Methodology for the Learning Organization

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Abstract

To Survive and thrive in this era of complexity, it is critical for every organization to be a "learning organization"(Senge, 1990[1]). In a learning organization, human resource development is a key activity. The purpose of this paper is to propose the methodology to transform human resource development systems (HRDS) in order to realize the learning organization. This study is based on the paradigm of poly-agent system theory (Takagi, Kijima and Deguchi, 1995[2]). The poly-agent system theory insists that organizations and societies are constructed of diverse autonomous decision makers who have each internal model.

First, we introduce the concept of "complexity of agents" from the poly-agent system theory. It enriches the discussion about "a learning organization" which has been taken into account only two types of complexity -"detail complexity" and "dynamic complexity".Next, the new methodology is proposed to transform HRDS to create a learning organization. It is a complementary combination of soft systems methodology (SSM) and surveys/statistics. This methodology can deal with the third type of complexity-" complexity of agents". The new methodology was applied to the organizations in Japan and intensive action research was conducted in these cases. Finally we conclude that the new methodology contributed to the change of the problematic situation in the organizations, that is, transformation of HRDS.

1.   Introduction

The world seems to become so complex that it is indispensable for us to learn continuously. In this sense, every organization needs to be a "learning organization", where all people keep learning not only individually but also as a whole organization. To create the learning organization has become a focal point of business strategies.

In a learning organization, human resource development (HRD) is a key activity.   HRD activities are used as a competitive strategy (Watkins and Marsick, 1993[3]).   The HRD activities facilitate learning of the individuals and organization, and link the two types of learning.

In order to create a learning organization, it is important for HRD to facilitate organizational learning, as well as to facilitate individual learning. The organizational learning is more than the sum of individual learning.   The purpose of this study is to propose a methodology to create a learning organization. In this paper, we focus the HRDS for the learning organization in the 21st century. Therefore here we propose a systemic methodology to change HRDS through learning.

2.   The era of complexity

2.1 Poly-agent system

To understand complex world, this research is based on the paradigm of poly-agent system theory (Takagi, Kijima, and Deguchi et.al.,1995). The poly-agent system theory insists that organizations and societies are systems constructed of diverse autonomous agents (i.e. human as decision-makers).

Agents have their own internal models. Internal model is an agent's subjective framework of situations including relationship with itself. The word "subjective" means that there may be different interpretations and decisions if multiple agents are concerned with a same situation. For this reason, agents must refer their internal models mutually. Societies, organizations and groups are self-organizing mutual reference networks of agents (Fig.1).
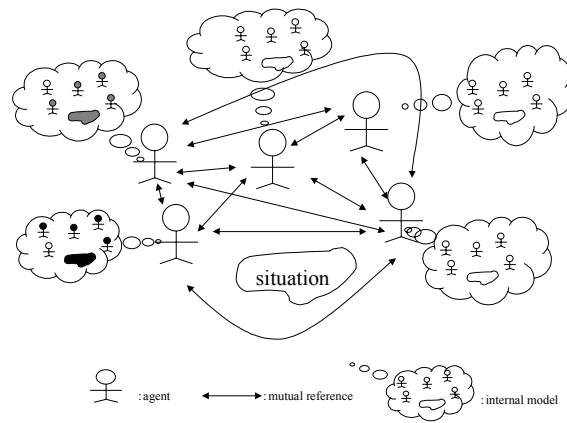
Fig. 1 Poly-agent system

Senge emphasizes the function of mental models and discourse in the learning organization, which can be understood as mutual reference for each internal model from the view of poly-agent system theory. In the learning organizations of the 21st century, diversity and autonomy are indispensable factors of management, therefore it must be needed to see people as diverse autonomous agents.

2.2 The third type of complexity

Senge says there are two types of complexity in our world- "detail complexity" and "dynamic complexity". "Detail complexity" arises where there are many variables. On the other hand, "dynamic complexity" arises where cause and effect are subtle and the results of actions are not obvious.

