On Action Learning, by Frank Voehl[1]

In a Nutshell: There can be few tasks so daunting as to describe action learning in an abbreviated and concentrated way. Those who have experienced action learning know the wide variety of forms it can take. There can be vast differences of interpretation and application. The lack of a tightly defined framework can be a distraction, especially to those accustomed to curriculum design. On the other hand, the flexibility of action learning in promoting learning and elevating organizational performance can be highly attractive. This article covers action learning in a contextual way, first, by relating it to two societal trends. Some examples and a Case Study are then provided that leave the reader free to interpret their significance and how they differ from traditional approaches to problem resolution. The remainder of the article then outlines action learning principles. The goal is an integrated view of action learning in application, including some contrasting beliefs.

Prologue

Action learning is once again starting to gain popularity as a method to improve performance, promote learning, and position organizations to adapt better in turbulent times. It is also seen as a method to develop the capabilities of individuals, teams, and overall organizations. The suggested path for most effective learning is through knowing yourself and your capacity to learn. The journey is complicated by the processes that have been successfully used in the past, as well as group interest in, and knowledge of, the subject you wish to learn. For example, it may be easy for you to learn physics but difficult to learn tennis, or vice versa. Action Learning, and all learning, is a process which settles itself logically into certain steps, if done correctly.

Action learning is a learning and problem-solving strategy for organizations, whether commercial, government or non-profit. The focus is to increase employees learning capacity within an organization while responding to a real-world challenge in a cross-departmental team. An excellent seminal report, *Continuous Learning*, first published by the Canadian Centre for Management Development in 1994 and updated 10 years later, suggests that "some of the most interesting and promising innovations in management learning have taken the form of what is called *action learning*." See this video for more details: https://www.youtube.com/watch?v=skQJo3Vpqvc.

Introduction

Reflection is an important part of the action learning experience. A small, mutually supportive group takes advantage of its members' own actions and experience. The experience of information exchange can generate fresh approaches across departmental lines (networking), and help build systemic innovation and knowledge management capacity within the learning organization.

The number of corporations that have or are now using action learning approaches is growing. They include TRW, Inc., General Electric (GE), Andersen Consulting, Conoco, Whirlpool, Ameritech, and GEC (England). Public sector organizations are now also represented, such as the Federal Deposit Insurance Corporation (FDIC) and the Defense Management Systems College (DMSC) of the U.S. Department of Defense.

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[1] Frank Voehl is the President and CEO of Strategy Associates and a Lean Six Sigma Grand Master Black Belt and Innovation Coach. From 1985 to 1991 he was a Vice President at FPL and headed up FPL's QualTec Quality Services, a large 100-person consultancy specializing in Quality Improvement and Action Learning principles.

Action Learning begins with a period of strategic questioning of the problem; sets action items and goals; regroups to analyze progress; and reflects upon, and documents, the process. Groups are formed to solve real problems, not to make recommendations. They are empowered and trusted with the necessary resources to take on the issue, and as a derivative can present the organization with new procedures that build the productive power of the organization.

The Context

Action learning, as a concept, dates back more than 70 years. It has, until recently, received more interest and attention outside the United States. Its roots can be traced to action research, a concept and term originated by the German psychologist, Kurt Lewin, in the 1940s (Weisbord, 1987, pp. 183-195). Reginald W. Revans, of England, originally an astrophysicist, pioneered the concepts related to action learning over more than a half a century ago.[2] His effort is extensively documented and involved much in-depth research, including work in coal mines, hospitals, and with industry in Belgium organizations, whether commercial, government, or non-profit. Since action learning is intended initially to increase the learning capacity of employees, and then to resolve a real problem in an organizational context, it is not intended as classroom learning experience, or as an academic exercise, per se.

