumulation, storage. Systematic approach focuses on the rational analytical

problem-solving processes, while the behaviouristic approach emphasizes on the change of mindset, the improvement of innovation and creativity (Arygris and Schon 1978). The behavioristic approach in knowledge management is often said to have its roots in process re-engineering and change management. It tends to view 'knowledge management' as a management issue rather than as a technology issue.

As the environment becomes more and more information intensive, an organization may become relatively dysfunctional to its business objectives. The traditional methods that were used to solve the 'knowledge problem' have reached their limits of effectiveness. Technology on its own is not the solution to knowledge management of a present-day LO (Nonaka 1994; Hitt et al. 2000).

Nonaka and Takeuchi (1996) proposed a spiral of knowledge creation that covers the four modes of knowledge conversion (socialization, externalization, internalization and combination) and knowledge sharing among the three levels (individual, team and organization). Furthermore, exploration and exploitation of knowledge have also been studied. Exploration is about the use of experimentation and innovation to seek new ideas for application, whereas exploitation is the effective use of current know-how and new idea of incorporating efficient improvement and refinement into a business (March 1991; Roth and Kleiner 1998; Lynn et al. 1998).

The above knowledge-related studies are not explicitly related to the concept of OL, but they shed lights on how the knowledge-related learning process is contributing to OL.

2.2 OL as a Continuous Process

A distinction is noted in the OL literature on the tendency of researchers to focus either on the 'process' or on the 'content' of learning. The theories thus developed either describe what learning is or how learning takes place.

For instance, Senge (1990) and Garvin (1993) specify a set of prescriptive conditions for learning organizations, while other 'process-focusing' theories describe the processes and concepts of OL (Pedler et al. 1991, 1998). These process-focusing theories include the theories of Kimberly and Miles (1980), and Cook and Yanow (1993) on learning from action and acquisition. There is rarely an integrated treatment of OL as an ongoing process constituted by different learning patterns and styles.

DiBellaet al (1996) proposed that learning is an 'innate, ongoing process' in organizations. All organizations have learning capabilities that 'embody' distinctive styles or patterns of learning (Nevis et al. 1995). This learning 'capability' perspective emphasizes the dynamic nature of OL. We regard this as the foundation of this study and consider OL to be an ongoing process in organizations.

Different perspectives are used to study OL by researchers from different disciplines. It can be said that there is no single framework for the study of OL. Though there are several researches that consider OL as an ongoing process, empirical research on OL is still limited.
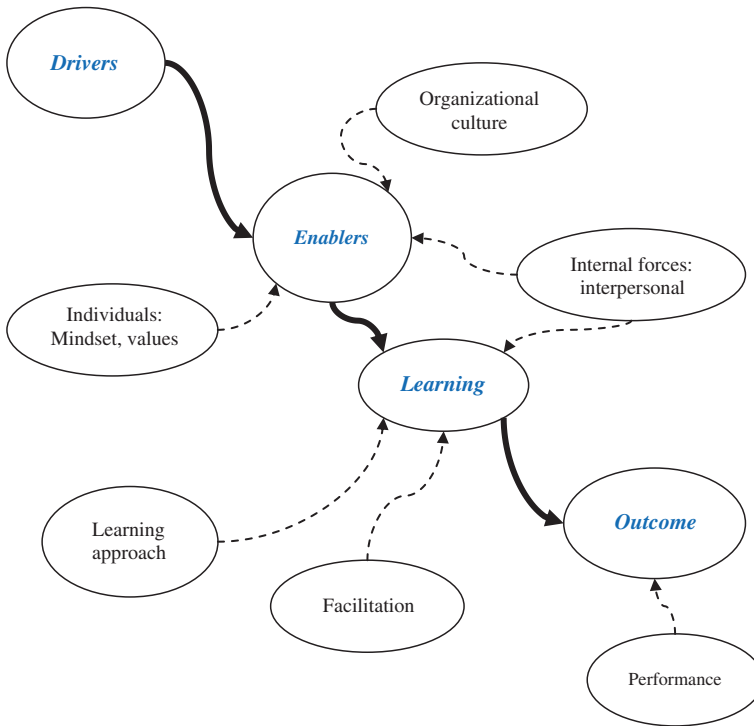
Fig. 2.2 The process of organizational learning and corresponding 'influencers'

It is thus useful for us to treat OL as not just the physical process of learning, acquiring and sharing knowledge, nor just a specific part of organizational change, but also how attitudes and mindsets are changed to complement organizational development (Smith 1999). To have a better understanding of OL, it is thus critical to explore how an organization may be transitioned into an LO and how its OL process is initiated, driven, enabled, facilitated and measured.

OL as a continuous process consists of four core components—drivers (D), enablers (E), learning (L) and outcome (O) (Fig. 2.2). Drivers are the driving forces of starting up OL within a company. The attributes contributing to this block include vision, mission and leadership. The enablers are the 'influencers' of the subsequent OL process.

There is no clear and widely accepted depiction of the linkage between OL and its enabling factors. Such a comprehensive concept covering so many aspects is difficult to achieve. In this book, factors influencing the OL process are the focus.

In the last two decades, many studies have been conducted to identify the influencing factors of OL process and effectiveness. Management strategies and leadership styles are found crucial to OL, from which organizational changes and

development are expected. Among the many OL influencing factors, individual and interpersonal factors may be of the most important for some organizations in certain operational environments. LO and OL are now beginning to be embraced by a small number of enterprises. The cause-and-effect relationship among individual factors, interpersonal factors, management practice, leadership styles and business benefits is not clear during these early days of OL adoption. Positive results achieved by behavioristic strategies elsewhere may not be applicable here. Even if they are applicable, the 'effect' may not be sustainable and measurable. It is thus of the need to explore more how OL is affected by the situational factors, such as cultural issues and organizational structure. The influence of these factors on the collective mindset and project team learning will be crucial to the OL process.

Cultural factor is one of the key factors in the OL process that may make China's LOs different from the Western countries. Hofstede's studies (Hofstede 1991) have shown that the Chinese culture is collectivistic rather than individualistic and the traditional 'Paternistic' management style still prevails. This may hinder the development of innovation and knowledge creation of individuals. As individual value, one of the likely key influencers of OL, is closely related to culture, it will be of interest to find out how strongly these culture-related factors influence the LO and OL implementation.

2.2.1 Drivers

As technology advances at a relentless pace, companies in the high-tech manufacturing industry have been consistent to make sure they are prepared for the changes to remain competitive. Competence development becomes a strategic issue for such companies (Lee et al. 2000). OL has been propounded to help companies to adapt to change.

To initiate OL, the need and desire of the organizations to advance and the will of management have been described as the critical drivers (Smith 1993). This will of management can be in the form of a facilitative leadership with strategic thinking and vision, which is crucial in the process of transformation into a learning organization (Phillips 2003).

The importance of the role of leadership in OL has also been widely recognized. Researchers have identified the various roles of a leader in learning organizations (Nonaka 1996; Vera and Crossan 2004). Among these roles, the leader has a designer role that involves creating a foundation of purpose and core values within the organization. The importance of strong leaders to build shared visions and the facilitating processes has been recognized (Limerick et al. 1994; Teare 1997). To summarize, a strong leader committed to building a shared vision, empowering and inspiring people are needed to drive in the process of OL.

2.2.2 Enablers

2.2.2.1 Organizational Culture

In the scope of organizational studies, culture in organizations is one such factor that has received much attention (Chatman and Jehn 1994; Chatman and Barsade 1995; Hofstede et al. 1990; Marcoulides and Heck 1993; Trice and Beyer 1984; Pool 2000). Organizational culture is commonly defined as the pattern of shared assumptions, values and beliefs (Enz 1988; Schein 1984; Deshpandé and Webster 1989), or the dynamic and active entity with shared understanding and sense (Hofstede 1984, 1990; Schein 1984; Morgan 1986; Deshpandé and Webster 1989; Slater and Narver 1995). The elements of organizational culture include values, norms, symbols, rituals and other cultural activities which revolve around them (Enz 1988; Rousseau 1990). Much of the research has attempted to discern these elements characterizing a given culture (Trice and Beyer 1984; Schein 1996; Schneider 1987; Wooldridge and Minsky 2002; Harrison and Carroll 2006).

Culture is a complex matter, and it is even more complex, pluralistic and diverse, contradictory or inherently 'paradoxical' in organizational settings (Sackmann 1997; Browaeys and Baets 2003). Its effective grasp assists the organization in dealing with management problems and is even a tool to deal with organizational problems related to strategy, employees and communication (Browaeys and Baets 2003).

Organizational culture thus has been an important area in the study of organizational behaviour and organizational learning (O'Reilly 1989; O'Reilly et al. 1991). Literature linking organizational culture and organizational learning includes Fiol and Lyles' (1985) work on contextual factors and Cook and Yanow (1993) cultural approach to learning that incorporates the concept of tacit knowledge.

The study of how culture affects modern organizations has been going on for decades (e.g. Trice and Beyer 1984; Wilkins and Ouchi 1983; Chatman and Barsade 1995). Traditional organizational models did not always help to understand disparities between goals and outcomes, as well as between strategy and implementation (Fang and Wang 2006). Research on organizational culture showed the necessity of taking into account cultural references when tackling management problems (Wilkins and Ouchi 1983) and using a cultural approach to reach genuinely new insights within organizations (Trice and Beyer 1984).

Recent researches about organizational culture and effectiveness proved that the driving forces of culture affect the performance (Wilkins and Ouchi 1983; Wooldridge and Minsky 2002; Quinn and Rohrbaugh 1983). Innovation, which has proven to be culture related, is also found improving performance (Deshpande et al. 1993). An organization possesses a 'strong' culture will perform at a higher level of productivity (Denison 1984, 1996). Such efforts will be rewarding, particularly because of the variables that comprise culture have been postulated to be under the control of organizational leaders (Deal and Kennedy 1982; Ouchi 1979).

Not only the internal environment, features present in external environment also affect the culture of an organization, namely national culture and industry characteristics.

Specific organizational values and outcomes vary across national cultures (Hofstede 1983, 1994), while the national culture is manifested through a common notion of a shared mentality (Laurent 1986; Rhody and Tang 1995). The impact of national culture pertains to the phenomenon of organizational acculturation which alludes to cultural changes (Selmer and de Leon 1996, 2002).

The values that characterize firms vary across industries. Firms in the same industry tend to share similar technology and be with less variation in their cultures (Deal and Kennedy 1982). Research has proved that technology and industry growth closely relate to the culture within organizations (Dess and Beard 1984; Quinn and Rohrbaugh 1983; Chatman and Jehn 1994; Zammuto and O'Connor 1992), business nature and the outcomes (Van de Ven and Delbecq 1974), and technological development (Dewar and Hage 1978). While the technology development fosters growth (Thomson 1967; Zammuto and O'Connor 1992), firms characterized by intensive technologies are found to have high levels of innovation (Pennings and Harianto 1992), emphasis on team-oriented (Saxenian 1990) and a high level of job structure (Hofstede et al. 1990).

Process-oriented and Result-oriented Culture and Learning Organizations

For organizational culture, Hofstede defined six cultural dimensions, namely process and result oriented, open and closed system, job and employee oriented, parochial and professional, loosely and tightly controlled, and normative and pragmatic. In this research, we will focus on process-oriented and result-oriented dimension. According to Hofstede (1990), the definitions of the two cultural items in this dimension are:

- Process oriented stating that people perceive themselves as avoiding risks and spending limited effort in their jobs
- Result oriented stating that people perceive themselves as comfortable in unfamiliar situations and maximal efforts

This dimension opposed a concern with *means* to a concern with *goals*. Three key features were identified by Hofstede (1980). These factors show that people in the process-oriented cultures perceived themselves as avoiding risks and spending only limited efforts in their jobs, and they saw each day as pretty much the same. In the result-oriented culture, people perceived themselves as comfortable in unfamiliar situations and as putting in maximal effort and felt each day brought new challenges.

Meanwhile, the process-oriented epistemology is widely used as the knowledge management perspective (Christensen and Bang 2003; Maier and Remus 2002). The process-oriented epistemology considers knowledge creation and sharing as a continuous process between people. It is also a technology as well as tacit and explicit knowledge. Companies adopting process-oriented epistemology focusing on human relations, and by the fact that learning is taking place and knowledge is collected through process reports and quality control systems. By sharing knowledge, the company tries to internalize knowledge. As a result, the value of the knowledge is increased, and this is one of the organizational learning ideals.

Yet, there is lack of study on the relationship between process-oriented practice and learning, and there is, thus, a necessity to study if the process-oriented practice does influence the learning within an organization.

The purpose here is not to delineate the cultural dimensions that may affect the OL process, but to acknowledge that specific cultural dimensions may be pertaining to the context of learning in organizations.

2.2.2.2 Individuals

Researchers agree that organizational culture and individual are correlated (Schein 1984, 1986). Individual's mindset that interacts with facets of situations within an organization is crucial to the learning (Gabriel and Griffiths 2002). Aspects of individuals, such as values and beliefs, interact with facets of situations to affect the individual's attitudinal and behavioural responses (Davis-Blake and Pfeffer 989; Naquin and Holton 2002). A key issue in the literature on OL is the permeability between individual and OL, that is to what extent the characteristics and processes by which individuals be extended to OL.

The Linkage Between Individual and Organizational Learning

Argyris and Schon (1978) noted the paradoxical nature that OL is not merely the collection of individual learning, but is more than the cumulative sum of individual learners (Hedberg 1981; Cohen 1991).

In recent years, human resources professionals have been focusing on ways which promote learning in organizations (Jacobs 1995; Marsick and Gephart 2003). It has been theorized that systematic approaches to learning in organizations are tied to corporate performance and are therefore of value. Additional insight into the potential impacts of the environments of employees is crucial for learning and developmental practice (Egan et al. 2004). Employee attitudes have been found to interact with environmental factors that influence job values (Mobley 1977), and thus motivation to learning.

Motivation and Learning in Organization

The importance of motivation to knowledge transfer and OL has been advocated by researchers (Naquin and Holton 2002; Egan et al. 2004). Motivation in learning is described as the desire to use the knowledge and skills mastered in associated learning activities from the job (Noe and Schmitt 1986). It constitutes a central force when going through process of organizational activities (Osteraker 1999).

Therefore, the aim of every LO is to explore the factors that enable and motivate employees to learn. Motivational theories, such as motives and needs (Alderfer 1972; Maslow 1954, 1970; McClelland 1967), expectancy theory (Vroom 1964), Adam's equity theory (1963, 1965), cognitive theory (Deci 1980), reinforcement theory (Skinner 1969) and goal setting theory (Wofford et al. 1992) have been

widely studied. Most researchers believe that both intrinsic and extrinsic job factors have effects on job satisfaction, work involvement and work motivation. Later research on motivation examined the continuing relevance of these theories.

Recent research primarily focused on the need for achievement, which interacts with other variables to influence performance, and examined its relationship with work behaviour (Hofstede et al. 1990). Meanwhile, cognitive ability is found to moderate the relationship between need for achievement and performance (Wright et al. 1995).

Expectancy theory (Vroom 1964) suggests that motivation is a multiplicative function of three constructs: expectancy, instrumentality and valence. Rasch and Tosi (1992) carried out performance studies by integrating elements within expectancy theory, goal setting and the need for achievement.

Equity (Adams 1963, 1965, cited from Ambrose and Kulik 1999) was primarily proposed as a way of understanding how employees respond to situations in which they are treated more or less favourably in comparison with a referent 'other'. Weick (1969, 1974, 1979) described it as one of the most useful organizational behaviour theories, and several reviews concluded that the evidence for equity theory was generally strong. However, critics have described equity theory as one of the 'not so useful' theories among the organizational behaviour theories (Miner 2005).

Reinforcement theory and cognitive evaluation theory have also been two of the key theories within the mainstream of motivation field. Reinforcement theory emphasizes the relationship between behaviour and its consequences (Skinner 1969). Cognitive evaluation theory suggests two motivational subsystems: extrinsic subsystem and intrinsic subsystem (Deci 1980), in which situational variables and impacts from external sources could significantly affect the cognition and hence the motivation of an individual.

Self-efficacy and Personal Goals

Self-efficacy and personal goals are important in determining performance. The positive relationship between efficacy and performance has been addressed (Durham et al. 1997; Prussia and Kinicki 1996). Research focused on several important issues related to the theory of goal setting was carried out in the 1990s. This includes the study of goal difficulty–performance relationship, goal commitment in goal setting (Wofford et al. 1992), personal goals and self-efficacy and effectiveness of goal setting. Self-efficacy generally refers to what a person believes he or she can do in a particular task. Wofford's study examined the role of self-efficacy in the goal setting process, and self-efficacy has been proven to correlate with the intrinsic motivation and commitment to goal attainment (Wofford et al. 1992). People with high-level self-efficacy are likely to set high goals and to perform well (Locke and Latham 1990). Self-set goals are often more desirable than assigned goals because they automatically engender higher level commitment (Hinsz et al. 1997). Klein and Mulvey (1995) further suggested that cohesiveness within teams also positively relates to goal commitment.

There is still no available study, which has explicitly explained the interplay between individual aspects and organizational learning process. These aspects are of individual values and motivation in learning. Thus, one of my objectives of this

study is to probe more closely individual values (job) and motivation as two of the enabling factors of organizational learning.

2.2.2.3 Internal Forces

Configuration of effective organizations can be captured by the interplay of the basic forces in an organization. These basic forces are the system of seven forces introduced by Mintzberg (1991) as the building blocks of an effective organization. Jashapara (2003) further adapted the system of forces for the study on the learning focus of a competitive learning organization. The learning focus proposed by Jashapara is based on Mintzberg's system of seven forces. The outer five 'pillars' of the system are direction, efficiency, proficiency, innovation and concentration, while the two internal catalytic forces are cooperation and competition.

Among the five 'pillar' forces, the force for direction and force for innovation are appropriate to describe action team learning within an LO. The force for direction is concerned with strategic vision and may relate to the start-up or turnaround situations. This gives a team a common goal. Meanwhile, the force for innovation is concerned with discovering new things and may relate to adhocracies comprised of skilled experts or multidisciplinary projects (Mintzberg 1991; Jashapara 2003). The concept of forces for direction and innovation conforms to the emphases on goal-driven learning and the learning emphasizing on exploration.

Internal forces of competition and cooperation also have an effect on organizational learning (Jashapara 2003). According to Mintzberg (1991), the two catalytic forces of cooperation and competition are described as the pulling together of ideology and pulling apart of politics, respectively. Dominant forces of cooperation may result in an ideological organization, while the force of competition relates to political organizations where conflicting factors exist.

Internal forces from the literature are proven crucial to the 'organizational-goal-driven' organizational learning process. We intend to further explore how these internal forces interact with the OL process.

2.2.3 Learning

2.2.3.1 Team Learning in Learning Organizations

The concept of OL and LO has been accepted by organizations keen on developing and creating an environment to support learning, especially the high-tech manufacturing organizations (Lynn et al. 1998). Such organizations usually adopt project team or hybrid-project-team structure. The project-based structure is adopted by the whole company or specifically applied to certain units or the groups within the organization. In these organizations, team concept and team performance are highly valued and relied upon.

Not surprisingly, team learning has been proved to be gaining importance as an OL strategy (Osterman 1994; Chan et al. 2003). It has been well documented

(Kotnour 2000, Poell and Van de Krogt 2003) and extensively studied (Cavaluzzo1996; Flood et al. 2001; Katzenbach and Smith 1993; Meyer 1994; Roberts 1997; Senge 1990; and Teare et al. 2002).

Senge (1990) explained that organization/team performance improvement is a result of collective intelligence of an organization/team, which exceeds the sum of intelligence of individuals. Knowledge gained by teams has been associated with realizable benefits in the form of improved performance (Wellins et al. 1991; and Meyer 1994). This aligns well with the OL ideals and is similar to the core group theory, which explains how the power, knowledge and influence of core groups interact with organization opportunities to gain learning and creativity for the groups concerned (Kleiner 2003).

2.2.3.2 Learning as Part of Work

Learning organizations aim to transform old behaviours and patterns of thinking and improve skill and know-how to adapt to the challenging dynamic environment. Learning, thus, involves the linking up of knowledge/know-how systems, structures and processes. It has been found that employees are willing to learn more systematically and intensively, if learning becomes a required part of their everyday work (Teare et al. 2002).

As noted the previous discussion of learning at different levels (Sect. 2.3.2) within an organization, it is clear that much of an organization's knowledge resides in its people and much of the learning is socially constructed and specific in context.

Knowledge is interpreted, aggregated and shared at the organizational level through the interactions of members in the organization (West and Dale Meyer 1997). This knowledge is embedded in the routines and practices through the repeated rounds of experiences by individual members. This aligns with the concept advocated by action learning.

2.2.3.3 Action Learning and OL

Action learning has been proposed as one of the effective approaches to organizational development (Clarke et al. 2006) and a problem-solving approach for organizations facing complex problems (Loo 2006). It was first elaborated by Revans (1971) as a type of learning that comes from concrete problem-solving experience and critical reflection within a social environment, by encompassing a wide variety of management learning methods and activities of action and reflection with proper facilitation (McGill and Beaty 1995; Weinstein 1999).

Learning does not take place solely within groups in an organization (Lee et al. 2000). Emphasizing the importance of the empowerment of individuals to take action, action learning therefore fosters OL by allowing effective learning to take place within organizations at both individual and organizational levels (Revans 1982, 1998; Garvin 1994).

In this way, we believe the goal-driven action learning through project teams can be applied as the learning approach in an organization gearing itself to becoming an LO. This further forms the foundation of the project-based learning framework put forward in this thesis.

