JYVÄSKYLÄ STUDIES IN BUSINESS AND ECONOMICS 14

Raili Moilanen

A Learning Organization: Machine or Human?

Esitetään Jyväskylän yliopiston taloustieteiden tiedekunnan suostumuksella
julkisesti tarkastettavaksi yliopiston vanhassa juhlasalissa (S212)
kesäkuun 21. päivänä 2001 kello 12.

Academic dissertation to be publicly discussed, by permission of
the School of Business and Economics of the University of Jyväskylä,
in Auditorium S212, on June 21, 2001 at 12 o'clock noon.

UNIVERSITY OF JYVÄSKYLÄ

JYVÄSKYLÄ 2001

A Learning Organization: Machine or Human?

JYVÄSKYLÄ STUDIES IN BUSINESS AND ECONOMICS 14

Raili Moilanen

A Learning Organization: Machine or Human?

UNIVERSITY OF JYVÄSKYLÄ

JYVÄSKYLÄ 2001

Editors
Tuomo Takala
Faculty of Business and Economics, University of Jyväskylä
Pekka Olsbo and Marja-Leena Tynkkynen
Publishing Unit, University Library of Jyväskylä

ISBN 951-39-0996-4 (nid.), 978-951-39-5312-6 (PDF)
ISSN 1457-1986

Jyväskylä University Printing House, Jyväskylä
and ER-Paino Ky, Lievestuore 2001

To Santtu and Pyry

ABSTRACT

Moilanen, Raili
A Learning Organization: Machine or Human?
Jyväskylä, University of Jyväskylä, 2001, 55 p.
(Jyväskylä Studies in Business and Economics,
ISSN 1457-1986; 14)
ISBN 951-39-0996-4 (nid.), 978-951-39-5312-6 (PDF)
Finnish Summary
Diss.

This study explores learning organizations as holistic entities. The study consists of an introductory part and four published articles. Each article examines learning organizations as holistic entities, but from various viewpoints. The aim of the whole dissertation has been to describe and measure the learning organization as a holistic system in which individual and organizational factors are regarded as representing the two most important levels. Because of this approach there is some overlapping in the thesis as a whole as each article also has to represent the whole as an independent study.

Learning organizations have been studied very intensively over the past two decades, but the field is still very diverse and complex. Various different viewpoints and definitions seem to be typical of the discussion. Furthermore, partial viewpoints and emphases which relate more to defining or describing than to analysis also seem to prevail. Holistic viewpoints are rare, although there is a clear need in practice to understand and diagnose the whole as it is seen from the managers's point of view.

In the present study a model called Learning Organization Diamond has been developed to study learning organizations. It is composed of two interrelated levels, organizational and individual, and ten elements, although there are only five elements which are listed in the basic model. *Driving forces* are the most important, because they have a straight impact on both levels of the learning organization. *Finding purpose* is important for giving the right direction to learning and development, as well as for building the motivational basis for individual learning. *Questioning* is aimed to help in lowering the barriers or reducing the resistance to change when confronting the challenges of learning. *Empowering*, then, is the element which includes all means and tools of development and learning. *Evaluating* is the last point of this conceptualization, and its role is to make sure that the learning requirements have been fulfilled for both parts of the model.

The primary aim of understanding and diagnosing learning organizations as whole entities proved a very interesting and challenging task. Various methods and ways of collecting data from Finnish organizations provided a good basis for understanding, and thereafter, for analysing learning organizations as large entities. But still the truth is that everything depends on defining - learning organizations are still good guesses and shared agreements.

Learning organizations are such large entities with all their structural and human sides that studying them without a good framework is not a feasible task. Whether the framework developed in this study is appropriate or not is subject to evaluation and testing. At least the aim has been to increase understanding about the history of learning organizations and to build a usable framework on that basis. The greatest advantage of applying this special framework was in that it enabled composition of the various metaconcepts. Organizations are so varied and variable that in order to understand and analyse them, the concepts used should be flexible enough to allow analysis of different types. The great variety of organizations and individuals included in this study showed that the framework is adaptable to different situations and circumstances.

Keywords: learning organization, diagnosing, measurement instruments, strategy, whole system.

Author

Raili Moilanen
Saarijärventie 10 A 3
40200 Jyväskylä
Finland

e-mail: moilanen@tase.jyu.fi

Supervisor

Professor Juha Näsi
School of Business and Economics, University of Jyväskylä
and
Institute of Industrial Management, Tampere University of Technology
Finland

Reviewers

Professor Mike Pedler
Rewans Professional Fellow at the University of Salford,
Great Britain

Research Manager, docent Pauli Juuti
Johtamistaidon opisto
Finland

ACKNOWLEDGEMENTS

Time has come now to look back and show appreciation. The journey of exploration started several years ago, and at this very special point I would like to thank all those individuals and organizations who have supported me during this journey.

My foremost gratitude is to be expressed to Professor Juha Näsi, who has given me the most valuable help in this work process. First of all, he guided me towards this journey years before I actually started it, and he very patiently helped me past the first stages of the journey. Secondly, he has been the most encouraging person during worst stretches of the journey and he always had time to listen to my concerns about the process. I have also been fortunate in having Professor Mike Pedler and Dr. Pauli Juuti as the official examiners of my dissertation. My special thanks are directed at Professor Pedler for being involved with the topic in so many various ways. His works have been very stimulating as have been well the conferences he has run. Dr. Juuti's valuable comments created some very exciting prospects for future studies in the field.

There have been many people in the scientific community of the University of Jyväskylä who have shared this journey with me, and I wish to devote very warm thoughts to all of you. The discussions have been interesting, inspiring and valuable. Sometimes they have helped me clarify some problems in the study, and sometimes their value has been in my personal growth process. The move from a management trainer to a researcher was not as easy as I thought, but being a member to a community such as this has greatly contributed to my growth as a researcher. I would also like to thank one more person in my academic colleague Anu Penttilä, who has assisted me at various stages of this dissertation, particularly with data processing.

The significance of friends is unexpectedly high in a work process that is this long. Because of the joys and sorrows of my personal life, the support of good friends during all phases of life has been extremely important. Without their care and concern I would probably have had much more difficulty in finishing this research. To all my friends, whether here or somewhere else I would like to express my sincerest thanks - without you this final stage would have been more unlikely.

I am also very grateful to all those managers and leaders who have contributed greatly to my research process. The discussions, as well as participation in the data collecting process, were essential for the development of the dissertation. Furthermore, their great interest in the topic at hand enhanced my believe in the importance of studying learning organizations.

The financial support by Kulttuurirahasto, Liikesivistysrahasto, Työsuojelurahasto and Jenny ja Antti Wihurin rahasto, as well as the support of the University of Jyväskylä made it possible to devote my time totally in research. For this I am most thankful.

My great gratitude is also addressed to my mother and to my recently deceased father. They have always encouraged me to study, which has meant a lot

to me. Because of the atmosphere of my childhood I have been able to search for new challenges and goals that are reachable so that I have always tried to find something new to learn all the time.

The last thanks belong to my two sons, Santtu and Pyry. Without Santtu's syndrome, I would probably never have start the process of studying. He demanded so much care as a child that I had to find a new career. I could not take care of my family, my work and study new things at the same time. When Pyry was born, I made the decision to devote my time and effort to two journeys in life. The children were the most important, and studying made it possible to contribute to their continuous well-being, while at the same time contributing to my own well-being and growth.

Today the process of studying learning organizations has reached one assessment point, and I am ready to start thinking about some new journey. Once again, thank you all for walking with me through these interesting years.

Jyväskylä, May 9, 2001

Raili Moilanen

CONTENTS

PART I: THE FRAMEWORK OF THE DISSERTATION

1 INTRODUCTION

The present dissertation explores learning organizations as holistic concepts consisting of separate but interconnected levels of individuals and organization-wide elements. It is composed of four articles, each studying the learning organization from a slightly different viewpoint, while bearing in mind throughout the process the combined wisdom produced by a holistic composition of learning organizations.

This holistic way of conceptualising learning organizations is the core and main principle of the dissertation. Its background lies in seeing learning as a concept of being connected to work and social context, which means that learning is taking place at all levels and in all situations in organizations. The other side of the concept of a learning organization is the organizational level whose holistic aspect is derived from the managerial point of view. This implies that the role of management and leadership and the management of the whole organization are highlighted. As far as the aim of learning organizations is learning of all participants, the viewpoint sustaining this should be that of the whole organization. Therefore, understanding these two concepts as widely as here also means having a very broad and complex concept – the learning organization as a whole – as a starting point for the exploration.

The framework of the present dissertation dates back to the licentiate thesis of the researcher (Moilanen 1996). The main idea of that thesis was in drawing a map of the theoretical background of learning organizations. The main outcome was that there appeared great variety and dispersion in the prevailing theories or doctrines, and that the need for a holistic viewpoint of a learning organization was evident. The main aim of the present study, thus, was to define, describe and measure the learning organization as a holistic system in which individual and organizational factors are regarded as representing the two most important levels.

There exist some holistic views of learning organizations, but most often

the concepts used have been too narrow for the needs of analysing learning organizations as broad and many-sided entities. Views of learning companies as broad entities were already presented in the late 1980's, when Pedler, Burgoyne and Boydell started investigating the learning conditions and features of learning companies (Pedler, Boydell & Burgoyne 1989, Pedler, Burgoyne & Boydell 1991, 1997, Burgoyne, Pedler & Boydell 1994). Holistic thoughts were also presented by Peter M. Senge (Senge 1990a, 1990b, Senge, Kleiner, Roberts et al. 1994, Senge, Kleiner, Roberts et al. 1999).The third holistic approach to learning organizations could be seen in the work of Mayo and Lank (1994), and Watkins & Marsick (1996) also presented a rather broad view of learning organizations.

The approaches above were analysed thoroughly and a holistic model of learning organizations was developed for the present study on the basis of Pedler, Boydell and Burgoyne and Senge, and Argyris and Schön (1996). None of these single theories was sufficiently broad for the present purposes, or included a measuring instrument based on the model. Therefore, the composition of the main concepts of a learning organization was complemented by some extra elements not so distinctly present in the existing views of learning organizations. As a result, the framework of the Learning Organization Diamond was developed as a synthesis of prevailing concepts and some new elements of the whole.

Developing this model was important for two reasons. Defining a learning organization as a large and holistic entity is quite rare in the theoretical study of learning organizations. At the same time the need for managing whole organizations is becoming more important among managers. Developing the model was also essential because of the lack of measuring instruments based on theories or wide concepts of learning organizations.

Deepening the discussion to deal with the process of measuring the phenomena involved requires a thoroughly studied base, which in this case could not be found in the present accounts of learning organizations. A solid conceptual foundation is needed to develop a valid measuring tool, and the existing theories did not seem to fulfill the requirement of a thorough and holistic definition of a learning organization. Pedler, Boydell and Burgoyne had studied learning organizations and defined learning organizations as holistic entities, but the measuring instrument they used is based on the early phases of their work. Although they have developed their thoughts further, the instrument still remains at the level of their earliest work. Therefore, their thoughts and the instrument were not chosen to serve as the only starting point of this dissertation.

The concept of a holistic learning organization can be illustrated by presenting it in the form of an imaginary diamond. A diamond was chosen to visualize the concept because it is a whole, but at the same time composed of parts. Diamonds are also very valuable. The concept of a learning organization, or learning in general, is becoming more and more valuable in rapidly changing organizations in particular.

The Learning Organization Diamond is composed of two interrelated

levels, organizational and individual, and ten elements. The upper part of the diamond covers the organization-wide aspects of the tool, whereas the lower part concentrates more on individual–based views. The whole is composed of ten elements, although there are only five elements that are listed in the diamond-figure. This means that the content of the five upper elements is comparable with the other five elements of the tool, and only the viewpoint is different.

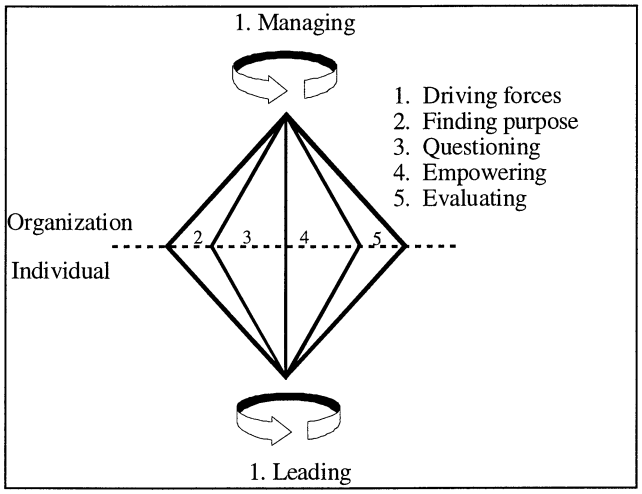


FIGURE 1 The Learning Organization Diamond

The whole composed like this is in a way a construction of metaconcepts, because it tries to capture the most important aspects of organizations and their individuals from the holistic point of view. *Driving forces* are the most important, because they have straight impact on both levels of the learning organization. *Finding purpose* is important for giving the right direction to learning and development, as well as for building the motivational basis for individual learning. *Questioning* is aimed to help in lowering the barriers or reducing the resistance to change when confronting the challenges of learning. *Empowering*, then, is the element which includes all means and tools of development and learning. *Evaluating* is the last point of this conceptualization and its role is to make sure that the learning requirements have been fulfilled for both parts of the model.

The aim of this dissertation also included the more concrete level of learning organizations. This is because describing and defining did not provide enough information for the theoretical discussion, and because the need for analysing this holistic reality of learning organizations was clear. Therefore, a measuring instrument was developed and tested with a group of almost 700 people working in Finnish organizations. The main reason for gathering the data was to test the instrument, but the data also provided some specific information about the organizations measured in the process. Thus, the present study also contains some conclusions about them as learning organizations.

To serve as a dissertation, all of the above has been compiled into one whole including two main sections. The first section forms a uniting and an introductory part for the four articles included in the second section of the thesis. The introduction is composed of a discussion of background theories, existing methodological variety, some theories linked to the main concept of learning organizations, and the choices behind the process, as well as very brief overviews of the four articles.

The second section, i.e. the main content of this dissertation is introduced in the form of articles published earlier in different journals and series of publications. Each of these four articles has its own research task, namely:

1. To analyse the field of learning organizations from a theoretical and practical point of view. To develop a holistic concept of learning organizations, with a particular focus of examining the value of management, leadership, shared direction and human motivation in learning organizations.
2. To further develop the framework for analysing organizations as whole entities and to examine learning organizations as different type of actors.
3. To develop the framework towards a more practical analysis, e.g. to develop a tool for measuring learning organizations as whole entities.
4. To describe the organizations involved in the testing process of the instrument. To analyse the "best" learning organizations and finding the connections between the separate elements of the model and the "success as a learning organization".

1.1 Learning organizations as whole entities

The field and the framework

There exist no shared agreement or conception about learning organizations. Instead there are so many different viewpoints and angles to this concept that it is really hard work to try to discover the core elements about them. This is particularly due to the main trend in this field, i.e. concentration on organizational learning and not on learning organizations (Easterby-Smith 1997). The difficulty is twofold, first of all, there is a lack of a shared categorization of the different views and secondly, there is a lack of shared thoughts about the content of the concept itself.

The most rational way to approach this variety is to establish some categories for grouping the existing thoughts, and after that deepen the discussion by framing the concept of learning organization. To express it in another way: firstly, to discover the main trends in this field, and secondly to frame the concept itself.

A few comments are necessary before discussing these categories. The scientific background and the scientific aims of this study have naturally affected the approch taken to learning organizations. This can be very clearly seen in the composition of the concept of the whole and the contents of the

elements of a learning organization.

For this reason the dissertation has some predetermined conditions. Its specific field is strategic management, which means that the scope of the study is rather more holistic and strategic than partial or operative. This strategic emphasis is also reflected in some of the main concepts regarding the learning organization – managing and sharing direction are very important for the whole to be developed as a learning organization.

There are some other predetermined conditions too, but these do not originate from the theoretical background of this dissertation. Another strongly affecting factor has been the researcher's practical experience in developing organizations and training managers. The point is that learning organizations do not exist without human beings. Neither do these organizations evolve without being very conscious of the motivation, obstacles and means of learning at the individual level. Following that, individuals are regarded as a very valuable part of the whole concept.

Different perspectives of learning organizations

Trying to capture the main trends of learning organization viewpoints is very challenging. Analysing organizations from this learning point of view is not as well established as some other schools of thought investigating organizations. Therefore the path from theory to the specific viewpoint of the present dissertation was not an easy one to follow.

The first step was to identify the ideas which could form a starting point for analysing learning organizations as whole entities. The first difficulty was the grouping of existing approaches, because the existing categories had not been formed to serve the purposes of this study. In the following, however, a brief overview of the existing groupings is presented, before introducing the specific grouping that aims to solve the complex problem involved in establishing a holistic viewpoint.

Three categorizations were originally chosen for a short review, namely, those presented by Chris Argyris and Donald A. Schön (1978), Paul Shrivastava (1983) and George P. Huber (1991). The fourth grouping introduced here was composed during the earlier phases of this study (Moilanen 1996). A fifth grouping will also be introduced (Easterby-Smith 1997). If this grouping had been published earlier, it could have served as a very good basis for analysing the issue, but unfortunately it was published too late to serve the needs of this dissertation.

Argyris and Schön (1978, 321) have a very broad focus in their review: organization as group, agent, structure, system, culture and politics. Shrivastava's (1983, 9) focus, on the other hand, is on learning processes, and he regards organizational learning as adaptation, assumption sharing, developing knowledge of action-outcome relationships, and as institutional experience. The main focus in Huber's (1991, 90) review, then, is more on the process of knowledge, which means that his categorization consists of knowledge acquisition, information distribution, information interpretation and organiza-

tional memory.

Shrivastava's and Huber's conceptualizations are more precise and narrowly focused, while the one by Argyris and Schön is broader and more general. Argyris and Schön (1978, 320) have categorized the learning organization literature according to organization theories, but they themselves admit that "the categories are based on more or less conventional ways of describing what an organization is, ...".

The fourth grouping, presented by Moilanen (1996), is also based on conventional ways of analyzing theories, not of organization, but of learning. The foundation of this categorizing has been tested and it has a long history, but the main question is whether it could serve as the foundation of learning theories of organizations in the same way as it does of individuals? In spite of this questioning, the categorization of organizational learning theories has been formed here by using the individual-based categorization. This was a reasonable choice because the prevailing groupings did not offer any help for separating partial views from more holistic views.

The fifth grouping published later (Easterby-Smith 1997), is formed on the basis of six different perspectives or disciplines: psychology and OD, management science, sociology and organizational theory, strategy, production management and cultural anthropology. The literature of this field has been analysed particularly from the viewpoint of organizational learning. Thereafter, views of learning organizations have been analysed. This thorough grouping assists in identifying the main trends and also clarifies the great variety of this field. Unfortunately it was published too late for the purposes of this dissertation.

The grouping composed for the purposes of this thesis is below introduced more thoroughly. The principal groups in this categorization are constructed according to individual learning theories (behaviorism, cognitivism and humanism), their corresponding names in the discussion to follow being *outcome-oriented learning organization*, *process-oriented learning organization* and *vision-based or holistic learning organization*.

Outcome-oriented learning organization literature

The first grouping places the emphasis on the outcomes of learning and on the external motivation or external change forces behind learning. The most probable types of learning organizations falling into this category might be organizations which emphasise the importance of their environment and their external stakeholders. For example, the ideas by Hedberg (1981), Hedberg & Jönsson (1989) and Kirjavainen (1997) can be included in this group.

The views in this category can be crystallized as follows:

> *"Learning takes place when organizations interact with their environments: organizations increase their understanding of reality by observing the results of their acts" (Hedberg 1981, 3).*

Process-oriented learning organization literature

The development of the second group resembles an individual's cognitive processes. The organization's processes and people in those processes can be said to be identical with these individual learning processes. Although there are various different learning processes in organizations, the common denominator for all writings in this group seems to be learning itself and the people in the process of learning.

For Argyris and Schön (1996, 191) the key concept in a learning organization is ... "that of inquiry, interaction with one another on behalf of the organization to which they belong in ways that change the organization's theories of action and become embedded in organizational artifacts such as maps, memories and programmes". Changing mental models is a vital process in learning, since it forms the basis for both the individuals' and organizations' learning as seen in the various publications by Chris Argyris.

In his early writings, Argyris was more interested in the individuals' processes and thinking (Argyris 1957), but over the past decade he has moved more and more towards looking at learning organizations, although his core ideas are still related to individual and organizational mental models and their changes as signs of learning in organizations (Argyris & Schön 1978, 1996, Argyris 1977, 1985, 1990, 1991, 1992, 1993, 1994, 1997).

In addition to this viewpoint of mental models or processes, there are various other processes seen as the core processes of a learning organization. These are often related to experiental learning (Kolb 1984, March & Olssen 1976, Dixon 1994, 44), combining action and learning (Revans 1983, Pedler 1983, Moilanen 1990, Mumford 1995, Bradding & Casey 1996), general thinking and understanding (Friedlander 1983), managing the dynamic aspects of organizational knowledge-creating processes (Nonaka 1994, 14) or increasing knowledge bearer's competence (Wikström, Normann, 1994, 16). Knowledge is a core process for others also: measuring and managing technological knowledge is important (Bohn 1994) as is the role of external information (Mcdonald 1995, 557). Learning processes can also be analysed from the management point of view, for example, as management innovation (Stata 1989, 64), as a combination of strategy and learning (Garratt 1987) or as corporate planning processes (De Geus 1996, 92).