The Situation Team

Action learning always begins with a clearly defined organizational opportunity or problem. Its objective, set by the management Leadership Team, should be clear and significant. Next, the team is fully empowered to bring the challenge to a successful conclusion. An ad hoc action team of four to eight people, voluntary or appointed, with diverse backgrounds, skills and experience is often employed. Team members are:

➢ Expected to first understand the objective, then commit their energy and expertise to the team process
➢ Participate as equals, empowered and encouraged to contribute, no matter what their rank or role within the organization.
➢ Share with, and learn about, fellow team members early in the experience.
   o What are our backgrounds, range of expertise and skills?
   o How can these contribute to resolving the situation?
   o Diversity ensures that team members will discuss and contribute out of their strengths, and in so doing teach each other on various points
➢ Establish procedures common to group learning and process, i.e. Active listening; accessible communication and meeting times; assigned administrative tasks, recognize emerging leadership, Insightful questioning and reflective listening.

The key is to start with fresh questions, not with constructs from the past, and focus first on the right questions rather than the "right answers". Then, clarify the exact nature of the problem, explore what is

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[2] Prof Reg Revans introduced action learning in the mid-1940's as Director of Education for the British National Coal Board, and continued to develop and promote its principles until his death in 2003. It is used by a broad range of organizations, for-profit and non-profit, national and global. The process can be simplified with the formula L = P + Q where L is learning, P is programmed (traditional) knowledge and Q is questioning to create insight.

known and unknown. The more challenging the questions, the better the learning experiences and strategies. The more potential resources are identified, either relevant/irrelevant, available or needed, the more comprehensive the strategy set. The questioning phase also builds dialogue within the team, and generates an innovative and cross-disciplinary approach to strategic resolution. After this phase of questioning and reflection, action items are identified.

Journaling

 The process always requires that the Team does Journaling, as keeping journals and logs helps to facilitate later documentation for the organization, as well as personal progress. Lessons are recorded throughout the process of active learning, and at its conclusion, which helps:

- o to benefit team members in documenting responsibilities and timelines, as well as reviewing actions for what is going right and what not-so-right,
- o self-awareness learning, both situational and holistic
- o individuals in reviewing their own experience and growth in the problem-solving process
- o organizations in documenting the processes for future reference, as well as building a program of implementation throughout the organization, whether for organizational review, entrepreneurial activities

Key Questions About Action Learning

Given the renewed interest in action learning in the 1990s, the pivotal question becomes, "What is action learning?" There are associated questions as well: "Why is there so much interest in action learning today?" "How can action learning be applied?" "What are the perceived benefit values?" "How can action learning be related to performance improvement?" For answers, we turn to some of the SMEs, including Robert Dilworth and the Grand Master, Reg Revans himself.

1. **Just what is Action Learning?** According to Dilworth (and even Revans himself) this is when things get difficult because defining action learning is not easy to do. Action learning can take a variety of forms. In other cases, it can be closely interwoven with other organizational interventions. In such cases, a number of labels may apply, including organization development (OD), management development, team building, and transformative learning. Revans, even with all his writing on the subject, avoids defining "action learning". He is more inclined to describe action learning in terms of what it is not. Revans, in effect, holds the view that to try and build finite structures around it, as is usually done with management concepts, only robs action learning of its power. It can be like trying to sail the Queen Elizabeth II in a bathtub. A highly definitive concept with narrow parameters simply does not fit the subject. The eclectic nature of action learning, drawing from various disciplines, also makes finely chiseled depictions difficult.

2. **How does one explain it to the layman and the practioner alike?** Dilworth's strategy for explaining action learning is to 'frame it in relation to societal trends and the prism of practice. This will allow us to isolate some of the most basic characteristics and underpinnings associated with action learning'. We will begin with two broad societal trends that are perceived to be influencing present day interest in action learning. Then we will turn to some actual examples of action learning. This will also encompass some of the issues that can arise in implementing an action learning program and how to go about putting such a program in place.

