

Developing a Learning Organization: Training in a Public Sector Organization

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Abstract

This study reports on the results of an intensive year-long training program that was designed to help an American public sector organization become a learning organization. The program required managers to attend a day-long seminar each month for a year, participate actively in class, complete out-of-class assignments, interact with colleagues (across functions and levels) on several team exercises, read two lengthy books, and then implement the concepts into their work lives. The coverage of learning organization concepts was primarily based on Senge's (1990) concepts espoused in his popular book "The Fifth Discipline" and the accompanying Field Book. Based on a comparison between pre-test and post-test results, the program appears to have been very successful in helping the organization move closer to becoming a learning organization. The hands-on approach over an extended period of time seems to promote long-term learning and a culture of change and commitment.

Key Words: *learning organizations, organizational development, public organizations, training, systems thinking.*

Introduction

“A learning organization may best be thought of as one that focuses on developing and using its information and knowledge capabilities in order to create higher valued information and knowledge, to change behaviors, and to improve bottom line results” (King, 2001, p. 13). The concept of learning organization has received considerable attention during the last few years (Harvey & Denton, 1999). Several scholars have argued that investing in organizational learning can improve organizational competitiveness (Nonaka, 1991; Prahalad & Hamel, 1990). To help organizations become learning organizations some scholars have offered prescriptive models (Argyris & Schon, 1978; Pedlar, Burgoyne, & Boydell, 1997; Senge, 1990).

Most of the work that has been conducted on the concept of learning organization has focused on private sector companies (Finger & Brand, 1999). Nevertheless, the concept is particularly helpful to public sector organizations for several reasons. First, because of deregulation in many countries around the world, some public sector companies are losing their monopoly status and are competing with private firms for the first time. This competition puts pressures on the public sector companies to exhibit higher levels of agility and to constantly improve their performance thereby enhancing their productivity. Second, many public sector companies operate in strategic sectors, where their performances is critical to several other economic sectors, such as transportation and power generation. Third, the level of accountability expected of public sector organizations has increased in the past decade in the United States. Fourth, employee tenure is typically higher in public sector organizations which may provide an advantage for these organizations in their effort to create a learning organization.

In spite of the importance of the concept of learning organizations to public sector organizations very few studies have attempted to examine the effectiveness of different prescriptive models to these organizations (Smith & Taylor, 2000). This lack of studies implies that researchers as well as practitioners do not have evidence as to which

methods do or do not work.

This study will present some of the results of a year-long training program on Senge's learning organization concepts at a public sector organization. This program was initially supposed to be a series of 12 classroom-training sessions conducted by three management faculty jointly. It was discovered quickly, however, that a genuine "learning organization" training program had to be more integrated. The class itself had to be intimately involved in the design and the implementation of the program to ensure the necessary commitment to change. A shared sense of reality and a vision for the future needed to be created. This was done by developing a variety of hands-on exercises for the class and inviting volunteers from the class to actually help design the class. Also after-action-reviews (AARs) were conducted after every class to help everyone engage in evaluating and improving the experience.

Considerable time is spent in this paper discussing how far this class of the top managers has progressed toward a learning organization. The typical resistance to change was experienced in the early stages. Nevertheless, the final class results do indicate that the participants' attitudes have changed and began adopting the Senge's model. Our personal observations are also used to support the contention that the organization made quite a leap forward.

The Target Organization

The training was conducted in a public sector organization in the United States of America that had a budget in excess of \$250 million. This organization is funded and managed by the state government. This organization had come under external pressures to improve its services. More specifically, the state government had warned of budget cuts if the organization did not improve efficiency. Customers on the other hand, were expecting more and better services. Customers were so dissatisfied with the organization's services at the time of training that they had made it a topic of local jokes. These jokes had a devastating impact on the employees' morale. Additionally, environmental

groups were demanding a role in the organization's decision making process and that the organization pay more attention to the impact of its activities on wild life in the state. In response to these pressures, the organization recognized that it is important to sustain and promote quality and productivity at all levels and functions of the organization. It has undertaken a number of initiatives to be a world-class organization. For example, the organization has embraced the Baldrige criteria, undertaken Strength, Weakness, Opportunities, and Challenges (SWOC) analysis, defined strategic focus areas, developed a customer focus and undertaken a variety of best practices to more strategically align the organization. An in-depth study of the "learning organization" concepts fits with these other activities/components and lies at the heart of organizational development. Organizations simply must learn how to learn if they are to remain competitive.