These two types of complexity may be sufficient if we describe and understand natural systems or artificial systems, but it cannot fully explain poly-agent systems that are constructed by human activity. People as agents have diverse views, perceptions, emotions, traits and competencies, therefore "complexity of agents" must be introduced if we argue management of people and organizations where people act. It enriches the discussion about "a learning organization" which has been taken into account only two types of complexity. The "complexity of agents" is the third type of complexity peculiar to the systems where people act, learn and make decision.

Although some methodologies and tools derived from system dynamics and action science such as "system archetypes " and "left hand column" have been proposed for the learning organization, it is necessary to develop a new systemic methodology to deal with the third type of complexity.

3.   A new systemic methodology for the learning organization

3.1 Soft systems methodology (SSM)

Soft Systems Methodology (SSM), which is developed by Checkland (1981)[4], can be used to deal with complexity of agents. SSM is suitable to change problematic situations that are complex and plural. In SSM a problematic situation is interpreted as a Human Activity System (HAS) where each individual (in our word "agent") view and interpret a single situation differently. SSM insists that active participation of those involved is very important to change a problematic situation because every agents in a HAS may have different views and purposes. That is, complexity of agents is innate properties of HAS.

In this study, we define that HRDS is a HAS. HRDS is associated with people. People are not only valuable human resources for competitive advantage of business but also diverse autonomous agents that act and learn in a poly-agent system. Therefore active participation of people is important when we change HRDS in organizations.

However, in reality, there are some constraints: in a large-scale organization, it is impossible that all members participate in a discussion.   Therefore, we need to develop a methodology to compress and standardize many different

views from members, their abilities, and their characteristics.

3.2 Surveys and Statistics

So far, aptitude tests, moral surveys, and organization diagnosis have been used for this purpose, and they have played a significant role in confirming validity of HRDS. Therefore, we cannot ignore findings and methodology of organizational theory and industrial/organizational psychology that are based on surveys and statistical approaches.

Another purpose of the use of surveys and statistics is to provide common interpretive models among people who concern. SSM tends to depend on users' tacit knowledge. By using the common interpretive models as a cue of fix point observation, we can discuss and see changes in our situation easily. Surveys and statistics give us a shared protocol for mutual reference.

In this study, we propose a new systemic methodology to change HRDS by combining SSM, surveys, and statistics. Here, SSM is used as the main methodology, because it clearly emphasizes active participation of agents who are involved.   Surveys and statistics are used as sub methodologies to guarantee all members an opportunity to participate in the change of HRDS, where we are required to consider many diverse agents.

3.3 A guideline to change HRDS

The methodology proposed here assumes that active participation of members who are involved is a key factor in a successful HRDS and that learning and improvements are made by comparison between the current situation in real world and systemic thinking in conceptual world.   The difference between pure SSM and our methodology is that we emphasize the role of surveys and statistics in providing shared framework. And the difference between our methodology and using only surveys or statistics is that we use surveys as a complementary part of SSM in order to incorporate many different interpretations into our learning process. This methodology would be a guideline to change HRDS to create a learning organization.

There are four steps in this methodology (Fig.2)
  (A) Express the problematic situation in real world
  (B) Draw conceptual models in systemic thinking
  (C) Compare a) and b) using surveys and statistics
  (D) Desirable and feasible changes for a learning organization