There are two views of organizational learning, which will be presented here to illustrate the ideas of this outcome-oriented category of learning organization literature:

> *According to Argyris and Schön (1978, 29) " organizational learning occurs when members of the organization act as learning agents for the organization, responding to changes in the internal and external environments of the organization by detecting and correcting errors in organizational theory-in-use, and embedding the results of their inquiry in private images and shared maps of organization."*

> *Dixon (1994, 5) defines organizational learning as "the intentional use of learning processes at the individual, group and system level to continuously transform the organization in a direction that is increasingly satisfying to its stakeholders".*

Vision-based or holistic learning organization literature

The core concept of this group can be seen in the perceived wisdom of building a vision-based or a holistic learning organization. This group is neither a group of tested theories nor self-evident empirical results, and the ideas categorized in this group seem to be more idealistic than realistic because of their broadness and their holistic aim. It is hard to prove that these types of learning organizations exist, but it does not decrease the value of the thoughts categorized into this group.

Views of learning companies as broad entities were already presented in the late 1980's, when Pedler, Boydell and Burgoyne (1989) started investigating learning conditions and features of learning companies. They presented their ideas in various occasions, and in 1991 they published a book, which had its background in their view of eleven characteristics of learning companies (Pedler, Burgoyne & Boydell 1991). Since then their orientation has moved more towards learning processes, but despite this new focus they still have a vision of a whole company as a learning company (Burgoyne, Pedler & Boydell 1994):

> *A learning company is an organization which facilitates the learning of all of its members and continuously transforms itself (Pedler, Boydell & Burgoyne 1989, 2).*

The next viewpoint presented here is that of Peter Senge's, whose emphasis has changed from a narrower focus towards a broader image of a learning organization (Senge 1990 a, 1990 b, Senge, Kleiner, Roberts et al. 1994). Senge's earlier thoughts were based on five principles of a learning organization (systems thinking, personal mastery, mental models, shared vision and team learning) and the latest ideas consist of individual learning processes and organizational architecture complemented by the concepts of an implicate order and of learning results (Senge 1990, Senge, Kleiner, Roberts et al. 1994).

Senge's latest views, in particular, seem to be broad enough to include features both from an internal and external focus of a learning organization, as well as organizational artefacts as enabling factors of learning. All these together indicate that Senge has created a vision of a very broad and holistic learning organization. This might be the reason for the fact that a precise and short definition of a learning organization is very hard to find in Senge's works.

> *"... people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge 1990 a, 3).*

These different viewpoints are apparent signs of the diversity of the field of learning organizations. The viewpoints presented in this review seem to be more partial than holistic, and it is supposed that the situation is similar with other writings not referred to here. The need for analysing learning organizations as holistic entities directs the interest and therefore the two most holistic views have been chosen to help in creating the framework of this thesis. The framework composed with the help of these viewpoints does not stress the

value of individuals in learning organizations to a sufficient degree, and therefore some of the most commonly quoted thoughts, namely those of Argyris and Schön were chosen to complete the framework.

These three different viewpoints do not represent the same scientific background. Nevertheless, this broadness can be seen as a good starting point for understanding such a rich concept as a learning organization.

Defining the purpose and the core concepts of this dissertation

The nature of the present study is very exploratory, addressing firstly the very fragmented field of theories to define the framework, determining then the whole concept consisting of some special elements, and searching thirdly for the "real" whole, i.e. practical content of a learning organization. The first and the main task of this study is to deepen the discussion in general, because understanding and developing learning organizations does not take place only by looking at the surface, but the concept has to be studied at a more profound level.

> *The aim of the present dissertation is to define, describe and measure the learning organization as a holistic system in which individual and organizational factors are regarded as representing the two most important levels.*

The aim of deepening the discussion is a demanding task, but it is not impossible. The fact is that there are various differing approaches to learning organizations and they should be given the right to exist. As Easterby-Smith (1997) has stated, creating a comprehensive theory is an unrealistic aspiration. It is impossible to try to capture all the various viewpoints within one coherent definition, and therefore, choosing the angle is very important.

As is clear from the above, the angle chosen here was to search for holistic conceptualizations of learning organizations. The outcome of the literature review showed that some researchers have also addressed the whole, albeit not within a mutually coherent framework. Two of these holistic approaches, namely those by Pedler, Boydell & Burgoyne (e.g.1989) and Senge (Senge 1990a, 1990b, Senge, Kleiner, Roberts et al. 1994) were chosen for the present study and the emerging framework was complemented by Argyris & Schön (1978, 1996), whose approach indicates a further step in the direction of individual and process orientation.

On the basis of the perspectives of these scholars, we arrive at the following definitions of a learning organization:

> *A learning company is an organization which facilitates the learning of all of its members and continuously transforms itself (Pedler, Boydell & Burgoyne 1989, 2).*

> *"... people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge 1990 a, 3).*

> *" Organizational learning occurs when members of the organization act as learning agents for the organization, responding to changes in the internal and external environments of the*

> *organization by detecting and correcting errors in organizational theory-in-use, and embedding the results of their inquiry in private images and shared maps of organization." (Argyris and Schön 1978, 29)*

Analysing and comparing these definitions offers a basis for composing the whole, but they tend to concentrate more on people and processes than on organizations as learning environments. To address the holistic angle, the definition presented below is an attempt to cover some parts of the infrastructure or systems of a learning organization.

> *" A learning organization is a consciously managed organization with "learning" as a vital component in its values, visions and goals, as well as in its everyday operations and their assessment. The learning organization eliminates structural obstacles of learning, creates enabling structures and takes care of assessing its learning and development. It invests in leadership to assist individuals in finding the purpose, in eliminating personal obstacles and in facilitating structures for personal learning and getting feedback and benefits from learning outcomes." (Moilanen, 1999 a)*

The definitions within the present framework have changed considerably during the research process as more information has become available. This last one presented above is the latest definition, elaborated upon since the earlier ones. It includes various elements covering the whole and, therefore, offers a somewhat more concrete and precise basis for developing learning organizations and measuring them. The strategic and human aspects of learning organizations are here captured within the same definition, which means that the basis is broader than in most of the other definitions.

This definition stresses the whole and not the processes. The difference between this viewpoint and the most frequently published writings seems to be in this particular aspect. The attempt has been to capture all the relevant features of learning organizations, and not only the processes taking place in learning organizations (Easterby-Smith, 1997). This does not mean that the value of the learning process would be undervalued in the present study. It is only that the emphasis has been in the organizational and holistic aspects of this phenomenon. In other words, the main content of the study adresses the organization as a learning environment or as an infrastructure.

1.2 Two levels and five elements of the whole

The learning organization is in this thesis regarded as a holistic concept constructed of two levels and five different elements. These elements were mainly constructed on the basis of prevailing concepts, but there was also a more practical point of view. This practical viewpoint directed the construction towards some conceptions, which were not obvious in theory.

Constructing the whole was a very challenging task and based on theory and practice. A thorough analysis of this constructing process has been presented in an article dealing with the development of the measuring

instrument (Moilanen 2001 a, see also Moilanen 1998). The concepts used in the table below were derived from the works of the chosen scholars. Since they used so many different concepts, and varying definitions for these concepts, it was necessary to attempt to classify these thoughts by some means.

The approach adopted was to group the concepts and elements as *managing and leading* (I), *finding purpose* (II), *questioning* (III), *empowering* (IV) and *evaluating* (V). In addition to this, the holistic focus was also analysed. The outcomes of the grouping are presented in Table 1.

TABLE 1 Learning organization - origins and elements of the whole.

	The whole	Managing and leading as driving forces (I)	Finding purpose (II)	Questioning (III)	Empowering (IV)	Evaluating learning and Learning Organization (V)
Pedler et al. (1988, 1989)	Yes	Inbaked but not very clear	Yes	Yes	Yes, wide range of means	Yes, assessing the whole (11 characterist.)
Senge (1990a)	Yes partly, mental models, systems	Yes	Yes	Yes, Mental models	Yes, group based means	Yes partly, assessing learning results
Argyris and Schön (1978, 1996)	No, the core is in mental models	No	Not so evident	Yes, mental models of individuals and groups	Yes, group based means	No

Pedler, Boydell and Burgoyne (1988, 1989) clearly have all the other elements in their model except for managing and leading. Senge's model is somewhat different, but he nevertheless has elements which could be categorised in these five groups. There are some slight differences, the most obvious being his minor emphasis on evaluating the learning organization as a whole entity. Argyris and Schön, then, do not have as many elements of the whole as do the others. Their main point is in mental models and their change, and not in the whole organization or in the suitable ways of constructing it.

At this point it is necessary to define the basic contents of the elements more clearly. Each dimension is described as a two-sided concept - first the more holistic aspects of a learning organization and secondly the more individual-based views are introduced.

Driving forces

Managing and leading (I) forms the uniting elements of the whole learning organization. The core idea is that learning organizations will not be based or developed without conscious attention and work of the managers. The

organizational side is here named *managing the whole* and the individual side of it is named *leading learners and their learning*.

The content of the first part - *managing the whole (1)* can best be defined by stating that a manager is taking care of, or at least being conscious of, all organization-wide systems, processes and structures which could enable or hinder learning.

In the literature on learning organizations, Senge (1990 a), as well as Pedler and his associates (1991) emphasize more the whole itself than the managing of that whole, as do also Montgomery and Scalia (1996, 436). Kim (1995, 362) has raised the issue of the managers' new roles as researchers and theory-builders. Holistic views can also be found in the literature on strategic management (see e.g. Garratt, 1995) and in some structural views of organizations (e.g. Galbraith, 1973, 1996), but these views have rarely been combined with the concept of the learning organization.

The individual side of managerial work is defined in the following way: *leading learners and their learning (2)* means taking care of individuals and groups for as long as they need any help in becoming better learners or masters of learning processes.

Pedler and his associates (1991) have some roles in their 11 characteristics model which are very close to this idea of leading learners, but still the core of their thinking is more in self-managed, although encouraged, learning than in conscious leading of this learning (Pedler, Burgoyne and Boydell, 1997, 37). Senge (1994, 1996), on the other hand, stresses the importance of leaders by stating that the new leadership is composed of designer's, teacher's and steward's roles. Argyris (see e.g. 1993) has a somewhat different view on this topic, although he in some occasions does emphasize the value of leading learning.

According to Mayo and Lank (1994, 22, 240) the role of the leader in a learning organization consists of six qualities producing the roles as visionary, risk-taker, empowerer, learner, coach and collaborator. Cunningham (1994) has also stressed the importance of managers' primary roles as coaches and mentors.

Finding purpose

The concept of *finding purpose (II)* means focusing on the vision and strategy which direct learning and development, and not only the core of the business. The individual side of this concept has a similar idea, but at the individual level. Purpose can mean motivation, desire, willingness or some other ways of being motivated to learn. This concept also contains linking individual learning with the organization-wide purpose.

There are various views about *vision and strategy (3)* in learning organizations. The main content of the vision and the strategy of a learning organization is seen here as a guiding system for development and learning. Senge (1990a) presents vision as one of the main disciplines and Pedler et al. (1997, 18-19) suggest that strategy is a learning and a participative process in a learning

organization. However, for Pedler, strategy is not the source of deriving learning needs from, directing learning or allocating limited learning resources. A learning-based view of planning can also be recognized in the works of de Geus (e.g. 1996, 92). Furthermore, the shift from setting strategy into the context of defining purpose is important to Bartlett and Ghoshal (1994), but without a connection to learning. Thompson and Weiner (1996, 466), then, consider strategic planning as a forum for learning, and discuss how managers can boost organizational learning by taking the long–term view.

The individual side of this purposeful learning organization is in the *motivation of individuals (4).* Although individuals are seen as the actors of learning organizations (e.g. Argyris 1997), the value of their motivation or their needs do not seem to be as important as the way in which people change their mental models. For Pedler et al. (1997), individuals seem to be learners. Senge (1990 a, 144), on the other hand, values the quest for continuous learning very high by describing it as "the spirit of the learning organization".

Questioning

The core of the next concept is in *questioning (III),* inquiring, doubting and asking for the value. The organizational level points out the need of questioning organization-wide routines as does the individual side dealing with the individual's own routines and models.

Organization-wide questioning (5) is the area where Argyris and Schön (1996) seem to operate most systematically. These scholars have had a direct influence on Senge's work in the field of mental models (Senge 1990 a, 178, Senge 1990 b) and on many others (e.g. Bennett & Brown 1995). Another direction could be taken towards organizational memory as the storage of organizational routines or learned behaviour as Cohen and Bacdayan (1995, 408) have done. The third possible direction is in the unlearning-type of thoughts. "Unlearning habitual behaviour and embarking on a new strategy may constitute revolutionary change..." (Hedberg and Jönsson, 1989, 177). Bennett and Brown (1995, 167) have seen this topic from the viewpoint of strategic dialogue for breakthrough thinking.

The individual side of this concept is *questioning personal mental models and patterns (6).* Recognising the limitations in this field is the main focus. In addition to Argyris and Senge, many other researchers have written about the importance of questioning these models (see Cavaleri & Fearon, 1996, 30). The difficulty of analysing writings in this section is in the fact that the patterns of individuals and organizations are not so clearly separated from one another and therefore the actual formulation of this area is not so easy.

Empowering

The concept of *empowering* (IV) is a combination of several enhancing processes, structures or means needed in a learning organization. The organization-wide level means having several different systems, and the individual side refers to

knowing which means to choose and how to cope best with personal learning styles.

The concept of *organization-wide empowering (7)* includes the learning climate and providing self-development opportunities for all (Pedler et al. 1997, 37), or the theory, method and tools for developing the new skills and capabilities required for learning (Senge 1994, 36). For Argyris (1993) the most essential tool for learning is conversation, or more generally, an action perspective into learning and teaching (Argyris 1997). For example Kolb writes about the managers' abilities to enhance their own and the organization's ability to learn (Kolb 1996, 270). Some writers concentrate on organizational education (Swieringa & Wierdsma 1992), performance- and competence-based development (Lassey 1998) and self-development or group-based development (Mumford 1995, Pedler 1996).

In the literature of the field creating organization-wide systems or tools for learning has not been separated from *the individual side of empowerment (8).* The way in which individuals select proper tools and apply them has not been discussed thoroughly in learning organization literature. Some scholars, however, do concentrate on individual learning styles and their connection to the learning organization (e.g. Alava 1998).

Evaluating

The concept of *evaluating* (V) means being interested in what has happened in the field of learning and development. The organizational level could contain assessing the development of the whole learning organization. The individual level might best be characterised by self-assessment and group-based evaluating systems.

The measurement of results in the short run is important in most organizations. The need for *diagnosing the state or learning of learning organizations (9)* is not very evident yet in the literature, but there are already some efforts of diagnosing. For example Pedler et al. (1997) have developed a measuring system for the whole. This and some other tools are presented more thoroughly later. The Balanced Scorecard (Kaplan & Norton 1992, 1993, 1996, Kaplan 1994, Newing 1994, Skyrme & Amidon 1998) is a famous way of combining four areas into one measurement instrument (customer, internal, innovation & learning and financial perspectives). There are also other ways of measuring, for example measuring collaborative know-how (Simonin 1997).

The *individual side of this evaluating phenomenon (10)* does not seem to be as clearly dealt with as diagnosing the whole. One way of seeing this phenomenon is in reference with the basic learning theories. For example Hendry (1996) has some examples of diagnosing learning outcomes especially from the point of view of cognitive theories. One possibility of measuring learning also lies in the tradition of action learning or self-managed learning (see Pedler 1996, Smith & Peters 1997).

Conclusions about this review

The major observation is that learning organization phenomena are so extensive that it is very hard to find a proper and tested conception for the whole or even for some of its main parts. The information about learning organizations is included in small details in different publications. The main observation about most publications is that they do not have a scientific background or use any scientific methods to validate the content. There are, of course, also very comprehensive and carefully thought out articles and books, but most of them are still at the level of describing organizations from some special and detailed perspective.

The following conclusions can be drawn from existing literature:
1. *Managing the whole* and *leading learners* and their learning are concepts which do not exist as such.
2. *Finding purpose* (vision) is quite common in learning organization discussions, but the individual side of this concept is usually not treated.
3. *Questioning* is quite rare: only Argyris and some others concentrate on this.
4. *Empowering* is the most popular aspect addressed in connection with learning organizations.
5. *Evaluating or diagnosing* is not as popular as it could be from the practical point of view.

1.3 How to position this study

On the basis of Easterby-Smith (1997, 5-7) the present study could perhaps be classified as something called systemic, functional or contingency-based view of a learning organization. As such, it could be said to contain a tendency of creating an ideal type of a learning organization, an organization where learning is maximised (Easterby-Smith 1997, 2). According to the article by Easterby-Smith (1997, 14), some conceptions of learning organizations have clear connections to change, especially the combination of action and maximising learning. The present study, in fact, has these types of aspects, too.

The meaning of the concept of learning is very important when one is attempting to position a study. In this study learning is very closely linked to work (see e.g. Kolb 1984: experiental learning; Moilanen 1990, Mumford 1995, Pedler 1983, 1996, and Revans 1983: action learning), whereas it does not have many links to formal education systems or theories. Learning is also regarded as a goal-directed (Garratt 1995) or meaningful phenomenon (Weick 1995). It is a social process, with a heavy emphasis on people and on the way these people are encouraged to learn (Bandura 1977, Wood and Bandura 1989). And finally, learning also has a link to unlearning (Hedberg and Jönsson 1989) and to learning obstacles (Argyris and Schön 1978 and 1996).

As is clear from this chapter, the concept of a learning organization is

broad and many-sided and it seeks to capture the whole, and not only the process of learning or some individual aspects of the phenomenon. When one adopts such a view of a learning organization, it is inevitable that the concept also has very clear connections to other concepts in this field. Some of these connections are reviewed in the following.

Change, quality, knowledge, core competence and other close concepts

Identifying similarities and dissimilarities between the diverse concepts of describing learning organizations and some other concepts in the field is a real challenge. The variation between the definitions of the different concepts even within the same field seems to be so considerable that comparing is difficult at a general level. Some specific concepts may be comparable, but general conclusions are very hard to draw. Because, however, it is important to realize this fact, an attempt has been made below to discuss some concepts that are typically seen to relate to the concepts used about learning organizations.

Change in general has a very close linkage to learning as can be seen from the next citation. " ... our organizations live in economic, political and technological environments which are predictably unstable. The requirement for organizational learning is not an occasional, sporadic phenomenon, but is continuous and endemic to our society." (Argyris and Schön 1987, 352-353) Change, thus, has a very close relationship to learning, but it is not the only concept related to learning. The main connection between the other concepts of the subheading and learning can be drawn from the citation above. All changes, whether connected to quality, services, technology or anything else require learning. This does not automatically mean that the organizations involved in the process of change and actions would be learning organizations. Although people in these organizations do learn, the qualities of these organizations might not be sufficiently developed from the learning organization's point of view.

The issue of knowledge is somewhat different, because knowledge can be said to form one of the main contents of learning organizations. The relationship could perhaps be compared with flowing water and the water pipes. Knowledge is more like water and the learning organization is the system where this water flows more of less fluently.

The first concept specifically related to learning is change. For example Carnall (1995, 43, 201) creates a very similar picture of change management as the picture created of learning organizations in this thesis. He emphasizes the role of managers and leaders as well as the obstacles to and special conditions for learning. From the point of view of this study, the background is similar and linkages to change as the reasons for learning are the same. The main difference seems to be in the view taken, in other words that change and learning are interrelated to one another. In learning organization studies thoughts and acts are more influenced by learning than by change.

The next concept, Total Quality Management (TQM), is here analysed via two different sources. The first one is a doctoral dissertation on developing

quality-oriented management ideology (Savolainen 1997). The most interesting point from the learning organization perspective here is the core idea of Deming's, condensated into seven principles (Savolainen 1997, 38-39). The management commitment, continuous improvement of the system to achieve better quality, consumer-orientation, and process-orientation in the development, as well as focusing on human resources seem to come near to learning organization ideas. However, reducing variation and eliminating management by numbers and numerical goals are not widely shared in learning organization concepts. Reviewing these concepts from the learning organization aspect shows even more profound differences, e.g. obstacles to learning, motivation, individuals in general and some similar views are not focused upon in quality management in the same way as in learning organization concepts.

The other source for comparison is an article comparing Senge's principles and the principles of Malcolm Baldrige National Quality Award (MBNQA) (Terciovski et al. 2000). The main conclusion is that the TQM principles and concepts underpin the evolution of the learning organization. Mutual dependence seems to be prevailing, but there still remain some clear differences between Senge's and MBNQA's concepts. The result of this comparison is identical with the previous findings: some similarities, but still the viewpoint taken is either quality or learning.

Knowledge creation and knowledge management, then, are in a somewhat different position when compared with the learning organization concept. Knowledge in its different forms (synthesized, conceptual, operational and systemic) is the core of a knowledge-creating company (Nonaka & Takeuchi 1995). The enabling conditions for organizational knowledge-creation are intention, autonomy, fluctuation and creative chaos, redundancy and requisite variety (Nonaka & Takeuchi 1995, 74-83). The point here is that the focus really is in the knowledge-creation, and most of the aspects mentioned concentrate very clearly on that. Clear similarities with learning organization concepts can, however be seen; intention (shared vision), for instance, can be identified in many views of learning organizations. Some minor points are also similar, e.g. questioning as part of fluctuation.