Description Of The Training Program

The senior managers in the organization selected 70+ of their top managers to participate in the training program. The training coordinators included three faculty members from a large university in the mid-Atlantic region of the U.S. The training program was designed in summer 1999 by the three coordinators while working closely with a team of managers from the organization.

Program Structure

The learning organization training program was largely based on Senge's (1990) work in the area using his book "The Fifth Discipline" as well as the field book (Senge, Kleiner, Roberts, Ross, & Smith, 1994) that supports it. The Fifth Discipline provides a solid framework for developing a learning organization. It is based on five basic disciplines as described briefly below:

1. *Personal mastery*, continuously clarifying and deepening one's real personal vision.
2. *Mental models*, surfacing, understanding and clarifying deeply ingrained assumptions and generalizations of our world—business and

personal.

3. *Shared vision*, discovering a shared picture of the future of the organization/team that will foster genuine commitment and enrollment rather than just compliance.

4. *Team learning*, developing the ability to “dialogue” in which team members are in a mode that embraces the collective good and refrain from individual self-interest.

5. *Systems thinking*, the discipline that underlies the other four. It brings the concept of interconnectedness into organizational context.

The year-long program comprised of twelve sessions, conducted once a month. The first session was in October 1999 and the last session was in September 2000. The managers in the program were divided into two cohort groups of almost equal size. There were 70 managers (from the top six levels of the organization) at the beginning and due to retirements, turnover and hiring, there were about 75 managers at the end of the program. 65 of the managers were in the program from beginning to end. Attendance was taken during each session and was maintained by both the training coordinators as well as the training manager from the organization. The first and last sessions were conducted with all 70+ participants while sessions 2 through 11 were repeated for the two cohort groups. Switching between cohort groups was allowed only for valid reasons and was arranged by mutual agreement between two individuals in the two different cohort groups. Conscious effort was made to maintain uniformity of content, examples, exercises and pace in the two cohort groups. All sessions started at 9:00 a.m. and ended at 3:30 p.m. with a half-hour lunch break between Noon and 12:30 p.m.

The first session was the introductory session while the last session was a synthesis of the material covered. The Deputy Secretary (Minister) of the department that this organization reports to attended the first and last sessions. He helped inaugurate the program by describing the need for such a program and returned at the end to provide guidance to the participants on how they could utilize the program to foster a learning environment in the entire organization. In the

remaining ten sessions, the coordinators addressed the five disciplines described above in two sessions per discipline. An analogy of the human body was used to introduce the framework of the five disciplines. (Figure 1)

The *heart* represents the discipline of *personal mastery*. It is only from the heart that individuals can clarify what is truly important to them and only from the heart emanates enthusiasm and loyalty. This means that employers cannot force these two attitudes on a consistent basis on their employees. The architects of learning organizations are individuals that are dedicated to high levels of personal mastery. The *brain/mind* represents the discipline of *mental models*. The skills of reflection and inquiry that form the foundation of challenging and improving mental models are a function of the brain/mind. The *eyes* represent the discipline of *shared vision*. We all have two eyes but luckily the light that emanates from them both is one resulting in an individual's single physical vision. Similarly, a learning organization's members together co-create a single shared vision. The *hands and legs*, the primary motor organs of the body, represent the discipline of *team learning*. The organization comprised of individuals with high levels of personal mastery, improved mental models and shared vision can reach their destinations (vision) with the help of the motor organs of a learning organization—team learning. The *entire body* is representative of the discipline of *systems thinking*. The interconnectedness of the different organs and systems of the body exemplify the need for systems thinking in organizations, which are similar to organisms in several respects.