We don't need to implement this step sequentially. In other words, this methodology should not be conceived of as a linear procedure like the waterfall model. Rather it is a continuous cyclic process of learning and understanding.
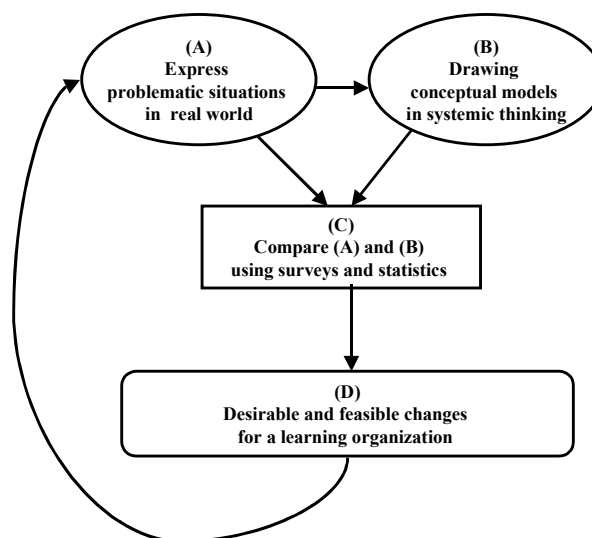

Fig. 2   A Systemic methodology to change HRDS

Next, we introduce two case studies that this methodology was applied. Both cases are Japanese established companies that need to change their HRDS in order to survive the age of mega-competition. We intervened projects of these companies as consultants.

4. Case studies

3.1 Restructuring of education system in Company A: A public service business

First, we discuss the restructuring of education system in company A, a public service company. Company A has following characteristics, which are typical in Japanese large establish companies.

   a) Shift in the environment: from strong protection by the government to deregulation.
   b) Hierarchical organization and bureaucratic management
   c) A large number of employees and a powerful labor union
   d) The lack of HRD specialists due to the generalist-oriented rotation system where employees are rotated through the different job-types

In Japan, public service business such as gas or electricity has almost monopolized their regional markets, and has also been protected by the government. However, due to the recent deregulation, those companies cannot avoid competition any more. Thus the purpose of this project is to revise their traditional education system into a new HRDS designed to develop a human resource that can survive the new competitive age.

(1) The "rich picture" of the problematic situation: Phase (A)

Our first task was to inquire a) who is involved in the HRDS in company A (i.e. what agents are stakeholders of Company A's HRDS) and b) how they evaluate their current HRDS and what they expect from it (i.e. how are the internal models of agents who are involved).   Performing this task helped us to explore how we should revise the old HRDS.   For those who did not participate in the project, although it may concern (people such as the CEO and business planning staffs), we collected data from archives, the records of their speeches, personal communication, and inference by project members.

For this task, the HRD staffs of company A were divided into 2 subgroups, senior vs. junior staff.   The results indicated remarkable difference in the 2 subgroups.   The senior subgroup emphasized the role of internal staff, such as the CEO and the HR division, whereas the junior subgroup emphasized the role of external factors, such as customers, markets, and business partners.   These differences suggest that the senior and junior subgroups have different internal models.   By comparing the two different internal models, the project members could richly describe those who are involved in the HRDS.

Next, the project members listed possible answers for the question, how the stakeholders evaluate their current HRDS and what they expect from it.   Figure 3 is a simple rich-picture of the people involved in the HRDS and how each of them evaluates HRDS in company A.
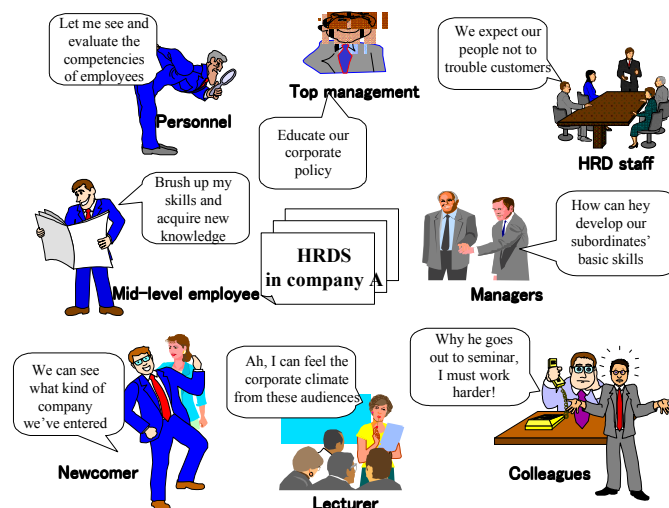

