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Human Resource Development Review 2009 8: 431
DOI: 10.1177/1534484309345656

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Human Resource Development Review
8(4) 431–462
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DOI: 10.1177/1534484309345656
<http://hrd.sagepub.com>



Yonjoo Cho¹ and Toby Marshall Egan²

Abstract

Despite considerable interest in action learning, no systematic investigation of action learning literature has been reported. Two purposes of this study are (a) to systematically access and examine recent empirical studies on action learning and related themes using Garrard's Matrix Method for reviewing literature (the review of the literature covered an 8-year period from 2000 to 2007; 50 studies have been selected based on the search criteria) and (b) based on Revans's proposition regarding the need for a conceptual and practical balance between action and learning, to categorize empirical studies into action-oriented, learning-oriented, and balanced action learning. Studies selected from the systematic literature review process are highlighted, and Revans's balance issue and the quality of select studies are discussed. A conceptual framework for the future studies of action learning, key concluding themes, and the limitations of the study are also articulated.

Keywords

action learning, systematic literature review, human resource development

No learning without action and no action without learning.

—Reginald Revans (1998, p. 83)

In response to our dynamic world of work, current organizational contexts often demand continuous employee learning and development. In many situations, a fundamental assumption is that organizational survival is dependent on learning keeping pace with or advancing beyond the rate of change exhibited in the external environment (Boshyk, 2002). Although literature and discussion regarding the learning organization are abundant, many organizations appear to know little about how to learn.

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Background

Action learning is among the most widely used interventions for leadership and organization development (Boshyk, 2002; Marquardt, Leonard, Feedman, & Hill, 2009; O'Neil & Marsick, 2007; Raelin, 2008; Tushman, O'Reilly, Fenollosa, Kleinbaum, & McGrath, 2007). The popularity of action learning has been driven by related, tangible outcomes and relevance to real organizational issues (Bolt, 2005; Day, 2000; Korpi-aho, Päiviö, & Räsänen, 2007; Raelin, 2007).

The Value of Action Learning for HRD

Action learning and HRD have been linked for some time (Dilworth & Willis, 2003; Fenwick, 2005; Marquardt, 2004; Vince, 2003, 2004). Dilworth and Willis (2003) defined action learning as “a process of reflecting on one’s work and beliefs in the supportive/confrontational environment of one’s peers for the purpose of gaining new insights and resolving real business and community problems in real time.” (p. 11)

As a result of his dedicated work toward the expansion and refinement of action learning scholarship and practice, Revans has long been viewed as the most important contributor to action learning scholarship and practice (Dilworth & Willis, 2003). Although action learning is often considered as an organization change strategy, in reality, it appears to be most often implemented in a manner directed toward individual learning and development (De Loo, 2001, 2002, 2006; Pedler, Burgoyne, & Brook, 2005; Vince, 2003, 2004). Several authors, including Revans (1971, 1998), emphasized one of the greatest challenges to participants in action learning—striking a balance between action and learning (Kim, 2007; Kuhn & Marsick, 2005; Pedler, 2002; Raelin & Raelin, 2006; Tushman et al., 2007).

An examination of balanced action learning approaches can be achieved through evaluation of action learning processes, participant experiences, and the manner in which action learning is framed in the literature. Individuals and organizations are aided by action learning that leads to more effective communication, work climate, cooperation, shared vision and development at the organization level. When used appropriately in organizational contexts, balanced action learning can be a powerful approach for HRD and management development (Dilworth & Willis, 2003; Marquardt et al., 2009; Reynolds & Vince, 2004; Vince, 2003, 2004; Willmott, 1994).

Action Learning Scholarship

As action learning practices are frequently used, research interest in action learning has been around. The 1987 special issue of the *Journal of Management Development* focused on action learning and sparked broad interest, research, and publication. A number of special editions on action learning were published in *Education + Training* in 1996, *Journal of Workplace Learning* in 1996 and 2000, two issues of *Performance Improvement Quarterly* in 1998, *Advances in Human Resource Development* in 1999,

Table 1. Comparison of Previous Reviews

	Mumford (1985)	Mumford (1994)	Smith & O’Neil (2003a, 2003b)
Selection Criteria	<ul style="list-style-type: none"> • Period: 1971-1985 • Books and articles 	<ul style="list-style-type: none"> • Period: 1986-1994 • Books and articles 	<ul style="list-style-type: none"> • Period: 1994-2000 • 109 journal articles
Categories	<ul style="list-style-type: none"> • Definitions • Types • Programs • Setting up a program • Roles for advisers • Evaluation 	<ul style="list-style-type: none"> • Definitions • Management education • Types • Processes • Participant learners 	<ul style="list-style-type: none"> • Revised Mumford’s categories • AL fundamentals: definitions and descriptions • AL practice: case reviews and research-related pieces • AL focus: application areas
Implications	<ul style="list-style-type: none"> • The first review of action learning literature • Covered a field opened up by Revans’s book (1971) 	<ul style="list-style-type: none"> • The growing impact of action learning outside Belgium and the United Kingdom • A major critique of not enough attention to learning process 	<ul style="list-style-type: none"> • Included comments on articles • The “subjective” choice of articles • The dual purpose of indicating sources of information and further avenue for research

and *The Learning Organization* in 2002, until *Action Learning: Research and Practice*, the lead journal in the field, was published in 2004. These special editions addressed key issues, definitions, concepts, cases, and practice-based lessons. Current practice-based approaches to action learning focus only on face validity for action learning theory (Johnson & Spicer, 2006); therefore, wider consideration regarding current approaches and their impact is required.

Although authors have provided overviews of action learning literature, no systematic investigation of action learning practices has been conducted. Three previous reviews of action learning literature highlighted action learning studies published before 2000 (Mumford, 1985, 1994; Smith & O’Neil, 2003a, 2003b), as shown in Table 1.

Smith and O’Neil (2003a, 2003b) used the categories previously established in Mumford’s (1985, 1994) reviews including action learning fundamentals, practice, and focus. Smith and O’Neil (2003a, 2003b) expressed the dual purpose of the study, indicating sources of information and further avenues for research. Weaknesses of previous reviews are as follows: (a) they involved action learning books and/or articles published before 2000; (b) source selection criteria were not specified and literature selection was “subjective,” unsystematic, and “represents only our [the

authors'] views" (Smith & O'Neil, 2003b, p. 154); and (c) no theoretical or conceptual framework was used. A systematic selection and review of scholarly action learning studies was undertaken in this study. The review process included articles published in peer-reviewed journals after 2000.

Problem Statement and Purpose

The current state of action learning literature is unclear. A better understanding of action learning literature and its intersections with research and practice will provide better knowledge and insight of key themes of current studies and recommendations for practitioners and participants. Assessment of the literature will provide insight on how action learning is being framed in scholarly works, in human subjects research, and in practice.

The primary purpose of this study was to examine and analyze recent action learning literature using Garrard's (2007) Matrix Method, which is both a structure and a process for systematically reviewing literature. The secondary purpose was to explore the relative balance between two critical and integrative elements of action learning—action and learning. The result is a clearer picture and analysis of current scholarship on action learning.