3. **What are the societal trends that Prof Revans spoke about?** *The first societal trend relates to significant disillusionment with initiatives to improve the quality of work life and performance*. It is frequently expressed in terms of marginal results and knee-jerk, short-lived initiatives.[3] The disillusionment often stems from management approaches that do not prove out. This can take several forms:

   a.   The initiative was launched without a full awareness of its implications, and the workforce may have been left in the dark. This can be particularly true in downsizing situations. In a survey of 547 companies that had downsized, the American Management Association (AMA) found that operating costs had improved for fewer than half, while 77 percent experienced a decline in employee morale after downsizing (Boyett & Boyett, 1996, p. 54).

   b.   Top management said they supported the initiative but then became distracted by crises and daily work activity, and the initiative died on the vine. It can also be a case of management losing heart when they do not see immediate results. This can be true with regard to quality management initiatives, even when experience shows that you can go through a productivity dip for one to three years while the quality program is being brought fully on line. In other cases, top management turnover occurred, and the workforce was immediately asked to go a different direction. Cynicism ensued. The net result can be deep reluctance on the part of employees to mobilize behind management initiatives except on a superficial level.

   c.   Consultants came in, applied (or recommended) solutions, and then left systems that continued a downward spiral. Then, secondary consultants were called in to fix residual problems after the first intervention. This can lead to confusion of objectives and a workforce essentially immobilized by uncertainty.

Application to 21st Century Organizations.

The second trend that Revans and Dilworth spoke about 20 years ago relates to 21st century organizations and continuous learning. Interest in this area is now becoming pervasive, and there is reason to believe that it will be a lasting focus. There is an awareness that organizations as human systems must constantly learn to adapt if they are to survive. As the turbulence of the environments in which organizations exist accelerates, the learning must be continuous, as opposed to being anchored to intermittent formal training. This second trend also spawns intensive interest in workplace learning.

There are at least three questions that arise when considering the need to orient on learning organizations:

- What constitutes a learning organization? (The concept is still evolving.)
- How do you jump-start an organization to get it into a learning mode?
- How do you go about shaping the "organizational DNA" to sustain a learning organization culture once it is created?

I personally believe that the answers to these questions can be linked to action learning, and the number of organizations now turning to action learning tends to confirm this. Action learning is usually discussed in relation to organizational learning and creation of a learning organization. In some cases, the organizations

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[3] See Action Learning in a Nutshell, by Robert Dilworth. Published by ITAP International, which was funded by Dr John Bing, who won the HRD Practioner Award in 1992. ITAP makes the link between real global issues and practical, cross-culturally appropriate solutions. We find the pressure points and help clients to understand the consequences of the status quo. We identify options and find the best end-to-end client solutions - for their business, in their markets, with their customers, with their strategy.

decide to try action learning out of disillusionment with approaches that failed. There can also be a belief that action learning can be an important vehicle for transformation of organizational culture, by increasing the learning capacity of the enterprise and empowering workers, as recently confirmed at the MIT Sloan Action Learning Labs. [4]

Action items Framework: 10 Commandments

1. Strategies of resolution frame action items; action items promote learning.
2. Group members divide tasks, set timelines, and individuals or sub-groups return to their respective work environments to implement them.
3. Individuals are challenged both to use their range of expertise as well as stretch their approaches to implementation.
4. Hold Team mid-course reviews. At scheduled points in time, the team reconvenes to process individuals' feedback, discuss progress, encounter problems, set next steps.
5. If assumptions are proven wrong, a period of re-questioning is implemented, taking care to view the situation fresh; objectives and timelines are re-set if necessary.
6. Progress and lessons are journaled for future analysis.
7. There is no penalty for reconsidering the process and action items until the problem is resolved, or team refers the issue back to administration for further analysis.
8. Team concluding reviews; institutional review.
9. With reflection on the concluding process, individuals should gain from self-awareness within the process of experiential learning.
10. Organizations should realize an immediate benefit in resolving the issue, as well as multiplier effects in enhancing employees' learning/problem solving skills, cross-departmental communications, and alternative processes of engaging with problems.

Coaching and Facilitating

Prof Reg Revans, founder of action learning, believed that team members are their best coaches, facilitators or leaders. If the team does not have either the experience with reflective or group processes, experiences problematic participants, or needs outside direction, an outside facilitator can be sought to assist the team, much as any resource can be accessed. A coach again uses a "questioning" approach to facilitate reflection and focus on the issues. Coaching can also be a task assigned within the group.