Fig. 3   A rich picture of HRDS in company A

(2) Drawing a system boundary and ranking priority of each task: Phase (B)

In order to make a satisfying achievement within a limited amount of time, we had to define the boundary of the HRDS to be discussed in the project, and discussed the priority of each task for the project.   This is done in the world of systemic thinking.   In the discussion, project members including us extracted a conceptual model of HRDS in Company A.   An important finding here was that the HRD staff in company A had only considered off-JT (classroom training) whereas the model proposed by the consultants covered more general issues.   After the discussion, we accommodated that the HRDS included not only off-JT and OJT (On the Job Training), but also the personnel systems such as promotion and rotation.   Furthermore, another accommodation was made that the most important task in the project was to design the training and education system in order to develop core talents such as middle managers.

Moreover, in order to clarify what kind of talents or human resources to develop through HRDS, we created a new concept of the "talent image to be required in company A ". We examined their corporate policy, their statement of an "ideal image of an employee in company A" which had been defined 10 years ago. We found that some features of the traditional employee image should be maintained but other new features such as "flexibility" should be strengthened in the current situation.

(3) Conducting a survey: Phase(C)

This phase is the gap analysis of the model and the reality.   So far, we conducted the analysis based on our inference of opinions and expectations of other employees.   That is, instead of collecting their actual comments, the project members inferred what they would say.   In this phase, we gave a questionnaire to middle managers and workers, and assessed their current competencies, skills, and attitude.   By doing this, we could collect opinions from employees who did not directly participate in the project.   The survey provided objective data concerning how they evaluate their HRDS.

The survey was focused on "workplace and management", "attitude and personality", and "evaluation of training".   We surveyed 1600 employees from 170 workplaces, using stratified sampling in each workplace.   Scores on "Workplace and management" and "attitude and personality" were standardized and compared with those from our previous studies with the other companies.   Based on our discussion, we measured some new concepts such as "vision", "learning", "innovation", as well as old concepts of organization behavior and leadership.   The questionnaire contained 4-alternative multiple-choice questions and the subjects chose an answer from "very much yes", "relatively yes", "relatively no", and "very much no".   The data were standardized based on our previous studies.   The HRD staff of company A mainly conducted the survey on "evaluation of training", and it consisted of multiple-choice questions and short answer essays.   The data from this survey were not compared with other companies because there were no peer data.

The results suggested that the employees had a strong feeling of belonging and they were highly adapted to their organization.   However, the results also indicated some symptoms which are typical in large established companies: they spent much energy to settle and/or avoid conflicts between sections within company A, and their interests are oriented to issues inside the company rather than outside.   For example, in the survey on "workplace and management", "activity level of the group" was higher than the peer score, but "management vision", which indicates vision of the workplace, was lower than the peer score.   In the survey on "attitude and personality", "motivation" and "adaptation to the company" were higher than the peer score, but the scores of "flexibility in the interpersonal relationship" and "uniqueness" were lower than the peer score.   Although project members could have predicted some those results, it was important to confirm their prediction with objective data and to share the same cognition of situation.

The results of the survey on the "opinions about training" showed that the employees evaluated their training system highly, however, they complained that it does not help them with their self-actualization.   Thus we concluded that we should revise the training system to be individual-oriented.   The employees also reported that learning on the actual work and OJT contributed mostly to their development, and that classroom training (off-JT) served only as supplementary means.   Some project members were shocked by these results, because they had believed that classroom training must have contributed the most.   Those results were visualized in the rich picture, so that we could recognize the gap of our problematic situations and an conceptual model of HRDS.