2.2.4 Outcome

Within an organization, effective teams normally are those that have clear, worthwhile, and challenging missions to which all members are committed. Teams should always be purpose driven, and autonomous teams have higher level of motivation and commitment (Cordery et al. 1991; Houghton et al. 2003.

Thus, it is with a well-defined purpose that a team can demonstrate commitment and synergy. Many authors have suggested a variety of anecdotal recipes for creating successful teams; however, organizational barriers exist, and inappropriate performance management is one of these barriers. The reason is twofold.

Firstly, most rewards and compensation systems focus on individuals, not on team performance. This may lead to the destructive or dysfunctional competitions among individuals, and less synergistic teamwork. Secondly, most of the performance appraisal systems do not even consider team issues, while the rewards and compensation systems foster internal competition, thereby limiting the team's effectiveness and performance (Meyer 1994; Zigon 1997; Bourne et al. 2002; Yeo 2003).

2.2.4.1 Performance Measurement of Learning Teams

We believe that team learning can be the core part within an OL process. Team concept and team performance are highly valued in LOs. Performance measurement of learning teams is, thus, critically important to an OL process that adopts and expects team learning (Ruigrok and Wagner 2003). Regarding this, performance measurement is an essential part of the OL process (Tosey and Smith 1999a, b) to truly reflect the effectiveness of the team learning.

The introduction of OL thus leads to the question in many OL advocators' minds—how can the various performance outcomes associated with learning be measured? In the absence of practical and well-founded team performance measurement approaches for team learning within organization, many companies have adopted the existing performance measurement tools, which are mainly developed for business or individual performance instead of for team learning and team performance. These measurement tools often fail to measure what the teams have learned and how they are performing.

Furthermore, there are no means of measuring team learning readily available, especially for project-based team learning. There is an apparent failure of linkage between team strategies and performance criteria (Zigon 1997; Bourne et al. 2002) and a seeming incompatibility between traditional structures and newly developed processes/approaches. Integrated performance measurement systems have been developed for measuring organizational performance (Leitch et al. 1996; Verweire

and Van den Berghe 2003; Rouse and Putterill 2003). Most of the existing performance measurement systems are used to measure business performance, but have not been specifically designed for team performance measurements. Some performance measurement systems are used as means to help deploy business objectives to an operational process level (Neely et al. 1996; Kaplan and Norton 1992, 1996a, b). In this way, performance measurement facilitates the alignment of goals of all individuals, teams, departments and processes with the strategic business aims of the organization (Yeo 2002). However, these performance measurement systems are rather organizationally focused; it has been claimed that those measurement systems are generally unsuitable for team performance measurement (Zigon 1997; Meyer 1994).

As the focus is OL, the performance outcomes of teams associated with OL goals need to be dealt with explicitly. Measurement of performance should be considered at different levels, including individuals and processes (Yeo 2003). Team measurement must be done at both team and individual levels (Zigon 1997). The importance of performance measurement for learning teams is thus many fold. Not only should it demonstrate what a learning team does, but it should also illustrate how well it undertakes it and how much progress it has made throughout the process of achieving its goals. Equally importantly, it helps OL leaders to manage the organizational change, development, as well as learning process more effectively.

Ideally, a performance measurement system deals with the clarification of goals, the alignment of both people and processes, and the monitoring of the progress with respect to business objectives. More specific and directly connected organizational metrics need to be identified (Burrow and Berardinelli 2003). Hence, a performance measurement system for project learning teams should be able to identify the performance gap between actual team performance and the expected team goals, thus, to find out the ways to improve both the learning and subsequent performance. We have found little research on team performance measurement in OL setting. Tosey and Smith (1999a, b) assessment of LOs is based on a three-'field' system (focus, will and capacity) and model organizations as 'energies' of consciousness. Yeo (2003) suggested alternative views of performance measures of LOs by examining the cognitive and behaviour of individuals. Most of these assessment approaches are either organization based or individual based. The linkage between team effectiveness and team performance is not yet well addressed. This is the gap in OL team performance measurement we are addressing in this thesis.

2.2.4.2 Measuring Organizational Learning

Similar to the measurement of team learning performance, measurement of the OL performance is carried out with respect to the preset organizational goals and outcomes.

There is yet no evidence of any foolproof ways to measure how effective or ineffective learning initiatives may be. Contemporary performance measurement apparatus does not meet all the requirements of knowledge-intensive organizational environment (Vakkuri and Meklin 2003). Traditional measures such as profits may actually be undesirable because LOs should not focus on short-term

solutions (Senge 1990). The impact of culture on the performance measurement within organizations is also emphasized (Vakkuri and Meklin 2003). The process of measuring learning is highly subjective because it involves tapping into people's perceptions and personal judgments.

It has been argued that implementation of OL has been hindered by the lack of methods to measure learning activity (Smith and Tosey 1999). Some researchers proposed that OL could be measured by including employee and information system capabilities, motivation, empowerment and alignment into an integrated balanced scorecard (Kaplan and Norton 1992, 1996a, b).

Assessing LO is even harder than measuring learning activity and performance within an organization. It is rather a social process to link an organization's learning status (mindset, culture, practice, effectiveness, etc.) with LO ideals (Smith and Tosey 1999).

Better qualitative performance measurement is called for in the measurement of learning within an organization (Sun and Scott 2003). It is because the learning processes are multidimensional and influenced by various factors such as individual beliefs, collective culture, organizational factors and interpersonal factors, which are difficult to measure quantitatively. It is crucial to develop an LO measurement approach and system that is appropriate and acceptable to employees at different levels of the organization.

Assessment based on an organizational behavioural platform, which considers performance modelling driven by general business outcomes and LO ideals, for instance in terms of focus–will–capacity, can be the foundation for development of assessment methods regarding its practicality and consistency.

2.3 Chapter Summary

As evident in the wealth of literature, OL has been widely viewed as one of the most important means to achieve organizational development. In the other words, OL is seen as a conscious organizational goal-driven process with individuals or teams as the learning agents. The predominant view of Argyris and Schon (double-loop learning) and Senge (the Fifth Discipline) has helped shape the advances in LO and OL theories and practices. Many of these approaches focused on the learning action role of individuals without explicitly addressing the organizational cultural dimensions nor prescribing in clear terms the learning-action performing role of individuals in a group or team setting.

This thesis, as pointed out earlier, focuses on the issues of action learning in a project team setting. It will build on the research model that decomposes OL into driver, enablers, learning and outcome. The model not only describes OL as a continuous goal-driven process, but also allows the study of the organizational factors influencing OL process and outcome and the development and implementation of an OL framework (PAL).

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Part II
The PAL Driven OL Framework

Chapter 3
The PAL Framework

Kris M.Y. Law and Kong Bieng Chuah

Abstract The project-based action learning (PAL) provides a structured framework that serves as the organizational learning (OL) vehicle for the different team-based learning activities. Through a systematic and phase implementation of PAL, it can be aimed at gradually instilling team and individual learning capability and mindset, build up the learning culture within an organization. Based on the grounds and underpinnings for the DELO model constructed in the previous chapter, the research model decomposes OL into drivers, enablers, learning and outcome. Each of these components is further 'exploded' in this chapter, to allow detailed study of the relationships of independent variables (influencing factors) and on the dependent variables of OL.

3.1 Theoretical Underpinnings of PAL-Driven OL Framework

Drivers of organizational learning (OL) refer to the leaders, who have the vision and mission of implementing OL. The driving factors and enabling factors of OL consider various factors within an organizational context. These include factors of organizational (process-oriented or result-oriented), individual (job values and learning motivation) and interpersonal (cooperation and competition forces) (Fig. 3.1).

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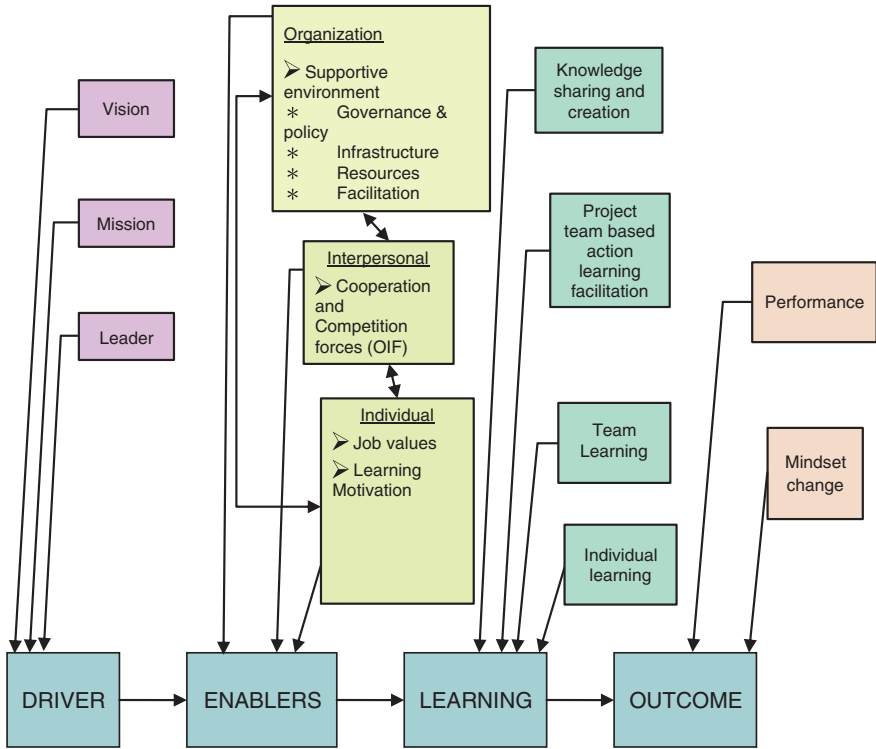
Fig. 3.1 Theoretical model for the study of organizational learning

Driven by driving factors and enabled by enablers, learning is assumed to take place within the organization. The learning process itself, which is vital to the learning effectiveness and performance, is influenced by the various enabling factors.

What is PAL?

The project-based action learning (PAL) adopts the concepts of team learning (Poell and Van de Krogt 2003) and action learning for the project-based learning teams. The reason is four-folded: firstly, the project is applicable to the tasks that cannot be easily implemented within standard organizational set-up. The project-based learning stimulates participants to both learning and achieving. Secondly, it allows the interdependence and interconnectedness to make the learning process realistic to participants. Thirdly, individuals in teams are empowered to develop their own competencies in the project team environment. Fourthly, individuals and PAL teams' learning and performance can be more explicitly defined and hence readily evident and measured (Law and Chuah, 2004a, b, 2005).

3.2 Project-Based Action Learning (PAL) Framework

The project and learning goals are the starting blocks of this learning framework. PAL teams are assigned specific tasks and evaluated with respect to predefined performance goals or expectations. Apart from certain job-related performance goals set by the company, individuals also set their individual learning goals. With the help of facilitators, team members apply their existing or newly acquired knowledge to the project tasks, as the project progresses.

3.3 Planning the PAL

With an objective to drive the OL process, the PAL framework (Fig. 3.2) provides a structured framework for the different team-based learning activities by adopting the team learning concept (Poell and Van de Krogt 2003). Each participant is a member of a PAL project team with a predefined and sanctioned-performance goal, team and individual learning objectives.
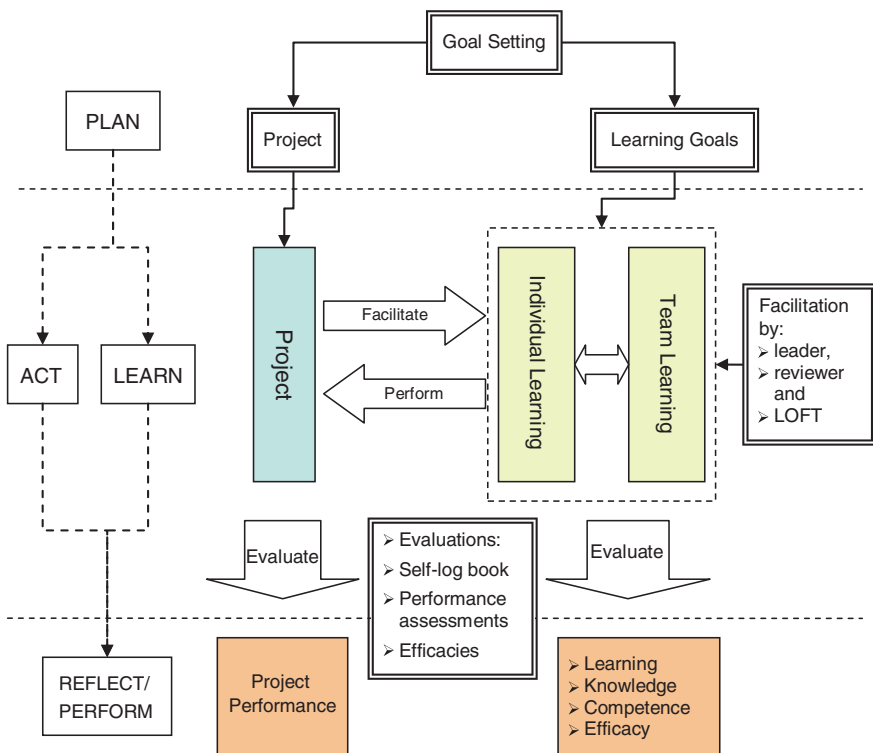
Fig. 3.2   Project-team action learning framework (PAL)

The PAL provides a structured framework which serves as the OL vehicle for the different team-based learning activities. Through a systematic and phase implementation of PAL, it can be aimed at gradually instilling team and individual learning capability and mindset, build up the learning culture within an organization. Each PAL project goes through the four-phased PLAN–ACTION–REVIEW cycle as shown in Fig. 3.2.

3.4 PAL Project-Based Goals and Process

PAL teams are formed according to their specific functions or needs, and each is evaluated with reference to its predefined and agreed project performance and learning goals or expectations. Goals are of two main types: the work-related project goals and the learning goals, at both team and individual levels, respectively.

As the PAL project progresses, with the help of facilitators, PAL members apply their existing or newly acquired knowledge to the project tasks. The facilitation and evaluation process is designed to support and effect both individual as well as team learning as each team works towards the agreed project goals.

3.4.1 Learning Process

Learning is thus taking place within teams and at individual levels, and in each PAL team, learning can be divided into two main types:

Inter-project learning

Knowledge is gained across projects. Learning teams acquire knowledge through projects and experiences, and bring along the learned knowledge to new projects. Infrastructure for learning and facilitations are vital for the learning to happen and make it as part of the project. Knowledge sharing across the organization is emphasized within the concept of inter-project learning; thus, technology tools and human resources support aiming at sharing knowledge are essential for this type of learning to occur during the project.

Intra-project learning

Within a project, knowledge is created and shared. This supports the delivery of the project by acquiring and applying knowledge. Learning is taking place through the discussions among team members who are with mutual project goals. Intra-learning thus occurs throughout the project. This intra-learning cycle can be outlined by the phase of the project, such as routine reporting cycle and review meetings.

3.4.2 Action Learning in Teams

Fundamentally, learning is asserted by behavioural approach by directly linking to some actions that follows. Learning is viewed as the process of adjusting

behaviour in response to experience. Simply put, as interpreted by the roofs of this perspective, if no behavioural change is recorded, then no learning can be said to have taken place (March and Simon 1993). Therefore, learning embraces the acquisition of existing and the development of new knowledge, attitudes and skills; the application of knowledge, attitudes and skills in existing or new contexts with the purpose of improving performance (Yeo 2002). Implementation of the PAL is conducted among selected learning teams, with specially designed learning modes/mechanisms. Empowerment experienced by individuals transcending the mind's normal operations enables autonomy and creativity. Learning routines of the current structure are propelled into the new conditions with new findings are derived from shared vision and concerned goals. Team learning is not only to facilitate knowledge exchange but also bring about behavioural changes.

3.5 Performance Measurement System for PAL Teams

Effective teams should demonstrate synergy. Inappropriate performance measurement is one of the barriers that prevent this from happening. Performance measurement appraisal and reward system should not just focus on individuals. For OL to be effective, team concept and team performance are the concerns. Thus, appropriate performance measurement is needed to take these into account.

Importance of performance measurement for learning teams is manifold. It helps the goal clarification and facilitates process monitoring, performance appraisals, and incorporation with reward systems. Hence, it is used in process of objective setting, and performance measurement is an important aspect of management particularly in OL, as it determines the level of learning expected of the learning individuals or teams. Team learning has not only to facilitate knowledge exchange but also brings about behavioural changes. There is a need to look into measures that are associated with both of these as a result of a particular team learning process. Furthermore, the outcome of PAL team learning is measurable in terms of the predefined PAL project goals.

3.5.1 What Should the Learning Teams Measure?

From the many reported studies, knowledge accumulation is very much associated with learning attitude, effort and method, and team performance is affected by learning capability and outcome of team members. In the PAL teams, the process of learning is dynamic and that knowledge acquisition and sharing occur at several levels. Researchers have proposed the four dimensions that determine team performance (Hackman and Oldham 1980; Katzenbach and Smith 1993) and analysed the effectiveness, efficiency, learning and growth and team member satisfaction.

In organizations which are employing performance measurement for business performance, one of these measures is balanced score card (Kaplan and Norton

1992, 1996a, b). Such measures are not designed for team-based OL process like the PAL teams. The difficulty could be due to the fact that such cause–effect relationships are not straightforward and not clearly defined. The creation and the build-up of a PAL team is a complex process. In order to measure the PAL team's performance properly, we need to investigate the interactions between individuals and teams more thoroughly. Thus, the PAL performance measurement is focusing on several aspects:

1. Learning effectiveness (how knowledge is acquired and adopted);
2. Efficiency (how well knowledge applied for the project achievement);
3. Motivation (how team members are motivated towards learning);
4. Review and monitoring (how the learning is organized, reviewed and monitored); and
5. Efficacy in knowledge acquisition, retention and application (only for the researcher's data collection).

3.5.2 The Evaluation

The dimensions of the PAL performance evaluation system are mindset, reaction and performance (Table 3.1). For the forms of PAL evaluation, please also see Appendix 1.

3.5.2.1 Individual Evaluation

The assessment of individual performance is governed by the 'three-view' evaluation method, to provide a fair and holistic picture of each PAL team member. Besides self-assessment, each member is also assessed by the PAL team leader

Table 3.1 Evaluations of PAL

Dimension	What to measure (anchors)	Measurements	
		The team	Individual
Mindset (motivation)	• Motivation towards learning	Team performance	*Three-view evaluation* • Self-assessment • Evaluation by leader/ supervisor • Peer evaluation
Performance (project and learning)	• Project performance		
	• How knowledge is acquired and shared		
	• Application of knowledge		
Reaction (efficacy)	*Feelings towards learning*	[a]*Collective efficacy*	[a]*Self-efficacy*
Self-reflection, continuous review and monitoring			Self-learning log book

[a]*Remarks* to complement the PAL performance measurement, collective and individual efficacies are measured during the PAL implementation, for the researcher's data collection and analysis

and peers. The evaluation designed for individual learners focuses on the dimensions as shown below:

- Performance achievement,
- Application of learned knowledge,
- Knowledge sharing commitment, and
- Motivation

3.5.2.2 Team Evaluation

Each project team proposes its own or is assigned a specific task/project with clearly defined performance goal. The goal set is used as the references for performance measurement. These goals are generally associated with the teams' effort and performance towards the achievement of the project tasks. Apart from the project achievements, acquisition and application of knowledge as well as team behaviours are also considered. Similar to individual evaluation, the team performance evaluation also focuses on the team's performance achievement, knowledge, application, commitment and motivation. Table 3.2 gives a list of questions of the performance evaluations.

3.5.2.3 Self-Reporting and Leader's Review

The self-reporting and leader's review carried out throughout the PAL project serve to provide an overview of the learning at both individual and team level, and project performance with respect to the predefined PAL goal(s). These reviews also serve as continuous evaluation on the performance at both individual and team levels (Table 3.3).

Table 3.2 Sample statements of the performance evaluations (Likert scale)

	Behaviour not observed-1 to readily observed-5
Project performance • Individual achievement in the project	1–2–3–4–5
Application of knowledge • Use of problem-solving skill in daily operation • Use of systems thinking and analytical system in daily operation • Use of problem analysis skill in daily operation • Can handle problems with sufficient technical knowledge and working principles	1–2–3–4–5
Knowledge sharing • Share knowledge with peers	1–2–3–4–5
Motivation • Motivated to learn new knowledge • Motivated to generate new ideas	1–2–3–4–5

Table 3.3 The schedule of performance measurements

Activity/week	Individual (I)/team(T)	1	2	3	4	5	6	7	8
Reflection and learning									
Self-report	I	✓		✓	✓	✓	✓	✓	✓
Weekly review on progress, by leader/facilitators	T	✓	✓	✓	✓	✓	✓	✓	✓
Performance measures									
Individual performance	I								✓
Peer evaluation and self-assessment	I								✓
Team performance	T				✓				✓
Activity/week	Individual (I)/team(T)	9	10	11	12	13	14	15	16
Reflection and learning									
Self-report	I	✓	✓	✓	✓	✓	✓	✓	✓
Weekly review on progress, by leader/facilitators	T	✓	✓	✓	✓	✓	✓	✓	✓
Performance measures									
Individual performance	I								✓

3.5.2.4 Efficacy Measures

Efficacy beliefs (individual and collective) are measured, as to identify how the learning teams and individuals feel towards learning. Participants are asked to evaluate their efficacy levels on project performance, knowledge-related competencies and learning (see Tables 3.4 and 3.5).