A prime difficulty in researching action learning is the lack of an agreed definition (Pedler, 2005b). However, various frameworks to analyze action learning projects mostly present ways of combining two consistent themes that stand out: work-based real issues and team learning (Day, 2000; Edmonson, 2002; Poell, Yorks, & Marsick, 2008; Raelin, 1999, 2008; Reynolds & Vince, 2004; Rooke, Altounyan, Young, & Young, 2007; Senge, 1990; Vince, 2004). Action learning is based on the pedagogical notion that people learn most effectively when working on real-time problems occurring in their own work setting (Day, 2000; Raelin, 1999; Reynolds & Vince, 2004). Senge (1990) suggested that teams are the fundamental learning unit in an organization: Teams play a crucial role in organizational learning (Edmonson, 2002). Participants in action learning environments learn as they work by taking time to reflect with peers (learning teams), who offer insights into each other's workplace problems (Raelin, 2008). People learn best when they reflect together with like-minded colleagues on real problems occurring in their own organizations (Raelin & Raelin, 2006; Vince, 2004). Revans (1982) witnesses:

A manager faced with trouble . . . assemble a few [comrades in adversity] for all to learn with and from each other how better to define what everyone is trying to do, what are the separate obstructions to getting it done, and what particular courses of action may be helpful in doing it. (p. 720)

Revans emphasized the need for conceptual and practical balance between action and learning. Action learning is most effective when directly related to work applications or to action (Revans, 1971, 1998). The real value of action learning that differentiates

it from other action strategies is a pragmatic focus on learning for the sake of problem solving (Brooks & Watkins, 1994; Marsick & O'Neil, 1999; Raelin, 1999). An unbalanced approach to action learning is not productive, as action without learning is unlikely to return fruitful results and learning without action does not facilitate change.

Action learning balances working on a problem and learning through that process (O'Neil & Marsick, 2007). In this study, action is defined as a learning output as well as an input to the process (Rooke et al., 2007). The *action* in action learning is there as the "pathway" (Raelin, 2008, p. 85) or "basis" (Pedler, 2005a, p. 4) to learning; the task should be the vehicle for learning (Raelin, 1999). Solving a given problem or addressing an issue is critical only if there is learning from the experience (Raelin, 2008; Rooke et al., 2007). The *learning* in action learning is acquired at the level of individuals, teams, and the organization (Marquardt, 2004). Related literature suggests that action learning programs should be carefully implemented to ensure balance between action and learning (Kim, 2007; Kuhn & Marsick, 2005; Pedler, 2002; Raelin & Raelin, 2006; Tushman et al., 2007). Revans's perspective on the balance of action and learning is used in the article sorting process and is detailed below.

Central Questions and Method

This study uses a systematic literature review process to determine the current state of scholarly literature on action learning and to explore the relative balance between action and learning within the literature identified. Four main research questions are as follows:

1. What scholarly articles on action learning were published from 2000 to 2007?
2. What are key themes from extant action learning literature?
3. To what extent are action and/or learning emphasized or balanced in the action learning literature identified?
4. To what extent is the overall quality of action learning studies evaluated in terms of key methodological traits?

Search Process

The search included use of the electronic databases, Business Source Complete and Google Scholar, with special attention to popular use of action learning in organizational settings and to the six leading academic journals in this area—*Action Learning: Research and Practice*, *Management Learning*, *The Learning Organization*, *Journal of Workplace Learning*, *Journal of European Industrial Training*, and *Advances in Developing Human Resources*. The term *action learning* was used as part of the advanced electronic search process. In so doing, a total of 353 articles were identified and gathered.

Selection Criteria

Qualitative program descriptions dominate action learning publications (Day, 2000); therefore, this study focused on empirical studies of action learning to determine progress in research quality. For inclusion in this review, articles had to be (a) published in peer-reviewed journals, (b) published between January 2000 and December 2007, and (c) empirical studies that either involved human subjects or reported research findings. Among the total of 353 articles identified using the keyword search, studies containing editorials, non-research-based cases and reflective reports (using an "I" perspective), and conceptual articles were excluded. Only 50 (14%) of the identified studies met these selection criteria.

Abstraction and Synthesis: The Matrix Method

A systematic literature review of studies on action learning was undertaken, using Garrard's (2007) Matrix Method. The Matrix Method is both a structure and a process for systematically reviewing literature. Consistent with Garrard's approach, the review matrix table, a place to record notes about each article using columns and rows, provides a standard structure for creating order (see appendix). Each of the 50 empirical studies was evaluated in ascending chronological order using a structured abstracting form with nine columns: lead author's name, publication year, study type, study purpose, conceptual framework, subjects, study design, analytic methods, and study findings. The synthesis in the Matrix Method is a critical analysis and review process of the literature on a specific topic. A summative overview of reviewed articles, key findings, and an article synthesis is provided below.

To determine the degree to which select articles balance action and learning, Revans's proposition of balanced action learning (Figure 1) was used to develop a sorting protocol. This protocol involved a review of each article to determine whether it was predominantly action or learning oriented or was relatively balanced in examining action and learning. Each empirical study was carefully analyzed, double-checked, and sorted into one of three categories: action oriented [A], learning oriented [L], or balanced [A/L]. The following evaluation criteria (Table 2) were referenced for classification.

Action-oriented studies [A] were selected when the study featured action as a central focus, were rooted in the real business concerns or encouraged managers and leaders to collaborate on real workplace issues. Learning-oriented studies [L] were chosen when the core of action learning programs centered on learning rather than addressing an issue or solving a problem, or applied chiefly for personal learning and development and not so much for organizational issues. Balanced action learning studies [A/L] were marked when authors appeared to strike a balance between action and learning. In these balanced studies, often reflective practices and organizational learning are discussed, focusing both on learning and the task at hand. In rare cases, when the foundational aspects associated with this analysis were not clearly identifiable, we marked [NA].

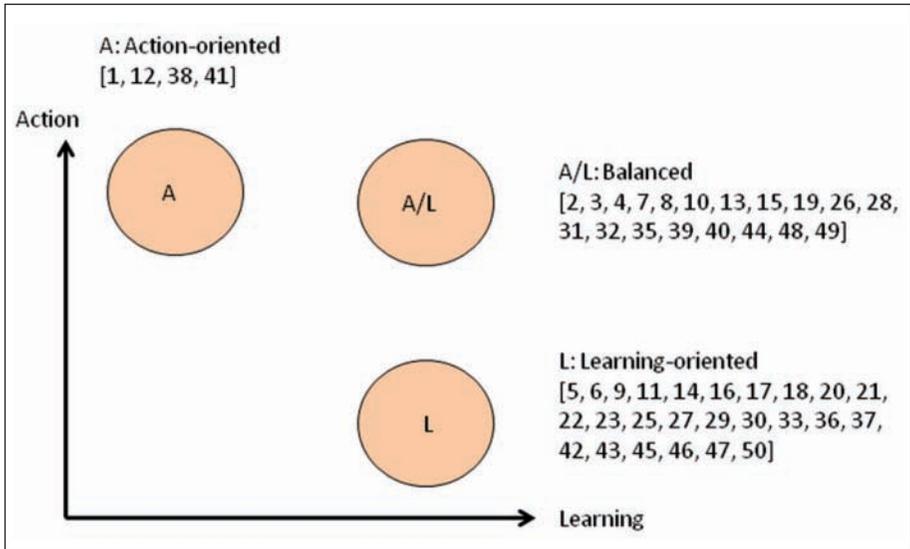


Figure 1. The hypothesized logical continuum of Revans’s balanced action learning