The role of the facilitator can be an important role at the onset in helping the team norm itself in terms of interpersonal dynamics. If you are dealing with mature learners, the role becomes more problematic thereafter, as the facilitator, is *not* a member of the Team whose mere presence can influence and even damper what actually occurs. As one of the realities of group dynamics, there is no such thing as a benign presence, and we have seen facilitators rejected in several instances because of perceived interference with

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[4] MIT Sloan provides hands-on management experience through their pioneering Action Learning labs, giving students on-the-ground opportunities to put classroom theory into practice. Through a portfolio of over 15 labs, students work side-by-side with corporate and nonprofit partners to apply classroom lessons to high-impact business challenges. Both at home and abroad, from entrepreneurial startups to multinational corporations, students work with organizations to improve their critical systems and services. Also see the website, www.actionlearningcentral.com, for more details.

operations or simply unwanted presence. The presence of a facilitator, even when they remain silent for the most part, can influence interaction within the Team.[5]

My own belief from my experience with many action learning teams and interventions is that facilitators can play a key role in "jump starting" the set activity and orienting the set members on basic fundamentals of action learning (e.g., all set members are equal; the importance of listening to the views of others). After that, though, they need to fade back to what can be called 'mentor status roles'.

The facilitator is available as needed and will provide perspectives related to action learning but never tell the set how to deal with an issue. How the set deals with its problem is left to the learners. In my experience, it can be wise to make the presence of a facilitator at a set meeting "by invitation only." Some advocates of action learning take a diametrically opposed view and believe that a facilitator presence at the team meetings is a necessity. Our position, and that of Prof Reg Revans, is that people do not "learn how to learn" through the guidance of others so much as they do from creating their own meaning.

Team members need to learn about each other early in the action learning experience and need to make the time to do this. Here is where facilitator can assist in uncovering what background and skills are at the table; how can they potentially contribute to problem resolution? During this early state, norms also need to be determined. One of the client projects at FPL that I was associated with came up with these norms:

- We will meet only when all members can meet.
- We will debate earnestly but never attack one another.
- All will carry their share of the responsibility.
- We will listen to one another.

The Group Problem Solving norming process is particularly significant because there is no designated leader. Therefore, interpersonal relationships become critical. In my client experiences, groups have operated throughout the action learning process without a single leader emerging, as all tend to share this role. See our Action Learning Case Study at: https://www.youtube.com/watch?v=skQJo3Vpqvc

Case Study: The FPL Story[6]

Florida Power and Light (FPL) was the winner of the Deming Prize for Quality in 1989. This is a Japanese award named after an American, W Edwards Deming. FPL was the first non-Japanese company to earn the award. It was also the first major quality initiative related to the service sector, as opposed to manufacturing, in the United States.

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[5] See the work of Dr Harvey Brightman on Group Problem Solving, ,Georgia State University, 1988.

[6] During this period, the author Frank Voehl was the COO and General Manager of FPL's QualTec Quality Services, the training and consulting arm of the utility. As such, QualTec was responsible to bring the quality message to hundreds of organizations around the US and the world. During this period, Frank worked with Dilworth and Verna Willis at Georgia State. The late Robert L. (Lex) Dilworth was an Associate Professor Emeritus of Virginia Commonwealth University in Richmond, Virginia, USA. He received his doctorate from Columbia University in Adult and Continuing Education. His specialties included human resource development (HRD), action learning, and organization development (OD). He spent a number of years involved with action learning internationally, including time spent in extensive collaboration with Reg Revans and Albert Barker of England, as well as Verna Willis at Georgia State University. Before he entered his educational career, he was a Regular Army Brigadier General in the U.S. Army. His military assignments included service as The Adjutant General (TAG) of the U.S. Army.