Knowledge-creation and management (KM) generated many types of ideas linked to these primary concepts. KM and innovation (Ståhle & Grönroos 1999), KM and intelligence (Friedman et al. 1997), KM and intangible assets (Sveiby 1997), KM and information assets (Boisot 1998), KM and social capital (Lesser 2000), KM and learning organization (Tobin 1996 and 1998) and KM and strategic learning (Cross & Israelit 2000 and Klein 1998) serve as examples of this orientation.

Both the basic concept and its adjustment indicate that the linkage to a learning organization seems to be clear. Some of these concepts might also be categorized as learning organization literature (Tobin 1996 and 1998, Cross & Israelit 2000 and Klein 1998), but most have differences when compared with learning organization concepts. The main conclusion is that many different concepts focus on similar ideas, i.e. fostering knowledge-creation or learning, even though they are named in a variety of ways.

The bridge from KM to core competence thinking is not very hard to see according to Nonaka and Takeuchi (1995, 6). They define the connection between knowledge-creation and core competence by stating that the process starts from knowledge-creation, continues to continuous improvement and as the last point leads to the core competencies of the company. Prahalad and Hamel (2000) have underlined the value and meaning of core competencies in their article (originally published in 1990). They stress the process of defining core competencies by developing strategic architecture optimal for this purpose. (2000, 18)

The linkage of strategic management with these other concepts is also obvious; learning as well as knowledge creation should be strategy-driven as Cross and Israelit state it (2000, preface xi). This strategic viewpoint can be analysed from various perspectives. Strategic learning should exist within an organization as well as between organizations as Sanchez and Heene define the situation (2000, 30-31). According to them strategic knowledge management is also vital.

The conclusion of this review of related concepts is here drawn from the point of view of the present thesis, and not from the viewpoint of the whole field of learning organizations. Change in general can be seen as the source of learning, and managing change has numerous shared activities with building learning organizations. However, change does not automatically mean that the organization in change is a learning organization. Quality management also bears similarities, but not to the same degree as change management in general. Knowledge management and core competence thinking are in the heart of a learning organization, but the learning organization seems to be much broader as a concept than these two. Strategic management is particularly important in this thesis, because the viewpoint taken is holistic and managerial. All in all, the issue is more likely related to the definition of the concepts than to some special fields of interest. What is clear is that there are a great deal of similarities and connections even though the concepts represent different schools of thought.

The other side of the positioning – research setting and methodology

The very holistic and complicated nature of the concept of a learning organization has had a very clear impact on the way in which this study has been conducted. The process itself has been long and variable both as regards the content of theory and practice as well as the methods used. It started in 1993 in a conference, continued with the reading of Senge's The Fifth Discipline and some basic theories by Argyris. After this, the process continued by developing a management programme, by writing the first study report preceding the present thesis and thereafter by taking a study leave from work. From that point onwards research and writing were considerably accelerated, but the topic and concepts also increased in their complexity.

Prior understanding of the issues was created through consultancy work: training managers and listening to their feedback and needs provided a good overview of the situation in real organizations. A very typical comment

concerned training and its impacts on work. Many managers felt that something else has to be done, because mere training does not seem to change anything at the workplace. This notion was followed by an observation made at an international conference: everybody was talking about the learning organization but nobody seemed really to have a good grasp of the concept itself. The conclusion was that this concept had to be studied more carefully.

Today then, when eight or nine years have passed, the pursuit for understanding this concept slightly better has been completed. An appropriate saying at this point could be with "blood, sweat and tears" , but the concept has nevertheless been worked through and operationalized in one thorough way. Some diagnostic work has also been conducted to deepen the understanding.

One of the main ways of deepening the understanding particularly at the early stages of the process and naturally also later was reading and thereby becoming familiar with the existing concepts of learning organizations. The field was so extensive that it could easily have taken away all previous interest, but fortunately this extensiveness only provoked more intensive discussions with various managers. The opportunity of exploring the issue with managers participating in the Learning Company training programme was a real advantage and a very important source of enthusiasm during the whole process. The combination of theory and practice made available in this way served to clarify difficult conceptual discrepancies and contributed greatly to the journey towards the goals of the present work.

The research process itself continued from the first theory-practice considerations towards conducting various interviews, which formed the basis for the two first articles. These interviews were also important for the further development of the thesis itself, because they clarified the research setting. Although the framework was the same throughout the research process, the way in which it would in the end increase understanding was not that clear at the beginning of the process. The first design of dealing with the whole through element by element had to be reconsidered and the design of analysing the whole concept all the time began to gain more support as the process proceeded.

The interviews were analysed by using a qualitative research programme called QSR NUD.IST. The transcripts of the interviews were first read very carefully and the contents were coded detail by detail. Thereafter these details or elements were classified and analysed with the help of the aforementioned NUD.IST programme. The programme assisted in clarifying the interviews and searching for the meanings expressed.

The analysis of the interviews directed the research towards deepening the analysis of learning organizations. This direction was also given support within the more practical situation: managers attending a training course also analysed the existing diagnostic tools. Some of them asked why I would not give them a possibility to diagnose their own organizations by using the diagnostic instrument I am developing. The question was good, and the answer was why not. These kinds of steps were very important, because they encouraged to continue deeper and deeper exploration towards understanding

organizations engaged in learning processes.

After having analysed the existing diagnostic tools and developing The Learning Organization Diamond Tool as a form of a test, the process continued. There were various Finnish organizations which were willing to take part in the testing stage of the thesis. These included 25 organizations representing Finnish workplaces as widely as possible and altogether 691 respondents in those organizations. After collecting these data, a statistical analysis was carried to establish out the reliability and validity of the tool.

The data gathering process was originally meant to be for statistical purposes only, but the setting was so interesting with this high number of respondents from different organizations that the decision was made to go further in the process. Therefore, the last phase of the present thesis was the diagnosing phase, although diagnosing was not included in the original plans. The setting in this last phase is slightly controversial, because the data did not consist whole organizations, but only some minor parts of larger organizations. Despite this constraint the diagnosing was carried out.

As is seen from this review, the process of "writing" the thesis has been varied and complex. It is to be hoped that this variety has been for the benefit of the outcomes of the study. It has certainly offered various positive and stimulating experiences for the research, which have assisted in reaching the present stage of today.

1.4 Overview of the articles

The four articles to follow are all based on the same framework – the learning organization as a holistic and consciously managed entity. In spite of this, the way in which the different articles have been formulated varies a lot. This is due to the fact that the whole process has been a clear learning process for the researcher as regards the content and the text itself.

The content of the present thesis should, in fact, be something else than what it actually turned out to be. The first idea of the whole thesis was constructed following the content of the concept itself. It was planned that the thesis would contain the whole and its elements in four to five articles. The first phase of interviewing Finnish managers changed the route towards concentrating on the whole, and not on its elements. This meant that the emphasis would be on the whole throughout the dissertation. Describing, defining and diagnosing the whole became more interesting than defining the elements.

The theoretical framework is the clearest connecting factor between the four articles. This means that all articles are holistic and strategic in their orientation. The aim of the individual articles has been to establish the core of a learning organization. This uniform aim has resulted in diversity in data gathering, methodology and outcomes. In spite of this variety all articles have been valuable in creating a holistic picture of learning organizations.

The aim of the first data (15 interviews, 1st and 2nd articles) was to under-

stand the concept of a learning organization. This research phase offered opportunities for questioning, listening to different opinions and conceptions, seeing divergent organizations and comparing different views and styles. It also contributed to describing and defining various types of activities, as well as arousing new and more thorough interest in diagnosing learning organizations.

The second phase (questionnaires from 25 organizations, 3rd and 4th articles) offered the possibility of concentrating on the analysis of existing measuring instruments, on developing the concept towards a holistic measuring tool and analysing real organizations with the help of the instrument. This phase had a linkage backwards, to the interviews conducted and to the views presented in them. The cycle of defining, describing and diagnosing is completed.

The following summary in table format of the four articles illustrates the research process and its varying focus areas.

TABLE 2 Summarized illustration of the research process and its focus areas presented in the articles

Title	Management and leadership in a strategically and motivationally focused learning organization	Finnish learning organizations – structure and styles	Diagnosing tools for learning organizations	Diagnosing learning organizations
Focus	The whole concept and its two first elements	Different learning organizations	Measuring instruments	Real organizations diagnosed with the tool developed
Data	Relevant background literature, semi-structured interviews	Semi-structured interviews	691 responses	691 responses
Methodological stance applied	Qualitative research, Q.S.R. NUD.IST programme	Qualitative research, Q.S.R. NUD.IST programme	Quantitative research, statistical analysis	Quantitative research, statistical analysis
Key concepts	Defining the whole, understanding driving forces and finding purpose	Combining practical knowledge with theory in adjusting the definition	Analysing diagnostic instruments, developing a tool	Diagnosing and understanding real organizations
The level of handling the whole concept	Understanding theory: descriptions and definitions	Understanding practice: describing and defining	Understanding diagnosis in general, developing diagnostic tools for practice	Understanding real organizations, diagnosis in practice

1.4.1 Management and leadership in a strategically and motivationally focused learning organization

The first study (Moilanen 1999 b) of this dissertation is a very exploratory one and covers the whole from theoretical and practical points of views. The field of learning organizations is so wide and confusing that a considerably amount of time and effort had to be directed at clarifying the whole. The starting point of this preliminary exploration dates back to 1996, when the researcher's licentiate thesis was published (Moilanen 1996).

This article offers a very basic background to the whole thesis. The theoretical background and practical conceptions had to be examined in order to be able to define the learning organization as a holistic entity. This was hard work because of the variety of thoughts expressed on the issue. Learning organizations have been such a popular topic over the past two decades that the amount of writings was huge. The other problem was lack of clarity of the field. No shared conceptions or categorizations were in use and therefore a lot of preliminary reseach had to be conducted before concentrating on the learning organization itself.

Due to the obvious lack of clarity, the field had to be organized in some way. Four categorizations were chosen for a short review: Chris Argyris and Donald A. Schön (1978), Paul Shrivastava (1983), George P. Huber (1991) and Raili Moilanen (1996). Unfortunately all other groupings used some other criteria and therefore were not helpful in finding holistic learning organizations. The only possibility was to use a special grouping developed for that purpose (Moilanen 1996). If the fifth grouping published later (Easterby-Smith 1997) had been available at that time, it could have been used to assist in this clarification work, but unfortunately it was not published until later.

Most of the writings analysed represented some partial views of learning organizations and therefore could not serve as the foundation for the present thesis. The most holistic viewpoints were found from the writings of Senge (1990 a, 1994) and Pedler, Burgoyne & Boydell (see e.g. 1991). The picture created was complemented by the concepts by Argyris & Schön (see e.g. 1996), because of the obvious connections between Senge and Argyris & Schön. Argyris & Schön also presented additional viewpoints which seemed to be very fruitful from the holistic point of view.

A holistic model of a learning organization (Moilanen 1996) was introduced in this article and two of its elements were taken up for a closer review. *Driving forces*, e.g. management at the organizational level and leadership at the individual level and *finding purpose* at both levels were studied thoroughly.

The next phase was data analysis of 12 semi-structured interviews and some complementary interviews. Five of these interviews were chosen for a deeper analysis conducted by a qualitative research programme called QSR NUD.IST. These five organizations and interviews represented different types of organizations and viewpoints. They were chosen to serve as the most fruitful basis for this first trial of describing and defining the elements *called driving forces* and *finding purpose.*

The first outcome of this study concerns the role of managers and leaders in learning organizations. In theory the role of managers and leaders did not seem to be as important as in practice. Previous writings had given more emphasis to learning organizations themselves than to building or maintaining them. The same observation could be made on the human side of the concept. Far too less emphasis was placed on taking care of people and their learning. These conclusions gave more prominence to the fact that a learning organization needs to be taken care of. The most obvious people in charge of these types of activities are the people who are in charge of other things, i.e. managers and leaders. This stresses the value of different types of managers and leaders in learning organizations.

The second outcome to be presented here is the significance or value of being a learning organization. The reason itself for being or becoming something is important. The organizational side of this concept was quite clear among both the interviewees and the theorists. Strategy and shared vision seemed to represent this element very well. Thus, the organizational level did not bring any surprises, but the individual level did. Very few writers of learning organizations stressed the value of human motivation, but according to the managers and leaders interviewed the emphasis was clearly on that side. They really stressed the significance of human motivation as one of the basic building blocks of a learning organization. This seems to reflect the composition of the concept itself; more emphasis is placed on the organizational side of the concept than on the individual or human side of it.

The last contribution of this article is somewhat controversial. Originally the aim of the article was to form the first step towards analysing the whole, but the path from the early steps towards the final conclusions was not so straightforward. A partial analysis of learning organizations was changed into a more profound analysis of the holistic concept. If this direction were considered from the point of view of what is generally presented in the literature, the partial approach would have been more viable. However, on the basis of the outcomes of the research presented in this article and of the views the representatives of real organizations, the emphasis is more on deepening the discussion on the whole. It is supposed that this new direction, e.g. describing, defining and diagnosing the whole is of benefit when considering the whole study.

1.4.2 Finnish learning organizations – structure and styles

This is the second article (Moilanen 1999 a) based on the interviews reported upon already in the first article of this thesis. The aim of this paper was to explore the practice of organizations from the point of their learning organization stage. The paper does not include a thorough analysis of the organizations involved in this study. Rather, the outcomes are based on the interviewed managers' opinions and thereby illustrate the present situation or the one desired in their organizations.

The original data consisted of 12 semi-structured interviews and some complementary interviews, in 15 organizations altogether. Five of these

interviews were chosen for a deeper analysis and the others were viewed, but not that thoroughly. The analysis of the interviews was conducted by the qualitative research programme called QSR NUD.IST.

The most vital aspect in this analysis was the existence of different qualities or elements of learning organizations. The analysis was conducted by combining the original elements of the Learning Organization Diamond Model with some new elements called 'thinking' and 'doing'. 'Thinking' consisted of the former *finding purpose* and *questioning* whereas 'doing' consisted of the former *empowering* and *evaluating*. 'Thinking' means more planning, ideas, values, etc. and 'doing' on the other hand, for example experimenting, working intensively and experiencing.

This study was more or less a trial based on interviewed managers' opinions. Despite this the phase was essential for the whole thesis. In fact, it provided an important means for broadening the learning organization picture created in the literature of the field. The experiment of differentiating various learning organizations from one another by this type of classification was also very interesting.

The interviews were analysed and the words or expressions illustrating the various elements were placed in their own categories. This was followed by checking the contents of these categories, as well as the numger of expressions presented. Some organizations had used more words or expressions about the groups representing 'thinking' type of organizations' and some had emphasized the other side, i.e. the 'doing ' type of organizations. Because they were types of contents, it was possible to place in a figure where 'thinking' and 'doing' formed different angles. Although the placement was done on an interpretative and subjective basis, it still showed that organizations could be classified according to their different styles.

The styles illustrating the different types of learning organizations were named as 'challenged by the future', 'great thinkers', 'active actors' and 'secure in the past'. The first category was very strong on both sides analysed, whereas the last one had very few expressions illustrating the sides being analysed.

When placing organizations in a categorisation like this it has to be remembered that this grouping concerns only those aspects analysed. Some of the analysed organizations did not permit publishing their names, because they probably felt that this is a ranking of "good" and "bad" organizations. It is therefore very important to stress the fact that this was an experiment in analysing learning organization aspects, and not whole organizations.

Despite the constraints caused by the experimental nature of this study, it has been very important in increasing the understanding of the situation in real organizations, whether they can be considered learning organizations or "non-learning organizations". The understanding constructed by reading books and articles may always contain different emphases from the real world in the practice of managers. Although definitions or diagnoses were not yet presented, a thorough testing for the usability of the framework was still arranged. This study showed that a good framework assists in understanding real world phenomena. It would have been much more difficult to analyse the learning

organization state of these organizations without being well prepared. This stage was needed in proceeding towards developing the diagnostic tool for learning organizations and in pursuing a more profound understanding of learning organizations.

1.4.3 Diagnostic tools for learning organizations

The third study (Moilanen 2001 a) of the present thesis deepens the discussion on learning organizations even further by developing a measuring instrument. This is the second phase of a longer process, where a holistic concept of learning organizations has been developed through linking theoretical and practical approaches. The concept has now been transformed into a very practical and concrete list of statements. The resulting survey questionnaire was filled by 691 respondents and a statistical analysis conducted to establish the reliability and validity of the measuring instrument. A review of existing diagnosing instruments in the field is also presented in the article.

The first task of this study was to examine the field of measuring. This was truly much easier work than studying the whole field of learning organizations. The review of measuring instruments had to be restricted to those measuring instruments which were available at the time of writing this article. Most of the tools were published, but some had to be requested from the authors. Altogether eight diagnostic tools were analysed, and the key observation was that the type and quality of the tools varied enormously.

The tools analysed were Pedler, Burgoyne and Boydell (1991, 1997): The Learning Company Questionnaire, Mayo and Lank (1994): The Complete Learning Organisation Benchmark, Tannenbaum (1997): Learning Environment Survey, Pearn, Roderick and Mulrooney (1995): The Learning Audit, Sarala and Sarala (1996): Recognising your organization, Otala (1996): A quick test of learning organization, Redding and Catalanello (1997): Learning Organization Capability Assessment, and Watkins and Marsick (1998): Dimensions of the Learning Organization Questionnaire.

Some of the tools concentrated on different types of organizations, which means that they classified, but did not offer much information about learning organizations themselves. Five of the eight instruments were holistic, i.e. they were able to cover the concept as widely as possibly. Most of the tools were also profound. What is meant by this here is the comprehensiveness of the tool, in other words, whether it is profound or superficial, comprehensive or not. And for the last comment, only two of the tools had been tested statistically. This could be said to be alarming from the point of view of reliability and validity.

The second task was to develop a diagnostic instrument based on all the work conducted earlier. The aim was to combine both theory and practice in developing that instrument. This work started in 1996 with one short version (see Moilanen 1998) and continued in 1997 with a longer version containing both parts of the tool and 40 statements. The collection of the data with this new version started in January 1998 and continued up until January 1999. This was followed by the process of testing the tool and analysing the findings.

The tool itself is composed of 40 statements; 20 of them focus on the organizational level and 20 on the individual level. The statements were formed so as to operationalize these levels and elements. The aim was to formulate the statements in such a clear and simple way that answering the questionnaire could be possible for everyone in different kinds of organizations and at different levels.

The picture created by this tool aims to be holistic and realistic. The learning organization portrayal created aims to offer insight into the organizational side as well as the individual side of the organization. Two separate portrayals can be created as the basic outcome of the diagnosis, but other portrayals are also possible depending on the respondent groups of the organization. For instance, separate portrayals are possible for the sales department and production or management and middle managers.

Being part of a thesis, the development process also contained a statistical analysis. The reliability of the instrument was measured with Cronbach's alpha, the resulting values being .9500 for the whole diagnostic tool and .8672 for the organizational half and .9566 for the individual half. Cronbach's alphas for the elements of the tool varied between .5141 and .8617. The validity of the tool was established by presenting the process as a chain of phases from theory to statements.

One of the main areas of interest raised by this article might be the question of the need for diagnosing, i.e. the question of whether to diagnose or not. The viewpoint taken here is that the deeper analysis of learning organizations is incomplete without diagnosing. It is relative easy to define and describe learning organizations, but more complicated to diagnose real entities by some diagnostic tools. The other side of this measuring problem is the concept itself. The broader the concept, the bigger the challenge in developing a diagnostic tool for such a concept. In spite of these two aspects of measuring, the need for developing an instrument for learning organizations as holistic entities is so obvious that a trial of developing such a tool had to be started.

The other interesting area not underlined in the article itself is the development process. In this situation the process was very long and complicated. Theory did precede practice at the first stage, but the further the process continued, the more complicated it also turned out to be. The only certainty is that both theory and practice are needed. Without being familiar with the needs of real managers and the reality they represent, the need for this development work would not been have so obvious. Also, without having the background of the theory and the statistical testing, the quality of this tool would have been something different from what it is now.

The continuum of theory to practice or vice versa also includes the question of priority. Do we count on practice or on theory in formulating the questionnaires, is a very relevant question in this situation. In the present thesis the choice was theory-oriented, which caused some uncertainty before knowing the results of statistical testing. It could have happened that the results had been less good than what they were. What happened was that the possibility of formulating good questionnaires on the basis of a solid theoretical background

became verified during the process.

The comparison of the existing tools and this Learning Organization Diamond Tool is the last outcome introduced here. Evaluation of different instruments without knowing the needs behind them is really difficult. Some general aspects can be analysed, but the real usability and benefits of the tool cannot be established. The most important aspect from the viewpoint of practice is often not analysable, which makes it difficult to compare the tools with one another. Despite this difficulty some comparisons have been accomplished. The tool developed seems to cover the whole at least equally well as the "best" of the other tools, although it is not as thorough as some others.

One important point which could be added to the comparison concerns the usability of the diagnosing tool. It was encouraging to notice that different types of people from diverse levels of those various types of organizations were able to fill in this Learning Organization Diamond questionnaire. This is a big advantage when compared with some other tools. Most of these were so difficult or comprehensive that only managers were able to fill the questionnaires. This is an obvious disadvantage if the opinion of various personnel groups is important in creating the picture of the whole situation.