There are numerous methods of ensuring rigor linked with reliability and validity checks in qualitative work (Morse, 1994). To ensure rigor in this study, we double-checked criteria of adequacy and appropriateness of data (select articles), created detailed documentation for the audit trail (selection process), and used coauthors as multiple raters (interrater reliability). In addition, the quality of each study was examined for key methodological traits (Brown, 1989; Buhi & Goodson, 2007; Dillman, 2007), including the use of conceptual framework, identification of study participants, study design, analytic methods, and the precise description of these traits in the reporting of the study.

Findings

The process of abstraction and synthesis led to the identification of the quality of each empirical study. The review matrix table shows the outcome (appendix). The action and learning balance was identified and marked either [A], [L], or [A/L] on each study, indicating that the study was action oriented, learning oriented, or balanced. In addition, [NA] was marked on two survey studies that had no relation to balancing action and learning [24, 34]. The numbers inside of the brackets [] are associated with individual articles that were reviewed and correspond to the numbered list of articles in the appendix.

Overview

The 50 empirical studies, systematically reduced from an original group of 353 identified articles, were published in 24 different peer-reviewed journals and represent

Table 2. The Evaluation Criteria for Comparison

Criteria	Action Oriented	Learning Oriented	Balanced
Objective	Organizational problem solving	Personal development and learning	Organizational problem solving and individual learning
Problem	Real business issues	Emergent individual issues	Real business issues
Problem selection	<ul style="list-style-type: none"> • Top-down or middle-up-down • Many stakeholders involved 	<ul style="list-style-type: none"> • Bottom-up • Learner oriented 	<ul style="list-style-type: none"> • Top-down or middle-up-down • Many stakeholders involved
Sponsor	Actively involved in the overall process	Only involved in problem selection and evaluation	Actively involved in the overall process
Implementation	Follow-up activities provided	Reference for decisions and future participants	Follow-up activities provided
Learning coach	<ul style="list-style-type: none"> • Weak recognition • The role of small-medium enterprises 	<ul style="list-style-type: none"> • Weak recognition • HR's check on reflection journals 	<ul style="list-style-type: none"> • Full recognition • External and internal coach
Reflection	<ul style="list-style-type: none"> • Weak recognition • Often not done 	<ul style="list-style-type: none"> • Weak recognition • Only reflection journals are required 	<ul style="list-style-type: none"> • Full recognition • A must activity led by learning coach
Evaluation	<ul style="list-style-type: none"> • Result oriented • Done by sponsors • Low on learning 	<ul style="list-style-type: none"> • Learning oriented • Done by HR • Low on business results 	<ul style="list-style-type: none"> • Balanced action and learning • Done by sponsors and HR

Source: Cho & Bong, 2008, Slides 6 to 7.

varied interest areas and contexts. Table 3 indicates an increasing number of empirical studies on action learning, particularly from 2004, the first publication year of the journal *Action Learning: Research and Practice*. Nineteen studies (38%) came from this journal, followed by *Journal of European Industrial Training* and *The Learning Organization*, both of which had three articles.

Various research areas were covered—including management, education, leadership, engineering, marketing, health policy and hospitality management as well as HRD and organization development (OD). Corporate action learning programs (20) included interorganizational settings (7) and small-medium enterprises (SMEs) (6), whereas education programs included 17 studies, with 8 studies on the public sector. Study locations included the United Kingdom (25), the United States (7), Ireland (4), the Netherlands (3), Australia (3), and other European countries (2). Additional countries from which studies were reported included New Zealand, China, Singapore, and Korea. These articles suggest that action learning was more often practiced and

Table 3. The Number of Identified Studies of Action Learning

Year	2000	2001	2002	2003	2004	2005	2006	2007	Total
Number	1	5	4	3	11	6	14	6	50

researched in the United Kingdom and in Europe, particularly in public sectors, than in the United States. Revans’s predominating influence on action learning practices in the United Kingdom and Europe can be inferred from this number.

Methodological Quality

Only seventeen studies [4, 8, 10, 13, 16, 23, 24, 29, 31, 33, 35, 40, 42, 43, 44, 48, 49] involved common features for quality research including: use of a conceptual framework, detailed reporting on study participant demographics and contexts, study design, analytic methods, and the precise description of study procedures (Brown, 1989; Buhi & Goodson, 2007; Dillman, 2007). These 17 studies occupy 34% of the total 50 empirical studies and thus, indicate a need for more rigorous research on action learning.

Study design. A majority of the selected action learning literature used case studies (37). This frequent use of case study methodology in action learning studies has continued from previous literature reviews. Others were labeled as qualitative (or exploratory) studies, evaluation studies, and action research. Case studies used methods including participant observation, interviews, and surveys of participants and organizational members. In contrast, quantitative (or survey) studies [11, 13, 25, 29, 38, 42, 45, 49] used descriptive statistics, frequency analysis, and correlations and, in rare cases, multiple regression [34, 37, 49].

Use of theory. A majority of studies used Revans’s action learning principles as a central framework. Other conceptual frameworks used as the foundation for these studies included organizational learning, Kolb’s experiential learning, organizational knowledge creation, adult learning, a cognitive systems approach, and knowledge management.

Balanced Action and Learning: Representative Studies

Figure 1 represents the hypothesized continuum of Revans’s balanced action learning in action learning literature. Nineteen studies (38%) were found in the balanced action learning category and half of the studies (25) in the learning category, only four in the action category [1, 12, 38, 41], and two in the unclassified [24, 34]. The manner in which study findings were reported (below) and the study’s methodological quality were the key factors differentiating action learning studies categorized as unbalanced or balanced.

Unbalanced studies. Half of action learning studies were classified as learning oriented (25). This finding is consistent with that of previous studies indicating that

action learning practices are more often perceived to be successful when aimed toward personal growth and learning but not necessarily conducted toward organizational learning and development (De Loo, 2001, 2002, 2006; Donnenberg & De Loo, 2004; Pedler et al., 2005; Vince, 2004; Willmott, 1994). De Loo (2001, 2002, 2006) argued that available action learning literature showed a less clear-cut process for transferring personal action learning-related development into organizational growth. Without knowledge about organization-level development and change, HRD practitioners implementing action learning efforts may not consider ways that action learning efforts can be applied to their specific job and organizational contexts.