At about the time that they pursued the Deming Prize journey, FPL had experienced a difficulty with its power generation systems. In fact, the problem had persisted for several years, and various teams and task force attempts to solve it had failed. FPL was experiencing an unacceptable inefficiency relating to the conversion of energy to electricity in its power generation systems. Electricity generated was significantly less than it should have been, based on energy input to power generator systems. We called together a team of people from different FPL areas to troubleshoot the problem. Team members had not worked together before as a team. They had a range of skills. See Choosing Projects in Action Learning Programs at:
https://www.youtube.com/watch?v=edrWA9dzwmA

The team solved the problem using action learning, developed a strong team spirit (they asked the company to continue them as a team for other problem-solving effort), and gave their presentation of results in shirts with their self-determined team name, *"Drips,"* embroidered on them. The team name related to some of the problem sources they had identified. The "Drips" found that there were many individual problems, not one overriding circumstance that was causing the inefficiency. They found, among other things, that birds nesting on power lines across the state of Florida could lead to problems, one of them being shorting out of lines.

As a Pioneer Lead Facilitator at FPL, I participated in many applications of Action Learning as part the Quality Improvement (QIP) efforts and some of the lessons learned in this case study at FPL were as follows:[7]

- They were not mired down in the past and they started a new line of inquiry.
- They asked fresh questions. It represented unfamiliar territory to several of the team members.
- Therefore, they had to question assumptions and explore avenues that traditional troubleshooting approaches might have overlooked.
- What they learned achieved some breakthroughs in thinking about problems of the type addressed. In other words, the established company knowledge in this area had to be updated and modified.
- It was a real problem, and they were expected to solve it.

Summary

In conclusion, the presence of the following characteristics are what separate action learning from other modalities, some of which may at times be inaccurately labeled action learning.[8]

1. It is always a real problem that the action learning set or individual set members are dealing with. In some cases a set will address a common problem. In other cases, the individual team members may bring to the set problems from their own workplace. In either case, the standard is the same. The problems must be real, meaning unsolved and of considerable significance. Revans argued for problems that can be so daunting that they appear insoluble.

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[7] Source: refer to **Creating Opportunities for Action Learning**; also see **Action Learning in a Nutshell**, both research papers written by Robert Dilworth and published by ITAP International. His research at FPL showed that reflection, especially caused by the repetitiveness and intensity of daily events. To achieve connection with your deeper self requires a quietness of mind, self-honesty, and at least brief escapes from what can be the unsystematic clutter of our lives. It can only be brought about by practice and a sincere desire to know ourselves and our potentialities. This is the territory that Reginald W. Revans of England refers to as System Gamma--how we change and the organization we are with can change.

[8] Ibid.

2. The perfect situation in the view of Revans is to be confronted by a real problem with which you are unfamiliar, and to have to solve it in an unfamiliar setting (Revans, 1983, pp. 21-22). To that I add that it can be instructive to be asked to engage in action learning with set members that you either do not know or have had only minimal contact with before. This adds a third dimension of unfamiliarity.

While meaningful learning can occur in settings that are familiar, while dealing with problems with which you are somewhat familiar, it is in the unfamiliar setting and confrontation with an unfamiliar problem that the learning can prove to be greatest. This can seem counterintuitive to those with limited experience with action learning. Several questions can result. "Why would you want to place people outside the bounds of their knowledge and familiarity?" "Why train people for one thing if you are then going to ask them to solve problems that they have not been trained to solve?" The answer is that you want the person outside of their comfort zone and placed in a situation where they must ask fresh questions and even challenge their own long held assumptions about what should be true. See *Choosing Projects in Action Learning Programs* for more details: https://www.youtube.com/watch?v=edrWA9dzwmA

3. An action learning team r set should have no more than four to eight members. Four to Five seems ideal. If you'd like mentoring with your Action Learning, then email us at info@ActionLearningSource.com or see the You Tube video on *approaches to developing action learning programs* at: http://ActionLearningCentral.com/gratis for more information.

4. All members of an action learning set are equals. There is no designated leader. Set members share the leadership role. The set operates by consensus.

5. Learning (L) = Programmed Instruction (P) + Questioning Insight (Q). Revans made it clear in this "Learning Equation" (Revans, 1983, p. 11) that you need both ingredients for learning, but he also strongly believed that the process needs to begin with questioning insight (the "Q" factor), the here, the now and what you sense may occur, as opposed to beginning with an examination of past knowledge and results (the "P" factor). When you begin with questioning insight, you can find that some of the existing "P" is of little value, and there may be new "P" that needs to be developed.