It can be concluded that the Learning Organization Diamond Tool developed serves well in creating an overview of the present state of the organization, but it still leaves possibilities for further development. It would be very interesting to see the whole composed by means of several individual and specific measuring tools, which still end up covering the whole adequately.

1.4.4 Diagnosing learning organizations

This is the last study (Moilanen 2001 b) in this series of articles. The focus has now been changed from measuring instruments back to learning organizations themselves. This phase was originally not meant to be a diagnosing phase because the data collection was done for statistical purposes, and not for a diagnosis. But the outcomes of analysing the results of these data were so interesting that the article had to be written. The most interesting viewpoints can be found in the comparison of different types of organizations, as well as in the internal connections between the elements of the instrument.

The measuring was conducted with the tool developed earlier in this process. As has been described above the Learning Organization Diamond Tool is composed of two different level and ten elements. The levels are the organizational and individual levels and both levels are composed of five elements, which means that there are ten elements altogether. The names of the elements are *driving forces*, *finding purpose*, *questioning*, *empowering* and *evaluating*.

The data were collected from 25 large organizations and 691 respondents and due to this the data do not represent whole organizations, but only some parts of them. Although the situation is this, the number of respondents is so large that some conclusions at least from the parts of these organizations can be drawn. The 25 organizations were categorized into six groups: the public sector with 148 respondents (21.6 %), information technology 109 (15.9), manufactur-

ing 52 (7.6 the smallest group), banking and insurance 219 (31.9, the biggest group), training / educational companies 105 (15.3), and wholesale / retail 53 (7.7).

This study starts from an imaginary learning organization, "an organization with accepted 686 respondents". The interest is, then, shifted towards different business sectors, and thereafter towards "natural" organizations, i.e. those 25 groups from different Finnish organizations. The last emphasis is on the elements of the whole, and particularly on the role of management and leadership in "learning" organizations and in "non-learning" organizations.

The outcomes of this study are mainly presented in graphs or portrayals, because they visualize more accurately the original idea of a holistic learning organization. There are always two graphs visualizing the same "diamond", one graph representing the organizational level and the other one representing the individual level of the organization. These portrayals compile the five analysed elements in one picture and thereby assist in creating the whole picture of either of the levels. This combination of the two "diamonds" gives considerably more information on the whole composed of the organizational factors and human-based aspects of a learning organization.

The first "large group" organization, i.e. the whole data as one imaginary organization has a particular function to shed light to the topic in general. The organizational portrayal is considerably smaller than the individual one. This is due to the fact that the respondents feel that they are "better" than their organization. The level of mean values on the organizational side is between 2.2 and 2.7, whereas the mean values at the individual level are between 2.7 and 3.2. In general, none of the elements seem to have clearly higher weights on either side of the diamond, which indicates that the original idea of a diamond still seems to be valid.

The next viewpoint taken here is also "arranged", because the business sectors analysed were not real. Comparisons with larger groups are needed to verify the capacity of the tool to separate different organizations or business sectors. This aim was fulfilled and some other outcomes were also established using the special arrangement.

The mean values of different business sectors varied to some extent and some of the businesses were "better" in their mean values than the others. This result in itself is not the most important, because the ranking of the businesses could have been totally different had there been other organizations in this study. The most important notion is that the instrument was usable in various diverse businesses, e.g. in the public sector, in traditional industry and in service industries.

The next viewpoint gives more weight to the finding reported above. In all business sectors the sizes of the diamonds followed the same trend: the organizational diamond was always the smaller one and the individual the bigger one. This same phenomen appeared in all business sectors regardless of the size of the portrayals. With the present data, the difference was smallest in the retail and wholesale business and greatest in the information technology business as well as in the other businesses with small organizational portrayals.

The level of separate, individual organizations is the most basic one and at that level the variation was very clear. The highest means varied between 3.0 and 3.5 and the lowest between 1.5 and 2.0.

The "best" learning organization was Hotel Salpaus from Lahti. The main finding concerning the graphs of Hotel Salpaus was the fullness and balance of the organizational portrayal. This portrayal was exceptional, because it was so large and well balanced. The individual side of the diamond was also exceptional, because it was the same size than the organizational diamond. Hotel Salpaus was the only organization with the same types of graphs on both sides of the diagnostic instrument. It is also interesting to note that the mean values of the element called *leading learners and their learning* was very high, i.e. 3.5, the average in the whole data being 2.7.

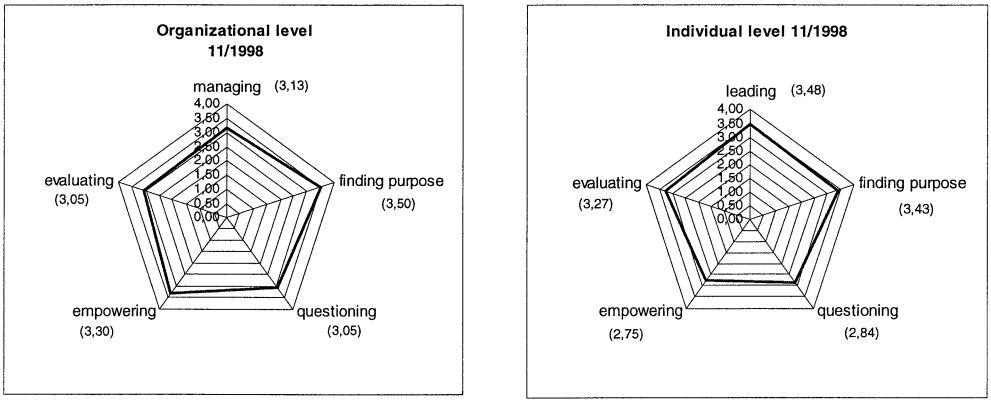


FIGURE 2 The two portrayals of the "best" organization: Hotel Salpaus.

The existence of a "non-learning" organization is not a surprise, i.e. there were organizations which did not have as good mean values as did Hotel Salpaus. The most surprising aspect was that the difference between the individual and the organizational side was that big in "non-learning" organizations. Very low mean values were also to be found in the element representing *driving forces*, i.e. the elements called *managing* and *leading*.

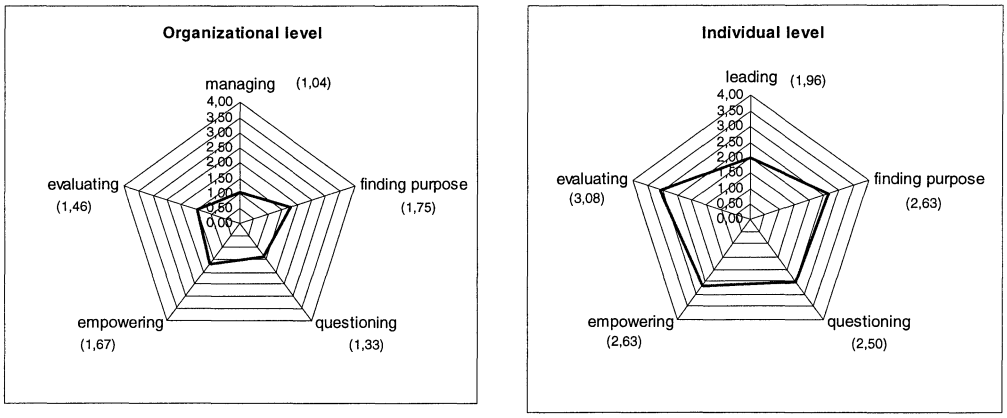


FIGURE 3 The two portrayals of a less learning organization.

These elements of managing and leading were very interesting from the viewpoint of the whole study. High mean values in both of them had a clear positive correlation with the size of the diamond. The greater the diamond was the higher the mean values also were. This is a very important notion, which needs to be studied more thoroughly.

1.5 Concluding remarks

The present study has concentrated on a holistic concept of learning organizations. Its original aim was to be a systematic journey of exploration to the elements of learning organizations, but it turned out to be a continuously deepening approach towards a holistic entity called a learning organization. Looking back and analysing the study at its final stages makes this change more sensible than could have been thought in the earlier phases of the study. No doubt the thesis would have become too extensive to handle, if the interest had remained on the elements of the whole. Concentrating on the whole, while doing it in different ways, has offered an opportunity to gain deeper insight into the issue than studying the elements separately.

The approach taken is also more feasible, when we consider learning organizations and their managers. From the point of view of building, maintaining or managing learning organizations, the first angle is how to understand the whole. Thereafter follow various partial viewpoints and operations, but the managers also need to "see the wood from the trees". The same notion is present when discussing learners and their place in those learning organizations. It is of no use to do separate operations before understanding the whole and how each holistic system is constructed.

The question about the ways in which learning organizations can be understood is interesting. Is it justifiable to define the whole and its elements, and furthermore, is it justifiable to try to diagnose this whole? These questions

have been addressed through viewing organizations as entities composed of several different parts. These entities, or the ways of defining these entities are always somewhat tentative, but they are still worth defining and also studying further. The more profound meaning and understanding are looked for, the more different methods of assisting in this process are needed. For these reasons, therefore, the continuum of describing, defining and diagnosing is vital for this research.

Figure 4 below illustrates the complexity of the process involved in the pursuit of the whole and the roles of theory and practice in this endeavour.

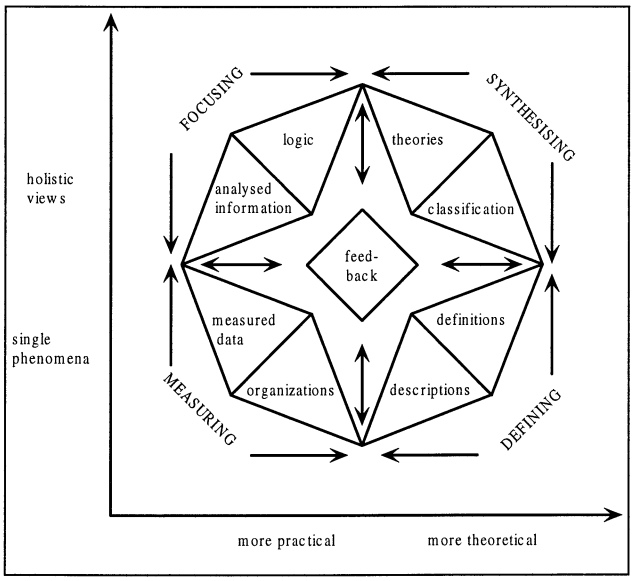


FIGURE 4 From practice to theory and single phenomenon to whole systems

Most of the previous writings have remained at the level of defining, but in research this level is insufficient. It might be interesting and nice to read about different types of learning organizations. But in a situation where these organizations need to be analysed or developed, the level of describing has to be complemented by the levels of diagnosing and focusing as well as synthesising. Defining is needed to arrive at an agreement about the entity and diagnosing is needed to provide the link back to the reality, real organizations and their existence. Focusing and synthesising are valuable in composing the whole entity.

The level of diagnosing is worth some more discussion. Diagnosing or measuring such large entities as learning organizations is a very challenging task. The challenge is brought about by the definition of the concept – the broader and the more complicated the concept, the more difficult the development of the diagnostic instrument. Because of this causality, diagnosing has to have a solid background in a good definition. If the concept has been defined thoroughly, the results of diagnosing are more reliable and hopefully also more

useful than in some other cases.

The diagnosing problem is also an important issue from the point of view of real organizations and their management. Managers have specific needs for measuring, and the measuring instruments should be applicable to those needs and to the areas which have more emphasis in the organizations. Real usability is one of the most important qualities of the diagnostic instruments, as is also the ease with which actions can be taken on the basis of the diagnosis.

Learning organizations could be defined and measured in many different ways. In this thesis the basic definition has been based on some other writers' thoughts, as well as on real managers' conceptions of their organizations. The learning organization thus created is composed of two levels with five elements at both of those levels. In the following these elements are discussed in the light of the results of the study.

Driving forces seemed to be more important in practice than in theory. Managing the whole did not get as much emphasis as did learners' leading, but both of them have received more attention over the past few years. The idea of managers and leaders being also very important for the development of the learning organization and its people seem to be one of the most vital elements of the concept (Moilanen 2001 b).

Finding purpose resembles the strategic and motivational background of the present study. It is on the one hand a well established area in learning organizations, but on the other hand a very poorly managed area. This relates to the twofold picture of learning organizations: the organizational level of finding purpose, i.e. strategy and vision, is much more widely discussed than the individual level of the same concept. Managers, however, stressed the individual side more than the authors and researchers of this field.

Questioning has been rather prominent in the public discussion, especially in the meaning found in Argyris's and Senge's production. The situation is totally different in real organizations; it seems very difficult to discuss either the physical barriers or the mental models preventing learning. In practice these discussions are far too often evaded, which, then prevent the other elements of the whole from becoming successful. It is admittedly a very awkward area from the point of view of research, particularly as regards the mental models of individuals and the whole organization. A more profound analysis would be welcome, but other type of expertise is needed to cover this area better.

Empowering is very fruitful and probably one of the widest expanded area of learning organizations. The operations included in this element seem to be the most popular both in theoretical views and in practical discussions. This is understandable, because using different means is much easier than concentrating, for example, on the other elements of the Learning Organization Diamond Model developed in this thesis. Means are good whenever they are used at the right time for the right purposes. Too often organizations fail because they do not master the whole system.

Measuring or diagnosing was a very badly organized area from the point of view of learning or learning organizations at the time when the framework of this thesis was first being composed. From the viewpoint of theories it could have been left out from the framework, but the managers' interviews showed

the real state of organizations as regards this aspect. Almost everything was being measured, and the notion following this was that learning organization thinking will not be able to flourish without applying the existing rules of organizations. Therefore, this particular element was found to be important already at the early phases of this research. Later this decision has proved very valuable, since the value of diagnosing has been increased both in theory and in practice.

The learning organization as such a holistic concept as this can easily remain at the level of a good guess or, then, become a valuable construct. The aims of the construction work in this study have been to create a holistic concept which includes some of the most holistic thoughts about learning organizations. The tools used to establish this whole have been various and divergent, which has been at the same time the strength and the weakness of this process. The combination of a basically very complicated concept and the complex ways of clarifying one's thoughts about the issues involved were very near to present an unsurmountable challenge, but luckily it did not turn out to be impossible in the end.

The last point to be discussed here takes us back to the whole, and particularly to some ideas or questions raised in the name of the thesis, namely, a learning organization as a machine or a group of people. The original idea of the study dates back to the time when managers or other people participated in different types of training programmes and complained that nothing happens in their own organizations due to their participation.

The metaphor of a learning organization as a machine has a close linkage to the situation described above. An organization itself is such a machinelike entity that small, unconnected or partial operations will not change its overall direction. An organization could be said to be a machine, but if this organization aims at being a learning organization it needs a different type of a metaphor. The learning organization needs to be a some kind of a systemic whole, but the machine-like image is too stagnant in this situation.

The other side of the title is "human", a group of people, which does not seem to illustrate a learning organization either. A group of people is the heart of a learning organization, but a lot more is needed to build the whole. The individual side of the concept developed in this thesis is covered by this saying, but the organizational side is also needed to build the whole.

In conclusion, the whole and its most important elements have to be analysed one at a time, because every "whole" is different. Organizations vary and their situations differ, and therefore a thoroughly constructed and tested - but still a sufficiently general - framework could enhance understanding and assist in developing organizations towards learning organizations.

YHTEENVETO (FINNISH SUMMARY)

Oppiva organisaatio: kone vai oppivien ihmisten yhteisö?

Oppiva organisaatio on ollut varsin suosittu käsite parin viime vuosikymmenen ajan maailmalla ja meillä Suomessakin lähes koko 90-luvun. Käsite on ollut niin suosittu, että sitä on käytetty mitä erilaisemmissa yhteyksissä. Oppivana organisaationa on voitu pitää organisaatiota, jossa panostetaan koulutukseen tai oppiva organisaatio on voitu yhdistää tiimien tai laadun kehittämiseen. Oppiva organisaatio ei ole kuitenkaan suoranaisesti mikään näistä edellä mainituista, vaan oppivaa organisaatiota voisi enemmänkin luonnehtia organisaatioksi, joka rakentaa edellytykset oppimiselle ja poistaa esteet oppimisen tieltä. Näin organisaatio mahdollistaa oppijoiden eli organisaatiossa työskentelevien yksilöiden oppimisen ja sitä kautta rakentaa uutta tulevaisuutta sekä näille yksilöille että organisaatiolle itselleen.

Toisin sanoen oppivan organisaation periaatteiden, arvojen, järjestelmien ja rakenteiden pitäisi olla aina silloin läsnä, kun organisaatiossa tehdään isoja, kaikkien työyhteisön jäsenten oppimista vaativia muutoksia. Oppiva organisaatio on näin ollen muutoksia toteuttavien tai muutoksen kohteena olevien organisaatioiden jatkuva olotila ja kehittämisen kohde. Tämä tarkoittaa sitä, että oppiva organisaatio ei ole yksittäisen esimiehen tai asiantuntijan vastuulla oleva asia, vaan kaikkien ja erityisesti ylimmän johdon mielenkiinnon kohde.

Oppivaa organisaatiota ei ole juuri käytännössä eikä alan julkaisuissakaan tarkasteltu tällaisena laajana kokonaisuutena. Tässä väitöskirjatyössä on kuitenkin lähdetty ratkomaan kokonaisvaltaisen strategisesti merkittävän kokonaisuuden johtamista ja kehittämistä. Tässä tutkimuksessa on päädytty rajaamaan oppivan organisaation kokonaisuus kahdelle eri tasolle, eli toisaalta koko organisaatioon ja toisaalta organisaatiossa työskenteleviin yksilöihin. Organisaatiotasolla tarkoitetaan tässä laajoja ja periaatteellisia järjestelmiä tai prosesseja, jotka eivät ole yhden esimiehen tai työntekijöiden vastuulla. Yksilötasolla taas asioita katsotaan oppijoiden näkökulmasta, eli yksittäisen työntekijän, hänen oppimisensa ja hänen työnsä kehittymisen näkökulmasta.

Oppivan organisaation käsittely laajana ja kokonaisvaltaisena käsitteenä on alan kirjallisuudessa suhteellisen harvinaista. Tämä on ymmärrettävää, sillä näin laajan kokonaisuuden hahmottaminen tai tutkiminen ei ole helppoa tai yksiselitteistä. Oppivan organisaation tarkastelua alan kirjallisuudessa luonnehtii pirstaleisuuden ja osittaisuuden ohella myös tietty pinnallisuus. Oppivan organisaation piirteitä on helppo luonnehtia tai määritellä, mutta syvällisemmän analyysin tekeminen on todella harvinaista. Voidaan tietenkin kysyä, että tarvitseeko näin abstraktia asiaa, kuten oppivaa organisaatiota käsitelläkään syvällisemmin tai analyyttisemmin. Tässä tutkimuksessa on kuitenkin lähdetty siitä ajatuksesta, että tarve tähän on olemassa.

Tämän väitöskirjatutkimuksen tavoitteena onkin syventää oppivista organisaatioista käytävää keskustelua kuvailemalla, määrittelemällä ja diagnosoimalla oppivaa organisaatiota kokonaisvaltaisena systeeminä, jossa keskeisimmät tarkastelukulmat liittyvät toisaalta yksilötasoon ja toisaalta organisaatiotasoon. Tutkimus pohjautuu toisaalta alan kirjallisuuden analysointiin ja

keskeisimpien kirjoittajien tuotannon syvällisempään tutkimiseen. Toisaalta tutkimus perustuu myös erittäin vahvasti käytäntöön, eli yritysjohdon ja yritysten henkilöstön koulutus- ja kehittämiskokemuksiin sekä tutkimusprosessissa kerättyyn aineistoon.

Väitöskirjatyön nimi "Oppiva organisaatio: kone vai ihminen?" sai alkunsa käytännöstä eli yritysjohtajien kysymyksistä. Keskeisin kysymys liittyi siihen, miksi työyhteisön toiminta ei muutu, vaikka yksittäisiä ihmisiä koulutetaan. Tämä kysymys sai miettimään organisaation kokonaisuutta ja niitä rakenteellisia ja systeemisiä tekijöitä, jotka vaikuttavat siihen, ettei yksittäisten ihmisten oppiminen välttämättä saa aikaan muutoksia organisaatiossa. Eräällä tavalla voi kärjistää, että vastakkain on tulosohjattu, tiettyjä periaatteita noudattava organisaatio, sekä oppiva yksilö, ihminen. Organisaatio on kuin iso laiva, jonka suuntaa on yhden ihmisen tai yksittäisen toimenpiteen avulla vaikeaa muuttaa. Ihminen on taas muuttuva ja oppiva, mutta kuitenkin yhä edelleen suuren organisaation osa. Ristiriitaista on, että organisaatiot haluaisivat muuttua, samoin kuin suurin osa yksilöistä, mutta oppivaksi organisaatioksi kehittyminen tai aktiivisena oppijana työyhteisössä oleminen ei ole aina itsestään selvää.

Luonnehditaanpa oppivaa organisaatiota sitten miten tahansa, niin jotenkin tähän laajaan kokonaisuuteen on päästävä paremmin sisälle. Apuvälineeksi tämän kokonaisuuden ymmärtämiseen ja analysointiin oli kehitettävä jonkinlainen käsitteistö. Tässä tutkimuksessa käsitteistö koostuu kahdesta eri tasosta ja kummallakin tasolla viidestä eri osa-alueesta. Ensimmäinen ja tärkein osa-alue näyttää olevan johtamisen osa-alue, jota on tässä tutkimuksessa nimitetty organisaatiotasolla 'oppivan organisaation johtamiseksi' ja yksilötasolla 'oppijoiden ja oppimisen johtamiseksi'.