Two examples in this study [29, 17] were chosen as representatives of the unbalanced action learning category. Pedler et al. (2005) [29] conducted a survey of action learning in the United Kingdom through interviews with 24 experts and a survey of 172 practitioners. In spite of limited sampling with few replies from large companies, they found that action learning has become more focused on personal development and less centered on organizational issues or organization-wide development. The shift to individuals participating in action learning having the choice of problems or issues on which to focus concurrently signals a move away from negotiated agreements with the action learning facilitators or sponsors. This individualized approach resulted in employees focusing on their own job-related issues in a manner relatively isolated from the wider organizational context.

Another example of an unbalanced use of action learning was case studies of an elevator company and a hospital laboratory in the Netherlands (Donnenberg & De Loo, 2004) [17]. By focusing only on action learning programs with willing members and organizations, the authors reasoned that organizational dynamics were ignored and no connection between what has been learned by participants and other members was secured. Another conclusion in the study was that action learning failed to provide multiple learning experiences necessary to develop complex knowledge (Conger & Toegel, 2003).

Balanced studies. Nineteen studies (38%) among 50 empirical studies were categorized as emphasizing balanced action learning. Three representative studies [49, 28, 10] were chosen as example studies emphasizing balanced action learning. Tushman et al. (2007) [49], using interview data from 64 executives in 31 organizations participating in executive programs at two U.S. business schools, found that action learning programs significantly enhanced both individual and organizational outcomes. In contrast to traditional lecture-oriented executive programs, action learning designs treated teaching as a process rooted in conversations between engaged faculty and participants on issues crucial to participants. The authors suggested that action learning is a fertile context where business schools, particularly for executive education, can bridge the gap between managerial relevance and research rigor (Tushman & O'Reilly, 2007).

A case study of the Chubb Global Executive Program in the United States [28] used an action learning model that catalyzed strategic innovation in mature organizations (Kuhn & Marsick, 2005). Central to this model was cognitive capabilities that engendered strategic, conceptual, and generative thinking. Action learning was used to

develop both individual and collective capabilities for strategic innovation as a key driver of profitable growth, implying the dual mission—people development and business impact. Another case study of a local government in the United Kingdom [10] showed that action learning enabled the development of neighborhood facilitators who then established a relationship with their organizational leaders (Pedler, 2002). Using Nonaka and Takeuchi's (1995) "a middle ground framework" (p. 523), a process for transmuting individual knowledge into organizational knowledge, action learning played the role of a middle ground framework for learning spaces allowing dialogue outside normal operating procedures. The action learning set thus offered an opportunity, not only for the development of specific local knowledge but also for forming relationships across the middle ground, a source of learning and direction in the organization.

Key success factors of the 19 balanced action learning studies included an effective use of project or learning teams for organizational learning with the help of deliberate reflective practices and management support. In addition, participants were provided sufficient time for reflection with an action learning coach's or a facilitator's guidance.

Discussion

The systematic review of action learning literature in this study revolves around two important issues—the balance issue and the quality of identified studies.

The Balance Issue

Revans emphasized the importance of carefully considering each of two elements: Action learning is about integrating work and learning (Maltbia & Marsick, 2008). Action learning is regarded as an optimal method for connecting learning and work (de Haan & de Ridder, 2006). Through a balanced process of action and learning, people often develop skills associated with how to better learn from their experiences (O'Neil & Marsick, 2007). As a result, profound personal development may be realized from reflection on action (Pedler et al., 2005). The overriding value of Revans's balanced action learning is a pragmatic focus on learning for more effective instrumental action (Marsick & O'Neil, 1999).

Action learning programs, however, have a tendency to foster action at the expense of learning (Raelin, 2008). Action in action learning is not the goal but the means by which learning is achieved (Rooke et al., 2007). In contrast, this study found that greater emphasis has been put on learning-oriented action learning instead of balancing learning with action. The imbalance of action and learning in action learning can only be overcome by reflective practices, because reflection is essential to learning to convert tacit experience into explicit knowledge (Raelin, 2001). Reflection is fundamental to learning and it provides a basis for future action (Raelin, 2001, 2008). Action learning is "the process of stepping back from experience" (Coghlan & Brannick,

2005, p. 35) to process what the experience means, with a view to planning further action.

Conger and Toegel (2003) suggested that reflective learning opportunities should be staged with regular frequency. Daily reflective practices that help develop learning capabilities may often include the use of organizational learning tools. Examples of reflective practices are:

1. Dialogue, problem exploration, and systems thinking (Smith, 2001);
2. Individual and group process feedback (Conger & Toegel, 2003);
3. Public reflection (Raelin, 2001, 2008);
4. Break space (Dilworth, 2006);
5. End-of-course interview (Waddill, 2006); and
6. Action learning conversations (Maltbia & Marsick, 2008).

For instance, a learning coach can use break space (Dilworth, 2006) for 10 min at the start of each set meeting where all set members close their eyes, remain silent, and reflect. Public reflection, through the feedback of learning teams, involves four explicit reflective practices: learning teams, journaling, developmental planning, and relationships (Raelin, 2008). Action learning conversations is a protocol for conducting structured conversations that can be used in leadership development (Maltbia & Marsick, 2008). This protocol can be used to slow down action and enable managers to see how reflection could improve their thinking and solutions to challenges.

The Quality of Identified Studies

The empirical studies in the appendix have several limitations that subsequently create opportunities for future action learning research. A majority of articles using case study approaches (37) either failed to report a well-developed, systematic structure of inquiry underlying the study or did not clearly elaborate on the use of related methods and analysis. When qualitative methods were used, it was common that a specific methodological framework was not identified, verification procedures were not articulated, and study contexts were often not clearly detailed—these are important elements regarding the structure and trustworthiness of qualitative research (Denzin & Lincoln, 2005; Patton, 2001).

In the few quantitative studies [11, 13, 25, 29, 38, 42, 45, 49], a common data-gathering method (e.g. survey) was frequently used, which increased the potential for overstated interactions between study constructs. In addition, several studies did not adequately elaborate on sampling techniques, and used small, nonrandom sampling frames. Other studies involved the deployment of cross-sectional designs that explored action learning activities within a narrow or fixed time frame—these issues also diminish the utility of the findings (Dillman, 2007).

Analysis of this systematic review of action learning literature suggests a clear need for longitudinal designs and quantitative approaches to data collection and analysis.

Multivariate analysis, structural equation modeling, time series, and path analyses could reflect both the complex dynamics underlying action learning and provide better opportunities for exploration of the multilevel factors. As action learning is widely accepted as an HRD intervention or learning approach, integrating the multilevel approach to HRD is emphasized (Garavan, McGuire, & O'Donnell, 2004). Such multilevel considerations include leadership for action learning and facilitation, team member characteristics, organizational and learning environmental conditions, the nature of the action learning emphasized, connections between action and learning in both design and outcomes, and more specific description for action learning outcomes.