When we discussed a new HRDS and expected human resources, we defined them as "an organization and people that can survive changes in the competitive environment".   However, the results of our survey demonstrated

dissociation between the definition and what they are.

(4) Taking action: Phase (D)

The next step is to plan action, which is systemically desirable and culturally feasible. We made a general plan to develop a new HRDS. We invited non-members of project who are associated with HRDS in company A. (e.g., training staff in each line and personnel staff who were not project members) to a meeting. And we reported what we discussed so far within the project members and what we found in our survey. The purpose of the meeting was to share a framework on how to integrate the HRDS and other relevant systems effectively and how to develop a new HRDS efficiently. It was a work to gain cultural feasibility of new HRDS in the organization. Furthermore, for the purpose of systemic desirability, we checked if there were duplications or lacks, and set up some solution levels, such as "Having HRD staff solve on their own." "Requiring collaboration with the line staff." and "Requiring company-wide collaboration."

In addition, based on the discussions and surveys, we made an accommodation on what was1 needed for the new education system and on roles and responsibilities of managers, workers, and the organization. The discussion was focused on the autonomy of workers, and the relationship among the workers, managers, and the organization. We agreed that the autonomy of the workers is necessary for the company to deal with change for the future. In traditional education system, the training and development for workers were based on their hierarchical organization structure. However, through the practice of this project, they understood that their traditional hierarchical HRDS was not appropriate for developing autonomous workers. In the discussion, we concluded that workers are the center of the HRDS, and managers and the organization support workers to learn. Fig.4 describes the shift from the traditional HRDS model to a new model. They are topologically same, but their functions required are quite different. In other words HRDS in company A has changed greatly from an organization-oriented vertical model to a worker-oriented horizontal model. In a new horizontal model, a worker can be understood as an autonomous learning agent.
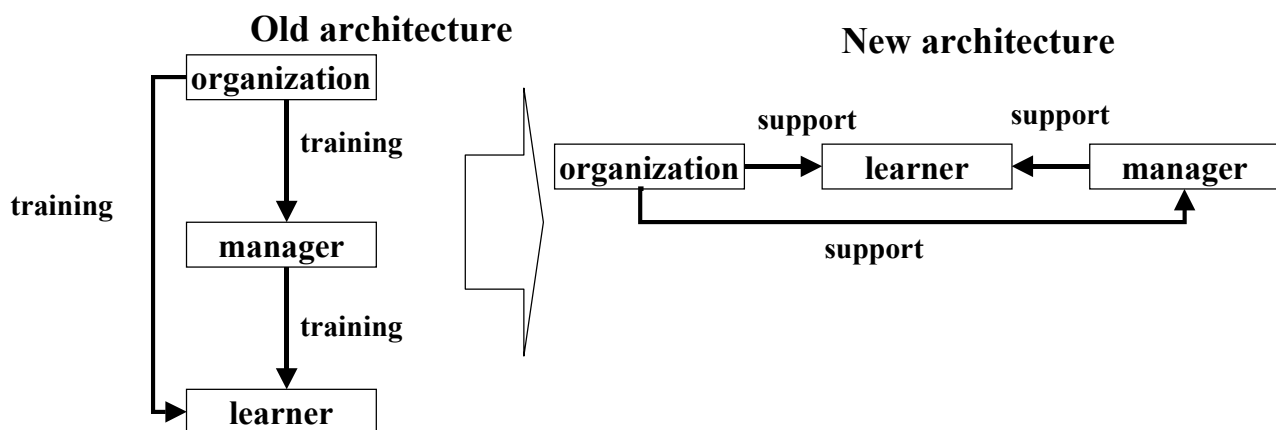
Fig. 4   Shift of HRDS architecture in company A

The project members changed their policy of HRDS from "training to be given" to "learning to explore". As they recognized their human resources as autonomous learners, their architecture of the HRDS shifted from uniform-type training to cafeteria-type learning where there are various courses and contents that learners can choice at their own needs.