Muut organisaatiotason tekijät ovat 'oppimisen suunta' eli yhteinen visio tai käsitys oppimisesta, oppimisen 'esteiden tunnistaminen ja poistaminen', oppimisen 'keinojen organisaatiotasoinen järjestäminen' ja viimeisenä 'oppivaksi organisaatioksi kehittymisen arviointi'. Yksilötasolla osa-alueet ovat periaatteessa samoja, vaikka tarkastelutaso onkin nyt toinen. Esimerkiksi yhteinen suunta on yksilöpuolella yksilön 'oman oppimisen suunta' tai motiivi ja 'esteet' tarkoittavat yksilötasolla enemmän yksilön omaan oppimiseen ja muuttumiseen liittyviä esteitä.

Tämän kokonaisuuden eli yhteensä kymmenen eri osatekijän tutkimisen piti ensimmäisen suunnitelman mukaan edetä osa-alueittain siten, että organisaatio- ja yksilötasolla toisiaan vastaavat käsitteet olisi käsitelty pareittain, jolloin tarkasteltavia osakokonaisuuksia olisi ollut viisi. Tällöin olisi pyritty osatekijöiden kautta kokonaisuuden ymmärtämiseen. Osa-alueittainen tarkastelu sai kuitenkin väistyä, sillä kokonaisuuden ymmärtäminen ja diagnosointi nousi haastattelujen ja syvällisemmän kirjallisuuteen perehtymisen johdosta mielekkäämmäksi lähestymistavaksi.

Tutkimuksen sijoittaminen muiden tutkimusten joukkoon on hieman vaikeaa, sillä oppivaa organisaatiota käsittelevien oppien tai teorioiden kenttä on hyvin laaja ja monitieteinen. Voidaan todeta, että tässä tutkimuksessa on ollut tavoitteena rakentaa malli, joka auttaa hahmottamaan oppivan organisaation kokonaisuutta eli tutkimus on eräällä tavalla käsitteistöä rakentavaa tutkimus-

ta. Tämän ohella tutkimuksella on myös selvä yhteys muutokseen eli toiminnan ja oppimisen välinen yhteys on varsin tärkeä osa oppivaa organisaatiota.

Oppivan organisaation tutkiminen tätä väitöskirjatyötä varten on ollut varsin monitahoinen prosessi, joka on pitänyt sisällään sekä käytännönläheisempiä että teoreettisempia vaiheita. Tutkimusta varten haastateltiin toistakymmentä suomalaista yritysjohtajaa ja kyselyaineistoa kerättiin 25 suomalaisesta organisaatiosta. Haastattelut auttoivat alkuun, lisäsivät ymmärrystä ja saivat arvioimaan teorioihin pohjautuvaa viitekehystä. Noin 700 vastaajan tutkimusaineisto puolestaan antoi tietoa tutkimuksen yhteydessä kehitetyn oppivan organisaation mittarin ominaisuuksista ja kyseisten ryhmien tai yksiköiden oppiva organisaatio –tilasta.

Näistä aineksista on koottu kahdesta osasta rakentuva väitöskirjatutkimus. Tutkimuksen alkuosa on kokonaisuutta pohjustavaa ja yhteenvetävää johdantoa ja loppu on varsinaista tutkimusongelman käsittelyä erillisissä artikkeleissa. Kyseessä on siis neljä itsenäistä muissa yhteyksissä jo aiemmin julkaistua artikkelia, jotka kuitenkin liittyvät kiinteästi yhteiseen oppivan organisaation viitekehykseen.

Kahden ensimmäisen artikkelin eli haastatteluaineistoon perustuvien artikkelien tavoitteena on ymmärryksen lisääminen oppivasta organisaatiosta yleensä. Tämän lisäksi tavoitteena on ymmärryksen lisääminen oppivasta organisaatiosta kokonaisvaltaisena, tietoisesti johdettuna kokonaisuutena. Tätä tutkimusvaihetta luonnehtii erilaisten näkökulmien ymmärtäminen ja vertailu. Toinen vaihe, joka perustuu 25 organisaatiosta kerättyyn kysymysaineistoon tarjoaa puolestaan mahdollisuuden keskittyä oppivan organisaation diagnosointiin ja mittaamiseen.

Ensimmäisen artikkelin tavoitteet lähtevät suhteellisen kaukaa yksittäisestä organisaatiosta ja oppijasta, sillä aivan ensimmäisenä tavoitteena on ollut hahmottaa oppivan organisaation ajattelumalleja ja oppeja sekä mahdollisia teorioita ja etsiä näistä apua kokonaisvaltaisen ajattelumallin rakentamiseen. Varsinaisena tavoitteena on lisätä oppivan organisaation ymmärrystä sekä teoreettisella että käytännön tasolla. Tämän lisäksi tavoitteena on tutkia kahden ensimmäisen elementin eli johtamisen ja suunnan merkitystä oppivan organisaation kokonaisuuden osina.

Artikkeli perustuu 15 yritysjohtajan haastatteluun sekä vuonna 1996 julkaistuun lisensiaatintyöhön. Haastatelluista yritysjohtajista ja heidän edustamistaan yrityksistä valittiin viisi syvällisempään, QSR NUD.IST –nimisellä ohjelmalla tehtävään analyysiin. Analyysin perusteella huomattiin, että painotukset eri organisaatioissa voivat olla hyvinkin erilaisia, eli oppivan organisaation moninaisuus myös käytännössä nousi hyvin selvästi esille. Tämä vahvisti omalta osaltaan riittävän yleisen, mutta kuitenkin oppimisen kannalta keskeisen viitekehyksen merkitystä oppivan organisaation ymmärtämisessä.

Tämän artikkelin ensimmäinen johtopäätös koskee johdon roolia oppivassa organisaatiossa. Aiempi, lisensiaattityössä rakennettu viitekehys täydennettiin tämän haastatteluaineiston ja syvällisen analyysin perusteella sekä organisaatiotason, että yksilötason johtamisella. Vaikka alan kirjallisuudessa painotettiin noihin aikoihin hyvin vähän johdon roolia oppivassa organisaatiossa, niin haastatellut yritysjohtajat olivat hyvin selkeästi sitä mieltä, että johdon

rooli on keskeinen sekä oppivan organisaation että oppijoiden kehittämisessä. Toinen johtopäätös koskee yhteistä suuntaa eli organisaatiotasolla sekä kirjallisuus että haastateltavat korostivat selkeästi strategian, vision ja vastaavien muiden käsitteiden merkitystä. Yksilöpuolen suunta tai motiivi tuli esille vain haastatteluissa, joissa korostettiin yksilön motivaation olennaista merkitystä sekä oppivalle organisaatiolle että oppijalle itselleen.

Artikkelin viimeiset johtopäätökset liittyvät laajemmin koko tutkimukseen ja erityisesti viitekehykseen. Tämä artikkeli on tieteentekijän urallani ensimmäinen englanninkielinen tieteellinen artikkeli. Viitekehyksen perusta oli rakennettu lisensiaattivaiheessa, mutta tämän artikkelin aineiston analysoinnin myötä viitekehys laajeni viidennellä osa-alueella eli johtamisella. Tämän muutoksen ohella artikkelin työstäminen muutti myös käsityksiä tähän väitöskirjatyöhön parhaiten sopivasta oppivan organisaation lähestymistavasta. Aiemmin suunnitellun osiokohtaisen lähestymisen sijasta kokonaisuuden tarkastelu sai entistä suuremman painoarvon. Tämän ansiosta tutkimuksen kulkua muutettiinkin siten, että oppivan organisaation käsite tarkentuisi eri menetelmien avulla koko ajan kokonaisuutena, eikä osiensa kautta, kuten alussa oli suunniteltu.

Toinen artikkeli perustuu ensimmäisen artikkelin kanssa samaan aineistoon. Tavoitteena tässä artikkelissa on perehtyä erilaisiin organisaatioihin ja samalla testata tutkimuksen viitekehyksen toimivuutta todellisten organisaatioiden nykytilan arvioinnissa. Tässä tutkimuksessa käytettiin viitekehykseen perustuvaa haastattelurunkoa ja haastatteluaineisto analysoitiin ohjelmalla, joka mahdollisti hyvinkin yksityiskohtaisen aineistojen sisällöllisen erottelun. Viiden yritysjohtajan haastattelusta etsittiin niitä asioita, jotka korostuvat heidän kuvatessaan oman organisaationsa nykytilaa.

Analyysien perusteella erityyppiset organisaatiot nimettiin "tyyliä" kuvaavin termein seuraavasti: 'tulevaisuuden haastajat', 'suuret ajattelijat', aktiiviset toimijat' ja 'turvallisesti menneisyydessä'. Esimerkiksi 'tulevaisuuden haastajat' –luokka tai ryhmä perustuu siihen, että kyseisen tyyppisissä organisaatioissa ollaan aktiivisia sekä 'ajattelun' että 'toiminnan' alueella. 'Ajattelu' piti tässä kokeiluasetelmassa sisällään viitekehyksen käsitteistä 'suunnan' ja 'esteiden tunnistamisen' tai 'kysymisen', kuten käsite oli vielä tässä vaiheessa nimetty. 'Toiminta' puolestaan piti sisällään 'keinot' ja 'varmistuksen'.

Tämän artikkelin keskeisin anti liittyy toisaalta tällaisen uudentyyppisen ajattelun soveltamiseen oppiviin organisaatioihin, jolloin tärkeä havainto piilee siinä, että oppivat organisaatiot ovat yhtä moninaisia kuin ne organisaatiot, joita tutkitaan. Oppivaa organisaatiota ei tämän mukaan voida tiivistää kovin yksiselitteiseen ja suppeaan malliin, sillä tyylejä ja rakenteita on varsin erilaisia. Toisaalta anti liittyy myös siihen, että tietyn rakenteen tai muodon, eli tässä tapauksessa viitekehyksen mukaan etenevän tarkastelun pohjalta saadaan paljon tietoa hyvin erilaisten organisaatioiden nykytilasta. Tämä huomio vahvisti aiemmin esitettyä käsitystä siitä, että oppivalle organisaatiolle on määriteltävissä jonkinlainen "rakenne" tai "muoto", mutta organisaatiokohtaiset suuret vaihtelut vaativat kuitenkin tältä "rakenteelta" melkoista liikkumavaraa. Valitettavasti nämä tässä artikkelissa kehitetyt erilaiset yritystyypit ja

tyylit jäivät tämän yhden artikkelin varaan, sillä tutkimuksen tavoitteeksi oli asetettu ymmärryksen syventäminen mittaamisen keinoin, jolloin tämän osa-alueen jatkokehittelyt piti siirtää myöhempään ajankohtaan.

Kolmannessa ja neljännessä artikkelissa aineisto ja tarkastelumenetelmät vaihtuvat, sillä näissä kahdessa viimeisessä artikkelissa keskitytään oppivan organisaation olemassa olevien eli julkaistujen mittareiden analysoimiseen, oman mittarin kehittämiseen ja tällä mittarilla kerätyn aineiston analysointiin.

Kolmannen artikkelin ensimmäisenä tavoitteena on luoda kattava analyysi olemassa olevista mittareista. Tehtävä oli jo huomattavasti helpompi kuin koko oppivan organisaation kentän analysointi, sillä julkaistuja mittareita löytyi vain kahdeksan. Näistä kahdeksasta mittarista osa keskittyi erottelemaan oppivat organisaatiot muun tyyppisistä organisaatioista. Tämän tyyppinen lähestymistapa ei tämän tutkimuksen kannalta kuitenkaan osoittautunut kovin keskeiseksi, sillä tällöin ei juurikaan saada tietoa oppivan organisaation sisällöstä tai rakenteista. Osa mittareista oli puolestaan hyvinkin suppeita, eivätkä ne näin ollen pysty auttamaan syvällisemmän ja kokonaisvaltaisen analyysin tekemisessä. Vain muutama mukana olleista mittareista oli riittävän syvällinen ja myös tilastollisin menetelmin testattu, jolloin niitä ja tässä tutkimuksessa kehitettyä mittaria voitiin verrata keskenään.

Kolmannen artikkelin toinen tavoite on tutkimuksen viitekehykseen perustuvan mittarin rakentaminen ja tilastollinen analysointi. Mittarin rakentamisessa on ollut tavoitteena eri organisaatioissa ja eri organisaatiotasoilla vastattava oleva suhteellisen helppo ja melko yleisesti oppivan organisaation osia käsittelevä väittämälista. Mittarin rakenne vastaa viitekehyksen periaatteita siten, että tasoja on kaksi eli organisaatio- ja yksilötaso ja kummallakin tasolla on viisi osa-aluetta, joista kustakin on neljä väittämää. Tällöin väittämiä koko mittarissa on yhteensä neljäkymmentä.

Mittarilla kerättiin tietoa 25 hyvinkin erilaisesta organisaatiosta. Aineiston keräämisen tavoitteena oli nimenomaan riittävän monipuolisen ja kattavan aineiston saaminen mittarin tilastollista testausta varten. Mittarin luotettavuutta analysoitiin Cronbachin alfa –nimisellä tunnusluvulla. Tulokset osoittautuivat suhteellisen hyviksi, sillä koko mittarin arvoksi saatiin .9500, organisaatiopuolen arvo oli puolestaan .8672 ja yksilötason .9566. Yksittäisten osa-alueiden arvot vaihtelivat .5141 ja .8617 välillä, joista suurinta osaa on pidettävä hyvänä uusimpien kriteerien mukaan. Mittarin validiteetin arvioiminen tehtiin puolestaan tutkimusprosessia ja teorian ja käytännön välistä yhteyttä analysoimalla. Tällöin havaittiin, että hyvä teoreettinen perusta ja tutkittavan kohteen tuntemus lisää mahdollisuutta kehittää kohdealuetta eli tässä tapauksessa oppivan organisaation kokonaisuutta hyvin kuvaavan mittarin.

Mittaria verrattiin artikkelissa analysoituihin muihin mittareihin. Teoreettiselta kannalta tarkasteltuna mittaria voidaan pitää yhtä hyvänä kuin analyysin parhaimpina pidettyjä mittareita, vaikkakaan nyt kehitetty mittari ei kaikin osin olekaan yhtä syvällinen kuin muutamat muut vertailussa esitellyt mittarit. Myös käytännön näkökulmasta mittaria voi pitää onnistuneena, koska siihen vastaaminen on helppoa ja vastauksia voidaan kerätä organisaation eri tasoilla tai erilaisissa yksiköissä. Yhteenvetona voi todeta, että mittari palvelee hyvin käytännönläheisen ja kokonaisvaltaisen kuvan rakentamisessa organisaatiosta.

Neljäs eli viimeinen artikkeli syntyi saman aineiston pohjalta kuin kolmaskin artikkeli. Vaikkakaan aineistoa ei oltu suunniteltu varsinaisesti sisällölliseen analyysiin, niin siltikin aineisto antoi aihetta tutkittujen organisaatioiden nykytilan arviointiin. Vajaan 700 vastaajan ja 25 organisaation aineistoa käsiteltiin ensin yhtenä kokonaisena kuvitteellisena organisaationa, sitten "toimialoittain" ja viimeksi yksittäisten organisaatioiden muodostamina "luonnollisina", vaikkakin hyvin pieninä organisaatioina. Tällä tavoin koko tutkimuksen keskipiste kiertyi takaisin organisaatioihin ja niiden oppiva organisaation –tilan kuvaamiseen, mutta nyt todellisten, olemassa olevien organisaatioiden kautta.

Vaikkakaan aineisto ei anna aihetta yleistyksiin tai yksittäisten organisaatioiden riittävän kattavien analyysien tekoon, niin siitä huolimatta mittarilla tehdyistä analyyseistä voi tehdä joitakin johtopäätöksiä. Ensinnäkin mittarilla saatiin eroja eri "toimialojen" tai organisaatioiden välille. Tämä tarkoittaa sitä, että mittari toimii ja sen avulla pystytään erottelemaan "eritasoiset" oppivat organisaatiot toisistaan. Esimerkiksi yksittäisten organisaatioiden keskiarvot vaihtelivat siten, että "parhaalla" organisaatiolla eri osa-alueiden keskiarvot olivat 3.0 ja 3.5 välillä, kun taas "vähiten oppivalla" organisaatiolla arvot olivat 1.5 ja 2.0 välillä maksimiarvon ollessa 4.0.

Tulokset osoittivat tässä aineistossa sen, että yksittäisistä osa-alueista parhaimmat keskiarvot tulivat 'suunnalle' ja 'edellytyksille', kun taas 'esteistä keskustelu tai niiden tunnistaminen ja käsittely' sai vastaavasti pienimmät keskiarvot. Osa-alueista kiinnostavin oli johtamisen osa-alue, joka osoittautui olevan yhteydessä organisaation saamiin kokonaispistemääriin. Organisaatiot, jotka saivat parhaimmat pistemäärät eli osoittautuivat tämän mittarin mukaan "hyviksi" oppiviksi organisaatioksi, saivat myös korkeat keskiarvot johtamisen osa-alueista. Tätä voidaan pitää osoituksena siitä, että oppimisen ja oppijoiden johtamisella sekä oppivan organisaation tietoisella kehittämisellä on merkitystä.

Kokonaisuudessaan tutkimus osoittautui varsin mielenkiintoiseksi ja haastavaksi tutkimusmatkaksi erittäin laajan ja kokonaisvaltaisen käsitteen maailmaan. Tutkimuksen teon yhteydessä vahvistui käsitys siitä, että näkökulman valinta ja kokonaisuuden määrittely tällä tavoin oli onnistunut. Oppivan organisaation ymmärryksen lisääminen tällä tavoin kokonaisuutta eri tavoin analysoiden osoittautui toimivaksi ja mielekkääksi ratkaisuksi. Tutkimuksen laajuus kuitenkin aiheutti sen, että joitakin osa-alueita jäi liian suppean käsittelyn varaan. Erityisesti oppivan organisaation tyylit jäivät tällä kertaa liian vähäiselle huomiolle.

Kokonaisuuden rakentuminen kuvailu-määrittely-diagnosointi –akselilla näyttää myös toimivan, vaikkakaan kovin monet tutkijat tai alan asiantuntijat eivät aiemmin ole tällä strategialla edenneet. Oppivan organisaation syvällisempi ymmärtäminen diagnosoimalla eli kehittämällä oppivaa organisaatiota mittaava työkalu oli paljon riskejä sisältävä valinta, mutta tässä vaiheessa se tuntuu kannattavalta valinnalta. Kun mitattava asia pystytään määrittelemään, niin silloin sitä varten voidaan myös kehittää mittari, jolloin mittauksen kohteesta saadaan lisää tietoa. Vaikka sana mittaaminen nostaa esiin mielikuvia vain määrällisiin suureisiin keskittyvästä tutkimuksesta, niin tässä tutkimuksessa on muistettava, että nyt mitattiin ihmisten käsityksiä omasta organisaa-

tiostaan ja omasta oppimisen tilasta. Tällä tavoin käsiteltynä mittaaminen laajentaa asian ymmärtämistä siten, että teoria ja käytäntö pystyvät hyödyttämään toinen toistaan.

Tämä käytännön ja teorian välinen yhteys ei ole aivan ongelmaton, sillä teoreettisen ja käytännöllisen tiedon välisen yhteyden ollessa olemassa voidaan ajatella, että tieteestä tulee jollakin tavoin puolueellista. Tässä tutkimuksessa on otettu lähinnä se kanta, että tutkimustieto kumuloituu käytännön kokemusten ja havaintojen kautta, jolloin käytännön elämänkin pitää saada jotakin hyötyä osallistumisestaan tieteellisen tiedon edistämiseen. Tämän vuoksi tämänkin tutkimuksen arvoa voidaan analysoida myös siltä kannalta, mitä se tarjoaa käytännön yritysjohtajille.

Ensimmäinen lähtökohta on, että tutkittu tieto on relevanttia, eli että sille on käyttöä organisaatioiden kehittämisessä. Tärkein anti löytyy siitä, että muutoin abstraktille asialle "saippualle" tai "ameballe" annetaan jokin sisältö. Tällöin asiasta voidaan keskustella, sitä voidaan kehittää ja sen kehittymistä voidaan seurata. Käsitejärjestelmän luominen edistää siis käytännössä asioiden ymmärtämistä ja edelleen käsittelyä.

Toinen keskeinen anti liittyy siihen, että oppiva organisaatio käsitteenä pystytään sijoittamaan oikealle paikalle organisaatioiden johtamisessa. Oppiva organisaation kehittäminen tai oppimisen ja oppijoiden johtaminen ei ole asiantuntijoiden tehtävä, vaan kaikkien esimiesten ja johtajien keskeinen työ. Vain tällä tavoin jatkuvan muutoksen vaatima oppiminen pystytään onnistuneesti toteuttamaan erilaisissa organisaatioissa. Tämä tutkimuskin osoitti sen sekä haastattelujen että kyselyaineiston kautta, että mitä paremmin näitä asioita johdetaan, niin sitä parempana oppivana organisaationa yksilöt kokevat oman työyhteisönsä.