Table 3.4 Sample statements of the efficacy measurement (Likert scale)

	Strongly disagree-1 to strongly agree-5
I feel capable to use problem-solving skills	1–2–3–4–5
I feel competent to use analysis skills	1–2–3–4–5
I feel a sense of mastery over technical knowledge for the project	1–2–3–4–5
Based on my personal feedback, I feel confident that what I learn is for the company's good	1–2–3–4–5
Based on my personal feedback, I feel confident that I can benefit the team with my competencies, in this project	1–2–3–4–5

Table 3.5 The schedule of efficacy measurements

Activity/week	Individual (I)/team(T)	1	2	3	4	5	6	7	8
Efficacy measures									
Self-efficacy	I	✓							
Collective efficacy	T	✓							

Activity/week	Individual (I)/team(T)	9	10	11	12	13	14	15	16
Efficacy measures									
Self-efficacy	I								✓
Collective efficacy	T								✓

3.6 PAL Outcomes

To develop 'tomorrow's capability', how organizations process and extend their managerial experience and technical know-how is the key. It is anticipated that the learning team performance does impact the organizational performance: through appropriate OL processes, organizations learn from their experiences and are always in search for ways to break new grounds rather than being bound by their past experience or constrained by old methods and practices.

3.7 How to Kick Start PAL in Organizations?

PAL was built on the theoretical foundation of action learning and uses clearly defined project goals, project process and team setting to drive both individual as well as team learning in a systematic way. In simple terms, PAL uses real-life projects to align individual and team learning with OL (Law and Chuah 2006, 2007).

Firstly, each PAL project is set up to handle problems or issues that cannot be easily tackled within the routine operations or standard organizational set-up. In other words, there are practical implications in all PAL projects. At the same time, in addition to the project objectives, each PAL team and its members have also to set clear learning goals at the outset of the PAL project.

Secondly, the PAL framework fosters teamwork and needs the interdependence and interconnectedness of members in a PAL project. So, PAL participants learn to become effective team players in the process.

Thirdly, individuals will be involved in different PAL teams over time, thus enabling them to develop multiple skills or competencies.

Fourthly, in a wavelike manner, organizations can over time effect OL through rounds and rounds of PAL projects.

Generally, organizations are recommended to adopt a wavelike approach in their PAL implementation journeys, that is, through rounds of PAL propagation with selected pilot teams as the start. Each round of the PAL cycle may about three to four months depends on the business nature and the situation. In this way,

the PAL can start as a small project, and its concepts and practices can be softly embedded in the organizations. Detailed discussion about PAL implementation in real company cases is discussed in Chap. 5.

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Chapter 4
The Four Pillars

Kris M.Y. Law and Kong Bieng Chuah

Abstract To facilitate the PAL as the vehicle for an organization's OL development, there are four critical supporting 'pillars'. These 'pillars' work complementarily with each other as the 'foundation' of an infrastructure. They are 'policy and strategy', 'OL facilitation', 'performance management' and 'resources and infrastructure'. This chapter presents how these 'pillar' supports the OL vehicle and their interrelationships. Apart from the supporting 'pillars', the 'OL readiness' of an organization has its managerial and situational precursors. Readiness will be raised when there is a supportive environment or situations necessitate its adoption.

4.1 The Four Supporting Pillars

The PAL framework is a project-based OL vehicle aiming at building up the learning culture first within the project team(s) and beyond throughout the organization. The PAL framework requires a PAL team to have a challenge (the project) and preset learning goals with the organization committed to providing the necessary OL infrastructure, guidance and facilitation (Law & Chuah, 2004a, b, 2005, 2006, 2007).

The PAL process instills into the team members' practice of action and team learning while working towards a project that is of mutual interest and benefit.

During the PAL process, each PAL team member supports and challenges each other leading to an elevated degree of individual and team learning. Each PAL project helps to sow the seeds of OL. Its propagation, from the case experience shows, will lead to the building up of a sustainable learning culture in the organization.

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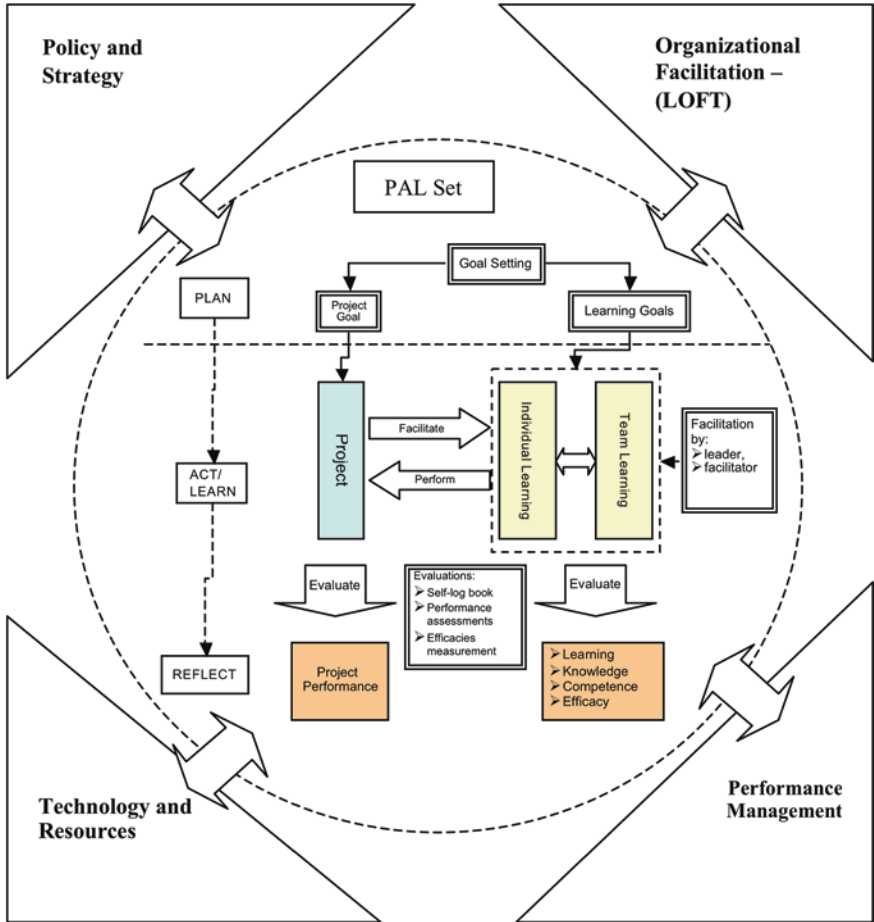
Fig. 4.1 PAL and supporting environment

To facilitate the PAL as the vehicle for an organization's OL development, there are four critical supporting 'pillars', as shown in Fig. 4.1. These 'pillars' work complementarily with each other as the 'foundation' of an infrastructure. They are 'policy and strategy', 'OL facilitation', 'performance management' and 'resources and infrastructure'.

4.1.1 Policy and Strategy

In an organization where PAL is adopted as the vehicle of its OL development, the organizational strategy and policy should favour its implementation. As a prerequisite to successful implementation of PAL, OL strategy policy should provide clear

direction and depth of commitment. The policy and strategy setting may depend on the company's or organization's strategic direction and decisions, and the decisions at strategic level thus determine the policy and governance relating to the organizational learning activities and the corresponding work-related issues. This 'pillar' is considered to be the foremost one as it further determines the PAL processes, facilitation, the resources allocation and the performance management.

4.1.2 OL Facilitation

The facilitation and evaluation in the framework is to effect both individual and team learning as the teamwork towards the project goals. The facilitator or reviewer plays an active role in the PAL process. He/she guides the team through the process of knowledge generation, application, retention and sharing. He/she also keeps an eye on individual development and learning process monitoring by providing regular evaluations and reviews.

An LO facilitating team (LOFT) is established to support the various activities related to the PAL implementation. Members from the LOFT oversee and facilitate the various activities as in the PAL-based OL process, observe the PAL team meetings and provide feedback, both to individuals and to the team as a whole on its learning processes (as shown in Fig. 4.2). The LOFT serves not only as the coordinating unit of PAL activities, but also as a centralized resource point for
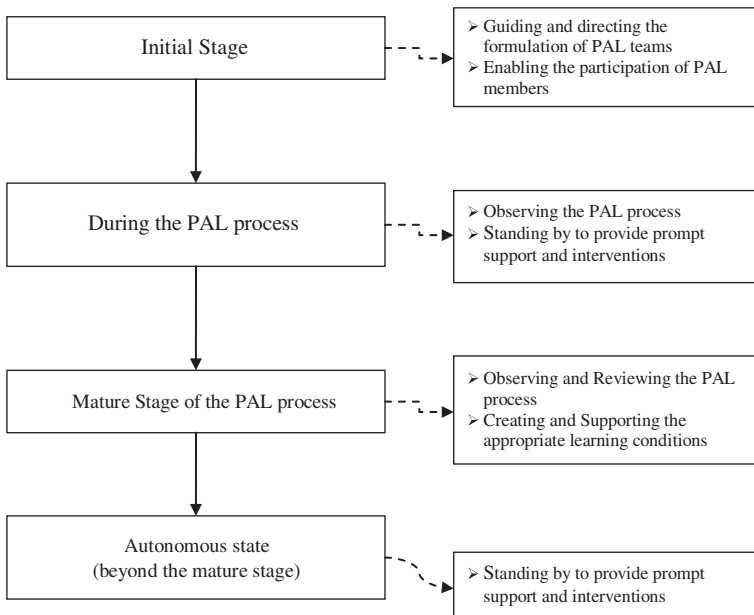
Fig. 4.2 Facilitation role of the LOFT

PAL implementation. Through the facilitation process, facilitators seek to ensure that the PAL teams could maintain the ownership of their own agenda and their capacity for reflection and learning.

Roles of the LOFT are described as follows:

- Coordinator of PAL-related resource matters,
- Conductor of evaluations for the PAL-related performance measurement,
- Facilitator of PAL process,
- Administrator of communication, between teams and company, and
- Advisors and reviewers of progress of PAL teams.

The LOFT has a significant role in guiding and directing the PAL teams in the early stage. As the PAL teams become more familiar and confident with the procedures, processes, and norms of PAL, LOFT's role becomes one of helping to maintain in the PAL teams the cooperative mode during the later stages. It shared power over the PAL process with the PAL teams. The PAL members need less of the LOFT's intervention as the PAL projects progress to the later stages. The PAL teams tend to become more integrated and effective at this stage. Each PAL team has the ownership of the PAL project, while the LOFT is standing by to provide occasional intervention as and when it is needed. The autonomy of the PAL teams is respected especially during the PAL's final stage. The main responsibility of the LOFT at this stage is to continue to help and support the conditions within which the PAL members can perform and learn on their own.

4.1.3 Performance Management

Appropriate performance evaluation linked to OL activities is needed to ensure that participation and performance in OL-related work/activities is valued, recognized and rewarded. The need and usefulness of making a staff's PAL performance is an integral part of his/her overall performance evaluation. The performance management measures can be of multi-perspectives: individual level, team level and organizational level. The evaluation measures have been discussed in Sect. 3.5.2.

4.1.4 Resources and Infrastructures

For PAL to work, a supportive environment is needed. The components include relevant OL-related policy and strategy, resources and technology infrastructure, support and facilitation, and OL-linked performance evaluation system (see Fig. 4.2).

The establishment of an information technology infrastructure provides a forum for knowledge sharing and information exchange. Such an infrastructure provides a network which not only supports PAL activities and their facilitation, allows PAL members to exchange insights and shares information, but also is a communication

channel for feedbacks and reflections. Availability and accessibility of information helps members promote sharing and learning. The dynamism of knowledge is ensured, and such an IT system becomes the core of an organization's assets.

4.2 Readiness and Effects of PAL and OL

The 'OL readiness' of an organization has its managerial and situational precursors. Top management or the leader should have the mission and vision of OL at the start. Readiness will be raised when there is a supportive environment or situations necessitate its adoption. OL could be successfully initiated if these driving forces are present (Fig. 4.3).
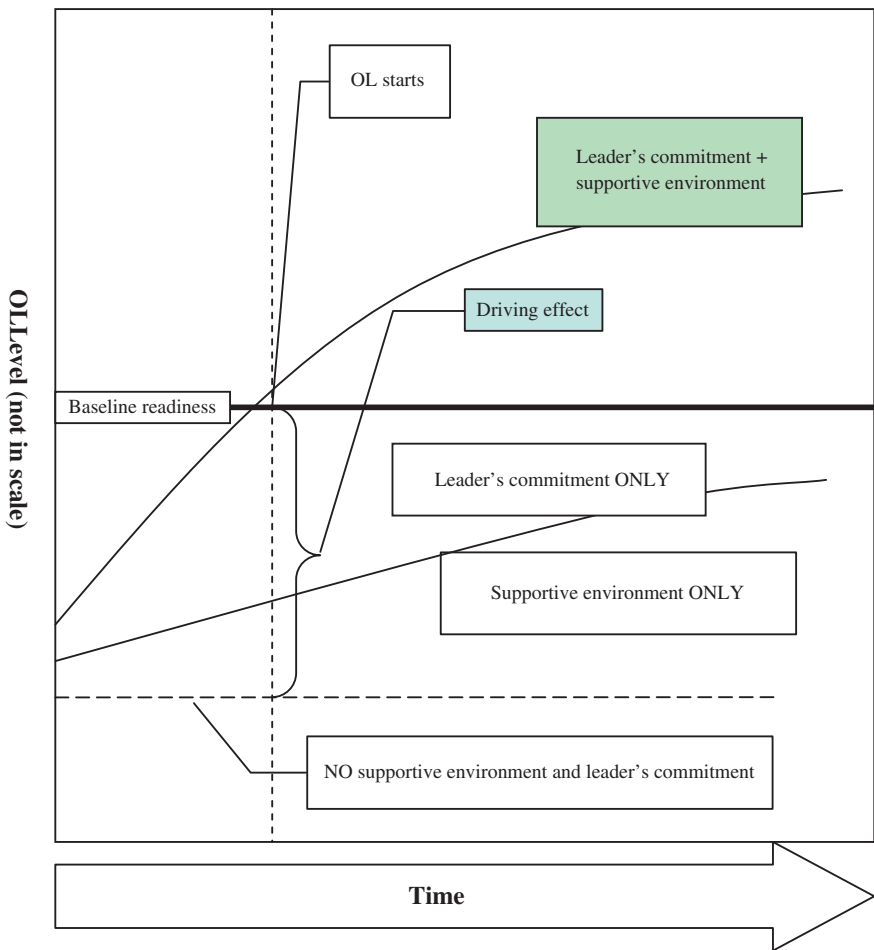
Fig. 4.3 The effect of drivers on the OL readiness at the driving stage
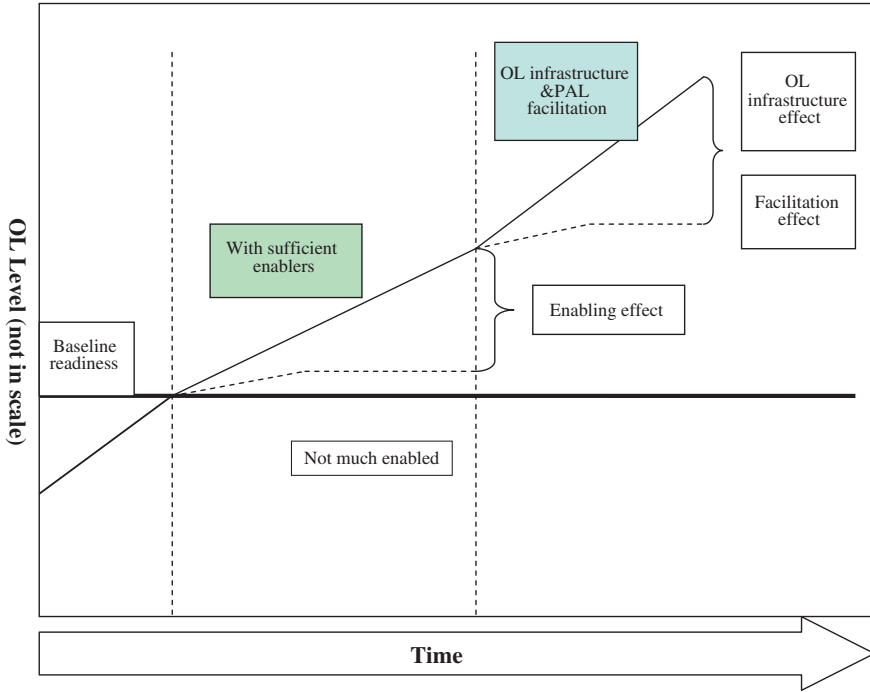
Fig. 4.4 The effect of enablers and PAL facilitation on OL

To sustain the OL momentum beyond the initial driving stage, enablers are required to spur and sustain individuals' and groups' willingness to learn. OL process must include ways and means that stimulate information sharing and learning reflection, and in time help to shape a new learning culture and behaviour.

Beyond the 'ready' and 'enabled' stage, facilitation and supportive OL infrastructure are needed to further the OL development (Fig. 4.4).

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Part III
From Theory to Practice

Chapter 5
Implementation of PAL in a Learning Organization

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Abstract This chapter presents the project action learning (PAL) implementation experience as real-life cases. PAL uses real-life projects to align individual and team learning with organizational learning (OL). The case company adopted a wavelike approach in its PAL implementation. PAL became the OL vehicle of the case company. An enabling IT-based infrastructure was developed to provide a platform for easy communication, knowledge sharing, and information interchange. The knowledge gained or generated throughout the PAL-driven OL processes could be captured and retained as retrievable organization knowledge. OL facilitation is another vital pillar for PAL implementation, which provides cognitive coaching and coordination to guide the PAL teams, especially their new members through the established PAL process.

5.1 PAL in a Learning Organization

As described in Chap. 4, project action learning (PAL) was built on the theoretical foundation of action learning and uses clearly defined project goals, project process, and team setting to drive both individual and team learning in a systematic way.

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In simple terms, PAL uses real-life projects to align individual and team learning with organizational learning (OL) (Chuah and Law 2006; Law and Chuah 2007).

The overall OL strategy implementation model includes three phases. In the first phase, the OL strategy must be built on a sound theoretical OL foundation and then aligned with the performance objectives of the organization. This explains why a thorough study of the relevant OL theories and the background of the company are needed. In the model, the Fifth Discipline from Senge (1990a, b) is adopted as the theoretical underpinning of the OL strategy. Meanwhile, a preimplementation assessment will give the management necessary information about the organizational status quo and its readiness for OL implementation. Hence, an organizational assessment instrument specially designed for assessing OL readiness (Preskill and Torres 1999) is introduced and included as an element of this phase of the OL strategy.

In the second phase, after the proper OL theory and the background of the company are identified, efforts should be made to set up the OL vision and mission for the company. This also complies with the normal procedures of organizational strategy development. Following this, suitable learning methods need to be identified or developed to realize the OL theory and objectives. In the implementation model, the PAL framework from Law and Chuah (2004a, b, 2006) is adopted as the specific method to achieve the OL theory and objectives. In addition, the four supporting pillars of PAL are identified and enhanced to facilitate its implementation. More details about the development of the supporting pillars are discussed in Chap. 4.

If OL is to be implemented and achieved, in some sense, it should be measurable. In the third phase, after the OL strategy is implemented, its implementation effectiveness needs to be monitored, evaluated, and the strategy fine-tuned accordingly based on the evaluation results. Thus, an evaluation instrument derived from the focus/willingness/capability performance system of Smith and Tosey (1999a, b) is adopted to monitor the effectiveness of PAL implementation in this phase. The overall OL strategy implementation model can be referred to Fig. 5.1.

5.1.1 Setting LO Baselines

Existing organizational development literature lacks quantitative assessments of the different aspects and consequences of general LO-driven management interventions in an organization. There is rich literature on what people believe will occur if the LO philosophy is adopted and implemented (e.g., Garvin 1993; Senge et al. 1994). But relatively few have reported on the assessment or evaluation of the readiness or performance of an organization's LO implementation. As OL practitioners, it is judicious to evaluate the OL readiness of an organization at the initial phase of its LO journey.

Evaluation conducted in support of OL provides an early means for developing a community of like-minded inquirers, harnessing the knowledge capital of its members and addressing problematic issues that face the organization. It can serve as a catalyst for learning and action on organizational issues (Preskill and Torres 1999).
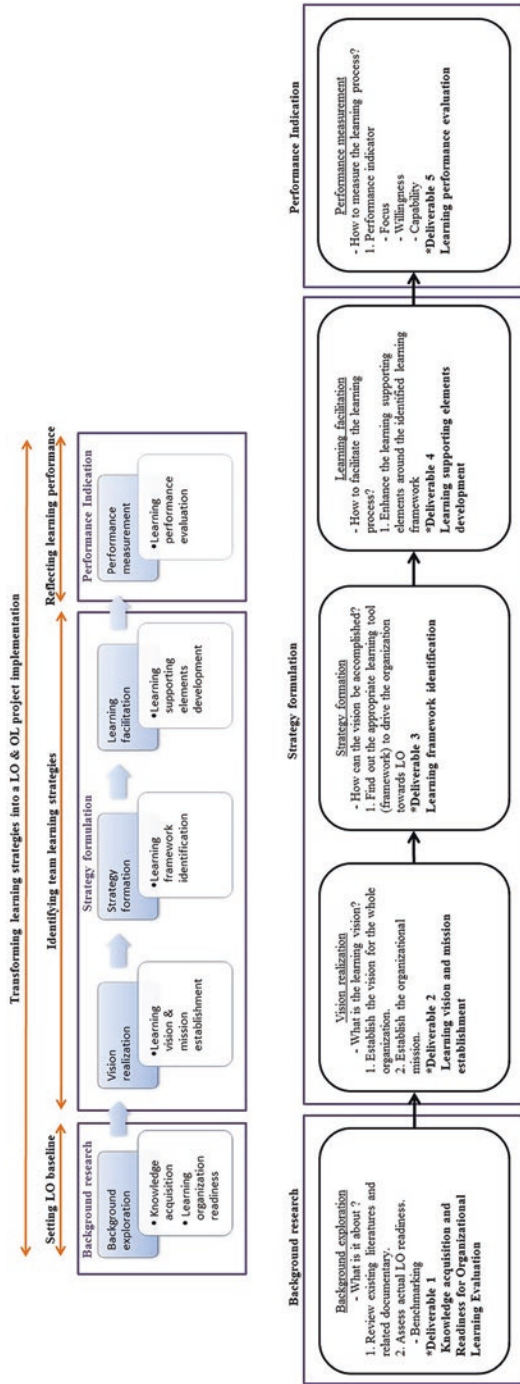
Fig. 5.1 From strategy formulation to strategy implementation

LO readiness evaluation helps an organization to know its status quo and how to prepare for the subsequent OL implementation. At the same time, it can be used to evaluate to what extent the organization is a "learning" one and identify the areas of strength to leverage management interventions and evaluative inquiry processes and areas in need of organizational change and development.