Pedagogy

The program was originally designed to be a training program whereby the three instructors would “teach” the principles and practices of learning organizations utilizing experiential exercises and the framework provided in *The Fifth Discipline*. It was obvious right in the beginning of the yearlong program that the instructors had to play the roles of consultants and facilitators to a certain extent in addition to

being teachers during the sessions. Within the first three months of the program, two volunteer-teams were set up from the participants. One team volunteered to help the instructors with designing content and format for each of the sessions while the second team was responsible for designing experiential exercises that would be relevant to the working environment. The instructors worked very closely with these two teams. These teams not only helped the instructors in staying on-target with their pedagogy but also helped empower the participants and to alleviate the initial resentment towards the program itself by some of the participants. The instructors maintained close contact with the teams through e-mail, fax and telephone. Also, the instructors met with the teams for one hour from 8:00 – 9:00 a.m., right before the first session of each month to finalize the itinerary and exercises for the following month.

Each of the sessions comprised of the following agenda—review of previous material, covering new concepts through interactive lecturing by the instructors, discussion, experiential exercises, presentations by participants, discussions facilitated by instructors and finally, an after-action-review (AAR). The ratio of time devoted to interactive lecturing/experiential exercises and discussions was approximately 40/60. This was based on the experience of the instructors and the feedback received by the participants. This format was very effective as evidenced by the AARs and the informal feedback obtained by the participants.

For each of the sessions, participants received a PowerPoint handout (with space to make notes). The handout contained a comprehensive outline of the interactive lectures, a detailed explanation of the experiential exercises to be conducted during the session, an analysis of the assignment from the previous session and a synopsis of the previous session's material. Each session started off with the coordinators introducing the agenda for the session and a brief review. The last fifteen minutes of each session was dedicated to an AAR. The AAR provided valid and immediate feedback from the participants and the instructors on specific forms of pedagogy that need to be sustained as well as improved. The instructors used the constructive feedback in

their quest for continuous improvement.

As mentioned earlier, the training program was designed around Senge's *The Fifth Discipline*. However, the coordinators introduced the participants to several related management philosophies and practices. For example, Stephen Covey's ideas of being proactive, "Quadrant II time-management", Peter Drucker's work on leadership, Deming's quality and change management, etc. were introduced to the participants during the interactive lecturing. A library of more than 40 articles related to learning organizations was created for the benefit of the participants. The organization also had audio and video tapes on the topic for participants to listen to and watch outside of class. Several experiential exercises that helped participants clarify personal vision, surface and test mental models, develop shared vision, etc. were conducted in class. Wherever appropriate, exercises were directly drawn from the organization's work environment that had strategic and immediate importance for the organization. An excellent example of that was the successful incorporation of the ongoing business plan process in the organization with the shared vision and team learning components of the training program.

Many new managerial tools were introduced during the training program and in addition, the managers gained experience in using them during the program. Examples include storyboarding, scenario analysis, force-field analysis and AAR. Several short videos illustrating the learning practices in several successful learning organizations helped the participants in understanding and practicing these techniques.

At least one team exercise was conducted during each session. The teams were formed based on the objective of the exercise. Some of the team exercises involved functional teams, geographic teams, and/ or randomly formed teams. Each of the teams' exercises included specific objectives, process, and presentation of findings and/or recommendations. The coordinators made sure that they worked with each of the teams closely in order to assure efficiency and effectiveness. The large participant cohort group size of 35⁺ in this intensive

program necessitated active participation of all three instructors in the training program, especially during the team exercises.

Throughout the training program there was an emphasis on all the three sides of the “learning triangle” (Senge, 1990). The three sides of the triangle are knowledge, skills and attitude. The coordinators imparted knowledge of systems thinking, quality management, organizational development, change management, and related management topics in their interactive lectures. Skills such as team learning, dialogue, co-creation of vision, communication, suspending and improving mental models were gained through several experiential exercises conducted during the sessions. The class discussions, experiential exercises and assignments were also designed to improve the attitude of participants towards communication, teamwork, interpersonal relationships, etc. The difference between the pre-test and post-test (which will be discussed in detail in the Results section) as well as other results showed that there was significant improvement in all the three facets of learning.