Kolmantena tarkastellaan oppimista eli oppivan organisaation keskeistä toimintaa, joka on usein varsin väärin ymmärretty käsite. Tämä tutkimus pyrkii asettamaan tämänkin käsitteen oikealle paikalleen. Oppiminen ei ole tämän tutkimuksen mukaan yhtä kuin kouluttaminen, sillä oppimisen keinot ja sisällöt ovat hyvin moninaiset. Huomion kiinnittäminen työhön, työn kehittämiseen ja työhön liittyvään vuorovaikutukseen samoin kuin esimerkilliseen esimiestyöhönkin onkin paljon keskeisempää kuin kurssien järjestäminen ja koulutuspäivien laskeminen.

Yhteenvetona koko tutkimuksen annista voidaan todeta, että tärkeintä on uuden, vakiintumattoman asian sisällön ja käsitteiden määrittely. Tällöin oppivaa organisaatiota, oppimista sekä näiden johtamista voidaan käsitellä ja kehittää eteenpäin. Näin ehkä päästään vähitellen selville siitä, mikä tekee organisaatiosta hyvän oppivan organisaation sekä koko organisaation että siellä työtään tekevien ihmisten kannalta.

REFERENCES

Alava, J. 1998. Strateginen oppimiskehä ja strategisen ajattelun kehittäminen (Strategic learning cycle and development of strategic thinking). Unpublished.

Argyris, C. 1957. Personality and organization. New York: Harper & Row.

Argyris, C. 1977. Double loop learning in organizations. Harvard Business Review 55 (5), 115-125.

Argyris, C. 1985. Strategy, change and defensive routines. Marsfield, Massachusetts: Pitman.

Argyris, C. 1990. Overcoming organizational defences. Boston: Allyn and Bacon.

Argyris, C. 1991. Teaching smart people how to learn. Harward Business Review 69 (3), 99-109.

Argyris, C. 1992. On organizational learning. Cambridge, Massachusetts: Blackwell.

Argyris, C. 1993. Knowledge for action. San Francisco: Jossey-Bass.

Argyris, C. 1994. Good communication that blocks learning. Harward Business Review 72 (4), 77-85

Argyris, C. 1997. Learning and teaching: A theory of action perspective. Journal of Management Education 21 (1), 9-26.

Argyris, C. & Schön, D. A. 1978. Organizational learning; a theory of action perspective. Reading, Massachusetts: Addison-Wesley.

Argyris, C. & Schön, D. A. 1987. Organizational learning. In D.S. Pugh (Ed.) Organization theory, selected readings. London: Penguin Books.

Argyris, C. & Schön, D. A. 1996. Organizational learning II; theory, method and practice. Reading, Massachusetts: Addison-Wesley.

Bandura, A. 1977. Social learning theory. Englewood Cliffs: Prentice-Hall.

Bennett, S. & Brown, J. 1995. Mindshift: Strategic dialogue for breakthrough thinking. In S. Chawla & J. Renesch (Eds.) Learning organizations. Portland: Productivity Press, 167-183.

Bohn, R. E. 1994. Measuring and managing technological knowledge. Sloan Managemet Review 36 (1), 61-73.

Boisot, M.H. 1998. Knowledge Assets; securing competitive advantage in the information economy. Oxford: Oxford University Press.

Braddick, B. & Casey, D. 1996. Developing the forgotten army, learning and the top management. In K. Starkey (Ed.), How organizations learn. London: International Thomson Business Press, 230-242.

Burgoyne, J., Pedler M. and Boydell T. 1994. Towards the learning company, concepts and practices. London: McGraw-Hill Book Company.

Carnall, C. 1995, Managing change in organizations. London: Prentice Hall.

Cavaleri, S.A. & Fearon, D.S. 1996. Managing in and through the knowledge ecology. In S. A. Cavaleri & D.S. Fearon (Eds.) Managing in organizations that learn. Oxford: Blackwell, 12-35.

Cohen, M. D. & Bacdayan, P. 1995. Organizational routines are stored as procedural memory; Evidence form a laboratory study. In M. D Cohen. & L. S. Sproull (Eds) Organizational Learning. Thousand Oaks, Ca.:

Sage, 403-429.
Cross, R. & Israelit S. 2000. Strategic learning in a knowledge economy; individual, collective and organizational learning process. Boston: Butterworth-Heineman.
Cunningham, I. 1994. Your move. Works management 47 (8), 50-52.
De Geus, A. P. 1996. Planning as learning. In K. Starkey (Ed.) How organizations learn. London: International Thomson Business Press, 92-99.
Dixon, N. 1994. The organizational learning cycle, how we can learn collectively. London: McGraw-Hill.
Easterby-Smith, M. 1997. Disciplined of organizational learning: Contributions and critiques. Human Relations 50 (9), 1085-1113.
Friedlander, F. 1983. Patterns of individual and organizational learning. In S. Shrivastava and associates (Eds.) The executive mind: new insights on managerial thought and action. San Francisco: Jossey-Bass.
Friedman, G., Friedman, M., Chapman, C. & Baker Jr, J.S. 1997. The intelligence edge. London: Century Business.
Galbraith, J. 1973. Designing complex organizations. Massachusetts: Addison-Wesley.
Galbraith, J. 1996. Designing the innovating organization. In K. Starkey (Ed.) How organizations learn. London: International Thompson Business Press, 156-181.
Garratt, B. 1987. The Learning Organization. London: Fontana/Collins.
Garratt, B. 1995. Developing Strategic Thought. Rediscovering the art of direction-giving. London: McGraw-Hill.
Hedberg, B. 1981. How organizations learn and unlearn. In P. C. Nyström & W. H. Starbruck (Eds.) Handbook of Organizational Design, Vol 1. New York: Plenum Press.
Hedberg, B. & Jönsson, S. 1989. Between myth and action. Scandinavian Journal of Management 5 (3), 177-185.
Hendry, C. 1996. Understanding and creating whole organizational change through learning theory. Human Relations 49 (5), 621-637.
Huber, G. P. 1991. Organizational learning: the contributing processes and the literatures. Organization Science 2(1), 88-115.
Kaplan, R. S. 1994. Devising a balanced scorecard matched to business strategy. Planning Review 22 (5), 15-22.
Kaplan, R. S. & Norton, D.P. 1992. The balanced scorecard – measures that drive performance. Harward Business Review (January-February), 71-79.
Kaplan, R. S. & Norton, D.P. 1993. Putting the balanced scorecard to work. Harward Business Review (September-October), 134-143.
Kaplan, R. S. & Norton, D. P. 1996. Using the balanced scorecard as a strategic management system. Harward Business Review (January-February), 75-85.
Kim, D. H. 1995. Managerial practice fields: Infrastructures of a learning organization. In S. Chawla & J. Renesch Learning organizations. Portland: Productivity Press, 351-363.
Kirjavainen, P. 1997. Strategic knowledge in a knowledge-intensive organization. Publications of the Turku School of Economics and Business Ad-

ministration A-2:1997.
Klein, D.A. 1998. The strategic management of intellectual capital. Boston: Butterworth-Heinemann.
Kolb, D.A. 1984. Experiental Learning, experience and the source of learning and development. Englewood Cliffs: Prentice Hall.
Kolb, D. A. 1996. Management and the learning process. In K. Starkey (Ed.) How organizations learn. London: International Thompson Business Press, 270-287.
Lassey, P. 1998. Developing s learning organization. London: Kogan Page.
Lesser, E.L. 2000. Knowledge and social capital. Boston: Butterworth-Heineman.
March, J. G. & Olsen, J. P. 1976. Ambiquity and choice in organizations. Bergen: Universitetsforlaget.
Mayo, A. & Lank, E. 1994. The power of learning. A guide to gaining competitive advantage. London: IPD House.
McDonald, S. 1995. Learning to change: an information perspective on learning in the organization. Organization Science 6 (5), 557-568.
Moilanen, R. 1990. Koulutuksesta kehitykseen – Johtamiskoulutuksen kehittäminen Action Learning –prosessina (From education to development – Action Learning in developing management education). Jyväskylän yliopiston täydennyskoulutuskeskuksen tutkimuksia ja selvityksiä 5/1990 (Reports from the Continuing Education Centre of the University of Jyväskylä 5/1990).
Moilanen, R. 1996. Oppiva organisaatio – tausta ja käsitteistö (Learning organization - background and concepts), English abstract. Jyväskylän yliopiston taloustieteellisen osaston julkaisuja 100/1996 (Reports from the School of Business and Economics of the University of Jyväskylä 100/1996). Licentiate Thesis.
Moilanen, R. 1998. Oppivan yrityksen uusmediaopas CD-rom (New Media Guide for Companies CD-rom). Tampereen yliopiston täydennyskoulutus-keskuksen julkaisusarja C 1/98 (Reports from the Institute for Extension Studies of the University of Tampere C 1/98).
Moilanen, R. 1999a. Finnish Learning Organizations: Structure and styles. The Entrepreneurial Executive (4) , 1-40.
Moilanen, R. 1999b. Management and leadership in a strategically and motivationally focused learning organization. In S. Lähteenmäki, L. Holden & I. Roberts (Eds.) HRM and the learning organisation. Publications of the Turku School of Economics and Business Administration A-2, 51-76.
Moilanen, R. 2001a. Diagnostic tools for learning organizations. The Learning Organization 8 (1), 6-20.
Moilanen, R. 2001b. Diagnosing learning organizations. Working papers from the School of Business and Economics of the University of Jyväskylä 232/2001.
Montgomery, J. M. & Scalia, F. 1996. Integrating learning and organizations. In S. A. Cavaleri & D. S. Fearon (Eds.) Managing in organizations that learn. Oxford: Blackwell, 435-465.
Mumford, A. 1995. Learning at the top. Berkshire: McGraw-Hill.

Newing, R. 1994. Benefits of a balanced scorecard. Accountancy 114 (1215), 52-56.
Nonaka, I. 1994. A dynamic theory of organizational knowledge creation. Organization Science 5 (1), 14-37.
Nonaka, I. & Takeuchi H. 1995. The knowledge-creating company. New York: Oxford University Press.
Otala, L. 1996. Oppimisen etu – kilpailukykyä muutoksessa (The competitive edge of learning in a situation of change). Porvoo: WSOY.
Prahalad, C. K & Hamel, G. 2000. The core competence of the corporation. In R. Cross & S. Israelit (Eds.) Strategic learning in a knowledge economy. Boston: Butterworth-Heineman.
Pearn, M., Roderick, C., Mulrooney, C. 1995. Learning organizations in practice. Berkshire: McGraw-Hill.
Pedler, M. 1983. Action Learning in Practice. Aldershot: Gower.
Pedler, M. 1996. Action learning for managers. London: Lemos & Crane.
Pedler, M., Boydell, T. & Burgoyne J. 1989. Towards the learning company. Management Education and Development 20 (1), 1-8.
Pedler, M., Burgoyne, J. & Boydell, T. 1991. The learning company, a strategy for sustainable development. London: McGraw-Hill.
Pedler, M., Burgoyne, J. & Boydell, T. 1997 (2nd ed.). The learning company, a strategy for sustainable development. London: McGraw-Hill.
Redding, J. C., Catalanello, R. F. 1997. Learning Organization Capability Assessment, survey questionnaire, sample items. Institute for Strategic Learning.
Revans, R. 1983. ABC of Action Learning. Bromley: Chartwell-Pratt.
Sanchez, R. & Heene, A. 2000. A competence perspective on strategic learning and knowledge management. In R. Cross & S. Israelit (Eds.) Strategic learning in a knowledge economy. Boston: Butterworth-Heineman.
Sarala, U. & Sarala, A. 1996. Oppiva organisaatio – oppimisen, laadun ja tuottavuuden yhdistäminen (A learning organization – combining learning, quality and productivity). Tampere: Tammer-Paino.
Savolainen, T. 1997. Development of quality-oriented management ideology. Jyväskylä studies in computer science, economics and statistics 37/1997.
Shrivastava, P. 1983. A typology of organizational learning systems. Journal of Management Studies 20(1), 7-28.
Simonin, B. L. 1997. The importance of collaborative know-how: An empirical test of the learning organization. Academy of Management Journal 40 (5), 1150-1174.
Skyrme, D. J. & Amidon, D. M. 1998. New measures of success. The Journal of Business Strategy 19 (1), 20-24.
Swieringa, J. & Wierdsma, A. 1992. Becoming a Learning Organization, Beyond the Learning Curve. Cambridge: Addison-Wesley.
Senge, P. M. 1990a. The fifth discipline, the art and practice of learning organization. New York: Doupleday Dell.
Senge, P. M. 1990b. The leaders new work: building learning organizations. Sloan Management Review 32 (1), 7-23.

Senge, P. M. 1994. Moving forward, thinking strategically about building learning organizations. In P. M. Senge, A. Kleiner, C. Roberts, R. B. Ross, & B. J. Smith, (Eds.) The fifth discipline field book, strategies and tools for building a learning organization. New York: Doupleday, 15-47.

Senge, P. M. 1996. The leaders new work; Building learning organizations. In K. Starkey (Ed.) How organizations learn. London: International Thompson Business Press, 288-315.

Smith, P. A. C. & Peters, V. J. 1997. Action learning worth a closer look. Ivey Business Quarterly 62 (1), 63-67.

Stata, R. 1989. Organizational learning – the key to management innovation. Sloan Management Review 30 (3), 63-74.

Ståhle P. & Grönroos M. 1999. Knowledge management. Porvoo: WSOY.

Sveiby, K.E. 1997. The new organizational wealth. San Francisco: Berrett-Koehler.

Tannenbaum, S. 1997. Enhancing continuous learning: Diagnostic findings from multiple companies. Human Resource Management 36 (4), 437-452.

Terziovski, M., Howell A., Sohal A. & Morrison M. 2000. Establishing mutual dependence between TQM and the learning organization: a multiple case study analysis. The Learning Organization 7 (1), 23-31.

Thompson, J. & Weiner, J. 1996. Strategic planning as a tool for building learning capacity. In S. A. Cavaleri & D. S. Fearon (Eds.) Managing in organizations that learn. Oxford: Blackwell, 466-490.

Tobin, D. R. 1996. Transformational learning. New York: John Wiley & Sons.

Tobin, D. R. 1998. The knowledge-enabled organization. New York: American Management Association.

Watkins, K. E. & Marsick, V. J. 1996. In action: Creating the learning organization. Alexandria: American Society for Training and Development.

Watkins, K. E. & Marsick, V. J. 1998. Dimensions of the Learning Organization Questionnaire.

Weick, K. E. 1995. Sensemaking in organizations. Thousand Oaks: Sage.

Wikström, S. & Normann, R. 1994. Knowledge and value: a new perspective on corporate transformation. Routledge: London.

Wood, R. & Bandura, A. 1989. Social cognitive theory of organizational management. Academy of Management Review 14 (3), 361-384.

APPENDIX

The Learning Organization Diamond:
The individual level

Respondent background

sex: _____ age: _____

occupation:_____ educational background:

_____

year of entry to organization: _____

Please give honest answers in analysing your own organization's learning and factors affecting it at present. Assess each statement by giving points 0 – 4 so that:
0 means that the statement does not describe the present state of my organization at all
1 means that the statement describes the present state of my organization poorly
2 means that the statement describes the present state of my organization to some degree
3 means that the statement describes the present state of my organization well
4 means that the statement is an excellent description of the present state of my organization

Statements of the individual level:

1. Leaders support and encourage my learning. ___
2. I am keen on learning new things. ___
3. I am not scared of big changes. ___
4. I learn from my own and others' mistakes. ___
5. I am aware of my learning and development. ___
6. I feel that my expertice is being appreciated. ___
7. I want to be involved in the development. ___
8. I can easily change my own principles. ___
9. I like to take part in courses and educate myself actively. ___
10. As a group member I am able to assess results and methods of our work. ___
11. We notice that learning is important in our firm, and our leaders are good examples___
12. I am purposive in my learning. ___
13. For me the continuous development is more important than routine work. ___
14. I can apply what I have learnt to develop my work. ___
15. I feel satisfied when I learn new things. ___
16. I feel that my bosses appreciate my learning. ___
17. Targets of my organization direct my development and learning. ___
18. I can solve problems in several different ways. ___
19. I can teach and coach others. ___
20. I support and encourage others in their learning.. ___

Raili Moilanen, Jyväskylän yliopisto, PL 35, 40351 Jyväskylä, puh. (014) 602 995, fax (014) 603 343 ja e-mail moilanen@cone.jyu.fi

The Learning Organization Diamond:

The organizational level

Please give honest answers in analysing your own organization's learning and factors affecting it at present. Assess each statement by giving points 0 – 4 so that:
0 means that the statement does not describe the present state of my organization at all
1 means that the statement describes the present state of my organization poorly
2 means that the statement descripes the present state of my organization to some degree
3 means that the statement descripes the present state of my organization well
4 means that the statement is an excellent description of the present state of my organization

Statements of the organizational level:

21. Learning facilities of the whole organization are developed systematically. ___
22. Learning in our organization is guided by what is important for our success in business operations. ___
23. Obstacles to learning have been eliminated in our organization. ___
24. Learning is an essential element in our work. ___
25. Our development targets are not mere words, because they are monitored. ___
26. We invest a lot in building a learning organization. ___
27. Our organizations's shared picture of future development directs the learning in our organization. ___
28. We discuss changes and their impacts in good time. ___
29. Learning is very versatile: we can learn from each other, from our own work, by reading, by taking courses, by experience, by making mistakes, by discussing, etc. ___
30. Good learning and development outcomes are praised. ___
31. Our employees are offered excellent opportunities for learning . ___
32. Learning and development are valued in our organization. ___
33. We understand that learning new things will not happen suddenly or without resources. ___
34. Critical thinking and active pursuit of different ways to develop are supported. ___
35. Successful development ventures are rewarded in our organization. ___
36. We try continuously to identify obstacles to learning. ___
37. Learning is seen as a vital part of our organization's competitiveness. ___
38. It is accepted that it is difficult to give up old procedures and ways of working. ___
39. Our people are coached to master new processes and techniques. ___
40. Individuals and teams are encouraged to assess their own development. ___

Raili Moilanen, Jyväskylän yliopisto, PL 35, 40351 Jyväskylä, puh. (014) 602 995, fax (014) 603 343 ja e-mail moilanen@cone.jyu.fi

PART II: THE ARTICLES

ARTICLE I

Management and leadership in a strategically and motivationally focused learning organization

By

Moilanen, Raili

Published in S. Lähteenmäki, L. Holden and I. Roberts (Eds.)
HRM and the learning organisation A-2, 51-76, 1999
Reprinted by kind permission of Turku School of Economics and Business Administration

TURUN KAUPPAKORKEAKOULUN JULKAISUJA

PUBLICATIONS OF THE TURKU SCHOOL
OF ECONOMICS AND BUSINESS ADMINISTRATION

Offprint from the Publication

Satu Lähteenmäki, Len Holden,
Ian Roberts

HRM AND THE LEARNING ORGANISATION

Sarja / Series A-2:1999

ISBN 951-738-939-6
ISSN 0357-4652
UDK 658.3
65.012.122
65.011.8

Kirjapaino Grafia Oy, Turku 1999

Raili Moilanen

MANAGEMENT AND LEADERSHIP IN A STRATEGICALLY AND MOTIVATIONALLY FOCUSED LEARNING ORGANIZATION

1. The Learning Organization as a Whole: an Introduction

Learning and organization, a much used pair of words, offer several conceptualizations, as does the connection between an organization and the world surrounding it. As Argyris and Schön have noted, various interests and purposes lead researchers to focus on different levels of aggregation and on variant features of the phenomena discovered at any given level (Argyris, Schön 1996, 193).

The focus of this study is, on the one hand, on learning organization theories and, on the other hand, on the learning organization itself. The first step in this article is to analyze categorizations used in grouping learning organization theories. Secondly, learning organization theories will be presented by means of the chosen categorization. This will be followed by a survey and discussion on the various views of a learning organization in particular, including those by Argyris and Schön, Pedler, Boydell and Burgoyne and Senge.

The last part of this study shall be based on a rough framework of a learning organization and some ideas expressed by managers from five Finnish companies. The framework is a wide one (reasons, obstacles, new learning models and stabilizing seen as organizational and individual factors) and cannot be presented in a comprehensive manner in a short article. Therefore, the focus of this article will be on the first part of the framework, on the reasons for organizational and individual learning.

On the organizational level, vision and strategy are seen as the most important reasons for developing learning on any larger scale. On the level of the individual, on the other hand, motivation and learning needs are perceived as the most vital factors for involving people in the process of continuous learning. In addition to these questions, the focus shall be on the role of managers and leaders as vital driving forces in a learning organization.

There are at least two types of outcomes relative to this study. First of all, this investigation combines the perspectives of the individual and the organizational level, both in the grouping of theories and in analyzing individual organizations. Secondly, this study will connect learning to business needs as well as the needs of individuals as the principal bases or driving forces of a learning organization.

2. Learning Organization Theories

The literature on the learning organization is very extensive and fragmented, and writers of learning organization literature vary in their background from practitioners to academics. There are various viewpoints and as many definitions as there are writers on this topic and, therefore, creating a holistic view of this field is difficult. The main impression from the literature analyzed seems to be that most writers focus more or less on actual learning processes and people as learners. The organizational side of the concept seems to be only rarely discussed or applied in the literature of the field.

2.1 Four Different Categorizations of Learning Organization Theories

The field of learning organization theories is so broad that there is a clear need for tools with which to classify the literature in some way. Four categorizations were chosen for a short review: Chris Argyris and Donald A. Schön (1978), Paul Shrivastava (1983), George P. Huber (1991) and Raili Moilanen (1996).