5.1.2 Identifying Team Learning Strategies

Having the LO baseline set, the strategy formulation is started. The strategy formulation includes vision realization, strategy formation, and learning facilitation (Fig. 5.1). It clearly defines objectives and assesses both the internal and external situations to formulate strategy.

In order to galvanize employees to work toward corporate objectives, visions and missions should be more than a sign on the wall. Executives and managers should live them, be seen living them, and constantly communicate them to their employees, so a learning vision should be built up first. In this study, an appropriate learning framework was identified and emphasized as one of the major learning activities to raise the staff's capability through a team learning process.

Corporate learning vision is a short, succinct, and inspiring statement of what the organization intends to become and to achieve at some point in the future, often stated in competitive terms. On the other hand, the mission statement is an organization's vision translated into written form. It makes concrete the leader's view of the direction and purpose of the organization. It is a vital element in any attempt to motivate employees and to give them a sense of priority.

After the vision is created, the OL strategy is developed. A learning tool or framework is needed to drive the organization toward OL, and a learning tool is designed for the learning teams in the organization to achieve effective on-the-job learning. It serves as the core learning activity and aims at building up the learning culture within the project team(s) by systemizing learning in a project. It also provides teams with a challenge (the project) and the learning environment with guidance and facilitation.

After the appropriate learning framework is developed and implemented in the organization, the supporting elements, strategy, technology support, facilitation, and performance management (Chap. 4), should be presented, enhanced, and promoted to make the learning process more effective. Such learning supporting elements foster team learning tailored to the needs and wants of the individual.

Organizations can cultivate more accurate, effective learning through the creation of supportive, stimulating environments. Psychological safety, openness, the recognition and acceptance of differences, acceptance of errors and mistakes, and flexibility are essentials if learning is to flourish. Therefore, a supportive environment must be created where individuals can share learning without it being devalued and ignored, so more people can benefit from their knowledge and individuals become empowered.

5.1.3 Reflecting Learning Performance

After the OL strategy is formed, its implementation is monitored with unexpected learning results detected. OL performance evaluation is undertaken regularly. It is important to see whether the implementation of the OL strategy can lead to the intended organizational outcomes. With the three performance elements, focus (F), willingness (W), and capability(C), the assessment of progress toward the "learning organization" can be achieved.

   Through the five main stages (background exploration, vision realization, strategy formation, learning facilitation, and performance measurement) of developing the OL strategy, the transformation of the performance-based OL strategy into an effective practical OL implementation plan is addressed; the relationship between the OL strategy and the OL performance can be determined. It thus can be argued that a practical and effective OL strategy will bring higher levels of OL performance.

5.1.4 Case: PAL Implementation

In this section, a real company's PAL journey is documented and discussed. The case company is a renowned multi-national high-tech manufacturer with global operations. It was a top management decision to embrace the LO and OL concepts in early 2002. However, the initial staff reaction and acceptance at the beginning was not very satisfactory. The first challenge of this collaborative project was to gain a better understanding of the employees' motivation and learning needs. The top management's decision was then highly publicized, and staff was encouraged to jump onto this OL bandwagon to spur learning and improvement initiatives. Policy changes were made and resources allocated to support the OL initiatives.

   The case company adopted a wavelike approach in its PAL implementation. Each round of the PAL cycle lasts about three to four months. Since 2003, many rounds of PAL implementation have been conducted in the case company to drive its performance excellence. A pilot round of PAL implementation started in 2003. From 2004 to 2006, there were six rounds of PAL implementation. By 2006, more than half of the case company Business Unit (BU) 1's staff had participated in various PAL projects. In 2006, the company went through big organizational restructuring, and BU1 was dissolved to meet changes in the business goals and operational needs. But in 2007, PAL-based OL was relaunched in BU8 (another BU) and later BU2 (another BU). It is still continuing as at the time this book is being written up. The PAL-driven OL journey of the case company is depicted in Fig. 5.2.

   Table 5.1 summarizes the rounds and the number of PAL projects carried out in the case company's BUs. During the past six years, a total of 67 PAL projects
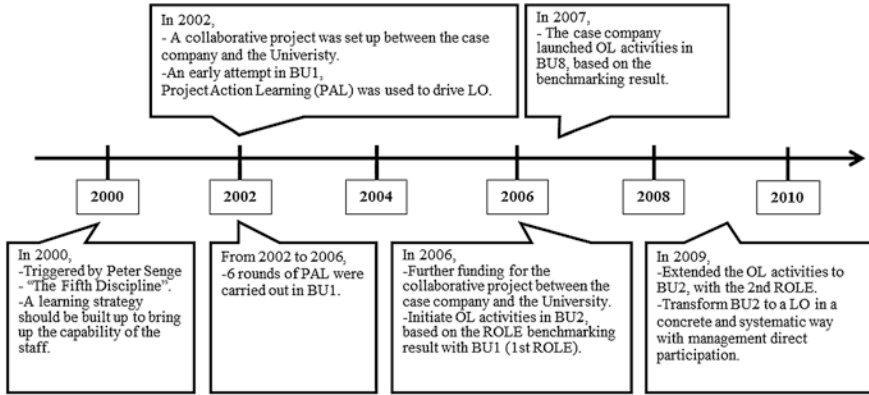
Fig. 5.2 PAL-driven OL journey in the case company

Table 5.1 Rounds of PAL from 2004–2011

Round	Period	PAL projects
PAL implementation in BU1		
1st	May 2004–July 2004	3
2nd	Aug 2004–Dec 2004	4
3rd	May 2005–Sep 2005	7
4th	Oct 2005–Jan 2006	6
5th	Apr 2006–June 2006	7
6th	July 2006–Sep 2006	8
PAL implementation in BU2		
1st	Oct 2006–Dec 2006	2
2nd	Apr 2007–Jun 2007	2
PAL implementation in BU8		
1st	Oct 2007–Dec 2007	3
2nd	Apr 2008–Jun 2008	3
PAL implementation in BU2		
1st	Nov 2008–Jan 2009	5
2nd	Oct 2009–Dec 2009	10
3rd	Apr 2010–Jun 2010	5
4th	Oct 2010–Dec 2010	2

have been carried out. Through this wavelike implementation strategy, increasing numbers of staff have been involved in this ongoing OL campaign.

It is also noted that once PAL participation and performance is included as part of the staff's overall performance evaluation, PAL gradually but surely becomes accepted as part of the organization's practice and culture. In other words, PAL involvement is less seen as extra work and becomes the OL vehicle that takes the case company to achieve its OL goals.

5.2 Measuring OL Readiness

Before launching any learning activities, it is necessary to know whether the organization is "ready" for the LO and OL implementation. The people should have enough initiation and momentum toward learning. They should be willing to learn and realize the importance of learning. Therefore, the Readiness for Organizational Learning and Evaluation Instrument (ROLE) is used for this purpose.

Once an organization is considered as "ready" for LO and OL implementation, learning activities can be launched. After the learning activities are set, it is necessary to understand and evaluate what benefit the OL implementation has brought to the organization. Therefore, the FWC instrument is adopted for this purpose.

The instrument developed by Preskill and Torres (1999), namely the ROLE, is most recommended for the evaluation of organization readiness. The ROLE survey helps to determine an organization's strengths and weaknesses in the context of OL readiness.

The ROLE is designed to examine an organization's infrastructure and environment which are the underlying foundations for OL implementation within the organization. An organization's infrastructure and environment can strongly influence the extent to which its members learn and use their learning to support personal and organizational goals. The elements of the organization's infrastructure and environment include culture, leadership, communication, systems, and structures (Preskill and Torres 1999). The nature of these components provides the basis on which evaluation efforts can be undertaken and sustained. Measuring these components will help to indicate how they operate or interact within an organization and whether they facilitate or inhibit learning. The ROLE instrument can be referred to Appendix 2.

There are six facets or dimensions used in the ROLE for evaluation—culture, leadership, systems and structures, communication, teams, and evaluation.

5.2.1 Culture

As pointed out by Carleton (1997), culture influences the way people treat and react to each other. It shapes the way people feel about the company and the work they do; the way they interpret and perceive the actions taken by others; the expectations they have regarding changes in their work or in the business; and how they view those changes.

5.2.2 Leadership

Evaluative inquiry and OL will not succeed if the organization's leadership is indifferent or hostile to establishing learning processes and systems. Leadership

support must come from the very top of the organization. Leaders of an LO must involve its members in the development of a learning vision. They must then work to ensure that the organization's systems and structures support the vision's implementation throughout the organization. Leaders not only talk about the importance of learning, buy they also live it. It is important that employees routinely hear and see their leaders engaging in learning activities, talking with others about learning, and planning future learning initiatives. Leadership is not just telling people what is important and what to do; it is also about providing a role model.

5.2.3 Communication

In most organizations today, there are an increasing amount of data being collected from customers, clients, employees, consultants, and market researchers. The problem is not that there are not enough data with which to answer an organization's questions, but that the quality, timeliness, and content of existing data do not meet the information and learning needs of organization members. Nor is sufficient time typically devoted to meaningful interpretation of the data that are available. How information is communicated to organization members and the organization's external constituents is a key determinant of the extent to which an organization wishes to learn. Indeed, the entry point for any learning to occur is communication.

5.2.4 Systems and Structures

The systems and structures of an organization mediate organization members' ability to interact, collaborate, and communicate with each other—the success of OL and evaluative inquiry efforts. Unfortunately, traditional organizational structures frequently have led to the fragmentation of tasks and contributed little to helping employees understand how they do something affects others' jobs. Many employees have functioned independently and have had little need or ability to link their efforts with others in the organization. In response to the limitations of the old structures and the needs of today's organizations, some suggest that the "best organizational structure is one that does not seem to exist: a transparent, superconducting connection between people and customers" (Stewart 1997). When an organization's structure is developed with a system's perspective, members come to understand what they do and how they contribute to other employees' work and ultimately to the organization's success.

5.2.5 Teams

Many organizations structure their work processes in ways that bring employees together to work on organizational issues. Team learning seeks to create "a shared

meaning about a process, a product, or an event" (Schrage 1989), where individuals come to know themselves and each other better in the process. In general, teamwork can be thought of as the key building blocks for effective OL.

5.2.6 Evaluation

Evaluation is a process of systematic inquiry to provide information for decision-making about some issue, program, project, process, organization, system, or product. Evaluation and reward systems are designed to rekindle interest in performance for its own sake, as well as to link that performance to the mission and vision of the organization. Compensation based on group performance can occur at team or departmental levels.

In short, the ROLE is built on the aforementioned six dimensions. The design of the instrument reflects the contemporary views on OL, and evaluation processes and practices. The study suggests that an organization should have certain infrastructural and environmental elements in place if it is to implement OL effectively.

The ROLE instrument consists of 78 items grouped into six major dimensions with four of these dimensions having eight subcategories. Three additional questions are included to provide information about the respondents and the organization. As individuals respond to each item, a picture begins to emerge that describes the extent to which OL and evaluation practices and systems are present in the organization.

Respondents are asked to respond to 75 Likert scale items on a scale of 1–5, with 1 meaning "strongly disagree" and 5 meaning "strongly agree." There are also three yes/no items and three multiple-choice items. In administering the instrument with organization members, it is important to emphasize that there are no right or wrong answers. What matters most is their opinion based on their experiences. Use of the instrument is most effective when its items are answered honestly and the organization treats individuals' responses confidentially (Preskill and Torres 1999).

The ROLE result can also be used to benchmark with other organizations to indicate the success of the LO. Benchmarking is the search for industry best practices that lead to superior performance (Camp 1989) and is widely used to promote and to measure the learning capability of an LO (Lähteenmäki et al. 2001). The benchmarking measurement of the OL capability considers a set of indicators and for this reason assumes the configuration of a multi-criteria analysis like the use of the ROLE instrument described above.

In general, employee readiness levels or attitudes toward change may be measured through interviews and surveys. Broadening job scope or job enrichment may be measured through job analysis, direct observation, and measures of actual job accomplishment that then can be benchmarked against industry or internal standards (Holpp 1994). For this study, a survey was used to compare the LO readiness between the case company's BU1 and BU2, the former having started OL implementation since 2002 (Law and Chuah 2005, 2006).

In the case company, after the comparison with the previous BU which was classified as ready for OL implementation, the LO readiness of the target BU in this study can be determined.

BU1 is an organization with more than 4 years of LO- and OL-driven experience, the ROLE of BU1 was carried out in 2006 and it sets out a benchmarking for the reference of LO readiness of an organization.

On the other hand, the target group participating in this study was Business Unit 2 (BU2). The business in BU2 is rather stable, and the people in BU2 had some thoughts on LO and OL as the top management had introduced the theory of LO to them ten years before. However, due to organizational changes, the top management left BU2 and joined another Business Unit (BU1) in 2002. In 2006, the top management came to take up the position in BU2 again and BU2 was the main focus group in this study. Before initiating the OL strategy, a ROLE was carried out to see how much of BU2 was ready for LO implementation by benchmarking with BU1.

The ROLE questionnaires were sent to the management in hard copies. Senior management included the top management executives like president, vice president, director, and senior managers and they answered with respect to the whole organization (view of the entire organization), while the middle management included individual department managers and they answered with respect to the individual team or department only (view of the entire department). Two weeks were allowed for returning the questionnaires in person to the researchers.

After obtaining the ROLE result of BU2 (2006), it was used to benchmark the ROLE result of BU2 (2006) to that of BU1. The benchmarking result can be used to determine whether BU2 is ready to initiate the LO activity. The ROLE can also be used as a regular measurement to evaluate the OL readiness of an organization at different times. After the top management took up the position in BU2 after several years in 2009, the top management wished to know the change brought by the launched OL activities.

Here are the ROLE survey results.

I.   Survey Information

From Table 5.2, there are total 14 managers participated in the survey of BU1 and 13 managers returned the questionnaire, with 93 % return rate. In BU2 (2006), 13 managers participated in the survey and all managers returned the questionnaire within two weeks. While in BU2 (2009), total 17 managers participated in the survey and 16 managers returned the questionnaire. When compared with BU1, there are more managers in BU2 with fewer senior-grade managers. On the other hand, when compared with BU2 in the two different periods, more middle management joined BU2 with the growth of the business.

II. Data Reliability

The alpha coefficient ranges in value from 0 to 1 and may be used to describe the reliability of factors extracted from dichotomous (i.e., questions with two possible

Table 5.2 Survey information for BU1 (2006), BU2 (2006), and BU2 (2009), respectively

	BU1 (2006)	BU2 (2006)	BU2 (2009)
Participants	BU1 management	BU2 management	BU2 management
Date	Oct 24, 2006–Nov 3, 2006	Nov 14, 2006–Nov 24, 2006	Apr 6, 2009–Apr 17, 2009
No. of participants	13/14	13/13	16/17
Senior management	5	2	2
Middle management	8	11	14
Return rate (%)	93	100	94

Table 5.3 Reliability statistics of all variables in BU1 (2006), BU2 (2006), and BU2 (2009), respectively

Sample	Cronbach's alpha	No. of items
BU1 (2006)	0.968	6
BU2 (2006)	0.789	6
BU2 (2009)	0.896	6

answers) and/or multi-point formatted questionnaires or scales (i.e., rating scale: 1 = poor, 5 = excellent). The higher the score is, the more reliable the generated scale is. Nunnally (1978) has indicated 0.7 to be an acceptable reliability coefficient.

From Table 5.3, for the total of six items in the readiness evaluation for different BUs, the alpha coefficient was greater than 0.7. The reliability is highly acceptable among the six items and is suitable for further analysis.

III. Benchmarking

From Fig. 5.3, by the view of entire organization, it can be seen that the ROLE result of BU1 is better than BU2 (2006), especially in the areas of evaluation and systems and structures. However, with the adequate value in the culture and leadership sectors, the top management believed that the OL could be initiated under the proper guidance and facilitation. After three years of launching the OL activities, the ROLE result of BU2 in 2009 proved that the OL implementation, with the help of OL-driven instrument PAL, did help the organization stay on the right track toward the LO. All dimensions had a certain degree of improvements.

From Fig. 5.4, by evaluating from another perspective, from the view of department, it can be seen that all the values of dimensions are very close. The score given by middle managers in BU2 is similar to the score given by middle managers in BU1. The departmental situation is quite similar between BU1 and BU2. Though some dimensions of BU2 were not as good as BU1 at the time of 2006, it showed a gradual increase in all dimensions from 2006 to 2009. Similar to the result shown in Fig. 5.6, middle managers also thought that the learning activities, including PAL, carried out through the years, were beneficial to the OL implementation in all six dimensions.

By the scoring illustrated above, the organization was classified as ready for OL implementation (BU1), while the investigating organization (BU2) had the "green signal" to initiate the OL activities with benchmarking with BU1 in 2006.
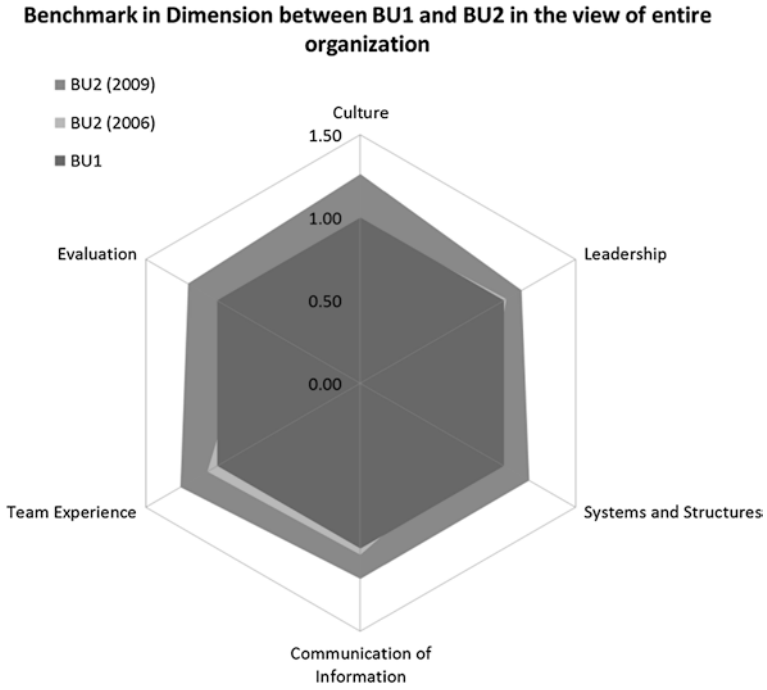
Fig. 5.3 Benchmark on dimension between BU1 and BU2 in the view of entire organization
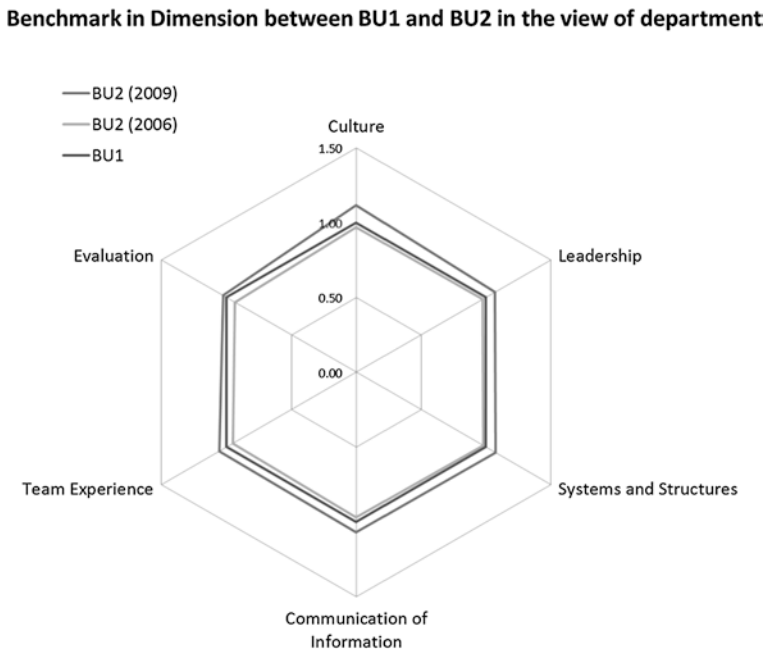
Fig. 5.4 Benchmark on dimension between BU1 and BU2 in the view of department

After three years of OL practice, with another round of the ROLE in 2009, BU2 scored even better than BU1. As a result, BU2 was supposed to be ready for the OL implementation and the OL implementation result did give a positive indication on the learning strategy deployed over the years.

5.3 The E-OL Infrastructure

The growth of e-learning in organizations has strongly influenced the evolution of computer-based learning architecture such as learning management systems and learning support systems, in response to demands for better administration of learning with personalized developmental paths, up-to-date records on learning activities, and rapid deployment to geographically distributed workforces.