Although several theories underlying action learning studies (e.g. Revans's action learning principles) were identified, there is a clear need to further investigate action learning from the perspective of relevant HRD-related theories and theory building (Dubin, 1978). For instance, commonly examined HRD theories associated with the role and related outcomes of learning and learning transfer (Yamnill & McLean, 2001) and performance (Holton, 2002) remain virtually unexplored in identified action learning literature. As for qualitative case studies, there is a considerable need for advanced approaches to both selection and implementation of qualitative methodologies. Specific phenomenological approaches (Moustakes, 1994) would provide depth of experiences on the part of action learning participants and stakeholders. Use of ethnographic approaches could provide meaning elaboration regarding action learning processes and participant experiences. The reasons action learning has often not been applied in a balanced manner could go a long way toward the development of conversations within HRD regarding how balance can be established. Such approaches that lead to expansion of scholar and practitioner understanding regarding the salient outcomes of balanced action learning will benefit the field.

Finally, based on the literature, it appears that few studies used human subjects-based critical research to examine the underlying power, politics, and emotional dimensions often present in action learning (Fenwick, 2005; Marsick & O'Neil, 1999; Mezirow, 1981; Pedler, 2005a; Reynolds & Vince, 2004; Vince, 2003, 2004; Willmott, 1994). Much can be done in combination with suggested expansions of qualitative and quantitative research above to examine the underlying dynamics of action learning from a critical perspective. Such a critical perspective can enhance our understanding of action learning and HRD in the contexts explored, particularly if such studies would involve the link between action learning and organizational learning (Vince, 2004).

A Conceptual Framework for Action Learning Research

Although the number of action learning articles is growing, there is a need for a more specific, organized research and theory-building approach. To facilitate discussion regarding the state of the current literature and possibilities for future action, HRD scholars have used modeling approaches and proposed conceptual frameworks in support of future research on their respective areas of investigation (Joo, 2005; Wanberg, Welsh, & Hezlett, 2003). Similarly, we outline key dimensions of action learning and

recommend that they be framed within several research approaches toward the advancement of action learning research. Three overarching aspects needing to be addressed in the development of action learning research and theory building are (a) the lack of a common framework and precise postulation toward HRD theory building, (b) the absence of tested theory-building approaches, and (c) a need for common understanding regarding core concepts of HRD theory and theory building (Lynham, 2000; Torraco, 2004).

Based on the review of literature herein, action learning–related theories have been identified and used; however, additional conceptual and theoretical development is needed. In addition to key elements associated with action learning toward a better-defined approach to action learning research, there is also a need to examine the intersections between action learning and HRD. This is particularly a need as it pertains to the clarification of interactions between organization or systems levels (Garavan et al., 2004) and the potential impact of action learning for organization-wide learning and performance outcomes. Consistent with its process orientation and framing, action learning has been largely outlined as a group activity; however, despite a general emphasis on systems approaches to such HRD interventions (Jacobs, 1989), the potential for such activity to have a reciprocal influence on organizational practice has not been fully examined.

As a potential catalyst toward advancing specific discussions for future action learning research, part of a systematic process for development of theory-based research was used (Poole, Van de Ven, Dooley, & Holmes, 2000). The framework (Figure 2) frames action learning conceptually by examining related antecedents, the action learning process, and proximal and distal outcomes. Figure 2 represents not only the key dimensions of action learning as outlined in the review but implies a framework for elaboration, testing, and critical analysis of key features of action learning. The proposed conceptual model frames action learning as an intervention and process that includes four critical elements: the initiation of action learning, action learning intervention deployment, action learning implementation, and action learning evaluation.

Essential elements in understanding antecedents in the initiation of action learning include the context for the action learning project and the characteristics of the work environment. Another important part of the context for action learning is the make-up of action learning teams and stakeholders that could be examined from numerous perspectives. In addition, key features of the intervention are important considerations for future action learning research. For instance, specificity regarding approaches to action learning is needed in future research as is the identification of specific action learning tools or learning frameworks. As identified in a few studies, team and leadership dynamics and responses to action learning participants are important aspects of action learning throughout the process and there is much more that needs to be examined.

In regard to action learning implementation that has to do with proximal outcomes, issues such as timelines of the use of action learning, the extent to which action learning is aligned with organizational objectives, the balance and quality of learning and

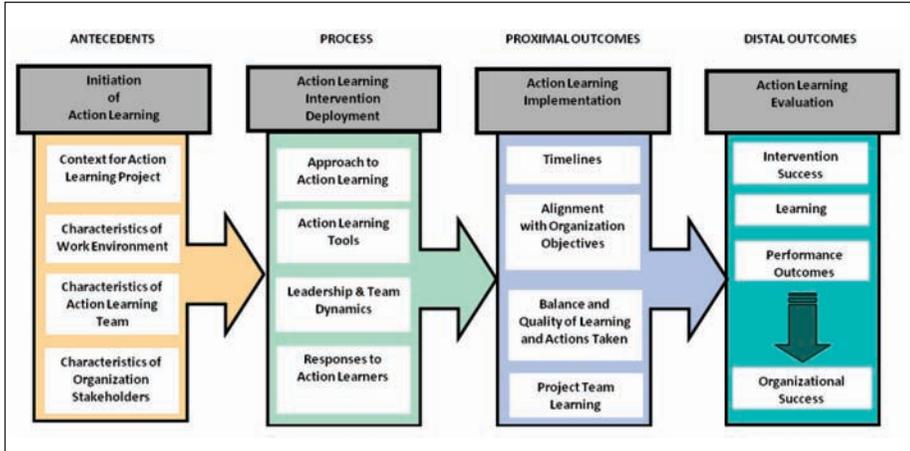


Figure 2. Dimensions of action learning: A conceptual framework

actions taken (this is related to the “balance issue” as outlined earlier), and project team learning are important consideration for action learning research. Equally important is the assessment of action learning distal outcomes. As we identified, the organizational impact of action learning is overlooked in much of the literature. Action learning cannot be a truly relevant tool for organizations, if research does not include clearer examination of action learning intervention success, learning and performance outcomes, and ultimately the impact on the organization. Research examining the “how” of action learning is beneficial, but even the most rigorous studies of action learning process need to more clearly elaborate on action learning outcomes.

The utilization of a conceptual framework for future development of research and theory building could be undertaken in a variety of ways, including qualitative elaboration of specific action learning processes and experiences, quantitative assessment using the conceptual framework toward the further investigation of key constructs, mixed-method case study analysis that provides elaboration on specific action learning interventions, and study based on critical perspectives that explore the power of action learning interventions.

Propositions associated with Figure 2 should be developed and will contribute to both forms of theory building as framed in theory-building literature—theory-then-research and research-then-theory approaches (Dubin, 1978). Consistent with the earlier discussion regarding current underdeveloped methodological quality, the deployment of research associated with the dimensions of action learning must use strong research designs and rigorous analytic approaches. Both the focus and execution of future action learning research must be considered as key elements in the advancement of action learning and HRD.

Conclusion

Six key concluding themes were summarized as a result of the execution of this study.