Argyris and Schön (1978, 321) offer a very broad focus in their review: organization as group, agent, structure, system, culture and politics. Shrivastava's (1983, 9) focus is on learning processes and he regards organizational learning as adaptation, assumption-sharing, a developing knowledge of action-outcome relationships and as institutional experience. The main focus in Huber's (1991, 90) review is more on the process of knowledge, which means that his categorization consists of knowledge acquisition, information distribution, information interpretation and organizational memory. The last grouping by Moilanen (1996, 52) has three categories: an outcome-oriented, process-oriented and vision-based—or holistic—learning organization.

The four categorizations differ in their basic assumptions about the nature of the organization and learning. Shrivastava and Huber concentrate more on

the knowledge-producing or knowledge-utilizing processes, whereas Argyris and Schön categorize learning organizations in accordance with organizational theories. The focus in Moilanen's categorization originates from learning theories and, again, has a different basis.

Shrivastava's and Huber's conceptualization is more precise and narrowly focused, while the two remaining views are broader and more general. Because of this breadth, the latter are chosen for further discussion.

Argyris and Schön (1978, 320) have categorized learning organization literature according to organization theories, but they themselves admit that 'the categories are based on more or less conventional ways of describing what an organization is...' The other categorization is also based on conventional ways of analyzing theories—not of organization but of learning. An interesting question is whether or not it may be possible to use the grouping of learning theories to also categorize learning organization theories.

There are some viewpoints taken from Argyris and Schön which may help to understand why the grouping of learning theories may be conceivable or worthy of further discussion. Argyris and Schön write: 'This review of organizational learning may seem to our readers, as it does to us, to be both extraordinarily comprehensive and extraordinarily incomplete. The essential difficulty of the review is that organizations are phenomena which may be, and even have been, examined through lenses of very different disciplines - social psychology, anthropology, sociology, and systems theory, to name only a few' (Argyris & Schön 1978, 329).

The foundation of categorizing learning theories has been tested and it bears a long history, but could it serve as the foundation of learning theories of organizations in the same way as it does with respect to individuals? This is a very fundamental question which cannot be answered in this article nor by just one writer. In spite of this problematic situation, the categorization of organizational learning theories shall be discussed herein by using the categorization for individual learning. This is being undertaken because a thorough discussion is needed to clarify the whole field in general—not merely the concept of individual learning organizations.

The principal groups in this categorization are constructed according to individual learning theories (behaviourism, cognitivism and humanism), their corresponding names in the discussion to follow being outcome-oriented learning organization, process-oriented learning organization and vision-based (holistic), learning organization.

2.2 Outcome-oriented Learning Organization Literature

The first grouping places the emphasis on the outcomes of learning and on the external motivation or external change forces behind learning. The most probable types of learning organizations falling into this category might be organizations which emphasize the importance of their environment and their external stakeholders. For example, the ideas by Hedberg (1981), Hedberg & Jönsson (1989) and Kirjavainen (1997) can be included in this group.
The views in this category can be crystallized as follows:

> "Learning takes place when organizations interact with their environments: organizations increase their understanding of reality by observing the results of their acts" (Hedberg 1981, 3).

2.3 Process-oriented Learning Organization Literature

The development of the second group resembles an individual's cognitive processes. The organization's processes and people in those processes can be said to be identical with these individual learning processes. Although there are various different learning processes in organizations, the common denominator for all writings in this group seems to be learning itself in addition to people in the process of learning.

For Argyris and Schön (1996, 191) the key concept in a learning organization is ... 'that of inquiry, interaction with one another on behalf of the organization to which they belong in ways that change the organization's theories of action and become embedded in organizational artifacts such as maps, memories and programmes.' Changing mental models is a vital process in learning since it forms the basis for both the individuals' and organizations' learning as seen in the various publications by Chris Argyris.

In his early writings, Argyris was more interested in the processes and thinking of individuals (Argyris 1957), but over the past decade he has moved more and more towards looking at learning organizations, although his core ideas are still related to individual and organizational mental models and their changes as signs of learning in organizations (Argyris & Schön 1978, 1996; Argyris 1977, 1985, 1990, 1991, 1992, 1993, 1994).

In addition to this viewpoint of mental models or processes, there are various other processes seen as the core processes of a learning organization. They are often related to experiental learning (Kolb 1984, March & Olssen 1976, Dixon 1994, 44), combining action and learning (Revans 1983, Pedler 1983, Moilanen 1990, Mumford 1995, Bradding & Casey 1996), general

thinking and understanding (Friedlander 1983), managing the dynamic aspects of organizational knowledge-creating processes (Nonaka 1994, 14) or increasing the knowledge bearer's competence (Wikström, Normann, 1994, 16). Knowledge is a core process for others also: measuring and managing technological knowledge is important (Bohn 1994), as is the role of external information (Mcdonald 1995, 557). Learning processes can also be analysed from the management point of view, for example, as management innovation (Stata 1989, 64), as a combination of strategy and learning (Garratt 1987) or as corporate planning processes (De Geus 1996, 92).

There are two views of organizational learning which shall be presented here to illustrate the ideas of this outcome-oriented category of learning organization literature:

According to Argyris and Schön (1978, 29) "organizational learning occurs when members of the organization act as learning agents for the organization, responding to changes in the internal and external environments of the organization by detecting and correcting errors in organizational theory-in-use, and embedding the results of their inquiry in private images and shared maps of organization."
Dixon (1994, 5) defines organizational learning as "the intentional use of learning processes at the individual, group and system level to continuously transform the organization in a direction that is increasingly satisfying its stakeholders."

2.4 Vision-based or Holistic Learning Organization Literature

The core concept of this group can be seen in the perceived wisdom of building a vision-based or holistic learning organization. This group is neither a group of tested theories nor one of self-evident empirical results, and the ideas categorized in this group seem to be more idealistic than realistic due to their breadth and holistic aim. It is difficult to prove that these types of learning organizations exist, but it does not decrease the value of the ideas.

Views of learning companies as broad entities were already presented in the late 1980's, when Pedler, Burgoyne and Boydell (1989) started investigating the learning conditions and features of learning companies. They presented their ideas on various occasions, and in 1991 they published a book which had its background in their view of eleven characteristics of learning companies (Pedler, Boydell & Burgoyne 1991). Since then, their orientation has moved more towards learning processes, but despite this new focus they still have a vision of the whole enterprise as a learning company (Burgoyne, Pedler & Boydell 1994):

"A learning company is an organization which facilitates the learning of all of its members and continuously transforms itself" (Pedler, Boydell & Burgoyne 1989, 2).

The next viewpoint presented here is that of Peter Senge, whose emphasis has changed from a narrower focus to a broader image of a learning organization (Senge 1990 a, 1990 b, Senge, Kleiner, Roberts et al 1994). Senge's earlier conceptions were based on five principles of a learning organization (systems thinking, personal mastery, mental models, shared vision and team learning), and the latest ideas consist of individual learning processes and organizational architecture, complemented by the concepts on implicate order and learning results (Senge 1990, Senge, Kleiner, Roberts et al, 1994).

Senge's latest views in particular appear to be broad enough to include features from both an internal and external focus as this pertains to a learning organization, as well as in regard to organizational artefacts as enabling factors of learning. All these together indicate that Senge has created a vision of a very broad and holistic learning organization. This might be the reason for the fact that a precise and short definition of a learning organization is very hard to find in Senge's works.

"... people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge 1990, 3).

An application which attempts to summarize the most developed ideas of Pedler and his associates, as well as the best ideas of Argyris and Senge, has been presented in a recent Licentiate Thesis published in 1996 (Moilanen 1996). The main purpose of the thesis was to investigate the learning organization as an interrelated system of individuals and the organization. The framework is composed of four sub-concepts, which are 1) reason for learning, 2) unlearning old habits, routines and mental models, 3) finding new processes for learning and development and 4) stabilizing learning by measuring and rewarding. These sub-concepts differ on the basis of whether they are analysed from the point of view of an organization or individuals, but the main starting point is the same (Moilanen 1996, 117-120). The roles of manager and leader in creating the infrastructure and sufficient support for learning is a challenging task combining both the organizational and individual level and these sub-concepts as a whole.

"Organizational learning is learning by individual and group, enhanced by organizational factors and aimed at reaching success for individuals as well as the organization" (Moilanen 1996, 9).

"The learning organization has reasons for learning both at the organizational and individual levels. It facilitates individual and group-based learning through all organizational, managerial and leadership means and offers equal possibilities for all to enjoy and benefit from the results of learning."

2.5 What can be learned from this Learning Organization Literature Review?

The literature in this field is replete with ideas about learning organizations or their development, but a clear and common definition regarding the core of the whole concept is missing, as well as the "common" language of discussing learning organizations. The need for clarification in the field is self-evident, since the concept of a learning organization has become extremely popular and seems to continue its popularity among theorists and practitioners. There will be a growing number of different ideas and—unless they can be placed within a broader frame—confusion is bound to increase. True interaction between theoretical ideas and actual practices seems to be lacking: there are ideas and practices, but are there also systematic and profound studies as well as discussions covering both sides of a learning organization?

It is evident from this short review that there are various viewpoints in regard to learning in an organization or about learning organizations. This can be regarded as a sign of importance—it is not enough for organizations only 'to be' or 'to do.' The manner and speed of development will not leave organizations in peace, because requirements will become tighter from what they have been, and learning seems to be one of the most important tools—if not the only one—to cope in the future world of enhanced competition.

2.6 Why a Holistic View in analysing a Learning Organization?

The literature on learning organizations has shown that there are various ways to define the concept of a learning organization. Although all single views about this are interesting and vital, the aim of clarifying the whole is still worth investigating more thoroughly. Pedler, Boydell & Burgoyne (1989, 7, 1991, 18-23) have shown in their first studies that learning is neither a single

process nor an independent factor in an organization, and that learning organizations possess processes, individuals, organizational factors, managerial tasks, etc.

For Argyris and Schön (1996, 28) "an organizational learning system is made up of the structures that channel organizational inquiry and the behavioral world of the organization, draped over these structures, that facilitates or inhibits organizational inquiry." On the other hand, they insist that "a theory of organizational learning must take account of the interplay between the actions and interactions of individuals and the actions and interactions of higher level organizational entities such as departments, divisions or groups of managers" (Argyris & Schön 1996, 190).

For Senge, the learning organization appears to represent a combination of three architectural design elements: without all three, the triangle of the learning organization collapses. Guiding ideas are needed for passion. Theory, methods and tools are needed to develop new skills and capabilities required for deeper learning. Innovations in infrastructure are needed for people to have the opportunity or resources to pursue their visions or apply the tools (Senge & al 1994, 36-37). For Senge, then, the learning organization is a whole and cannot be analysed without realizing the whole system.

Table 1. Comparison of process-oriented and holistic learning organizations.

LEARNING ORGANIZATION AND ITS DIFFERENT ELEMENTS	LEARNING PROCESSES AS THE CORE OF THE LEARNING ORGANIZATION	LEARNING ORGANIZATION AS WHOLE ENTITY
LEARNER	*very heavy emphasis on his or her motives, abilities and self-managed learning	*learner as a part of the community
LEARNER'S MOTIVE	*inner motive only	*inner motive as well as common direction
LEARNING PROCESS	*individual and group processes	*individual, group and wider processes
SYSTEMS	*"old" systems based on previous management idelogies and strategies	*changed to be in line with learning strategy
STRATEGY	*business strategy	*business and learning strategy, even only learning strategy
MANAGEMENT	*self-management in learning, management in other areas	*learning is as important as the other areas to be managed
MEASUREMENT AND REWARDING	*business only	*business and learning

Our interest here is with the second and third type of a learning organization, which is why the first type has been left out of the next illustration, in which process-oriented and holistic learning organizations are compared.

3. The Focus of this Study

A very challenging aim of this study is to shed light on the whole phenomenon of a learning organization. This is too demanding a task to be presented in one article, which is why the entire picture will be created in a series of articles and published as a whole in the form of a doctoral dissertation. The focus of the study originates from a broader framework of The Learning Company Diamond. Within that framework the learning organization is seen as an inter-related system of individuals, and the organization and the main concepts include 1) reasons for learning, 2) unlearning of old habits, routines and mental models, 3) finding new processes for learning and 4) stabilizing learning (Moilanen 1996, 117-120). Because of this approach, there is also a heavy emphasis on management and leadership, since a learning organization needs normal managerial and leadership processes in order to be able to change its structures and processes according to those needed in such an organization.

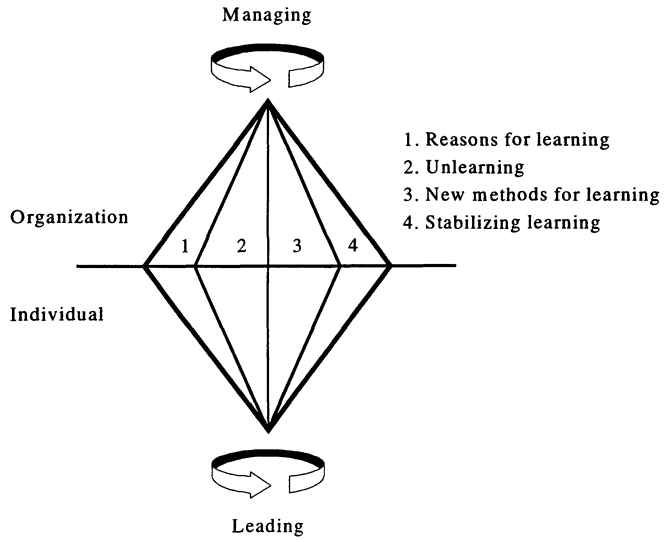


Figure 1. Learning Company Diamond and the focus of this study (managing, leading, reasons for learning both on the organizational and individual levels).

The whole framework and the first part reported in this article can be illustrated by The Learning Company Diamond, in which motion is created through management and leadership.

The focus of this study can also be presented in the form of a Table, which combines different levels, driving forces and starting points for developing a learning organization:

Table 2. Learning organization as a whole entity: first parts of analysis.

	DRIVING FORCE	REASONS FOR LEARNING
LEVEL OF ORGANIZATION	MANAGEMENT work with structures, systems and other organizational factors to build the infrastructure	VISION AND STRATEGY common course towards a learning organization, learning as a strategy
LEVEL OF INDIVIDUAL	LEADERSHIP training, teaching, helping, giving, listening feedback to enhance learning	NEEDS AND MOTIVATION willingness to learn and develop

The main research questions of this study can be drawn from the Table. The driving forces—ie., management and leadership—concern the whole doctoral dissertation, and they are needed in the whole process of learning. The two remaining questions are more specific, as they emphasize the reasons of learning as the first phase of organizational learning.

Why a totally new infrastructure for a learning organization?

One of the crucial questions is whether or not the total learning organization will be successful if structures and systems are left to serve other values and principles than those required in a learning organization. What is the role of the organizational infrastucture when developing a learning organization? Can it be the same as that which serves other types of values or goals, or should managers give more emphasis to changing it in order to better serve the new requirements of a learning organization?

The meaning of the whole as above was discussed, and the focus in the writings of Pedler et al, Argyris & Schön and Senge was clearly geared towards the whole, emphazising also the role of management as well as the need to change structures (Pedler, Boydell & Burgoyne 1989, 7, 1991, 18-23, Argyris & Schön 1996, 190, Senge et al 1994, 36-37).

Argyris (1978, 159) writes in his earlier books that "we need radically different managerial concepts if we are to halt the stockpiling of increasingly ineffective unilateral controls." He also feels that the "results of individuals learning—discoveries, interventions, and evaluations—are recorded in the media of organizational memory, the images and maps which encode organizational theory-in-use" (Argyris 1978, 20). It can be stated that those structures and systems will not change without someone being in charge of all changes in the organization—i.e., managers—which means that the role in finding the best structures and systems to facilitate learning seems to be as valid in learning organizations as it is in others.

Also, Senge sees the meaning of structures and systems worth developing: "...builders of a learning organization must develop and improve infrastructural mechanisms so that people have the resources they need: time, management support, money, information, ready contact with colleagues, and more" (Senge et al 1994, 32).

Why can't people be left without leadership in their learning?

In this connection, we are dealing with the question of self-managed learning: can people learn by themselves and on their own initiative, or should their learning be facilitated by a leader? This is an important question, since there has been a heavy emphasis on self-managed learning and self-managed groups during the last decade. Will whole organization-wide learning with all its different forms be gained through self-management, or should the people who are learning be led and their learning facilitated more than they are nowadays?

The focus of Pedler, Boydell & Burgoyne (1991, 23) is more on the processes themselves, and they do not give so much attention to the role of the leader. In spite of this, their model of eleven characteristics has elements containing leadership and facilitation of learning. This can, for instance, be seen in the way that the climate is created and self-development opportunities are made available for everybody in the company.

Senge (1990a, 172) emphasizes the leader's role in fostering a favourable climate in which the principles of personal mastery are practiced in daily life. He also stresses the importance of a supportive environment, since he sees its significance to personal growth as vital (Senge 1990a, 173). Argyris and Schön (1996) are not so much interested in people and how managers could facilitate their learning. Instead, their main interest seem to be in managerial thinking and managers' personal learning processes, as well as in the processes which could change organizational learning systems.

Why is a learning organization not capable of creating sufficient and valuable organizational learning without having a shared direction?

The meaning of "having a shared direction" depends on the type of learning and learning organization we are looking at. If learning should be conscious, if it should happen all over the organization and if it should be beneficial for both the organization and the learner, then the question of a shared direction could be one of the key questions. It can be broadened to contain the question of strategy itself, since in some companies learning is not part of the strategy but rather, it *is* the strategy.

The question of a shared direction is one of the core questions at least in Senge's works: "...it becomes more important than ever to think and act strategically...and...strategic thinking also addresses core dilemmas" (Senge et al 1994, 16, 17). For Pedler and his associates, the focus on a shared direction is also important. They write that "just as individuals seek to extend themselves, so the company as a whole, in its learning approach to strategy, seeks to find the next expression of collective identity and purpose—what are we here for now?" (Pedler, Boydell & Burgoyne 1991, 31). Argyris and Schön do not include the strategy or common direction in their picture of a learning organization, but they do ask: "Effectiveness or efficiency for what?" as well as "How do we evaluate the 'what?'" (Argyris & Schön 1996, 19).

Why are individuals—especially their needs and motives—vital in a learning organization?

This is a question which tries to shed light on the value of the individual and, in particular, his or her needs and motives. The individual is the basic actor in a learning organization, as Argyris has written in his several writings. If the individual is important for a learning organization, then (s)he should be analysed further; in other words, we should study how it is possible for an individual to become a 'wholly engaged learner and actor' in a learning organization.

Pedler, Boydell & Burgoyne (1991, 31) do not emphasize motivational factors in their early writings, but in their later energy flow model they present some aspects which focus on individual purposes as part of a collective purpose. In Senge's theory (1990a, 141) the individual has a very strong commitment to self-development and "... individuals are constantly clarifying what is important to us." The picture of individuals created in Argyrise's (for example, Argyris & Schön 1978, 10) theories focuses more on individuals as human actors and human learners than on the needs behind their acting and learning.

Thus, the learning organization picture considered is created through the aid of these four questions:

QUESTION 1: Why is a totally new infrastructure needed in a learning organization?

QUESTION 2: Why can't people be left without leadership in their learning?

QUESTION 3: Why is a learning organization not capable of creating sufficient and valuable organizational learning without having a shared direction ?

QUESTION 4: Why are individuals—especially their needs and motives—vital in a learning organization?

4. Method of clarifying the Picture of a Learning Organization

This study can be seen as following the tradition of qualitative research (for details, see Gummeson 1991, Silverman 1984 and Tesch 1990). The data are non-numerical, gathered by semi-structured interviews and analyzed by a qualitative research programme called QSR NUD.IST (for details, see e.g., Harmer, Cheryl: Q.S.R. NUDIST < URL:http://qsr.latrobe.edu.au). The search of meaning is the most important task of this study and the aim is to understand the core of learning organizations through presenting some basic 'why' questions.

The investigation of learning organization ideas was conducted through semi-structured interviews in autumn 1996 in twelve large and medium-sized Finnish companies. The frame of the interview was based on the author's Licentiate thesis as completed earlier and published in 1996. The interview contained such themes as the learning organization as a whole, the most important parts or functions in it, the present learning state of the company seen by the manager interviewed, the ideal of a learning organization and ideas of developing a learning organization.

Although the basic data were collected from twelve companies, the data used for this article are from five companies: ABB Industry, ICL-Data, Nokia Research Centre, SOK Corporation and Oy Veho AB. The study does not propose that the organizations selected would be pure learning organizations,

but it is a very widely known fact that these organizations are among the 'best' companies in Finland when discussing learning in organizations.

There are no other common features about these organizations except their orientation toward learning. Two of the companies are in the wholesale and retail business (SOK and Veho), ABB belong to the metal industry, and ICL-Data and Nokia represent high-tech companies. The number of employees depends on the viewpoint taken, for instance, if SOK is regarded as a whole its personnel is usually round 4211, but when only the section from which the manager interviewed in the study is taken into account, the number of personnel is on an average the smallest of these five companies (314). The other companies vary between 502 and about 2000. ABB and SOK are the oldest, having been established about one hundred years ago, and Nokia and ICL are the youngest (1986 and 1976, respectively).

The background of the managers interviewed here is more similar, since they are in charge of human resources and overall development, and all of them belong to the board of directors in their companies. The educational background varies: there are two psychologists, one Master of Science (Econ.), one Master of Laws and one who has studied business in the university. The ages of the managers vary between 40 and 50 years, and four of them are females.