The organizational learning support system (OLSS) is a computer-based system that can handle cumulating technical or intellectual knowledge and support multi-direction interactions, discussions, and knowledge sharing among PAL members. The OLSS must take into consideration the variation of requirements at different phases of the PAL process, as shown in Fig. 5.5.
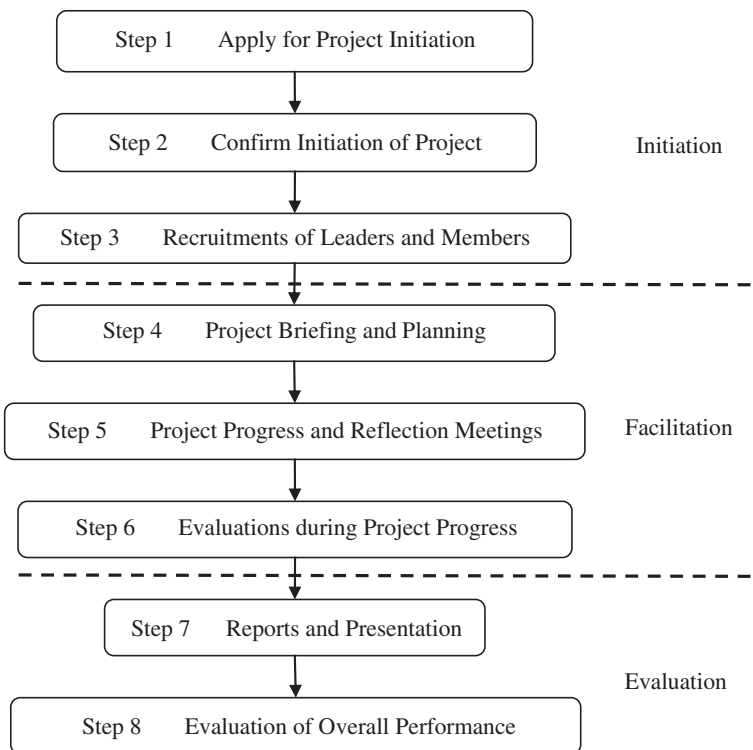
Fig. 5.5 Phases and steps in the PAL process

The eight PAL processes are grouped into three phases: initiation phase which includes diagnosing and action planning, facilitation phase when the PAL teams are working and learning on their respective projects, and evaluation phase where project performance and learning outcomes are evaluated. In short, the OLSS must incorporate different functions that satisfy PAL teams and learners' requirements at different phases.

5.3.1 Conceptual Design

The conceptual process model of the OLSS is shown in Fig. 5.6.

Its "initiation phase" at the beginning, followed by the "facilitation phase" and concluded by "evaluation phase," complements the three phases of the PAL process.

Each PAL starts with team building and proceeds with the main PAL thread accompanied by a member log thread. In the initiation phase, PAL application spaces are provided, where the participants log on to document their PAL project work, problems, and intended solutions. Before the commencement of a PAL round, there is a project proposal meeting where teams present their projects to management for approval.

The facilitation phase consists of three functions that are aligned with the milestone/activity sequence of the PAL process. Firstly, milestone spaces are initialized in the team workspaces. Secondly, an OL facilitator can post relevant materials and descriptions there. The project teams can access and use these materials, while they work toward their respective PAL project milestones and goals. Thirdly, the
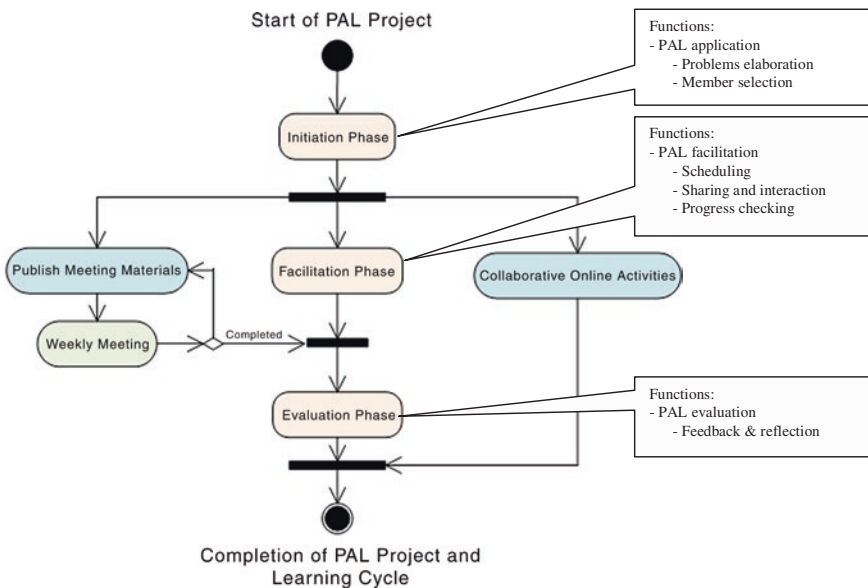
Fig. 5.6 Conceptual process model for OLSS

system plays host to the intermediate project meetings of each PAL team (with occasional involvement of the facilitators). The system helps to log the project progress, team interactions, and reflections.

Collateral online activities provide platforms for online discussions among participants and for online consultation with the OL facilitator. The online consultation is an integral part of the online discussion sub-module.

The activities in the evaluation phase include self, peer, and facilitator evaluation. It also supports feedback collection, in the form of questionnaire (structured, quantitative feedback) and reflection sheets (unstructured, qualitative feedback).

Needless to say, regular discussions were held with PAL team members to note their expectations and requirements of the OLSS throughout these different phases of the PAL process.

5.3.2 Physical Design

As shown in Fig. 5.7, an overall knowledge management system is in place in the case company. The OLSS is one of the supporting pillars which aims to facilitate the PAL implementation. The OLSS is composed of a number of modules, from the initiation module and facilitation module, to the evaluation module, assisting and facilitating the PAL implementation during its various phases. Within each module, various sub-modules are presented to support the PAL activities at different phases.

Microsoft SharePoint is a Web application platform developed by Microsoft. It is one of the Web content management and document management systems that
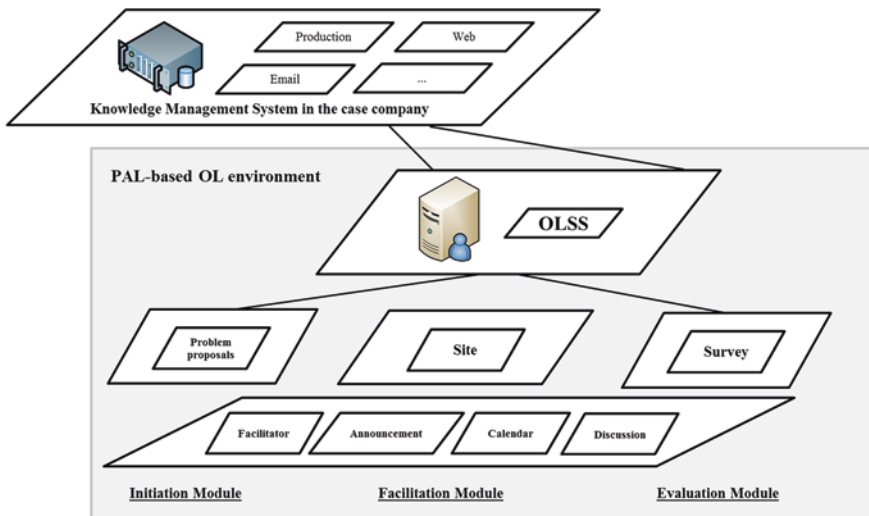
Fig. 5.7 Multi-level system modeling of the OLSS

the case company uses. The IT team of the case company can provide sufficient resources and support for the development of any new system, including the system built and used in this research.

Therefore, Microsoft SharePoint is used to build the OLSS. It is a free add-on to Microsoft Windows Server providing a Web portal with commonly needed features. This also includes a collection of Web parts that can be embedded into Web pages to provide SharePoint functionality such as dashboards, document workspaces, lists, alerts, calendar, contact lists, discussion boards, and wikis in a custom Web site. It can also offer a "fluent" ribbon user interface that should be familiar to users of Microsoft Office. This interface provides a general user interface for manipulating data, page editing ability, and the ability to add functionality to sites. This can make the user more willing to use the system as the interface is familiar to the systems they use in their daily work.

The OLSS's different modules support the needs of different PAL phases, for instance, the "Problem Proposals" sub-module in the initiation module, the "Sites" sub-module in the facilitation module, and the "Blended Evaluation" sub-module in the evaluation module. The PAL members can make use of the system modules/ sub-modules to finish the tasks during PAL implementation. They can hand in reports, store up documents, share experiment reports with others, or even perform the evaluation in the OLSS.

PAL itself includes a learning project or topic with the learning contracts as members' commitment, the project milestone as the PAL schedule, and a knowledge base to support or store the knowledge created or shared during the PAL implementation. All these PAL activities are captured by the modules of the OLSS which exist at different phases.

The OLSS is designed to provide Web-based functions to support the various activities throughout the PAL phases. The OLSS offers the participant a "living" page that evolves with the progress of the PAL process. The home of each PAL team in this OLSS is its PAL main page, which is linked to all other modules of functions of the system.

After the physical design and development of the OLSS was completed, the OLSS was put into practice to support the ongoing PAL implementation. PAL facilitators offer training courses to let the PAL participants know how to use the OLSS. Then, the participants can start to use the OLSS at different stages during the PAL process, with initiation tasks, facilitation tasks, and learning evaluation tasks within the PAL.

5.3.3 System Work Flow

The OLSS offers different functions to support the PAL-driven OL in the organization from initiation phase and facilitation phase to the evaluation phase. All the enabling and supporting functions of the OLSS are built upon the process steps of PAL.
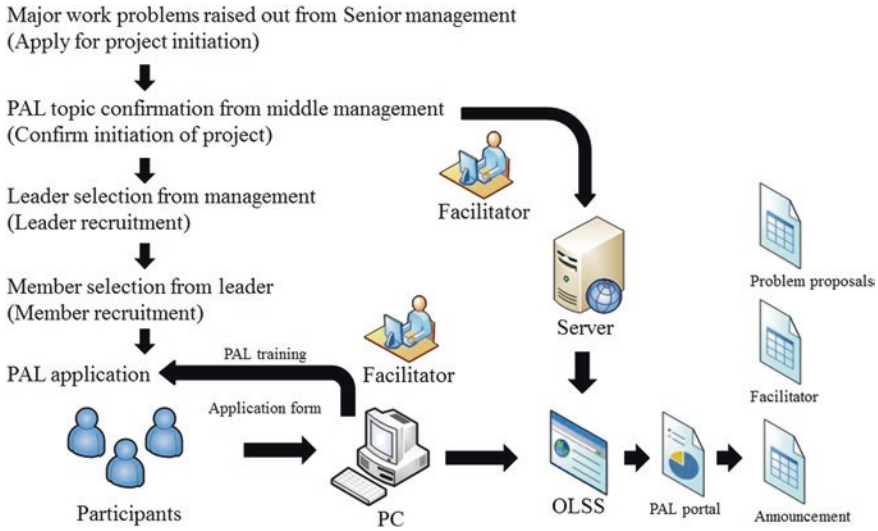
Fig. 5.8 Schematic diagram of the initiation phase (1–2 weeks)

I. Initiation Phase

Figure 5.8 is a schematic diagram of the activities involved in the initiation phase, which includes project application, approval, leader, and member recruitment. This phase is carried out in the first two weeks of the PAL implementation. Three sub-modules are used in this phase: "Problem Proposals" sub-module; "Facilitator" sub-module; and "Announcement" sub-module.

II. Facilitation Phase

With PAL approved by the management at the start of each PAL round, the PAL team starts its PAL project and enters into its PAL project and the facilitation phase. This phase usually takes about 12–14 weeks throughout a PAL cycle. Figure 5.9 shows the schematic diagram of the activities involved in the PAL facilitation phase. Five sub-modules are used in this phase: "Facilitator" sub-module; "Announcement" sub-module; "Calendar" sub-module; "Discussion" sub-module; and "Site" sub-module.

III.Evaluation Phase

Lastly is the (learning) evaluation phase: Other than the five sub-modules used in the facilitation phase, one more sub-module is also used—"Survey" sub-module. This phase usually takes up about 10 weeks of the PAL implementation. Figure 5.10 is a schematic diagram of the activities involved in the evaluation phase.

Typically, at the start of a PAL project (initiation phase), each PAL team needs to make a proposal for the permission to initiate a PAL team. The proposal includes the background of the project, the performance and learning goals that are going to

PAL scheduling
(Project briefing and planning)

Regular meeting
(Project progress and reflection meeting)

Learning evaluations
(Evaluations during project progress)

Participants

Facilitator

PC

Server

Announcement

Auto-alert function

Site

Announcement   Meeting

Discussion Document library Attendees

OLSS   PAL portal

Facilitator   Calendar

Discussion   Site

Fig. 5.9 Schematic diagram of the facilitation phase (12–14 weeks)

Progress reporting
(Report and Presentation)

Learning measurement
(Evaluation of overall performance)

System measurement
- Web analytics
- Survey

Participants

Facilitator

Facilitator

PC

Server

Announcement

Survey

OLSS   PAL portal

Facilitator   Calendar

Discussion   Site
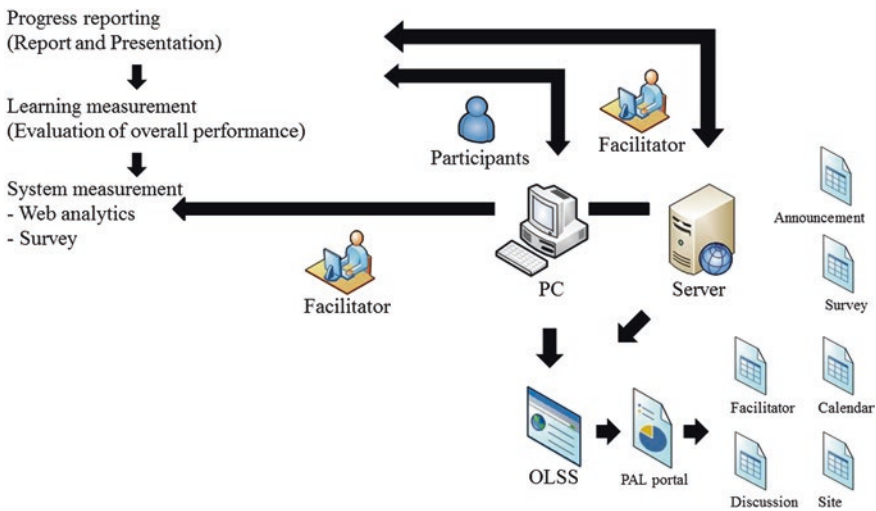
Fig. 5.10 Schematic diagram of the evaluation phase (~10 weeks)

be achieved, the selection of the members, and also the schedule of the project. Figure 5.11 shows the "Problem Proposals" sub-module that was used for the proposal application: The applicants simply upload the proposal to the system, and the management is notified by the auto-e-mail delivered by the system. The management then decides whether the applied proposal can be approved. The applicants can receive the approval letter from the system as well, indicating that the management has accepted the proposal and the PAL project can then be initiated.
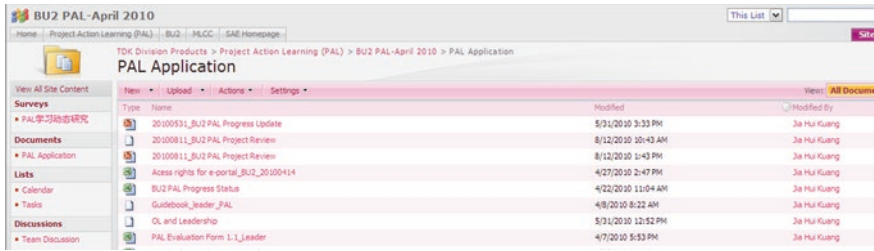
Fig. 5.11 The "Problem Proposals" sub-module of the OLSS
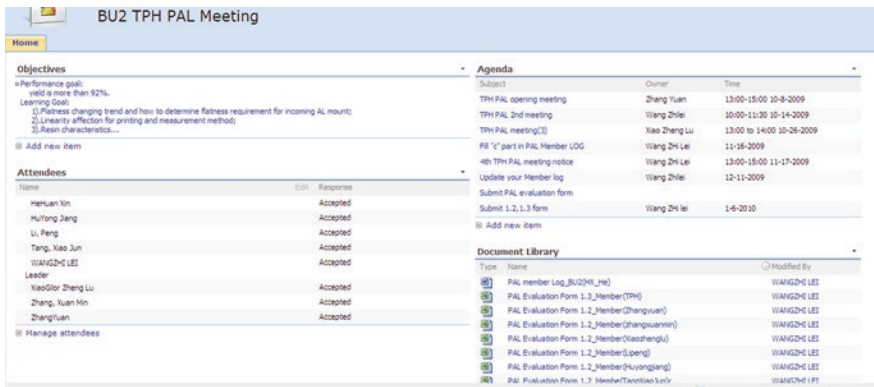
Fig. 5.12 The "Team Workspaces" sub-module of the OLSS

Figure 5.12 shows the "Team Workspaces" sub-module that each individual PAL team used to organize its own progress at the PAL facilitation phase. Each PAL team has its own team objectives (performance and learning goals), own PAL members, project meetings, and knowledge created and shared in the so-called document library. The PAL team can make use of the workspaces to make meeting announcements, store meeting agenda and minutes, and share the project or experimental reports with others. Other team members can easily be notified by the e-mails they receive through the company mailing system. Besides, each PAL team can generate its own workspace style, to fit its purpose and likelihood. Each PAL team has the right to modify its own space, in order to develop their personal interest in using the system, to visit the OLSS, and to motivate fellow team members to learn and share more through the system.

Another sub-module used in the PAL facilitation phase is "Discussion", which is an online discussion site where people can hold conversations in the form of posted messages. As shown in Fig. 5.13, each PAL team has its own discussion page, where they can raise any questions in the forum, and again, the system automatically sends an e-mail to the related parties for the newly posted topics from the forum.

Fig. 5.13 The "Discussion" sub-module of the OLSS

Besides, other members or teams can also search for the solutions of similar questions that they may face in their own projects. The discussion forum acts like another knowledge repository to provide possible information or solutions to the PAL participants.

During the PAL implementation, the PAL facilitator has significant influence over the participants' learning. The facilitator can guide the PAL team throughout the process, to make sure that the team is running on the right track. Figure 5.14 shows the PAL references or guidance provided by the PAL facilitator. The PAL team can always refer to the guidance given by the facilitator or ask for help from the facilitator in the Discussion forum that was introduced before.

During the PAL implementation, different learning assessments are used to assess the PAL progress, including self-evaluation, peer evaluation, and leader evaluation, as shown in Fig. 5.15. Surveys are also used to understand the learning circumstances of the PAL teams. The PAL members can simply click buttons on the OLSS and follow the instructions to complete the evaluations. The data are stored in the OLSS database for further analysis and elaboration, while the OLSS
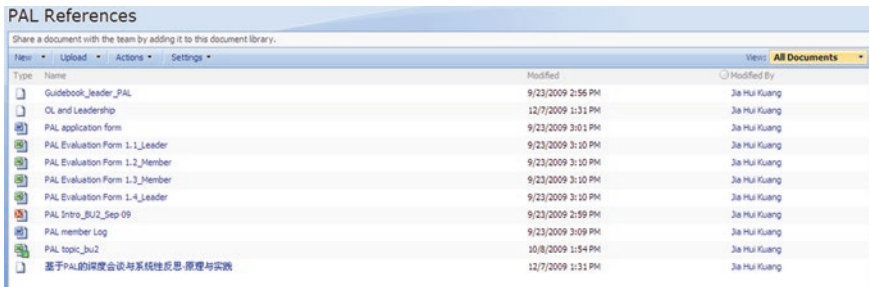
Fig. 5.14 The "Facilitator" sub-module of the OLSS

Fig. 5.15 The "Blended Evaluation" sub-module of the OLSS

can automatically generate basic summary for the responses, to give preliminary descriptions on the result.

All the system sub-modules described above contribute to the construction of a knowledge base which support the learning project. The OLSS was developed to enable the PAL participants to learn not only the intellectual learning needs stored up in the document library in the OLSS, but also the development of the social skills (by means of the Web-based discussion forum) and the personality (motivated by the self-controlled team workspaces). The OLSS was designed to help the PAL participants to achieve superior results along with personal growth in terms of higher self-confidence, openness to experience, self-respect, and respect for others and their environment.

5.3.4 System Demonstration

The OLSS was built to facilitate the implementation of PAL, aiming at addressing all three levels of learning which include intellect, social skills, and personality. Here, a case was used to demonstrate the OLSS implementation during the whole PAL process: One of the PAL rounds in BU2 (October 2010–January 2011) was used for this demonstration. Two PAL teams were involved in that period.

Three phases were involved along the PAL implementation, the initiation phase, followed by the facilitation phase and lastly by the evaluation phase. Different modules were built up to support each of the three phases, and various sub-modules were also involved in different modules.

I. Initiation Phase (Initiation Module)

The initiation phase includes the activities of PAL introductory briefing and PAL application. The "Problem proposals" sub-module inside the initiation module is used for the PAL application. All the problem proposals of a certain round of PAL are listed in this sub-module.

Firstly, senior management picks up potential topics, i.e., those topics that are all related to the real working problems. Those potential topics are then discussed

with middle management for PAL topic confirmation. After the topics are selected and confirmed, the learning facilitator puts the topic information into the OLSS for publication to the staff. The specific PAL portal for that PAL round is then built up. At the same time, the PAL team is formed, from leader selection to member recruitment. After the PAL team is formed, the learning facilitator offers PAL introductory training to the newly formed teams, including the introduction of the OLSS.