6. A facilitator (also referred to as Set Adviser or Learning Coach) is almost always present in action learning. When a facilitator is involved, the role can differ widely. Some believe in the omnipresence of the facilitator when the set meets, believing that the facilitator needs to be there to make sure that reflection occurs and that important learning opportunities are not overlooked. Revans takes a different view, and one that closely aligns with what this author believes. Revans holds that the set can do its own best facilitation. Therefore, the facilitator involvement is best limited to setting up the process properly, jump starting the work of the set (without excessive "P"), and then fading back. During the process of action learning, the facilitator serves as a resource and promotes the learning process. The facilitator only intervenes in a limited way, letting the set chart its own course, including the interpretation and capture of its own learning. The facilitator does not attend all set meetings, and may only be present for a portion of other meetings.

The view that the facilitator should not be omnipresent gets strong support from adult learning theory, where the goal is fostering independence, not reinforcing dependence (e.g., a facilitator or teacher who will tell you what to do). The learning comes out of the action learning experience, not the "fount of knowledge " of some supernumerary, who may have views that are far off center with learner needs. The participants decide what structure they need to use and the milestones to be pursued in accomplishing the work of the set. While the facilitator will assign the overall deadline, and point out some intermediate markers that need to be honored, it is up to the set to manage its own effort.

There can be more controversy around the role of a facilitator than any other area related to action learning. [9]Some adamantly hold that the facilitator is the center of the process, with "absolute authority" over the action learning set. Others, myself included, believe that the learner is at the center of the process, and that to have a facilitator regularly intervene during the activities of a set only serves to dilute the learning that would otherwise occur. It can also become extremely irritating to the learners. I have seen instances when the members of a set asked the facilitator to leave.

7. As indicated at the outset, action must be balanced by reflection. It is the reflective component that generates the depth of learning. Some of it is reflection-in-action as you move along in your project effort. We do this daily in our lives. There is also "reflection on reflection-in-action", which inherently calls for looking back over the various reflective moments when the actions were taking place and examining them for patterns. This is greatly facilitated by the maintenance of a learning log, as shown in the You Tube Ted Talk: Go to http://ActionLearningCentral.com/gratis for more information.

What action learning can provide is elevated levels of discernment and understanding through the interweave of action and reflection. In a time of rapid change, it can be an intervention of choice. GE uses it throughout its global operations. In some cases, it takes the form of what is called the work-out, i.e., group work on real problems in real time, with key executives expected to provide on-the-spot decisions to employees as proposed solutions to problems are offered. At the higher levels of the company, it can take the form of change acceleration programs. Here you see the clear linkage between change and learning.

Action learning takes careful thought in execution. It can run cross-grain with established ways of doing business. While growing use of cross-functional (and global teams) is symbiotic with action learning principles, some corporations still think almost exclusively in terms of formal training. Since action learning can provide learning experiences outside the bounds of formal training programs, it can be viewed as a threat. The suggestion that people be considered for problem solving activity outside their expertise can also be viewed as a strange proposition.

Finally, when groups are going to meet, an important early decision is what type of facilitator — internal or external — will help your group make its best progress on goals. When the type of facilitator matches the needs of the meeting, effective meetings are more possible. [10]

One thing was crystal clear to Revans and Dilworth alike: More and more corporations will be turning to action learning because it is viewed as a way of transforming the culture and providing continuous learning. Some view it as the portal or gateway to learning organizations. Most importantly, they have found it an excellent tonic for driving performance improvement and accomplishing rapid results. See the following presentation called Typical Results from Action Learning at:
https://www.youtube.com/watch?v=edrWA9dzwmA

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[9] The AI Facilitator Model is like the proverbial glass of water – either half empty or half full. Groups need meetings that make progress, and good facilitation can make this possible. A skilled facilitator, or process manager, designs an effective process and guides the discussion so that it gets results. Facilitators can be either internal to your group, or external. Both types have advantages and disadvantages. In this tip sheet, we discuss the pros and cons of both. We need to answer the question: *What type of facilitator can best help our group make progress?*

[10] For more information on Action Learning Group facilitation, see: https://www.youtube.com/watch?v=i-0wNXdaLok&feature=youtu.be. Also, go to http://ActionLearningCentral.com/gratis for some detailed information. If you'd like mentoring with your Action Learning, then email us at info@ActionLearningSource.com.