Results Of The Training

Training effectiveness is evaluated relative to the objectives that the training was designed to achieve. The objective of this training was to improve the participants’ knowledge and use of Senge’s (1990) learning organization concepts.

There are several methods for evaluating the effectiveness of training (Kirkpatrick, 1994; Philips, 1996). One method is to measure the changes in knowledge and attitudes as a result of the training. To do this a test-retest methodology was adopted. In this approach the participants are assessed on knowledge and attitudes before and after the training using the same test. Statistical analysis of the test results can then be used to determine if any improvement had occurred as a result of the training.

The test that was constructed to evaluate the training was comprised of three parts. The first part of the test included 27 multiple-choice questions to measure knowledge of the five disciplines of the

learning organization. The questions were based on the content of Senge's (1990) "Fifth Discipline" book.

The second part of the test consisted of 21 statements that participants were required to rate their approval of, using a five point Likert-type scale that ranged from strongly disagree to strongly agree. These statements were designed to reflect attitudes related to organizational learning such as participative leadership, learning, and continuous change. The maximum number of points that the participants could achieve on this section is 105 points.

The third and final part of the test was composed of 2 essay questions. The first question asked the participants to identify the characteristics of a great organization or team that they were a part of. This question was designed to measure the participants' ability to apply the learning organization concepts. In other words, the purpose was to know if these concepts had become part of the participants' vocabulary. The second question asked the participants to describe their role in fulfilling the organization's vision, mission, and values. The purpose of this question was to measure how the training has affected the participants' view of their role in the organization. These two questions also addressed Senge's (1990) five disciplines of a learning organization

The pretest was administered during the first session and the posttest was administered during the last session. Sixty-six participants took both tests.

Analysis

As mentioned above, the first part of the test measures improvements in knowledge as the result of the training. The mean score on this part of the test before the training was 13.7 out of a maximum of 27. On the average, participants answered incorrectly about half of all the questions. After the training the mean score on the post-test increased to 18.7. This improvement in test performance is statistically significant at the 99.9% level. Also, the median score in the pre-test was 14 while the median score in the post-test was 19. The range

in the post-test (lowest 12 to highest 25) also improved significantly from the range in the pre-test (8 to 24). These results indicate that the participants' knowledge of Senge's (1990) learning organization theory has improved substantially as a result of the training.

Results of the second part of the test, which measures change in attitudes, indicated a small increase in mean score from 75 points before the training to 76 after the training. However, this increase is not statistically significant. The lack of significant attitudinal change may be attributed to the high positive attitudes that the participants possessed before the training. In other words, the participants came to the training program believing in the importance of participative leadership, learning, and change. When these attitudes are already present at a high level it becomes difficult for training to further improve them.

To examine further the impact that this training had on the attitudes of the participants, a content analysis was performed on the final class assignment (participants were asked to list three things they will do differently as a result of the learning organization training). This content analysis involved counting the number of times specific statements that indicate attitude change were made.

A number of participants actually documented in the final assignment that their attitudes had changed, are changing, or are intended to change. Others mentioned that they had seen changes in the attitudes of others around them as follows:

The numbers next to each statement in parentheses represents the number of individuals who expressed that particular view:

- Acknowledging mistakes immediately (18)
- Being loyal to the truth (19)
- Recognizing that we are the main cause of my problems (25)
- Striving to eliminate the we/they attitude (26)
- Challenging the way we think (28)
- One must be aware of his/her assumptions and stereotypes (29)
- One must be more cognizant of what he/she says and actually does (30)

- Being more patient, listening to the whole problem before making decisions (31)
- Training one's employees in the essentials of the learning organization and guide them in applying it (40)