(5) Accomplishments in Company A

Through this project by using the proposed new methodology, we could successfully develop the new HRDS. We can discuss accomplishments in company A from the view of Senge's five discipline- shared vision, personal mastery, mental models, team learning and systems thinking. First, The vision to "survive the competitive age" was discussed by the project members and it would be transmitted to all members of the organization through practice of the new HRDS. Second, we found that the cafeteria-type training system, which was based on the belief that people were self-learners, would be promote personal mastery. In other words, the goal of HRD activity would be not to give knowledge and skills simply but to support people to develop their personal mastery. Third, it is remarkable that the project members could overcome the traditional mental model of HRD in company A. When the new HRDS was announced and implemented, it would be update traditional mental models in managers and workers. Fourth, the project members

experienced systemic thinking and team learning through the activity by using the new methodology. They interpreted their HRD practices as a system, compared mental models of each member, and finally accommodated their view as to what current HRDS was for company A and what it should be for the future.

3.2 Improvement of OJT system in company B

The second case is improvement of OJT system in company B ,which is a famous information system integrator in Japan.   In company B OJT takes core position of the HRDS.   When we intervened, definitions of OJT system in company B were as follows:
  a) Managers were in charge of the training, and they had to plan OJT schedules of all subordinates
  b) A manual for OJT practice was distributed among the whole company members.
  c) A skill acquired as a result of OJT would be registered in the HR database.
  d) Senior employees named "Trainer(s)" would coach new employees in their workplace.
  e) Managers and trainers would instruct their subordinates directly in everyday work.

(1) Conducting a survey and drawing the rich picture
At the beginning of this project we conducted a survey based on the above information.   The survey consisted of a questionnaire and an organization diagnosis.   The questionnaire was the one that had been executed in company B to observe the fixed point.   On the other hand, the organization diagnosis was the same as the one executed in company A. The purpose of the diagnosis was to have understood the situation of the workplace as the field in which OJT was done, as well as the traits of individuals and management.   The results were as follows:

  a) There were cognitive gaps between managers and subordinates concerning satisfaction of OJT
  b) Neither the system nor the support tools of OJT was effectively used.
  c) Managers did not always train their subordinates directly.

To present and discuss results of the survey, project members had a meeting with the representatives of the line (business divisions). The viewpoints of the line were indispensable especially in such HRDS as OJT, because learning occurs in workplaces.   According to the discussion, a rich picture by which each speculation (expectation/recognition) was filled in was made.   Through this process, it turned out that the recognition and the activity of OJT varied in each division.

(2) Extracting issues to improve OJT
Next, based on the result of former activities, we tried to extract issues to improve OJT. Using the techniques of SSM, 5 themes of issues were addressed.
  a) The purpose of OJT: "Why" should we develop people?
  b) The target of OJT: "What kind of talent" and "What kind of competencies "should we develop?
  c) The subject and the object of OJT: "Who" should develop "whom"?
  d) The method of implementing and practicing OJT: "How" should we develop people?
  e) The constraints of OJT: "What constraints" are there when and where we should develop people?

In fact, some of above themes had not been examined enough until this project started.   The first issue was an ideal talent image as a goal of training.   Should it be an entrepreneur or a core person, a professional or a project leader? The second issue was to clarify the person who should be trained. The discussion was whether only employees or a whole company member including management. Also we discussed necessity for training of middle-aged employees. The third issue was to redefine agents who should implement OJT.   In traditional OJT managers were responsible for practicing OJT and the system of "trainers for newcomers" had been introduced. However, through the discussion process, we recognized assistant managers and or chiefs in each section had been playing important role of OJT in real . The fourth issue was an examination of the range of the content of OJT (skill and competencies).   The content to be developed by OJT had been deviated to the items of the HR database, which were limited to only technical skills. Conceptual skills and human skills were not listed in the database.