1. **Action learning variants:** Many definitions and variants of action learning have been used during the last 8-year period in the identified action learning research. Representative examples including business-driven action learning, interorganizational action learning, critical action learning, auto action learning, self-managed action learning, project action learning, developmental action learning, work-based learning, and Web-based action learning.
2. **Unbalanced action learning:** Based on this systematic review, only 19 studies were classified as balanced action learning, whereas half were considered learning-oriented action learning (25). This study confirmed the previous study finding; that is, action learning has been used more often for personal development than organizational growth. A reason why there are so many learning-oriented action learning programs is probably that half the studies were conducted in the United Kingdom and in Europe, where there are strong bases of action learning use for personal development, particularly in the education and public sectors (De Loo, 2001, 2002, 2006; Donnenberg & De Loo, 2004; Pedler et al., 2005; Vince, 2004; Willmott, 1994).
3. **Underdeveloped methodological quality:** Only one third of the studies (17) met the key methodological traits of quality research including use of a conceptual framework, reports of participants, study design, analytic methods, and the precise description of these traits in the study (Brown, 1989; Buhi & Goodson, 2007; Dillman, 2007). The overall improvement of current research, therefore, is necessary for theoretical development of action learning and HRD.
4. **Frequent use of qualitative studies:** Case study approaches are the most frequently deployed method in action learning studies. This is consistent with findings of previous studies (Day, 2000; Smith & O'Neil, 2003a, 2003b). An interesting finding was that 10 action research designs and methods were identified. These studies were conducted either in the United Kingdom or in European countries. As an action researcher takes part in action learning programs as a facilitator or a learning coach, clear boundaries between action learning and action research become blurred.
5. **Increased use of technology:** Nineteen identified studies used virtual learning as a supplementary tool to live learning sets in action learning practices. There has been little research on how action learning can most effectively be supported by new technologies such as interactive tools and information databases for learning (Gray, 2001). If using virtual learning tool is a new trend for busy and geographically dispersed managers to be equipped for action learning, future studies should take this expressed use of technology into account more seriously.

6. Classification criteria: Study findings indicated that no clear-cut classification criteria were established into action-oriented, learning-oriented, or balanced action learning research. We referred to the established evaluation criteria used in the case study of South Korean practices (Cho & Bong, 2008) whereby researchers participated as facilitators in action learning programs, thus enabling them to develop the criteria derived. In contrast, our current literature review was based on action learning literature (secondary data) such that it was difficult to show a perfect match between the developed evaluation criteria with our use in classifying each action learning study into three categories.

Study Limitations

A major study limitation concerns the very evaluation criteria referenced for classification of action learning literature. There is no perfect match between the established evaluation criteria and actual use for classification in this study. A related issue is the rationale of using classification criteria. A key question asked of us has been, Why do we have to categorize action learning literature into three groups? Although we believe this framing of the literature to be very helpful from both scholarly and practical perspectives, we by no means believe it is the only or very best way to assess action learning literature. Action learning is recognized among the most useful executive and management development design formats; however, an assessment tool for evaluating balanced action learning would greatly assist future exploration and expansion. As Revans suggested, there are clear practical (and therefore research-related) reasons for considering the balance issue and we encourage further refinement of this type of classification as it clearly matters for organizational outcomes and HRD overall.

Another limitation of this study relates to article selection criteria, which centered on empirical studies. Excluded articles in this study (e.g., non-research-based cases and conceptual articles) might have provided pointed arguments about action learning. Relevant issues include why action learning programs fail to achieve organizational growth (Smith, 1988), politics of action learning (Vince & Martin, 1993; Willmott, 1994), and transfer of learning in action learning (Yorks, O'Neil, Marsick, Lamm, Kolodny, & Nilson, 1998).

Although action learning seems to be a powerful organizational learning tool, few empirical studies have been conducted during an 8-year period. Future research into the processes and outcomes of action learning using a conceptual framework is likely to help in its diffusion and adoption. Further rigorous research using both quantitative and qualitative methods is clearly needed. Better research designs will likely identify and assess learning processes and outcomes of action learning and provide clearer understanding regarding the potential benefits of action learning for organizational learning and performance. Although there is much work needed to better understand a variety of issues associated with action learning, we believe this systematic exploration of research and our analysis makes a meaningful contribution to HRD-related literature.

Appendix: The Review Matrix for Action Learning Literature from 2000 to 2007

No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
1	Ingram	2000	Case study	To reflect on lessons learned from the pilot management program (virtual and residential)	Critical success factors, action learning	15 training staff members in Marriott Hotels in the United Kingdom	Participant observation and interviews	Summative evaluation	The summative evaluation of the AL program includes hard and soft areas: company interface, course administration, communication, and resources. [A]
2	Bannan-Ritland	2001	Case study	To discuss an AL approach to an instructional technology master's program in the United States	AL and instructional design	A master's program of instructional technology at George Mason University	Participant observation	NA	The principles of an AL approach (a real problem and a group to solve the problem) provide a framework for reexamining methods of teaching ID. [A/L]
3	Coughlan	2001	Action research	To show a case of the NALP approach to continuous improvement in Irish firms	NALP: interorganizational AL	A case firm (manufacturer of electrical systems)	Action research	NA	NALP represented an interorganizational AL response to the need for organizations and individuals to acquire a capacity for operational improvement. [A/L]
4	Davey	2001	Action research	To generate opportunities for U.K. construction SMEs to better partnerships with clients	Building partnerships	60 participants from construction SMEs and clients	Action research: questionnaires and interviews	Qualitative data analysis	AL is an excellent method for developing new ways of interacting and taking action as well as developing business contacts. [A/L]
5	Gray	2001	Case study	To explore how a virtual learning environment can be integrated into the AL cycle	Work-based learning and AL	A themed MBA program with a major U.K. firm	Participant observation	NA	Action learning with Web-based virtual learning can offer a dynamic combination of supporting learning in the workplace. [L]
6	Robinson	2001	Case study	To test AL as a pedagogical approach in a diploma of religious education in the United Kingdom	Revans's AL principles	5 students for interviews and 12 for a survey	Interviews and a questionnaire	Ethnographic data analysis	AL allows space to deal with challenges to existing belief systems. "The core of action learning lies in the learning rather than in solving the problem." [L]

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Appendix: (continued)

No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
7	Coughlan	2002	Action research	To describe three cases of NALP for operational improvement in Irish firms	NALP: Inter-organizational AL	Three case firms in Ireland	Action research	Case study analysis	NALP represented an interorganizational AL response to the need for organizations and individuals to acquire a capacity for operational improvement. [A/L]
8	Davey	2002	Case study	To investigate AL in promoting innovation in a construction company in the United Kingdom	Revans's $L = P + Q$	Six managers in a medium-sized construction firm	Observation, interviews	Content analysis	Feedback from middle managers suggests that AL can create an innovative management team (chosen by the chairman), as well as better leadership. [A/L]
9	Hudspith	2002	Case study	To illustrate how AL was used for management development in a U.K. restaurant's corporate university	Learning in organizations	50 general managers at the corporate university	Participant observation	Reflection	The AL of the corporate business school can, if carefully managed, provide focused people development potential. [L]
10	Pedler	2002	Case study	To address how local knowledge can improve organizational performance and learning	Organizational knowledge creation	Neighborhood facilitators in Walsall, United Kingdom	Biographical account and open-ended survey	Validity check of findings with participants	The AL set offers an opportunity for the development of local knowledge, but also by forming relationships across the middle ground, a source of learning. [A/L]
11	Booth	2003	Evaluation study	To describe an AL set for project staff on five KM projects in Trent Region, United Kingdom	AL	16 project staff from the five sites and evaluation team	Questionnaire	Frequency analysis	AL provides a group-based approach to continuing professional development for project staff; it is proper for cross-organizational learning on a regional basis. [L]
12	Harker	2003	Case study	To illustrate a case study of AL in e-marketing in a U.K. university	AL for marketing education	Six group projects in a business school	Curriculum design	Assessment of individual and group work	The AL approach to e-marketing resulted in students' acquisition of work-related skills, but there was no explicit place for reflection in assessment. [A]