Other participants emphasized their desire to communicate better as follows:

- Getting beyond discussion and debate to dialogue (3)
- By everyone discussing and sharing their ideas we have more input and far less problems (10)
- Ceasing to take some words literally (11)
- Communication has improved (24)
- There is more selling and co-creating than telling (32)

Participants also emphasized the need for personal change and growth as follows:

- Considering my own as well as other's mental models (4)
- Leading significant change and being a visionary is critical (6)
- Learning to work together to affect positive organizational change (7)
- People are thinking more about mental models than they previously did (15)
- Be committed to personal growth and learning (27)

Additionally, participants expressed their need to build openness, trust and teamwork as follows:

- Promoting honesty and openness (8)
- Creating a team environment (9)
- Reaffirming one's belief that integrity above all else is of utmost importance (12)
- We will create shared vision (13)
- Diversity is imperative (15)
- Mentor newer employees (16)
- Be more conscious of the importance of getting people involved to obtain their input and buy-in (20)

- Promote learning by coaching (39)

Although the results were not statistically significant in the attitude part of the post-test, the above statements from the final assignment provides sufficient evidence that the attitudes are extremely positive, mainly as a result of this training program.

As for the third part of the test, which was designed to measure the trainees' ability to use the concepts and ideas presented to them during the training, the results indicate significant improvements. Content analysis was used to analyze the trainees' responses. This method involved counting the number of times a specific concept was used by the trainees. The table below provides a summary of the word count results. (Table 1)

As the above table shows, the trainees used the five disciplines and the organization's vision and mission concepts much more frequently after the training than before it. This may demonstrate the ability of the trainees to apply these concepts to their work setting. It may also indicate that the trainees now focus more on such concepts as quality and customers more than before the training. Additionally, it was noticed that the trainees' post-training responses were much longer and detailed than their pre-training responses (an average of 775 words/participant in the post-test compared to 510 words/participant in the pretest). This may indicate that the trainees have developed, perhaps because of the training, a more detailed view of their role in achieving the organization's vision, mission, and values.

Cross-Cultural Application

In the ever-changing global environment, learning becomes critical for organizations all over the world. No organization can stop learning and still remain competitive. Although the importance of learning is universal, how it takes place may not be. How individuals learn is shaped by culture. For example, in a low context cultures such as the U.S. culture (Hall & Hall, 1990), people may be more used to such explicit and direct methods of learning such as class room instruction than to the more informal and explicit methods such as stories and rituals. This may imply that our training methods used in this study

may not produce the same results in other cultures. Additionally, some of the exercises that we used in the training program involved direct confrontation and debate. These methods may not be appropriate in cultures that are high on power distance.

Practical Implications of the Study

The following are some of the lessons that we have learned from this training experience:

1. Early resistance to the training content should not discourage the trainers and lead them to discontinue the training program. The early resistance is usually caused by skepticism about the usefulness of the training content and training fatigue from being subjected to too many training programs. This resistance may weaken once the trainees realize the practical implications of the training.
2. To signal the importance of the training program and the support of top management to the rest of the organization it may be important to start the training with trainees from the executive or highest levels within the organization.
3. Some of the exercises that were used in this program required the trainees to interact and dialogue with their supervisors and as such the presence of the supervisors was useful. However in other exercises that required the trainees to be open and candid, the presence of the supervisors had a chilling effect on the trainees and often silenced them. As such, it is important to estimate the cost and benefits of the presence of the supervisors.
4. It may be useful to allow the trainees to participate in determining some of the content of the training program, especially the exercises. This may have two advantages. First, it will create a sense of ownership and commitment to the training program among the trainees. Second, the trainees may be able to develop exercises and examples that are more relevant to them than the generic exercises that may be found in exercise books.
5. To enrich the class activities, each trainee class may be composed of members from different horizontal and vertical levels of the organization. Trainees from different levels may provide different perspectives.