Before the official launch, each PAL team needs to fill in the application form for management approval. All the PAL information is recorded in this application form, including the performance and learning goals, member composition, and function. All these application forms are uploaded and stored inside the "Problem proposals" sub-module of the OLSS. Others can check the information or background of the individual topics via this sub-module.

The PAL training materials and other related references could be found inside the "Facilitator" sub-module. The "Facilitator" sub-module is used along the whole PAL implementation for reference. The appointed learning facilitator hosts this sub-module for the purpose of knowledge sharing. When the learning facilitator identifies any learning-related materials or information, which is worth to share with the PAL teams, he or she can thus use this sub-module space for knowledge sharing with other learners.

In addition, for any message to be informed to the participants, the learning facilitator and PAL leaders can make use of the "Announcement" sub-module for message publication. Similarly, the participants are notified by auto-e-mails. Figures 5.16 and 5.17 show snapshots of the main page of the OLSS and the PAL portal, respectively.

II. Facilitation Phase (Facilitation Module)

The facilitation phase includes the activities of PAL scheduling, regular meeting, and learning evaluations. Several sub-modules are built to support the facilitation

Fig. 5.16 Main page of the OLSS
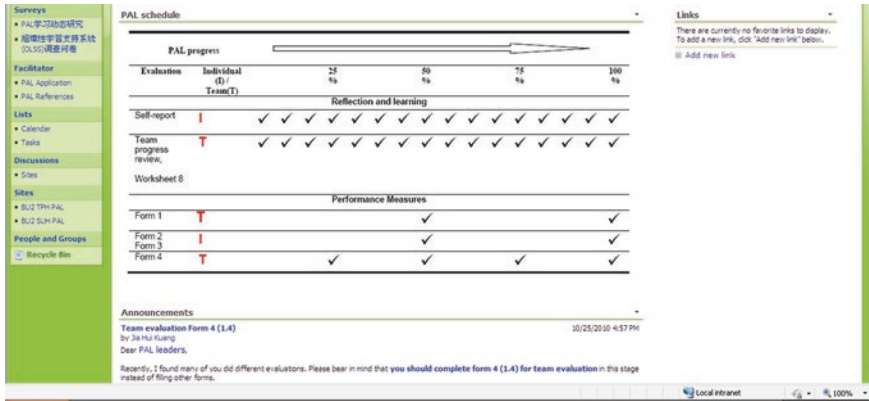
Fig. 5.17 PAL portal (October 2010–January 2011)

module. After the PAL application has been approved, the PAL teams start to hold the initiation meetings for project briefing and planning, according to the PAL time frame (around 4 months), the learning facilitator or the PAL leaders can mark down the PAL milestones in the "Calendar" sub-module, and all the important dates are marked or labeled in the calendar list, for instance, the date of the review meeting, the learning evaluation, or the close-up meeting. Besides, the "Calendar" sub-module has an auto-alert function, so the participants can be notified by e-mail of any activities marked down in the calendar beforehand.

The "Facilitator" sub-module is also presented to support the "Facilitation" phase; participants can treat it as a library for PAL information searching if necessary. When the participants want to raise any questions regarding their PAL projects, they can make use of the "Discussion" sub-module on the main screen of the PAL portal. The "Discussion" sub-module is a kind of forum that allows the PAL participants to place any questions and seek answers from other colleagues or internal experts. Others can also look for the solutions to similar questions through this sub-module, to utilize the existing knowledge and avoid making the same mistakes again.

For the team's internal facilitation, the learning facilitator establishes a site for each PAL team, the "Site" sub-module. Each PAL team has their own work-space for knowledge sharing with their own team members. Within the "Site" sub-module, there are five main sections: Announcement, Meeting, Discussion, Document library, and Attendees. PAL teams have their own rights to manage their own workspaces, which can enhance their personality and eventually attract them to use the workspace more for team communication interaction and knowledge sharing. The PAL members can make announcements to their own members on upcoming events or meetings in the Announcement section. They can upload the meeting agenda and minutes in the Meeting section. A Discussion section is also provided for internal team discussion. Members can use the Document library sec-tion to store any reports for knowledge sharing, and the learning evaluations are also stored in this section. An auto-alert function exists in all these sections by linking to the Attendees section. All members listed up in the Attendees section

Fig. 5.18 The "Calendar" sub-module
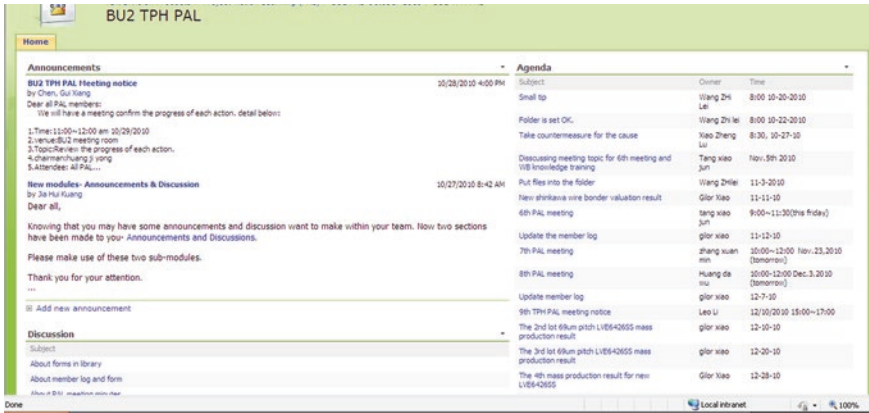
Fig. 5.19 The "Site" sub-module

receive auto-e-mails on any changes in the above four sections. Therefore, the PAL teams can make use of the "Site" sub-module to manage their project progress and reflection meeting, performing evaluations during project progress. When they need help, they can refer to the references in the "Facilitator" sub-module inside the PAL portal of the OLSS or they can raise any questions to the learning facilitator or internal experts when necessary. Figures 5.18 and 5.19 show snapshots of the "Calendar" sub-module and the "Site" sub-module, respectively.

III. Evaluation Phase (Evaluation Module)

The evaluation phase includes the activities of progress reporting, learning measurement, and OLSS evaluation. Similarly, participants can report on PAL progress and learning measurement to the "Site" sub-module. They can upload

the working reports and presentations in the Document library section inside their team workspaces. The learning evaluation forms can be obtained from the "Facilitator" sub-module, and they can upload the completed evaluations to the Document library section inside the "Site" sub-module.

In order to understand the performance of the OLSS, a "Survey" sub-module was developed. The questionnaire was made in an electronic format inside the "Survey" sub-module. Participants are notified by e-mail to complete the survey within a certain time frame.

The OLSS usage can be obtained from the site usage report which is generated automatically from the login information of the users in the system. Figures 5.20 and 5.21 show snapshots of the "Survey" sub-module and the Site usage report, respectively.
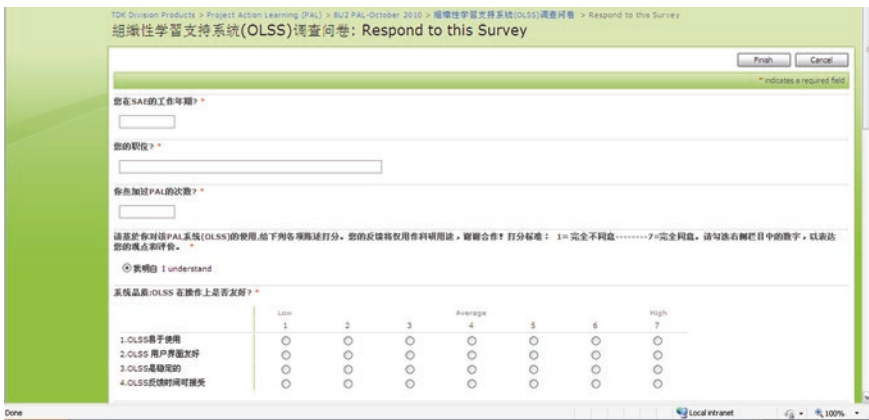
Fig. 5.20 The "Survey" sub-module
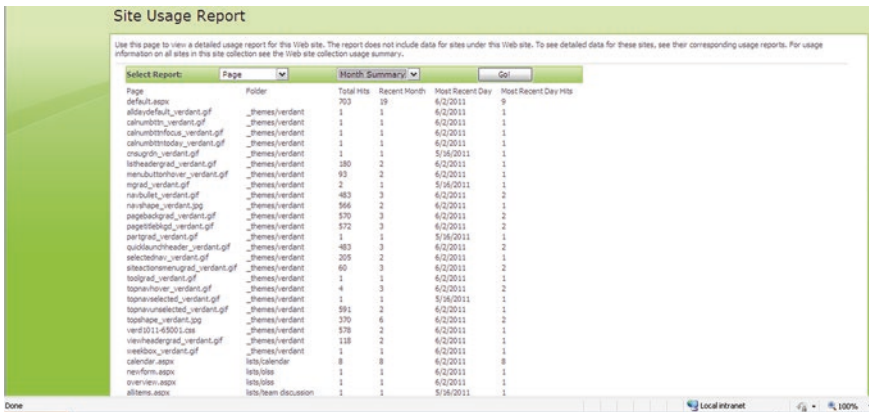
Fig. 5.21 The Site usage report for the OLSS
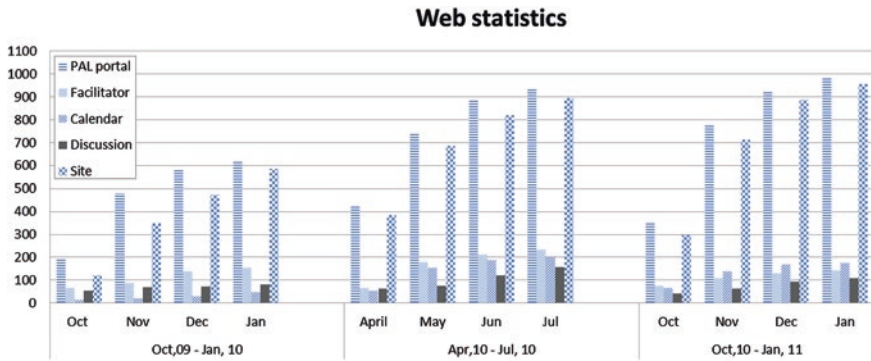
Fig. 5.22 Web statistics for OLSS usage

The learning facilitator collected the site usage data each month during the PAL implementation. As each PAL cycle usually lasts for around four months, there were around four data collection points all over a single PAL cycle.

In Fig. 5.22, the top five sites that the PAL participants used are listed, and it can be seen that the Web usage increased over the PAL cycles, from 600 hits to around 1000 hits. The participants became more familiar with the OLSS and willing to use the system for sharing, discussion, and communication. In general, they tended to use more of their own sites, as they had the freedom to manipulate the site based on their own interest. They could develop their own personality using the site function that eventually builds up the ownership for site maintenance and usage. They felt secure about using the OLSS for learning and sharing.

On the whole, the OLSS comprises three modules: the initiation module, the facilitation module, and the evaluation module. Different sub-modules are included to facilitate the PAL implementation. The OLSS aims to raise not only the intellectual level of the PAL participants via the document repository, but also social skills (by internal/external discussions) and personality (by personalized workspaces).

From building up an OLSS on the process of system design, implementation, and evaluation, it was expected that the PAL implementation would become more smooth and effective. The whole learning progress of the PAL was documented and captured by the use of the OLSS, including the working reports, project knowledge, discussion issues, meeting reports, learning, and system evaluations. All related PAL knowledge was centralized in the OLSS so that all participants could get the most updated and comprehensive information on their own. As the PAL knowledge base was gradually built up, more valuable knowledge can be retrieved. Others can search for corresponding solutions easily when similar problems appear again.

Other than the intellectual level of the individuals being built up, the opportunity for discussion in the OLSS provides a medium for participants to exchange ideas at anytime and anywhere. The discussion result is also useful to others with

similar problems. Though face-to-face interaction is still important for the discussion, online Web discussions are also beneficial to participants, especially for those who are not willing to express themselves so often. On the other hand, with the participation of superiors, PAL participants are willing to join in and express more in the OLSS discussion room. This directly motivates participants to learn more during discussions with other members. Social skills (social and teamwork ability) can also be built up at the same time.

Ownership is important and necessary to keep participants using the OLSS. The personalized feature from the Site sub-module gives an opportunity to let PAL participants change the layout settings to suit their needs, including the color, appearance, font size, and folder management. Participants are attracted to use the OLSS more as they find it is easy and more suitable for their own use. The learning atmosphere or climate can be enhanced with more people willing to use the OLSS, with personalized features. They are willing to accept more and become less reluctant to use the OLSS than the conventional style of project implementation process. Meanwhile, the personality of the individual is enhanced.

After the intellectual level of individuals is enhanced, with social skills developed through face-to-face and online discussion with peers, their motivation toward individual learning is also enhanced. When PAL participants are willing to share their knowledge with others, with the help of the OLSS, through consecutive PAL cycles, the organization will start to transform into a state of LO.

5.4 The Roles of Facilitators

As mentioned in Chap. 4, one of the four pillars that enable the PAL vehicle to perform is OL facilitation. This section will drill down this pillar to discuss about the definition of OL facilitation and facilitator, why such a role is needed, and how to assume this in real working environment, and by whom.

5.4.1 Toward a Definition of OL Facilitation and Facilitator

Facilitation is often used when a group encounters some issues or situations that it cannot easily handle on its own. Facilitated groups in general are found to be better at generating ideas, breaking deadlocks, and involving people, thereby gaining greater commitment to course of action and team building (Esther 2005). Different researchers have examined the roles of facilitators in different group work settings. Fox example, Havergal and Edmonstone (1999) studied how a facilitator helps a team to work together in a collaborative way by focusing on the mechanics and process of how the team's participants work together. Heron (1999) found that a facilitator should give clear notion of empowering and supporting participants to interact, collaborate as well as develop and learn in the action or experiential

learning group. Additionally, the roles of facilitator may also include enabling reflective dialogue (Senge 1990a, b; Isaacs 1999), helping participants to recognize and understand their defensive behaviors and actions (Argyris 1999), managing the dynamic of the group, and maintaining it in positive forms (Esther 2005).

So, what are the roles of facilitators in OL setting? Taking the PAL-driven OL as an example, Law and Chuah (2004a, b)'s earlier field study in the case company has found the need for the OL facilitation outside the PAL team membership. Indeed, the original Learning Organization Facilitating Team (LOFT) is one of the four supporting pillars of PAL-based OL practice and mainly plays the roles of PAL process administrator and resources coordinator. They are PAL-driven OL facilitators. The responsibilities of LOFT include informing PAL teams to follow the stipulated learning process, managing PAL-related documents and information, coordinating training resources for PAL teams, responding to members' inquiries related to the PAL process, and acting as a liaison office between senior management and PAL teams.

However, the OL problems/barriers observed during the preliminary field research clearly indicated that further research is still needed to re-examine the roles of PAL facilitators in the OL setting that was becoming much harsher and more uncertain than the environment in which PAL was founded. To find out what was wrong exactly, a field research was conducted in late 2008 during which we interviewed 29 PAL stakeholders and observed (non-intrusively) the weekly PAL review meetings of five PAL teams. The following difficulties were observed and reported.

First, the feedback from PAL members across different PAL teams revealed a growing common perception that PAL participation was an additional workload rather than an opportunity for learning and self-development, or in other words, they were doing this for the sake of management's instructions. This empirical evidence supports the following findings that in many organizations, a chasm exists between the company's needs for continuous learning and improvement and the motivation and readiness for the work-based learning of its employees (Cummings and Worley 2005); learning is usually driven by political forces outside the group, and commitment of the team members is poor (Marquardt 1999); not everyone is a self-motivated natural learner (Smith 1999). This situation deteriorates after organizational restructuring. Heckscher's (1995) work suggests that many middle managers respond to downsizing by isolating themselves and narrowing their focus to their own jobs, dwelling on the past, and ignoring opportunities to learn about issues involving the entire organization or its customers.

Second, some aggressive or defensive behaviors such as arguing or even quarreling with each other or clamming up were observed during the PAL review meetings. This was further supported by some PAL team leaders' negative feedback regarding the states of communication and learning reflection in their teams. With the absence of open and honest communication, the PAL teams would never approach the root causes of their problems by themselves. This in turn reduced their self- and team learning effectiveness. These findings are consistent with Argyris (1982) contention that organizational defensive routines are ubiquitous and anti-learning.

To put it simply, the first problem is more concerned with the insufficient motivation and initiatives of organizational members for PAL participation, whereas the second is closely related to PAL participants' lack of self- and team learning capabilities. These two problems/barriers embedded in most OL implementation are systematic problems caused by the interaction and influence of a wide range of organizational, managerial, and environmental factors.

The previous LOFT mainly played a rather passive housekeeping role of ensuring that the mechanics of the PAL process had been followed. This seems to be inadequate to redress the tough OL environment. The lack of learning motivation and the emergence of aggressive/defensive behavior in the face of conflicts compounded superficial learning outcomes. A more proactive and engaging PAL facilitation process is thus needed.

5.4.2 Roles of PAL Facilitators

To overcome the PAL implementation difficulties, it is envisaged that the OL facilitation process should extend beyond the passive administration and coordination roles and incorporate the more proactive functions of boosting the learning motivation of PAL participants, improving PAL team communication, and enabling deep learning of PAL teams. The facilitators with their new and extended roles can be viewed as lubricant and catalyst in the PAL-driven OL.

To put it another way, the extended roles of PAL facilitators make them both "learning motivation reinforcers" and "team learning effecters." PAL facilitators need to enhance PAL participants' motivation, involvement, and commitment toward their respective PAL projects through extensive communication. Meanwhile, they need to act as a proactive enabler of teams' in-depth dialogue and critical reflection that will effect PAL team learning. These two extended roles are needed to help PAL participants to

- Identify the focus and value of their PAL project
- Reflect on and build up their positive attitudes toward PAL
- Resolve team conflicts and reduce aggressive/defensive behavior by using dialogue
- Achieve deeper learning in their PAL project through facilitated team reflection.

5.4.3 A Practical PAL Facilitation Model

The extended roles of PAL facilitators eventually need to be achieved through a series of periodic or timely "interventions." The interventions mentioned here are mainly designed for facilitators to intervene in the learning process of PAL teams so as to enhance the teams' learning dynamics, capabilities, and effectiveness. A
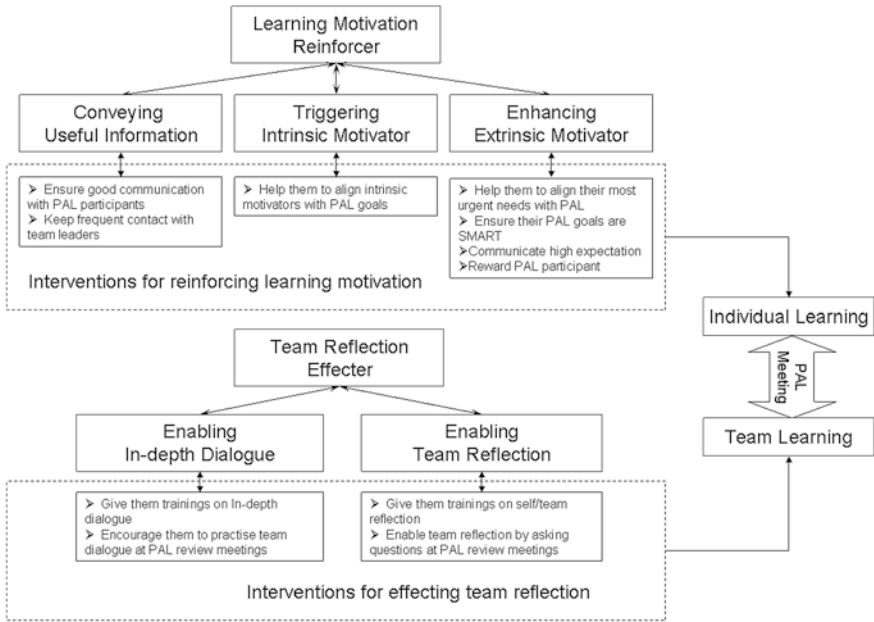
Fig. 5.23 A PAL facilitation model for PAL-driven OL

practical PAL facilitation model summarizes the relevant interventions as below (see Fig. 5.23). The following sections will discuss how these interventions are developed.

5.4.4 Learning Motivation Reinforcer

As mentioned earlier, the original LOFT was designed to mainly take up administrative and housekeeping roles of ensuring that the PAL process had been followed. Findings from the preliminary field research indicated that these are quite inadequate to cope with the unexpected change of organizational setting. Although the PAL teams are able to deliver their project objectives, staff's insufficient motivation to be actively engaged in learning had led to little or superficial individual and team learning outcomes. A more proactive and engaging OL facilitation process is needed to redress the situation.

To steer the PAL implementation onto the desired track, PAL facilitators need to shoulder the extra role of enhancing employees' learning motivation. They should step beyond the housekeeping roles of the old LOFT and play an active role to help the PAL teams and members to achieve higher levels of performance and learning. In other words, they need to be actively communicating with PAL teams, sustaining their momentum, and coaching them to learn, capture, and share their learned knowledge throughout the PAL process. In this regard, we see the

facilitators as "learning motivation reinforcers." This new role will be achieved through a series of "interventions."