These four issues would represent human side of OJT system; On the other hand, issues on a situational side were found in operating routine of OJT practice.   In the past, the definition of "OJT" in company B was that managers train their subordinates by face-to-face form.   General routine of traditional OJT had three steps: 1) to have meeting with

each subordinate every period, 2) to plan a training schedule, and 3)to register it to the HR database. However, from the consequences of the discussion, new viewpoints were generated. The project members recognized that OJT was an important practice to develop and manage workplace (we say "Shoku-ba" in Japanese) as the field ("Ba") of the learning. Therefore OJT could be used to promote mutual learning of members in workplace and sharing vision of their manager. Also the importance of job assignment, mentoring and career counseling were discussed as situational side.

(3)Developing a new OJT system

As a result of the discussion, the issues were consolidated three points; 1) the role of each person in the workplace was not clear, 2) development of a human skill was not considered, 3) current routines described in the OJT manual did not function enough. We started developing a new OJT system to overcome these issues.

First, the relation between a manager and an actual trainer/instructor in the workplace was clarified. The managers' role was to present his/her vision that should be shared by all members and to make a climate where the members could learn from each other. The mid-level employees (such as assistant managers and chiefs) who had been training members directly were empowered as formal coaches in the new OJT system. Moreover, trainees were esteemed as self-learners. The unit of the manager, the coach, and the learner was presented as a model of " OJT Triangle"(Fig.5), clarifying the role and the interrelation of each person.
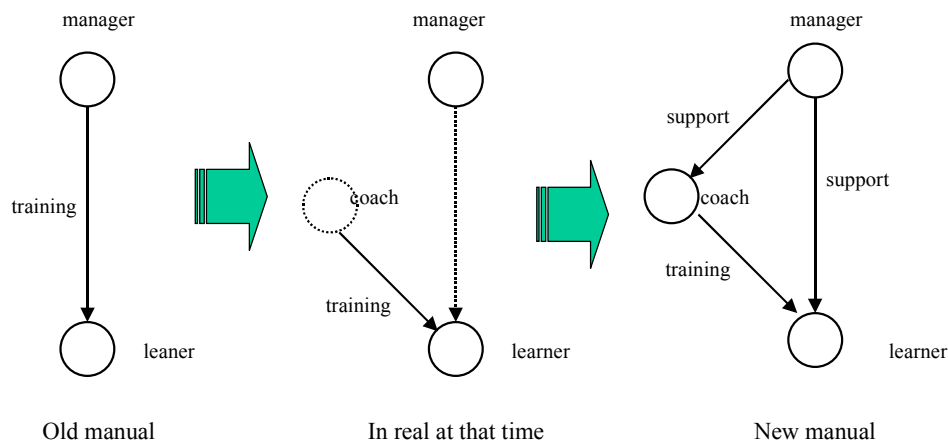

Fig. 5   Shift of OJT relationship in company B

Second, the importance of human skills was recognized. Development programs of leadership skills and coaching skills indispensable for managers and coaches to implement OJT were designed. Third, the OJT manual was revised. The content of the message in the old manual was mainly for managers though it was distributed every employee. Useful information for trainers like a technical method and a know-how was not described enough in the old manual. To be used more easily in daily activities, the revised manual was edited separately; 1) for managers and coaches that need not only concepts and procedures of OJT but also some training technology and know-how, 2) for all members who were empowered as self-learners. The new definition of OJT and the model of "OJT Triangle" were described in the new manual.

(4) Accomplishments in Company B

The most remarkable accomplishments in company B were the change in their mental model. Their old OJT manual was based on the 2-term relationship between the manager and worker (subordinate). However, in the new OJT system, the 3-term relationship of manager, worker (=learner), and coaches, was developed. In new system the role of the trainer-in-real (typically assistant managers) was clarified. It means that by comparing the internal models of HRD staff who only design and monitor OJT on paper and that of line where OJT was practiced and learning was occurring in real, they developed a new model of OJT that could be shared among whole organization.