Conclusion

In spite of the importance of the concept of learning organizations to public sector organization, very little work has been done on the usefulness of this concept to these types of organizations. The purpose of this study was to present some of the results of a year-long training program on Senge's (1990) learning organization concepts at a public sector organization. The results from a pre-test that measured knowledge, attitudes and the ability to apply learning organization ideas were compared with a post-test to ascertain the success of the program. The results of the comparison between the two tests were quite positive, with participants showing strong growth in learning and the application of concepts. The results for attitudes were not statistically significant, but clinical analysis of testimonials from the participants showed very positive perceived progress and extreme satisfaction with the experience. One of the key lessons learned from this experience is that participants should play an active role in designing the content and pedagogy of the training program and should be allowed to volunteer into the program.

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Figure 1
Human Body Framework of the Five Disciplines

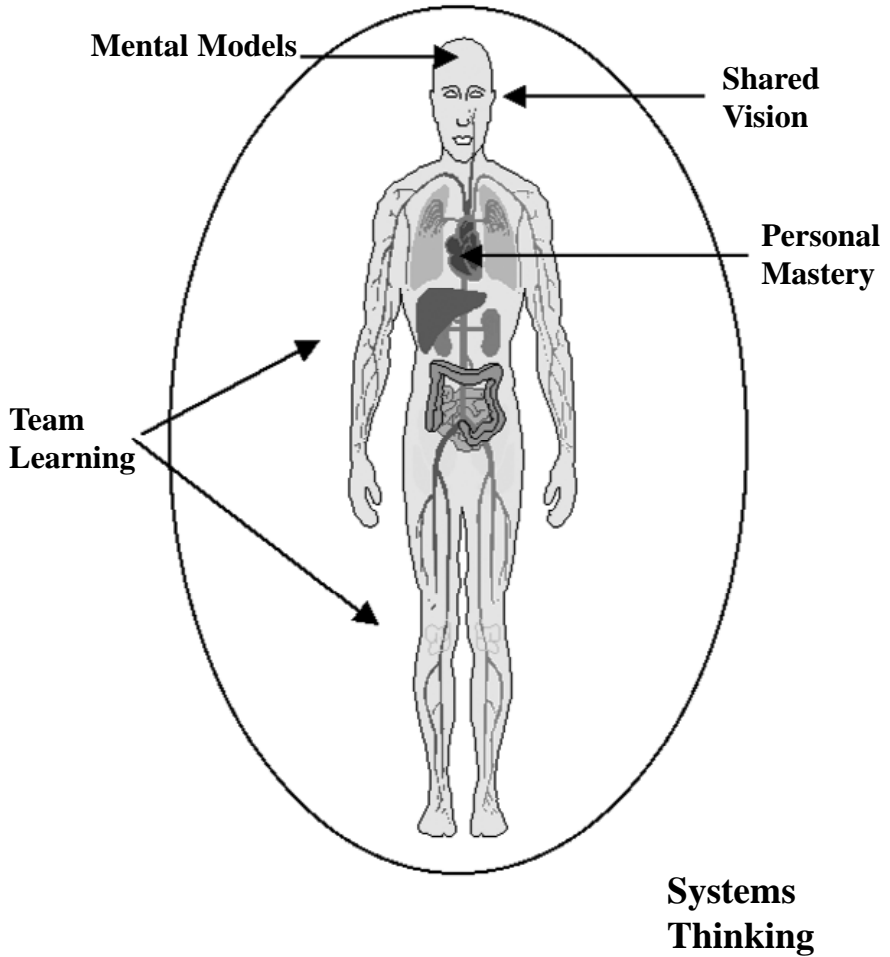


Table 1
Word Count Results

Concept	Pre-training	Post-training
Five Disciplines		
<i>Personal Mastery</i>	0	10
<i>Mental Models</i>	0	6
<i>Shared vision</i>	68	115
<i>Teams</i>	66	146
<i>Systems thinking</i>	12	22
PennDOT Vision & Mission		
<i>Quality</i>	13	15
<i>Customers</i>	59	70
<i>Services</i>	49	64
<i>Partners</i>	8	9