The mainstream motivation theories, i.e., expectancy theory (Vroom 1964), goal setting theory (Locke 1968; Robbins 2000), needs theories (Maslow 1943; McClelland 1961; Alderfer 1972; Reiss 2000, 2004), and those in relation to human belief and attitude, social influence, and cognitive process (Fishbein and Ajzen 1975; Venkatesh and Davis, 2000; Kilbourne and Pipher 2000; Hoffer 2002), together with our practical experience in PAL implementation, form the basis to develop the interventions to reinforce the learning motivation of PAL members. Basically, each of the interventions aims to reinforce one of the contributing factors of learning motivation. Details of the interventions are discussed below.

5.4.4.1 Communicate Management Support for PAL Implementation

This intervention involves the behavior of facilitators to convey PAL participants the messages from management about the company's situation and the relevant OL strategy, including its purposes, activity plans, and past achievements. Management supports and expectations for PAL implementation must be clearly communicated and reinforced to PAL participants to mentally construct their attitudes toward PAL. Attitude is "a learned predisposition to response in a consistently favorable or unfavorable manner with respect to a given object" (Fishbein and Ajzen 1975). Supports and expectations for certain courses of action, especially those perceived to be from important persons, are potentially potent external forces to a person which can be translated into his/her favorable beliefs, attitudes, and behavioral intention regarding that courses of action. Management is arguably important figures in their organizations. Hence, their messages for and expectations on certain organization-wide strategies or activities, like PAL-driven OL, can naturally drive their staff to move in that direction. "Expect more and you will get more. High expectations are important for everyone, for the poorly prepared, for those unwilling to exert themselves, and for the bright and well-motivated" (Chickering and Gamson 1987). The social influence theories of compliance and internalization (Venkatesh and Davis 2000) explain the causal mechanisms behind.

5.4.4.2 Communicate Principles and Values of PAL Implementation

Sufficient trainings on the principles of PAL process, action learning, and team learning must be offered to participants. Through the trainings and communication, facilitators should let PAL participants comprehend PAL's values and potential benefits to individuals and gradually internalize positive attitudes toward PAL participation. In addition, facilitators need to respond to PAL participants' doubts and worries about exerting efforts to the relevant activities and enhance their conviction toward PAL. "An effective communication program can minimize the uncertainty and fear of the unknown associated with change" and "the lack of reliable information

leads to rumors and uncertainty" (Brown and Harvey 2006). The effectiveness of the training rests with the dialogue between facilitators and PAL participants. It is through such dialogue that facilitators could help PAL participants to better identify and align their intrinsic needs and desires, such as needs for achievement and recognition, for growth and development, with the performance and learning goals of their respective PAL projects. More importantly, facilitators should let PAL participants believe that their engagement and efforts will eventually develop them to become more valuable and well-rounded individuals to the organization. The recognition of the value and benefits of PAL would encourage them to see PAL participation not as something that "we have to do" but rather something "we need."

5.4.4.3 Act as Role Models

This intervention requires both PAL team leaders and facilitators to actively be involved in PAL implementation to coach and encourage PAL members to learn and develop themselves throughout the PAL process. Moreover, facilitators should keep frequent contact with PAL team leaders and members to reinforce their conviction toward the PAL projects, thereby arousing their intent to be actively involved. Lessons could be learned from similar interventions for enhancing learning motivation (Chickering and Gamson 1987). Here, we emphasize that PAL facilitators should have active contact with PAL members and help them to get through tough times and maintain the PAL project activities and momentum. It is all about being there with them to explore and resolve problems rather than letting them feel that they are supervised or monitored.

The communication can take different forms, such as face-to-face conversation, phone calls, or e-mails, while the content may cover project progress, difficulties encountered, helps needed, encouragements, helpful guidance and suggestions, latest developments, and so on. Through these contacts and interactions, a facilitator can gradually build up credibility and gain acceptance.

5.4.4.4 Relate PAL to Job Demands

Facilitators should help potential PAL participants to identify their needs or problems at work and encourage them to form PAL teams to resolve the identified issues. There is great advantage to be had if PAL projects are able to help meet urgent needs at work. If a PAL project is capable of supporting its members to overcome work-related challenges and improve their performance, they will very likely perceive its participation as useful and raise the intention to be actively involved. For example, if a batch of new products frequently suffers from quality problems, complaints from client and criticisms from higher-level management will be inevitable and a serious blow to the production team. In this case, a PAL facilitator can encourage the production team to set up a PAL project to learn from the process of handling the quality issue. The PAL facilitator must be equipped with the skills to ask probing questions to get the PAL participants to identify their demands and challenges on their jobs and distinguish between their "must do's" and "nice to do's."

5.4.4.5 Develop "Smart" Learning Goals for PAL Members

Facilitators must ensure that PAL members' learning goals are "SMART" enough. Here, "SMART," the well-known recipe for effective action planning, stands for specific learning objectives, measurable checkpoints, achievable targets, relevant to job demands, and to be achieved in a specific time frame. The mechanism of goal setting theory (Locke 1968; Robbins 2000) underpins this intervention. Facilitators must help PAL participants recognize the importance of their goals being "SMART" and ensure that they find the right ways to be really "SMART." To achieve this in practice, facilitators should ask participants simple yet probing questions that help to decompose their learning goals into specific milestone objectives that are clear and measurable. The facilitator can then help the PAL team to translate these measurable objectives into meaningful evaluation rubrics. Once agreed, the rubrics will be used by themselves as well as their managers to assess their efforts and contributions. Meanwhile, the facilitator also helps the team to develop their action plans in line with the "SMART" objectives.

5.4.4.6 Encourage PAL Participants with Material Rewards from Top Management

In general, staffs at operational level are more sensitive to immediate material rewards. To provide contingent material rewards is a quick-acting stimulus to spur many staff's involvement in PAL projects. Again, past research shows that "once PAL related evaluation has been included as part of the staff's overall performance measurement, PAL gradually but surely becomes accepted as part of the organization's practice and culture" (Kwong et al. 2006). The PAL facilitation should help to publicize the "attraction" of such rewards to the right audience.

5.4.5 Team Learning Effecter

5.4.5.1 Provide Trainings on Team in-Depth Dialogue

This intervention aims to impart the knowledge of in-depth dialogue and how it can be used effectively to resolve conflicts, overcome defensive routines, and improve the quality of collective thinking and communication (Senge 1990a, b; Isaacs 1999; Burson 2002). Isaacs (1999) particularly pointed out that in-depth dialogue is the creation of common meaning through an interactive process of active listening, respectful exploring of assumptions and differences, and building a context for thinking together. It is "a conversation with a center, no sides." In-depth dialogue allows its participants to share and weave together individual pieces of mental images and meanings regarding a topic to form a holistic view of the underlying entire system. Through in-depth dialogue, personal assumptions and mental/reasoning models are made more visible and intelligible so

that collaborative inquiry into their causes can emerge (Isaacs 1999), which in turn leads to generative learning and systematical conflict/problem resolution. Facilitators can tap into such communication skills to intervene deadlocks in PAL teams, create an atmosphere of rationally exploring those sensitive, focal issues, and gradually instill the mind-set of team in-depth dialogue. Such skills will enable PAL team members acquire the built-in capability to look for more constructive solutions to deal with conflicts/problems in their respective PAL projects.

5.4.5.2 Use of Team in-Depth Dialogue

To enable in-depth dialogue in a PAL team, a facilitator should first shape the communication style of the team by establishing the ground rules for in-depth dialogue (see Table 5.4). The facilitator should explain the meanings of the rules to both the team leader and members and get their agreement and contract to follow the rules throughout PAL meetings. By and large, the "ground rules" require participants to suspend their judgments, question their own assumptions, open themselves to others' views and interpretations (Schein 1992), encourage different voices and uncertainties, and more importantly view conflicts or problems as learning opportunities.

Secondly, the facilitator should be vigilant about the subtle changes of PAL members' tones, words, emotions, and behaviors during team discussion. Feelings of safety and trust are crucial for participants, especially lower-rank staff, to express freely their views and ideas. To achieve this, the facilitator must convince the one with the highest rank in the team to show genuine respect to different views. As team members bring their differences to the open, disagreements or disputes will build up the tensions between different sides. Instability of emotions, feelings, and behavior could produce sufficient discomfort or even polarization to jeopardize the process of building the common ground on which people think and talk together. In this case, the facilitator could have two strategies: (1) He or she could deliberately steer the team toward the safer territory of controlled and purposeful discussion or redirect the focus on a specific issue away from the "sore

Table 5.4 Ground rules for PAL meetings

Ground rules for PAL meetings
Treat each other as comrades, regardless of rank
Listen to the whole story and participate within the whole, not pieces
Suspend reaction and judgment until you understand
Inquire if you do not understand
Speak out your views, inference, and assumptions
Question your own views, inferences, and assumptions based on the comments from others
Focus on the matter at issue, and take away the human dimension
Stick to using objective criteria
Strive to look for win-win solutions
Do not argue with each other
Be honest, open, and respectful

spots" (Burson 2002). (2) It will be helpful for the facilitator to act like a container to hold the pressures and prevent things from becoming "too hot" (Isaacs 1999). The facilitator could try to stress the common grounds and objectives shared by the different sides, help them to suspend or tone down their outbursts, and identify the alternatives open to them. The tensions can be eased by giving the sides time and space to reflect on their own assumptions and rules, asking them to elaborate their views in a respectful way, and enquiring about their doubts, anxieties, and worries.

Thirdly, while the facilitator can get things moving, he or she must move out of the position of control so that the awareness of the process is owned and shared by everyone (Isaacs 1999). Facilitators wishing to apply dialogue skills in facilitation process will benefit from participating in conversations in which they can themselves work with the building blocks of dialogue theory (Burson 2002). The facilitator can take the advantage of social learning by acting as a role model for team members. He or she should be actively involved, detect ambiguities and deadlocks in the conversation, ask clarifying or probing questions as needed, describe the situation of the dialogue, and summarize the key points that emerged from previous conversation, with the purpose of driving things toward mutual agreement. Besides, team members will be motivated to join in the dialogue, if the team leader takes a lead to reflect on and surface one's own assumptions, inferences, and behaviors.

Fourthly, encouragements and positive feedback, such as encouragement, expression of understanding, smiles, eye contact, and elaborating enquiries, should be given to those practising dialogue skills, such as respectful exploration of others' assumptions and inferences, balancing advocacy with inquiry, making one's own thinking visible, recalling and pondering one's past behaviors, or reflecting on one's thoughts and mistakes.

Last but not least, the facilitator can supplement these with the tools from action science such as "the left-hand column" and "the ladder of inference" (Argyris 1999). They are of most value when a facilitator works with a particular group over time (Burson 2002). Using these tools in the context of PAL meetings will help the team members to understand the mechanisms of their defensive routines. The facilitator should encourage the members to detect and overcome their own defensive routines in group discussion, as they are over protective and anti-learning.

Figure 5.24 gives a diagrammatic view of how the proposed "dialogic interventions" can be introduced into the PAL-driven OL setting typically during PAL review meetings to enable the in-depth dialogue of each PAL team.

5.4.5.3 Provide Training on Team Reflection

This intervention helps PAL members to understand the notion, significance, and method of reflection as an important on-the-job learning approach, which allows them to recap, share, and internalize what they have learned during their PAL projects. Researchers have developed different theoretical models to address the approaches for achieving the critical element in reflection. Mezirow (1991) distinguished three types of reflection based on the object of the reflection itself.

Enabling In-depth Dialogue in PAL Teams

When seeing the need for in-depth dialogue (e.g. to resolve conflicts, reduce defense), a facilitator should conduct training or dialogue sessions to impart the concept and skills of in-**depth dialogue to** the people involved.

Build the Knowledge Base for In-depth Dialogue

Trigger & Objective

Dialogic Interventions

Manage Team Dynamics to achieve In-depth Dialogue

To enable an in-depth dialogue, the facilitator needs to shape the communication style in the team at the very beginning.

Communicate dialogic ground rules to team members; carefully explain the rules to make them understand; get team members' agreement and contract to practice the rules in the subsequent team dialogue.

Detect and manage the tensions (e.g. aggressive or defensive tones, words, behaviors, polarization etc) generated by failures to achieve agreements or feelings of insecurity.

Moderate the tensions or conflicts; ask participants to suspend or tone down their outbursts and identify alternatives open to them; show genuine respect to different views and interests; stress the common grounds and objectives of the team.

Detect ambiguities and deadlocks in the in-depth dialogue; drive things toward mutual agreement.

Join in the in-depth dialogue and practice dialogic behaviors; ask probing and clarifying questions as needed; restate the situation of the in-depth dialogue; summarize the key points that emerged from previous conversation; act as role models for the other members.

In-depth Dialogue in PAL Teams

Encourage team members to join in the in-depth dialogue.

Give positive feedbacks to those actively involved in the dialogue (e.g. exposure of one's innermost views, respectful exploration of others' assumptions, reflection about one's own thoughts and behaviors).

Encourage team members to resolve their own defensive routines in the in-depth dialogue.

Use the tools of action science, i.e. the left-hand column and the ladder of inference, to explain the mechanism of self-defensive routines; ask them to be careful about their own defensive routines, as they are over protective and anti-learning.

Fig. 5.24 Enabling in-depth dialogue in PAL teams

Content reflection refers to the process of reviewing the way we have consciously analyzed and resolved a problem, whereas process reflection entails an examination of how we go about solving problems in the light of the procedures and assumptions in use. In premise reflection, we question the very questions we have been asking to challenge the fundamental beliefs and assumptions. On the other hand, Hatton and Smith (1995) proposed a four-layer reflection model to describe the conscious process toward critical reflection. In this model, descriptive writing, as the lowest level of reflection, refers to detailed descriptions about what has happened. Then, descriptive reflection involves independent interpretation and analysis of causal mechanisms between behavior and consequences.

Dialogic reflection that incorporates collective attributes requires practitioners to honestly share their reflection about events with others that are involved to achieve the so-called public reflection (Raelin 2001). Finally, in critical reflection, practitioners overtly question their deeply held assumptions, premises, and norms regarding the way they work and solve problems in a wider organizational and social context. It is not hard to see that these models are virtually in line with each other. They just stage reflection processes differently. For example, content reflection is closely associated with both descriptive writing and descriptive reflection.

Process reflection is similar to dialogic reflection, whereas premise reflection involves the characteristics of both dialogic reflection and critical reflection. In

Table 5.5 PAL reflection framework

Reflection level	Relevant PAL themes	Reflection outcomes by asking questions
Level one	Progress review	Recall their PAL topic
		Recall their project performance and learning goals
		Describe their project status quo and the problems
		Describe their current methodology and action plan
		Describe their project progress
Level two	Problem investigation	Interpret the problem
		Explain the methodology used for problem analysis
		Reflect on possible individual mistakes
		Analyze the problem from individuals' perspective
		Interpret and integrate different views, and rethink the causes of the problem systematically
Level three	Problem resolution	Propose and explain possible solutions
		Identify the relevant requirements for competence and resources
		Select the most viable solution
		Construct the action plan
Level four	Project debriefing	Evaluate their project progress or the contributions to both department and organization with concrete evidence
		Evaluate both individual and team learning progresses or achievements with concrete evidence
		Fine-tune PAL goals if needed
		Highlight needs for improvement and future application

this study, we choose to adopt the model from Hatton and Smith (1995) which has been widely used in the field of professional development. For each level of reflection proposed in the model, corresponding PAL-related themes are put forward. The themes for reflection include progress review (descriptions of PAL objectives and project progress), problem investigation (analysis and inquiries of the problem), problem resolution (development of solutions), and project debriefing (generalization and extrapolation of gains). More detailed items are listed in the following Table 5.5 to elaborate the intended reflection outcomes of each level. The training covers all of these.

5.4.5.4 Encourage the use of Team Reflection in PAL Teams

This intervention enables PAL participants to evaluate their project progress and review their learning and capabilities in a structured way by asking them a series of probing and reflective questions. Facilitators or team leaders design the questions with the intention of making PAL participants achieve the reflection outcomes of each level mentioned above. PAL teams are encouraged to explore the answers to these questions through the balanced use of both open discussion and in-depth dialogue, which is facilitated by the facilitator. The whole reflection process is illustrated in Fig. 5.25.

PAL Reflection Flow Chart
Conducted by facilitator or team leader
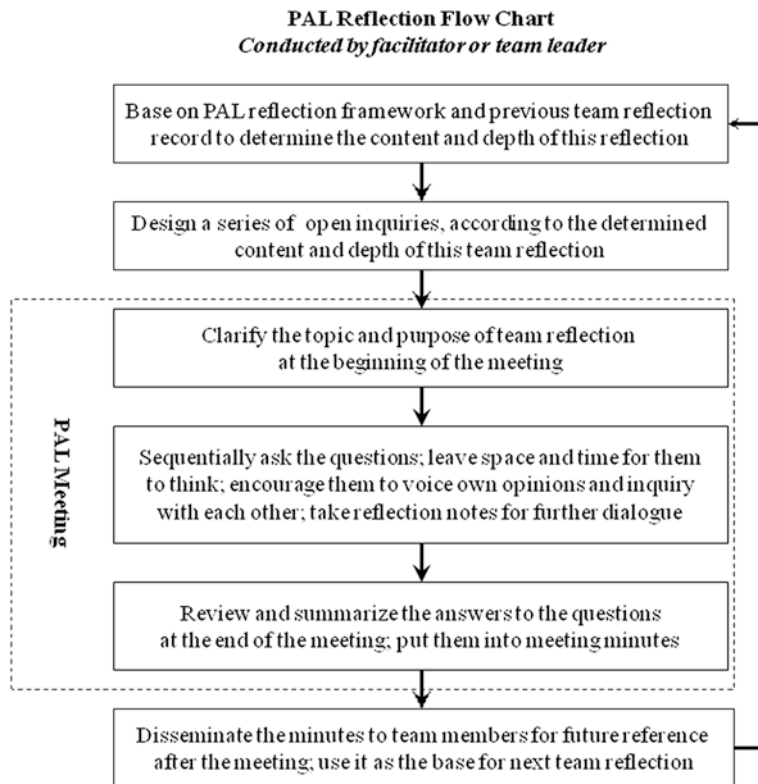
Fig. 5.25 PAL reflection flowchart

5.4.6 Implementation of the PAL Facilitation Model

As a crucial part of this longitudinal study, the implementation of the PAL facilitation model can be divided into three stages, including the pilot test during the preliminary field research, the first round of implementation, and the second round of implementation. Each stage of model implementation was designed and undertaken to achieve different phased objectives for this study. The general schedule and information about the three rounds of model implementation are summarized in Table 5.6.

More details about these rounds of implementation can be found elsewhere (Cao 2011).

The facilitation of OL is different from the facilitation of general group or action learning situations in terms of facilitation context, objectives, and interventions. To put it simply, OL implementation could face the challenges of inadequate learning motivation and poor individual/collective learning capabilities. These barriers become more prominent in organizational setting. Table 5.7 summarizes the uniqueness and contributions of this OL facilitation study.

Table 5.6 General schedule for PAL facilitation model implementation

Rounds	Period	Participants	Phased objectives	Achievements
Pilot test during preliminary field research	Nov 2008–Jan 2009	Five PAL teams participated in this round of implementation. A total of 35 usable paired responses were collected at the start and the end of PAL implementation, respectively	• Test the feasibility of the initially hypothesized PAL facilitation model • Preliminarily examine the effectiveness of the PAL facilitation model • Further develop the facilitation model based on feedback from participants	• Introduced the facilitation model to two PAL teams • Developed an instrument to evaluate the status of PAL implementation • Got promising evidence of the effectiveness of the proposed interventions • Identified the major barriers to introducing the facilitation model
The first round of PAL facilitation model implementation	Sep 2009–Nov 2009	Ten PAL teams were involved in this round of implementation. A total of 68 usable paired responses were collected at the start and the end of PAL implementation, respectively	• Implement the further developed facilitation model to seek consistent evidence • Examine the effectiveness of the PAL facilitation model with a larger scale of samples • Refine the PAL implementation status evaluation instrument based on the larger data set	• Performed a control group study • Further developed the components of the PAL facilitation model and refined the process of introducing the model • Got consistent evidence that gave support to the effectiveness of the facilitation model • Refined the structure and statements of the PAL status evaluation instrument
The second round of PAL facilitation model implementation	Apr 2010–Mar 2011	A wider range of PAL teams were involved in this round of implementation. A total of 95 usable responses were collected during this period of study	• Implement the streamlined facilitation model to a even larger scale of samples • Examine the causal mechanisms between the proposed facilitation interventions and the status of PAL implementation	• Developed an instrument to evaluate the status of PAL facilitation • Got results that statistically supported the casual relationships between the facilitation interventions and PAL implementation status

Table 5.7 The uniqueness and contributions of PAL-driven OL facilitation

Contributions to OL facilitation field	General group facilitation	Action learning facilitation	Facilitation of PAL-driven OL implementation
Facilitation of OL implementation	Facilitate groups to achieve group functions and goals in general group situations, but ineffective in dealing with OL barriers	Facilitate action learning groups to achieve problem solving and learning in general action learning setting, but ineffective in dealing with OL barriers	Demonstrate that OL facilitators can play more proactive roles of LMR and TLE to deal with the OL barriers and enhance the effectiveness of OL implementation
Assessment of facilitation	Only qualitative evaluation	Only qualitative evaluation	Both qualitative and quantitative evaluations
Theoretical development	Propose experiential models (without examination of causal relationships)	Propose experiential models (without examination of causal relationships)	Propose empirical and quantitative model (with examination of causal relationships)

A Problem Driven OL Facilitation Approach
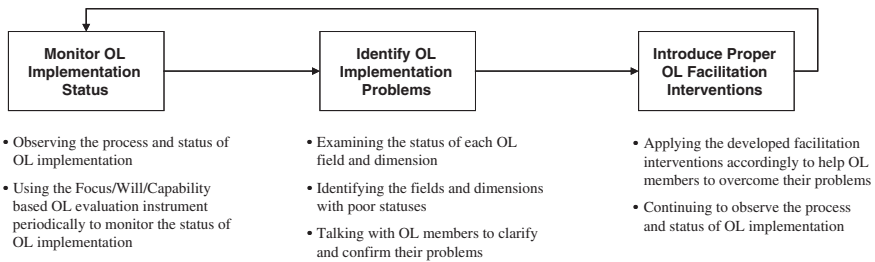
Fig. 5.26   Problem-driven OL facilitation approach

Furthermore, the OL facilitation model has its practical value. It can be applied through a problem-driven approach (see Fig. 5.26), which has been empirically tested in the case company. The results indicate that the proposed roles and facilitation interventions positively influence OL members' learning motivation and team learning capabilities.