5.   Discussion

In company A, the project to rebuild their HRDS was seen as a process of team learning of the project members. Like many other Japanese companies, many project members were not specialists for HRD. However, by participating

actively in the project, they have become self-learners in order to be HRD specialists. In this case, we can see two types of learning. One type of learning was team learning where the project members learned the way to a learning organization through our proposed methodology. The other type of learning occurred in the organization level. Through the new HRDS, people would learn a new vision of their company and would develop their personal mastery as self-learners.

As to company B, we drew the same conclusions as in company A. Concerning team learning, the learning in the project team smoothly transferred to the learning in the whole company, because we intentionally involved training staff of line in the project. The revised OJT manual based on the idea that their workplace presented an organizational learning system that consisted of agents such as managers, workers, and trainers. The new OJT manual was not only a product of the team learning but also a facilitator of the process of organizational learning.

In both cases, the new methodology proposed in this article functioned effectively. The methodology facilitated organizational learning through the team learning of each project to transform HRDS. There is double level learning when we use this methodology to change HRDS: First level is team learning and second is organizational learning (Fig.6)
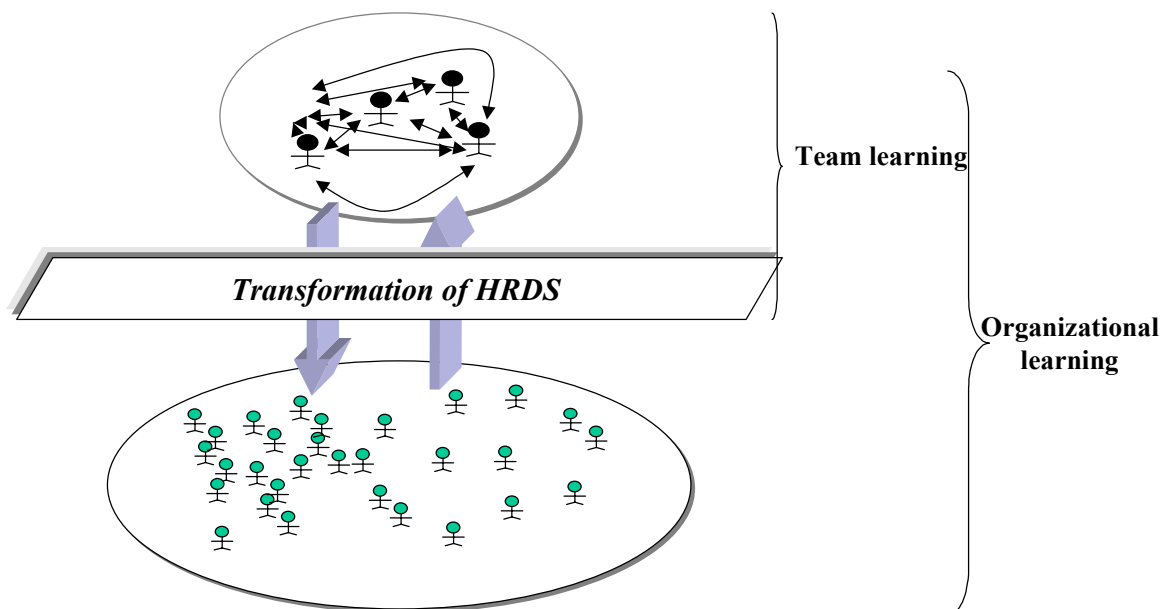

Fig. 6   Double level learning

6.   Conclusion

In this paper, we proposed new systemic methodology to change HRDS using SSM and surveys/statistics complementarily. It is a methodology to create a learning organization. And we reported two cases in Japanese organizations to which we applied this methodology. The results of the case studies suggested that this methodology contribute to change HRDS towards a learning organization. However, further application to cases, revision of the theory, and refinements in practice are required.

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