References and Resources

1- Block, P. (2000). *Flawless consulting: A guide to getting your expertise used (2nd ed.)*. San Francisco, CA: Jossey-Bass/Pfeiffer.

2- Boyce, K. (2005). *Internal and external facilitation: A comparison. Fact sheet.* St. Paul, MN: University of Minnesota Extension.

3- Boyett, J.H. & Boyett, J.T. (1996). *Beyond workplace 2000*. New York: A Plume Book.

4- Canadian Centre for Management Development (1994). *Continuous learning* (CCMD Report No. 1). Ottawa, Canada: author.

5- Chawla, S. & Renesch, J. (Eds.) (1995). *Learning organizations: Developing cultures for tomorrow's workplace*. Portland, OR: Productivity Press.

6- Dilworth, R.L. (1996). Action learning: Bridging academic and workplace domains. *The Journal of Workplace Learning 8(6), 48-56.*

7- Dixon, N. (1994). *The organizational learning cycle*. Berkshire, England: McGraw-Hill Book Company Europe.

8- Marquardt, M. *Action Learning*. INFO-LINE, 1997; *Action Learning and Research at George Washington University*, Performance Improvement Quarterly, 1998, 11(1), 59-71.

9- Marsick, V. (1987). *Learning in the workplace*. London: Croom Helm.

10- Mumford, A. (1993). *How managers can develop managers*. Brookfield, VT: Gower.

11- Mumford, A. (Ed.). (1994). *Authors and authorities in action learning*. England: MCB University Press Ltd.

12- Pedler, M. (1996). *Action learning for managers*. London: Lemos & Crane.

13- Pedler, M., Burgoyne, J. & Boydell, T. (1991). *The learning company*. New York: McGraw-Hill Book Company.

14- Pedler, M. (1991). *Action learning in practice*. Vermont: Gower Publishing Company.

15- Revans, R. (1983). *ABC of action learning*. Kent, England: Chartwell-Bratt Ltd; *The origins and growth of action learning*. Lund, Sweden: Student Literature; *Action learning: New techniques for management*. London: Blond & Briggs, Ltd.; *Developing effective managers*. New York: Praeger Publishers.

16- Rothwell, William J. *Action Learning Guidebook* . (1998) Prentice-Hall, NYC.

17- Schein, Edgar. Process Consultation: It's Role in Organizational Development. Vol 1(2nd edition). Reading, MA. Addison-Wesley, 1998.

18- Voehl, Frank (1994) *Deming: The Way We Knew Him*. St Lucie Press. Delray, Florida; also see *The TQM Handbook*, by Frank Voehl, 1994. St Lucie Press. Delray, Florida; also see Hudiburg and Voehl, (1996) *The FPL Story*, New York. McGraw Hill.

19- Voehl, Frank and Peter Mears. (1006) Teambuilding: An Experiential Learning Approach; also see *Facilitating Teams, by Mears & Voehl, 1997*. St Lucie Press, Delray. Florida.

20- Wallace, M. Can Action Learning Live Up to It's Promise? Management Education and Development, 1990, 2(2), 89-103.

21- Weinstein, K. (1995). *Action learning: A journey in discovery and development*. London: Harper Collins Publishers.

22- Weisbord, M. (1987). *Productive workplaces*. San Francisco: Jossey-Bass.

23- WIAL: Action Learning Overview. In World Institute for Action Learning. Retrieved July 30, 2008, from http://www.wial.org/actionLearning.shtml. See the following link for the 6 components of Action Learning: https://www.youtube.com/watch?v=skQJo3Vpqvc.