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Appendix: (continued)

No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
13	Miller	2003	Case study	To describe an AL approach to workplace learning in a private hospital in Australia	AL framework	35 managers involved in the change process	Kirkpatrick's Level 3 evaluation by a survey of all staff	Quantitative and qualitative analysis	The AL approach to a workplace learning strategy is to assist managers enhance their capacity to learn and respond to organizational issues more effectively. [A/L]
14	Anderson	2004	Case study	To discuss the role of criticality in AL in a master's program at a U.K. university	AL as critical pedagogy and reflection	A master's program of People and OD	NA	Program evaluation	Illustrates how a heightened consciousness of language use in a master's program by managers can be used to develop critical reflection. [L]
15	Coughlan	2004	Action research	To explore how AL was used in two EU-funded programs, NALP and CO-IMPROVE	AL and inter-organizational networking	Two management development programs: NALP & CO-IMPROVE	Action research as project manager and re-searcher	Reflection	NALP in Ireland, AL for interorganizational settings, was extended in CO-IMPROVE in the EU. Applying AL in interorganizational settings requires an adaptation of AL. [A/L]
16	Davey	2004	Case study	To evaluate the capacity of AL to promote innovation in the U.K. construction industry	Action learning	Eight construction professionals of SMEs	Participant observations and interviews	Content analysis	AL is unsuited to engendering creative learning across the construction industry, but should be restricted to individual firms. [L]
17	Donenberg	2004	Case study	An attempt to move OD back into the center of AL by considering theory and practice	AL for OD: A cognitive systems approach	Two Dutch cases: elevator company and hospital laboratory	Participant observation as the set advisor	Case analysis	AL seems to be applied for individual development and not so much for OD because a connection must be secured between what has been learned by participants and others. [L]
18	Hoban	2004	Case study	To explore the process of AL for science teachers in Australia	AL principles: reflection, community, action	Three science teachers in a high school	Interviews with three teachers and 30 students	Emergent theme analysis	AL is increasingly used in educational contexts to support the process of teacher learning. The students' feedback was a catalyst for teachers' reflection. [L]

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Appendix: (continued)

No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
19	Law	2004	Case study	To determine if project AL framework promoted learning in project teams in China	Project AL framework	Pilot project teams of an electronic manufacturer	Case study approach	Evaluation of learning	A new approach to learning for project-based teams integrates learning and project in one toward organizational learning ideals. [A/L]
20	Learmonth	2004	Case study	To illustrate Auto AL for building capacity for a regional public health policy in United Kingdom	Auto AL	A manager in a health agency in United Kingdom	Record keeping on the AL problem brief	Comparative analysis of the brief headings	The person-centered nature of Auto AL is a relevant tool for reflective practice and systematic tracking, at an early stage of considering programs. [L]
21	McLoughlin	2004	Case study	To describe the marketing development program using AL in a business school in Ireland	Revans's balanced action learning	Marketing development program	Curriculum design	Reflection	This program offers an individualized and team-based approach that is adapted to facilitate the learning demands of the marketing advisors. [L]
22	O'Hara	2004	Case study	To describe how self-managed AL was applied on management development programs for a Health Board in Ireland	Self-managed AL	380 managers (60 sets) in a Health Board	Participant observations and interviews	Reflection	SMAL enabled managers to facilitate their AL sets and develop the skills of facilitative management for managing change, with strong management support. [L]
23	Rigg	2004	Case study	To reflect on critical AL in a postgraduate management development program in a business school in United Kingdom	Critical action learning	Four cases: three course participants and a set facilitator	Ethnography and dialogue	Text analysis	Core facets of critical AL, such as emotion, power, and diversity, can be the source of critical learning while also carrying the potential to be disempowering. [L]

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Appendix: (continued)

No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
24	Willis	2004	Cases analysis	To evaluate 10 cases of AL using the Revans theory	Revans's gold standard of action learning	10 case histories of AL in the United States	Marker method of estimating	Textual analysis	The inspection of 10 cases of AL does not deliver strong evidence that Revans's theory-intact is being practiced in U.S. organizations. [NA]
25	Bouden	2005	Case study	To illustrate AL in the 360° feedback program to develop leadership competencies	Peer group learning	49 managers in a pharmaceutical company in the United Kingdom and the United States	Participant observation and questionnaire	Frequency analysis	Although AL is a very effective tool for individual development, managements don't see manager development as a key driver of organizational success. [L]
26	Faull	2005	Case study	To illustrate AL for a change process in a rehabilitation team of a hospital in New Zealand	AL	A hospital's interdisciplinary clinical team	Participant observation and interviews	Reflection	AL facilitated innovative change of the team culture. Success factors: time for reflection, external facilitator, and management involvement. [A/L]
27	Graham	2005	Case study	To discuss how consultant nurses were supported by AL in the local National Health Scheme facility, United Kingdom	Collaborative model of development	15 consultant nurses in the local National Health Scheme Trusts	Evaluation of the learning set by focus groups	Transcript analysis	An evaluation for AL reveals its success in helping participants to achieve competence and awareness in personal and professional abilities. [L]
28	Kuhn	2005	Case study	To illustrate AL for strategic innovation in the Chubb Global Executive Program in the United States	Cognitive dimensions of strategic innovation	Four project teams of senior vice presidents at the insurance firm	Participant observation and interviews	Reflection	AL can be used as a learning-based business initiative to develop individual and collective capabilities for strategic innovation; it requires adequate time. [A/L]
29	Pedler et al.	2005	Exploratory study	To summarize the 2004 study findings of AL in the United Kingdom during the past decade	Revans's classical principles	24 academics and 172 practitioners	Snowballing Interviews and a survey	Quantitative analysis	AL has become more focused on personal development, less centered on organizational problems, and not widely used in bus schools. Its growth in United Kingdom remains inconclusive. [L]