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Chapter 6
PAL as the OL Approach, Not a Myth

Kris M.Y. Law and Kong Bieng Chuah

Abstract Organizational learning has been a terminology for long time as one of the organizational development initiatives. It has been widely referred and studied; however, there are still two main schools arguing whether OL should be of the organizational studies or knowledge management. In this book, OL is elaborated as a continuous process, the DELO (Chap. 3), encompassing all four dimensions of driving, enabling, learning and outcome. The project action learning (PAL) is not a myth, and it was designed to take the individuals through systematic stages of project and action learning, while providing PAL members guidance and facilitation. The PAL implementation is an evolutionary process of creating a supportive learning environment through team-based predefined practical project undertakings. In addition, a long-term organizational learning strategy is put forward and the necessary supporting infrastructure, in the form of four "PAL Pillars", is described. Particularly, the performance management and the supporting infrastructure OLSS are highlighted. The book is not solely a documentation of the PAL framework and relevant tactics, but also a symbolization of the successful implementation of PAL, the appropriateness of using PAL as the vehicle for OL development and the foreseeable penetration in the case company and other potential OL inspired companies.

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6.1 OL as an Initiative of Organizational Development

Organizational learning has been a terminology for long time as one of the organizational development initiatives. It has been widely referred and studied; however, there are still two main schools arguing whether OL should be of the organizational studies or knowledge management. In this book, OL is elaborated as a continuous process, the D-E-L-O (Chap. 3), encompassing all four dimensions of driving, enabling, learning and outcome.

To answer the commonly raised question, "How can principles of organizational learning be applied to intervene (i.e. initiate, effect and sustain) organizational development and improvement?" The various factors enabling OL development are identified the previous chapters, which elaborated the development of a learning framework to facilitate OL, and further investigated how the Project Action Learning (PAL) implementation brings about OL development and impacts on the organization. In this section, management implication of PAL is discussed.

6.1.1 The Importance of Top Management Initiating the OL

The discussion in the previous chapters notes that it is appropriate to model and study OL as a series of D-E-L-O processes. Driving factors as the foremost part to the OL development cannot be omitted. Thus, in the beginning, there is a necessity for top management to drive and to get commitments from all levels of organization. Clear commitment and drive from the top is essential but on its own not enough, and we saw earlier that individual values determine how an individual is motivated to learn and an organization's culture affects cooperation forces and individual learning motivation.

Committed to establishing OL in an organization, organization leader should see whether OL could be used as the initiative for continuous development. With the necessity adopt OL for its growth and development confirmed, the leader's role should be to promote mutual learning and action. In the driving process, leadership is thus characterized as working with others to stimulate growth and learning.

The "OL readiness" of an organization has its managerial and situational precursors. Top management or the leader should have the mission and vision of OL at the start. Readiness will be raised when there is a supportive environment or situations necessitate its adoption. OL could be successfully initiated if these driving forces are present.

6.1.2 Facilitation and Individual Determine the Success

Individuals are in the heart of OL; building up a process-oriented culture in organization can alter individuals' mindset on job values positively; and the emphasis on

process of project and learning in PAL is a way of instilling this. Effective facilitation during PAL implementation helps to bring about this change individual values and learning motivation and habit.

Learning within an organization is likely to take place if proper facilitation is provided along with appropriate enablers. It does not matter that the learning is of any specific focus (such as process-oriented or result-oriented). PAL experience shows that a job-related project-based learning process regardless of the nature of the PAL project or learning goal motivates individuals.

It could be said that effective learning framework and facilitation appeared critical to the learning as well the behavioural change process. The learning culture promoted is believed to have permeated the organization once a significant number of individuals have gone through this change in their learning behaviour and mindset. Such intervention would subsequently affect the efficacy beliefs and thus the performance.

6.1.3 PAL as the Vehicle for OL Development

The PAL framework is a project-based OL vehicle aiming at building up the learning culture first within the project team(s) and beyond throughout the organization (Chuah and Law 2006; Law and Chuah 2004a, b, c, 2005, 2006, 2007). The PAL framework requires a PAL team to have a challenge (the project) and preset learning goals with the organization committed to providing the necessary OL infrastructure, guidance and facilitation.

The PAL process instills into the team members the practice of action and team learning while working towards a project that is of mutual interest and benefit.

During the PAL process, each PAL team member supports and challenges each other leading to an elevated degree of individual and team learning. Each PAL project helps to sow the seeds of OL. Its propagation, as the case company's experience shows, will lead to the building up of a sustainable learning culture in the organization.

6.1.4 Supporting Environment of PAL

For PAL to work, a supportive environment is needed. The components include relevant OL-related policy and strategy, resources and technology infrastructure, support and facilitation, and OL-linked performance evaluation system (see Fig. 6.1).

Firstly, in an organization where PAL is adopted as the vehicle of its OL development, the organizational strategy and policy should favour its implementation. As a prerequisite to successful implementation of PAL, OL strategy policy should provide clear direction and depth of commitment. Prior to the PAL adoption, organizations' readiness should be measured, in this way, ROLE (as discussed in Chapter 5) is considered as the proper measurement (as discussed in Sect. 5.2).
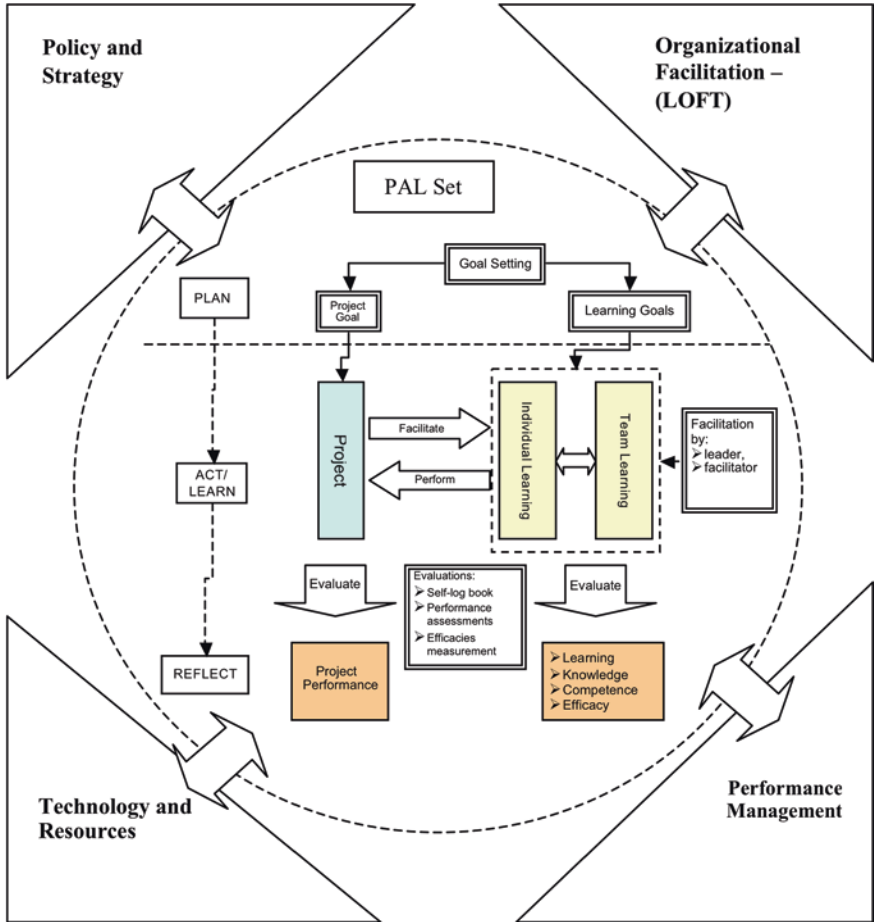
Fig. 6.1 PAL and supporting environment

Secondly, appropriate performance evaluation linked to OL activities is needed to ensure that participation and performance in OL-related work/activities is valued, recognized and rewarded.

Thirdly, the establishment of an information technology infrastructure provides a forum for knowledge sharing and information exchange. An LO website provides a network which not only supports PAL activities and their facilitation, allows PAL members to exchange insights and shares information, but also is a communication channel for feedbacks and reflections. Availability and accessibility of information helps members promote sharing and learning. The dynamism of knowledge is ensured, and such an IT system becomes the core of an organization's assets. E-OL structure was thus developed (i.e. OLSS) and discussed in Sect. 5.3.

Fourthly, LO facilitation (LOFT) helps to demonstrate that supporting resources and facilitation are very important to the PAL implementation. LOFT provides cognitive coaching to guide the PAL teams through the action learning process. It also helps to capture and document PAL-related experiences, collect the needed PAL performance and learning data for subsequent performance evaluation. Detailed elaboration of PAL facilitation, its roles and the effects it brings about has been discussed in Sect. 5.4.

In short, the four supporting pillars of PAL implementation are captured succinctly in Fig. 6.1.

6.2 Last But Not the Least

Based on the accumulated experience of the authors' OL endeavour, this book presents an innovative concept and approach for organization management. Utilizing a ready-to-use tool called PAL to analyse real-life case studies, a framework that allows teams of people to work and learn over the course of business projects is introduced.

The concepts and development of the PAL-driven organizational learning model are inspired by, and grounded in, Western and Eastern business philosophies and case studies which offer important insights into the management of organizations who are keen to develop sustainable business practices. Equal emphasis is placed on the achievement of preset project outcomes and the learning objectives of the participants. In addition, a long-term organizational learning strategy is put forward and the necessary supporting infrastructure, in the form of four "PAL Pillars", is described. Particularly, the performance management and the supporting infrastructure OLSS are highlighted.

The book is not solely a documentation of the PAL framework and relevant tactics, but also a symbolization of the successful implementation of PAL, the appropriateness of using PAL as the vehicle for OL development and the foreseeable penetration in the case company and other potential OL inspired companies.

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Appendix 1

<p style="text-align:center">FORMS OF PAL EVALUATIONS</p>

FORM 1– INDIVIDUAL PERFORMANCE BY EXPERIMENTER/LEADER(S)

Team   _____

For the Period _____

Experimenter (Leader/w Facilitator): _____

Member's Name:

A-	B-	C-	D-
E-	F-	G-	

Please **circle** the scores:

Behavioral Observations		Scores (1-5)						
		A	B	C	D	E	F	G
Performance Achievement-	Individual achievement in the project	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
Application of learned knowledge-	Use of problem solving skill in daily operation	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
	Use of systems thinking and analytical system in daily operation	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4

		5	5	5	5	5	5	5
	Use of problem analysis skill in daily operation	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
	Can handle problems with sufficient technical knowledge, and working principles	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
Knowledge sharing commitment-	Share knowledge with peers	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
Motivation-	Motivated to learn new knowledge	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
	Motivated to generate new ideas	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5

Remarks:
1= behavior is NOT observed
2= seldom observed
3= Behavior is sometimes observed
4= behavior can be seen quite often
5= Behavior s readily observed, and becomes the culture

FORM 2– INDIVIDUAL PERFORMANCE BY SELF

Please **circle** the scores:

Behavioral Observations		Scores (1-5)									
		1st					2nd				
		Week 8					Week 15				
		Date									
Performance Achievement-	Individual achievement in the project	1	2	3	4	5	1	2	3	4	5
Application of learned knowledge-	Use of problem solving skill in daily operation	1	2	3	4	5	1	2	3	4	5
	Use of systems thinking and analytical system in daily operation	1	2	3	4	5	1	2	3	4	5
	Use of problem analysis skill in daily operation	1	2	3	4	5	1	2	3	4	5
	Can handle problems with sufficient technical knowledge, and working principles	1	2	3	4	5	1	2	3	4	5
Knowledge sharing commitment-	Share knowledge with peers	1	2	3	4	5	1	2	3	4	5
Motivation-	Motivated to learn new knowledge	1	2	3	4	5	1	2	3	4	5
	Motivated to generate new ideas	1	2	3	4	5	1	2	3	4	5

Remarks:
1= behavior is NOT observed
2= seldom observed
3= Behavior is sometimes observed
4= behavior can be seen quite often
5= Behavior is readily observed, and becomes the culture

FORM 3– INDIVIDUAL PERFORMANCE BY PEERS

Team   _____

Date _____

Your name:

Peers Name:

A-	B-	C-	D-
E-	F-	G-	

Please **circle** the scores for each member:

Behavioral Observations		Scores (1-5)						
		A	B	C	D	E	F	G
Performance Achievement-	Individual achievement in the project	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
Application of learned knowledge-	Use of problem solving skill in daily operation	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
	Use of systems thinking and analytical system in daily operation	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
	Use of problem analysis skill in daily operation	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3

		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
	Can handle problems with sufficient technical knowledge, and working principles	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
Knowledge sharing commitment-	Share knowledge with peers	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
Motivation-	Motivated to learn new knowledge	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5
	Motivated to generate new ideas	1	1	1	1	1	1	1
		2	2	2	2	2	2	2
		3	3	3	3	3	3	3
		4	4	4	4	4	4	4
		5	5	5	5	5	5	5

Remarks:
1= behavior is NOT observed
2= seldom observed
3= Behavior is sometimes observed
4= behavior can be seen quite often
5= Behavior s readily observed, and becomes the culture

FORM 4– TEAM PERFORMANCE EVALUATION

Team: _____

For the Period: _____

Experimenter/ Assessor(s): _____

Please **circle** the scores:

	Behavioral Observations	Date	1st	2nd	3rd	4th
Performance Achievement-	Individual achievement in the project		1	1	1	1
			2	2	2	2
			3	3	3	3
			4	4	4	4
			5	5	5	5
Knowledge Creation-	Creation of new ideas		1	1	1	1
			2	2	2	2
			3	3	3	3
			4	4	4	4
			5	5	5	5
Knowledge sharing commitment-	Effective communication within team		1	1	1	1
			2	2	2	2
			3	3	3	3
			4	4	4	4
			5	5	5	5
	Share knowledge with peers		1	1	1	1
			2	2	2	2
			3	3	3	3
			4	4	4	4
			5	5	5	5
Motivation-	Learning is observed frequently in team		1	1	1	1

The header says "Scores (1-5)" spanning the score columns.

2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5

Remarks:
1= behavior is NOT observed
2= seldom observed
3= Behavior is sometimes observed
4= behavior can be seen quite often
5= Behavior s readily observed, and becomes the culture

Appendix 2
Role Instrument

Directions

For each of the items below, mark the number that best represents your opinion based on your experiences, and not on how you think other individuals would answer, or your organization's official policy or intent.

Please mark your answer with 1 to 5

Strongly disagree---------------------------Strongly agree				
1	2	3	4	5

Culture

Collaboration and Problem Solving	Answer
1. Employees respect each other's perspectives and opinions.	
2. Employees ask each other for information about work issues and activities.	
3. Employees continuously look for ways to improve processes, products, and services.	
4. Employees are provided opportunities to think about and reflect on their work.	
5. Employees often stop to talk about the pressing work issues they're facing.	
6. When trying to solve problems, employees use a process of working through the problem before identifying solutions.	
7. There is little competition among employees for recognition or rewards.	
8. Employees operate from a spirit of cooperation, rather than competition.	
9. Employees tend to work collaboratively with each other.	
10. Employees are more concerned about how their work contributes to the success of the organization than they are about their individual success.	
11. Employees face conflict over work issues in productive ways.	
12. Employees generally view problems or issues as opportunities to learn.	
Risk Taking	
13. Mistakes made by employees are viewed as opportunities for learning.	
14. Employees continuously ask themselves how they're doing, what they can do better, and what is working.	

15. Employees are willing to take risks in the course of their work.	
16. Employees are committed to being innovative and forward looking.	
17. Employees are confident that mistakes or failures will not affect them negatively.	
Participatory Decision Making	
18. Employees generally trust their managers or supervisors.	
19. Managers and supervisors view individuals' capacity to learn as the organization's greatest resource.	
20. Employees use data/ information to inform their decision-making.	
21. Asking questions and raising issues about work is encouraged.	
22. Employees are not afraid to share their opinions even if those opinions are different from the majority.	
23. I feel safe explaining to others why I think or feel the way I do about an issue.	
24. Employees are encouraged to take the lead in initiating change or in trying to do something different.	
25. Managers and supervisors make decisions after considering the input of those affected.	
26. In meetings employees are encouraged to discuss the values and beliefs that underlie their opinions.	
27. Employees are encouraged to offer dissenting opinions and alternative.	

Leadership

28. Managers and supervisors admit when they don't know the answer to a question.	
29. Managers and supervisors take on the role of coaching, mentoring and facilitating employees' learning.	
30. Managers and supervisors help employees understand the value of experimentation and the learning that can result from such endeavors.	
31. Managers and supervisors make realistic commitments for employees (e.g., time, resources, workload).	
32. Managers and supervisors understand that employees have different learning styles and learning needs.	
33. Managers and supervisors are more concerned with serving the organization than with seeking personal power or gain.	
34. Managers and supervisors are open to negative feedback from employees.	
35. Managers and supervisors model the importance of learning through their own efforts to learn.	
36. Managers and supervisors believe that our success depends upon learning from daily practices.	
37. Managers and supervisors support the sharing of knowledge and skills among employees.	
38. Managers and supervisors provide the necessary time and support for systemic, long-term change.	
39. Managers and supervisors use data/ information to inform their decision-making.	

Systems and Structures

Open and Accessible Work Environment	
40. There is little bureaucratic red tape when trying to do something new or different.	
41. Workspaces are designed to allow for easy and frequent communication with each other.	
42. There are few boundaries between departments/units that keep employees from working together.	
43. Employees are available (i.e., not out of the office or otherwise too busy) to participate in meetings.	
Rewards and Recognition Systems and Practices	
44. Employees are recognized or rewarded for learning new knowledge and skills.	
45. Employees are recognized or rewarded for helping solve business/ organizational problems.	
46. The current reward or appraisal system recognizes, in some way, team learning and performance.	
47. Employees are recognized or rewarded for helping each other learn.	
48. Employees are recognized or rewarded for experimenting with new ideas.	
Relationship of Work to Organizational Goals	
49. Employees understand how their work relates to the goals or mission of the organization.	
50. Employees' performance goals are clearly aligned with the organization's strategic goals.	
51. Employees meet work deadlines.	

Communication of Information

Availability	
52. Information is gathered from clients, customers, suppliers or other stakeholders to gauge how well we're doing.	
53. Currently available information tells us what we need to know about the effectiveness of our programs, processes, products, and services.	
54. There are adequate records of past change efforts and what happened as a result.	
Dissemination	
55. There are existing systems to manage and disseminate information for those who need and can use it.	
56. Employees are cross-trained to perform various job functions.	
57. Employees have access to the information they need to make decisions regarding their work.	
58. Employees use technologies to communicate with one another.	
59. When new information that would be helpful to others is learned or discovered, it gets disseminated to those individuals.	

Teams

60. My department/ unit currently operates via (or is transitioning towards) a team-based structure.

  ☐ Yes, this is true.

  ☐ No, this is not true.

61. Employees are provided training on how to work as a team member.

  ☐ Yes, this is true.

  ☐ No, this is not true.

62. My work is sometimes conducted as part of a working group that is or could be identified as a "team."

  ☐ Yes, this is true. (Continue with item 63)

  ☐ No, this is not true. (Go to item 71)

Respond to items 63-70 based on your experiences as a team member.

63. When conflict arises among team members, it is resolved effectively.	

64. Team members are open and honest with one another.	
65. Team meetings are well facilitated.	
66. Team meetings address both team processes and work content.	
67. Team meetings strive to include everyone's opinion.	
68. Teams are encouraged to learn from each another and to share their learning with others.	
69. Teams accomplish work they are charged to do.	
70. Teams are an effective way to meet an organization's goals.	

Evaluation

Please use the following definition of *evaluation* when responding to the items below:

Evaluation is a process of systematic inquiry to provide information for decision- making about some object-a program, project, process, organization, system, or product. Use of the evaluation results might lead to making refinements to the program or to offering new services or products.

71. The integration of evaluation activities into our work has enhanced (or would enhance) the quality of decision making.	
72. It has been (or would be) worthwhile to integrate evaluation activities into our daily work practices.	
73. Managers and supervisors like (or would like) us to evaluate our efforts.	
74. Evaluation helps (or would help) us provide better programs, processes, products and services.	
75. There would be support among employees if we tried to do more (or any) evaluation work.	
76. Doing (more) evaluation would make it easier to convince managers of needed changes.	
77. This would be a good time to begin (or renew or intensify) efforts to conduct evaluations.	
78. There are evaluation processes in place that enable employees to review how ell changes we make are working.	

Additional Information

79. Which of the following best describes your job category? (Check one.)

☐Operation Leader

☐Supervisor/ Engineer

☐Middle Manager (Manager I/II)

☐Senior Manager

☐Other

80. How long have you worked for this organization? (Check one.)
☐ Less than 6 months

☐ 6 months – 1 year

☐ 1-3 years

☐ 4-6 years

☐ 7-10 years

☐ More than 10 years

********Thank you for your cooperation*********