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No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
30	Penney	2005	Case study	To reflect on AL for preservice teachers in Australia	AL and action research for critical reflection	A final-year undergraduate unit in teacher education	Participant observation	Reflective analysis	Although establishing a focus on individual learning in AL, there has been no expectation that projects encompass an agenda for organizational change. [L] The opportunity to reflect and question real issues yet maintaining distance from the context of the business is highly beneficial to the SMEs. [A/L]
31	Clarke	2006	Qualitative evaluation study	To argue that AL provides a means of developing SMEs in the United Kingdom	SME and AL	19 learning sets in 100 SMEs in the United Kingdom	Records of sets and interviews	Inductive analysis	CO-IMPROVE, an EU-funded ALAR program, aims to address collaborative improvement in the extended manufacturing enterprise. [A/L]
32	Coghlan	2006	Action research	To provide an ALAR framework for collaborative improvement in EMEs in the EU.	ALAR and Collaborative improvement	Three EMEs in Italy, The Dutch, and Denmark	ALAR approach	Repeat initial assessment and reflection	Within the city council, AL sets provided a safe place to practice the questioning of taken-for-granted assumptions supported by "comrades in adversity." [L]
33	Corley	2006	Case study	To illustrate how AL enabled action but also supported set members in avoiding conflict	Critical AL	MA in change management for a city council in the United Kingdom	Close-up research and action research approach	Evaluation data analysis	AL groups learn more during than after sessions (a relapse in learning after completion) and learn by exploring issues in depth and receiving feedback. [NA]
34	de Haan	2006	Quantitative	To examine the learning effects of AL for participants	Kolb's experiential learning	126 managers from 36 organizations in the Netherlands	Email survey, interviews, and observations	Quantitative (frequencies and correlations)	

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No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
35	De Loo	2006	Case study	To highlight the relevance of management control in AL that aims to foster OL	AL and management control	An SME of elevators in The Netherlands	Literature review, archival analysis, and interviews	Verified interview reports analysis	How the transfer from individual to OL is to occur? AL can be used as a management control for OL; top management support is a crucial success factor in the process. [A/L]
36	Johnson	2006	Case study	To describe an MBA program driven by AL in a U.K. management school	AL as experienced approach to learning	MBA in engineering management	Program description	Course evaluation	The MBA program centered on an AL approach in which participants as a group work on workplace problems and gain an accredited MBA degree. [L]
37	Mead	2006	Evaluation study	A systematic evaluation was undertaken to explore the perceived usefulness of AL	AL principles (set, set advisor, set members)	28 students in MA for midwives in the United Kingdom	Questionnaire	Quantitative (frequencies, Mann Whitney)	The AL principles were identified as a useful approach in the preparation program for supervisors of midwives. [L]
38	Mueller	2006	Survey study	To review reports of students in five AP countries who participated a global AL	The PETE model	More than 300 students from five AP countries	Web-based surveys	Quantitative analysis	The PETE model, a global AL to teach entrepreneurship, was evaluated as a practically relevant and outcome-based program. [A]
39	Oliver	2006	Case study	To examine the role of AL in helping strategy makers become reflective practitioners	The small set process of AL	A chief executive of a U.K. fitness service provider	Action research	Reflection	A detailed examination of how a service management strategy was developed in practice and enabled by a process of iterative action, change, reflection, and learning. [A/L]
40	Raelin	2006	Case study	To introduce developmental AL in the Boston Consortium for Higher Education	Developmental AL approach	Administrators from the Boston Consortium	Interviews and online questionnaire	Reflection on learning journal	The developmental AL approach is proposed as a change vehicle into an organization without facing resistance and enhances collaborative processes in organizations. [A/L]

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No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
41	Rolland	2006	Qualitative	To understand the role of KM in the AL process	Business-driven AL and KM	22 multinational corporations in France	Interviews, observation, document analysis	Qualitative data analysis	Executive education is much oriented on action, and KM has a crucial role in the business-driven AL process. [A]
42	Stewart	2006	Case study	To investigate the effectiveness of virtual AL to engage SMEs in the United Kingdom	Learning in SMEs, AL, e-learning, networked ML	29 SMEs	Interviews and questionnaire	Qualitative and quantitative analysis	It is possible to engage SMEs by using an engagement strategy addressing their business problems, using the blended design, face-to-face and virtual AL. [L]
43	Waddill	2006	Exploratory case study	To examine the impact of AL on the effectiveness of an e-learning course for managers	AL and Web-based instruction	12 graduates of an educational organization in the United States	5-week action e-learning course design	Text analysis	AL can be conducted effectively online at an individual level; however, online learning communities did not form (unit of analysis: industrial manager in sets). [L]
44	Yeo	2006	Exploratory study	To explore if reflective AL has an influence on organizational effectiveness	Reflective AL framework	50 professors of a higher education in Singapore	Interviews and ethnographic observation	Content analysis	Reflective AL is closely aligned to Kolb's experiential learning cycle and promotes team dynamics, leading to organizational learning. [A/L]
45	O'Hara	2007	Evaluation study	To explore the effects of a 5-year AL management development program in a public sector in the United Kingdom	NA	100 AL program graduates (middle managers)	Questionnaire and interviews	Quantitative and qualitative analysis	Learning and change happened at a local level; the immediate effects of AL were individual, local, and specific rather than organization-wide. [L]

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Appendix: (continued)

No.	Lead Author	Year of Publication	Study Type	Purpose	Conceptual Framework	Participants	Study Design	Analytic Methods	Findings (Action [A] versus Learning [L])
46	Olsson	2007	Action research	To transfer knowledge from the service to the paper packaging industry through AL	Customer-oriented product development	The service and paper packaging industry (Sweden)	Action research design	Qualitative, interpretive analysis	The transformation of perspective toward customer orientation is dependent on individuals' learning through the workshop AL methods. [L]
47	Pauleen	2007	Case study	To demonstrate how AL and grounded theory were used to generate and articulate knowledge	The role of discovery and articulation in KM	Two AL sets of business people in virtual teams in New Zealand	Grounded theory design	The constant comparative method	AL provided an environment in which business professionals working with new technologies could receive knowledge and a safe place to improve their virtual team leadership skills. [L]
48	Rooke	2007	Exploratory study	To explore the nature and the role of action in AL, inside the set and outside the set	Action inside and outside the set	Three AL sets in public policy in the United Kingdom	Literature review, interviews, and questionnaire	Qualitative analysis, evaluation	Action can occur either inside or outside the set; although it is an input to the learning process, it can also be regarded as an output of that process. [A/L]
49	Tushman et al.	2007	Evaluation study	To explore the effects of AL designs on individual and organizational outcomes	Rigor and relevance in business schools	64 participants from 31 organizations in U.S. executive programs	Interviews	Emergent theme and quantitative analysis	AL programs for executive education significantly enhance both individual and organizational outcomes and also enhance teaching and research efforts. [A/L]
50	Walsh	2007	Action research	To explore the use of AL with occupational therapy students	AL	15 first-year students in two sets in a U.K. university	Action research design	Inductive analysis	The use of new ways of learning and peer support offered by AL seemed to facilitate reported changes in students. [L]

Note: AL = action learning; SME = small-medium enterprise; NALP = national action learning program; OD = organization development; ALAR = action learning and research; OL = organizational learning; KM = knowledge management; EMEs = Extended manufacturing enterprises.

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