The data consisted of five interviews (those interviewed are referred to as Anne, Anu, Aino, Riitta and Juha-Matti), which could be categorized somewhere between structured and semi-structured interviews. On the one hand, the data are not extensive, but on the other, almost all informants commented on the content of the interview by saying that the topic was discussed very thoroughly and widely. There were a great number of questions, but also enough time to describe the learning organization and its principles on a voluntary basis. This could be seen very clearly in one interview, where the interviewed manager emphasized their own ideas to such an extent that it assumed the most important role in the interview.

The data were coded and analysed by a Q.S.R. NUD.IST.-programme. The interviews were read a couple of times before initiating the coding process, in order to create a picture of the whole data. After this, seven nodes were selected to describe the main concepts of the study (background, values, strategy, procedures, leadership, learning and individual). These parent nodes were divided further in order to clarify the main concepts, and the total amount of child nodes was 26. Careful inspections were included in all phases of the coding process, because dividing the data further showed that some units could also be classified in another way.

After the coding was checked and all the units were in their places, the data were brought to analysis. Reading the contents of all the child nodes was the

first phase, and after that some analyses were selected to answer the research questions. The most typical analysis methods were 'intersects' and 'unions,' but individual child descriptions were also valuable in establishing answers to queries.

5. The Outcomes of studying Learning Organizations as 'Whole Entities'

5.1 Managing Structures for Learning

This question of managing structures and systems is a wide and controversial one—organizations are transforming their structures and their norms in directing daily processes. The main interest is in the correlation these organizational phenomena have with learning.

The need for structural and systemic transformation seems to be quite obvious in wider changes, but the connections to learning were not so clear on the basis of these data. There were two types of opinions in this question and the situation seemed to be inconsistent with respect to various companies. The main opinion was that the form or structure of the organization is not so important, but the way in which people behave within these frames is more important. Those who found the form less meaningful had a very heavy emphasis on openness and common values.

Others had a strong vision of the learning organization as a flat and flexible organization. Teams, processes and projects were the most often mentioned forms in the interviews, pointing the need for changing structures. The three organizations, which seemed to have either changed their structures on a larger scale or experienced pressures to do so were ICL, Nokia and ABB. The managers were of the opinion that the old structures were dysfunctional, because they do not correspond to future requirements. For example, Anu said that they were striving towards a new structure, but not because of learning: rather, it was due to a desire to manage their clients and service processes better. Anu (text unit 25) had noticed that "there were problems in where the clients crossed the border between the units: the same work was done in several units and there were unnecessary 'bottlenecks'". The same notion was expressed by Anne (text unit 12), who explained that they changed their structures to be able to serve their clients better.

Current structures and systems were discussed more widely and the main point in these discussions was the pressure based on outcome-orientation. For example, Anne (text unit 45) felt that money and short time results direct

attention towards short-spanned action, and therefore organizations should pay more attention to shared goals and the span of rewarding. Also the other managers felt that short-spanned action and results-orientation might inhibit the learning and development needed in the longer run.

A shared meaning of changing stuctures and systems was difficult fo find. To draw conclusions in this question seems to be controversial, because transformation in these companies had its main origin in the business strategy adopted. No significant signs of managing structures to promote and facilitate learning could be seen. The benefit of a flatter organization, small teams and an increasing number of team leaders were signs that clients were being served better rather than merely being a better learning organization. In spite of this difficulty, this illustration can serve as a basis for wider conclusions though its meaning is better understood in the context of the whole.

5.2 Learning With – or Without – Leadership

The second question of this study tries to shed light on the issue of leadership in learning processes. The key point seems to be that individuals have not, in fact, changed so much during the last decades that they could manage their learning processes totally by themselves without anyone assisting or directing them in these processes. It was stated in all interviews that working without leaders will not be probable in the near future. Aino (text unit 61) said that "individuals do not need 'overcoats', but the need of leaders will not change so radically during our lives." This means that leaders are needed to facilitate the learning of individuals, e.g., "they could help in reaching positive experiences ...so people could feel that they knew it, they coped with it and they learned." (Aino text unit 44).

Besides this basic characteristic of individuals, learning needs or wishes to be a learning organization could be said to increase the value of leadership. Leadership is needed because of the new requirements of learning either at the organizational or individual level. Individuals do not automatically know how to operate in new situations. Anu (text unit 51) told about learning as a self-managed or directed process and stated that "...teams cannot know the development of the organization on a really large scale, and therefore we also need those systematic development projects which direct thinking towards our goals." This means that the need for awareness with respect to learning processes will change the role of the leader towards coaching people and facilitating learning, because the way towards the goal needs to be directed. As Aino (text unit 45) remarks: "The way there [towards a learning organization] requires directing, and when we are there, let them go."

The role of the leader is also important in situations in which learning is not as conscious as described in the previous paragraph. A slowly changing situation is a big challenge for managers, as Juha-Matti (text unit 12) had noticed: "Managing slow, evolutionary growth is extremely difficult...if you don't stop between two points and evaluate the situation." This emphasizes the value of leadership in the early steps of learning, the fact that learning needs should be evaluated, but that the individuals cannot do it without someone assisting them.

Team organization seemed to be the most favoured approach among the managers in this study, and some points are presented here to illustrate the new role of leading in small teams. Anne stated that there will not be large teams, but instead "it is a really small team and some kind of a leader" (text unit 64) and "facilitating learning is a basic task of every team leader" (text unit 52). This is not self-evident, as Anu's (text unit 73) next comment reveals: "team leaders will follow the ideas presented if we (development personnel and top management) invest in them and take care of the application process of the ideas presented."

These points of illustration and analysis results show that leaders are still needed, but that the traditional role or task is not in line with the requirements of a learning organization, which is why the present roles or core competencies of leaders should be analysed and transformed in order to facilitate development and learning.

5.3 Shared Direction or Separate Learning Entities

In this part of the study, the main focus is on the role of shared direction and strategy. These seemed to be important for the managers interviewed as well as more or less in connection with learning. The tightest connection seemed to be in the company in which the manager said that learning is their strategy. The second company seemed to have strategy as a planned change and learning process, while the third one had a competence strategy and the fourth one emphasized people as a valuable part of their strategy. The last company valued learning but does not yet have it as a conscious part of their strategy.

The value of shared direction can be analyzed from the viewpoints of organization, manager and individual. From the organization's point of view, shared direction or strategy is valuable, because it creates a common ground for organization-wide processes. It forces companies and their people to analyze their business and to discuss different possibilities, as well as to define some rough steps of the most probable ways towards the desired future. Besides these, a learning organization uses shared direction and strategy as a

valuable means of clarifying the gaps of knowledge and competence—the learning required is directed from the organizational strategy.

Long-term commitment is also one motive, emphasizing the value of strategy in a learning organization. All the managers were of the same opinion in regard to the contention that learning efforts lose a great deal of their extensiveness if they are detached from the strategy. For example, Anne (text unit 21) said that development processes will stop halfway if they are not based on clear strategic statements. Riitta (text unit 43) possessed a similar view when she presented her ideas about an ideal learning organization: "...a connection between strategy and learning is absolutely one of the most important issues: if learning is not based on a strategy, it will not have the possibility to succeed."

Shared direction is, for managers, a real and frequently used tool: both at Nokia and Veho 'shared direction' and 'basic values' are said to be communicated so often that some people might actually get bored by such emphasis. However, speeches are not the only tools in facilitating new values or processes, because top managers also serve as positive examples of those new values, as Juha-Matti (text unit 29) suggested: "Finnish people act the same way as their bosses are acting." This illustrates the situation: that mere concentration on directing is insufficient in a learning organization.

For individuals, shared direction and the steps conducted from a strategy are especially valuable in a rapidly changing environment in which learning is really needed throughout the whole organization. Reasons for this can be found in the interviews: the future is unpredictable as well as unstable and nobody knows where to "jump:" individuals should trust their bosses and commit themselves to the goals of the company. If shared direction does not exist or if it is discussed or communicated imperfectly, individuals are unable to realize how to develop themselves, their own jobs or their working processes.

These quotations are from companies in which business is important both in itself and also as one of the most important sources of learning. Although the direction of learning is determined from the strategy, this does not mean devaluation of other types of learning—learning should be adapted to the given frames, but the choice within these frames is free (Anu text unit 34, Anne text unit 32).

5.4 Individuals – With or Without Motivation

Although the connection between strategy and learning was stressed considerably, there were other values also: the value of an individual and his/her motivation seemed to be almost as important—or in some cases even more important than—the strategy.

In general, the individual is seen as a key actor who learns and develops him/herself as well as his or her own work. Therefore, the question of the basic driving force of individuals seems to be important, and it is illustrated by various kinds of words: motivation, need, hunger, eagerness and desire were used, most of them several times.

The value of motivation is important because of increasing requirements for individuals in developing organizations. When managers described individuals as learners and qualifications required in the future, the picture as formed was clear. The need for change and learning was important for all informants: individuals should have a more positive attitude towards change (Aino text unit 18), they should be 'ready to jump though they don't know where' (Anne text unit 25) and they should have 'healthy curiosity' (Anu text unit 33). Besides this, several special qualifications were also mentioned: flexibility, openness, teamwork and other social qualifications, added to some professional qualifications. This account of requirements shows that learning organizations are looking for individuals who are ready to invest in their development and learning, and who are also keen on doing that.

Managers felt that motivation is needed for sufficient learning to exist. Most of them pointed out that it is impossible to force people, because people learn only if they are willing. The value of motivation was so self-evident that 'why' questions were not discussed as thoroughly as they could have been—the most inevitable notion being that it is important to lead a learning organization if people are not motivated to learn.

Besides the general notion that only motivated people are able to learn and develop their work, there were also some other viewpoints concerning the value of motivation. Motivation is a tool of involvement and stress avoidance (Riitta text units 53 and 74). Motivated people are not 'overloaded' as easily as others (Aino text unit 71 and Juha-Matti text unit 71).

Some conclusions can be drawn from the discussions concerning support and the possibilities of motivating people. In general, the sources of intrinsic motivation seemed to gain a lot of attention. As Juha-Matti stated: "...people will become independent of their work economically....there will be more and more individuals who emphasize something else than work....motivation will be important in raising the motivation towards one's work...in that we should succeed, otherwise we'll be ruined." (Juha-Matti text unit 43). As Juha-Matti

also pointed out, rewards and benefits should be more flexible, and they should respond to the needs of individuals (Juha-Matti text unit 73). One point which has to be presented in this connection is the role of managers and leaders in motivating people—if individuals are not motivated they can be helped by other people, but motivation cannot be created without the individuals' own willingness.

6. Discussion and Conclusions

The main outcome of this study can be seen in the goal of creating the whole picture of a learning organization. Conclusions concerning this point can be directly and indirectly drawn from the data, though none of these companies could be said to be a totally perfect learning organization. The conclusions drawn are also based on the literature and on the visions and viewpoints presented by managers of well-known companies who emphasize the value of learning.

The value attached to the whole can be seen in almost all the comments. The manager's role of creating the architecture is the least emphasized point, but others—such as the role of leadership in the facilitation of individual learning, shared vision as the common ground, strategy as the main source of conscious and beneficial learning, as well as the individual's important role as a motivated cooperator and learner—can be seen as the signs of valuing the whole.

To sum up, it seems evident that a shared direction and strategy are needed in building a learning organization as a whole entity. Separate learning processes or some motivated learners could be detected, but beneficial learning concerning the whole organization cannot be found without this connection. Strategy and learning are tightly linked in a learning organization.

The value of shared vision and strategy has also been proposed by Senge (1990a) and Pedler and his associates (1991), but the connection is not as tight as is suggested in the present study. This could be taken to mean too straight a business orientation and too little value given to self-managed learning and other optional ways of learning. However, this was not the aim; rather, the aim was to show the direction and build frames for organizational learning. Various means and objectives can exist within these frames. Shared direction and strategy offer rough frames or norms—not straight regulations.

There is another conclusion concerning learning and organizational systems or processes. This is the connection between learning and the directors of a company: almost all informants emphasized the role of top management. Without their own example or commitment to the development of learning or

a learning organization, there will be neither organization-wide commitment nor efficient and conscious work towards a learning organization.

This second conclusion is emphasized in some of the literature, but not that much in the main references of this study. Argyris's (1992) concern is management, but not the managers' role as facilitators or architects in particular, but rather special mental models which generally obstruct learning processes. Pedler and his associates (1991) have their tradition in *Action Learning,* which could mean more stress on individuals and their motivation than the actual direction of learning. Even though this is their main concern, they also emphasize the meaning of some organizational factors. Still, the manager or leader is somewhere in the background.

The third conclusion is to consider the value of individuals. In general, it could be stated that these companies value those individuals who have reasons for learning as well as overall motivation. Managers felt that without these types of individuals the 'wisdom' of being a learning organization will not be gained.

This notion of the individual and his/her motivation is not so often presented in the literature. The idea of a learning organization does not seem to contain the role of the individual as such as the managers interviewed described it. A learning organization has quite often been defined as something which changes or transforms as a whole, but the value of the actors has been given only minor attention. The writers cited in this article do emphasize the value of the individual, but they address more general aspects of individuals, as Pedler (1991) and Senge (1990a) or more specific aspects like Argyris (1990, 1993 and 1994). Argyris's focus on individuals is based more on mental models and processes than on the motivation to learn. Pedler and his associates (1991) see the role of the individual as an actor in the ongoing learning process, not as a person whose motivation is vital for a learning organization. In Senge's (1990 a) view of learning, individuals seem to have somewhat similar aspects than those presented in this study, as he stresses the value of individuals' visions as the source of shared vision.

The main emphasis of this study has been on management and leadership as well as on shared direction and motivation, but it has to be stated that the picture of a learning organization requires the study of the connection of the conclusions presented here, as well as the role and meaning of different learning processes—the actual learning which goes on in learning organizations. In accordance with this, one special point was emphasized by the managers and that was the need to measure and reward learning.

There are obvious needs in conducting further learning organization studies, but the difficulty in doing so is in the breadth of the concept—how is it possible to create a picture of the whole without concentrating too much on

some special aspects, thus creating a picture which describes the whole as something which simply has 'important parts?'

References

Argyris, C. (1957) *Personality and organization.* Harper & Row. New York.

Argyris, C. (1977) Double loop learning in organizations. *Harvard Business Review,* 55:5, 115-125.

Argyris, C. (1985) *Strategy, change and defensive routines.* Pitman. Marsfield, Massachusetts.

Argyris, C. (1990) *Overcoming organizational defences.* Allyn and Bacon. Boston.

Argyris, C. (1991) Teaching smart people how to learn. *Harward Business Review,* 69:3, 99-109.

Argyris, C. (1992) *On organizational learning.* Blackwell. Cambridge, Massachusetts.

Argyris, C. (1993) *Knowledge for action.* Jossey-Bass Publishing Company. San Francisco.

Argyris, C. (1994) Good communication that blocks learning. *Harward Business Review,* 72:4, 77-85.

Argyris, C. & Schön, D. A. (1978) *Organizational learning; a theory of action perspective.* Addison-Wesley. Reading, Massachusetts.

Argyris, C. & Schön, D. A. (1996) *Organizational learning II; theory, method and practice.* Addison-Wesley. Reading, Massachusetts.

Braddick, B. & Casey, D. (1996) Developing the forgotten army, learning and the top management. In: *How organizations learn,* ed. by K. Starkey, 230-242. International Thomson Business Press. London.

Bohn, R. E. (1994) Measuring and managing technological knowledge. *Sloan Managemet Review,* 36:1, 61-73.

Burgoyne, J., Pedler M. & Boydell T. (1994) *Towards the learning company. Concepts and practices.* McGraw-Hill Book Company. London.

Cyert, R. M. & March J. G. (1963) *A behavioral theory of the firm*. Prentice-Hall. Englewood Cliffs, N.J.

De Geus, A. P. (1996) Planning as learning. In: *How organizations learn,* ed. by K. Starkey, 92-99. International Thomson Business Press. London.

Dixon, N. (1994) *The organizational learning cycle, how we can learn collectively*. McGraw-Hill. London.

Friedlander, F. (1983) Patterns of individual and organizational learning. In: *The executive mind: new insights on managerial thought and action,* ed. by S. Shrivastava and associates. Jossey-Bass. San Francisco.

Galbraith, J. R. & Kazanjian, R. K. (1986) *Strategy implementation: structure, systems and processes.* West Publishing Company. St. Paul.

Garratt, B. (1987) *The learning organization*. Fontana/Collins. London.

Gummesson, E. (1991) *Qualitative methods in management research*. Sage Publications. Newbury Park.

Harmer, Cheryl: Q.S.R. NUDIST [online]. Updated 25.3.1996 [citied 1.10.1997]. Available in www-page: URL://http://qsr.latrobe. edu.au

Hedberg, B. (1981) How organizations learn and unlearn. In: *Handbook of Organizational Design*, Vol 1, ed. by P. C. Nyström & W. H. Starbruck. Plenum Press. New York.

Hedberg, B. & Jönsson S. (1989) Between myth and action. *Scandinavian Journal of Management,* 5:3, 177-185.

Huber, G. P. (1991) Organizational learning: the contributing processes and the literatures. *Organization Science,* 2:1, 88-115.

Kirjavainen, P. (1997) *Strategic knowledge in a knowledge-intensive organization*. Publications of the Turku School of Economics and Business Administration A-2:1997.

Kofman F. & Senge P. M. (1995) Communities of commitment: The heart of learning organizations. In *Learning organizations, developing cultures for tomorrow's workplace*, ed. by S. Chawla & J. Renesch, 14-43. Productivity Press. Portland, Oregon.

Kolb, D. A. (1984) *Experiental learning, experience and the source of learning and development.* Prentice-Hall. Englewood Cliffs.

March, J. G. & Olsen, J. P. (1976) *Ambiquity and choice in organizations.* Universitetsforlaget. Bergen.

Mcdonald, S. (1995) Learning to change: an information perspective on learning in the organization. *Organization Science,* 6:5, 557-568.

Miner, A. S. & Mezias, S. J. (1996) Ugly ducling no more: pasts and futures of organizational learning reseach. *Organization Science,* 7:1, 88-99.

Moilanen, R. (1990) *Koulutuksesta kehitykseen - Johtamiskoulutuksen kehittäminen Action Learning -prosessina.* (From education to development - Action learning in developing management education.) Jyväskylän yliopiston täydennyskoulutuskeskuksen tutkimuksia ja selvityksiä 5/1990.

Moilanen, R. (1996) *Oppiva organisaatio - tausta ja käsitteistö.* (Learning organization - backgroud and the concepts.) Jyväskylän yliopiston taloustieteellisen osaston julkaisuja 100/1996.

Mumford, A. (1995) *Learning at the top.* McGraw-Hill. London.

Nonaka, I. (1994) A dynamic theory of organizational knowledge creation. *Organization Science,* 5:1, 14-37.

Pedler, M. (1983) *Action learning in practice.* Gover. Aldershot.

Pedler, M. & Aspinwall, K. (1996) *Perfect plc'? The purpose and practice of organizational learning.* McGraw-Hill. London.

Pedler, M., Boydell, T. & Burgoyne J. (1989) Towards the learning company. *Management Education and Development,* 20:1, 1-8.

Pedler, M., Burgoyne, J. & Boydell, T. (1991) *The learning company, a strategy for sustainable development.* McGraw-Hill. London.

Revans, R. (1983) *ABC of action learning.* Chartwell-Bratt. Bromley.

Senge, P. M. (1990a) *The fifth discipline, the art and practice of learning organization.* Doupleday Dell. New York.

Senge P. M. (1990b) The leader's new work: building learning organizations. *Sloan Management Review,* 32:1, 7-23.

Senge P. M. (1994) Moving forward, thinking strategically about building learning organizations. In: *The fifth discipline fielbook, strategies and tools for building a learning organization,* ed. by P. M. Senge, A. Kleiner, C. Roberts, R. B. Ross & B. J. Smith, 15-47. Doupleday. New York.

Shrivastava, P. (1983) A typology of organizational learning systems. *Journal of Management Studies,* 20:1, 7-28.

Silverman, D. (1984) *Interpreting qualitative data, methods for analyzing talk, text and interaction.* Sage Publications. London.

Starkey, K. (1996) Introduction. In: *How organizations learn,* ed. by K. Starkey, 7-17. International Thomson Business Press. London.

Stata, R. (1989) Organizational learning - the key to management innovation. *Sloan Management Review,* 30:3, 63-74.

Stata, R. (1996) Organizational learning: The key to management innovation. In: *How organizations learn,* ed. by K. Starkey, 316-334. International Thomson Business Press. London.

Swieringa, J. & Wierdsma, A. (1994) *Becoming a learning organization: beyond the learning curve.* Addison-Wesley. Wokingham.

Tesch, R. (1990) *Qualitative research: analysis types and software tools.* The Falmer Press. London.

Wikström, S. & Normann, R. (1994) Knowledge and value: a new perspective on corporate transformation. London. Routledge.

ARTICLE II

Finnish learning organizations: Structure and Styles

By

Moilanen, Raili

Published in The Entrepreneurial Executive, Vol. 4, 1-40, 1999
Reprinted by kind permission of Allied Academies

FINNISH LEARNING ORGANIZATIONS: STRUCTURE AND STYLES

Raili Moilanen University of Jyväskylä, Finland

ABSTRACT

The first purpose of this study was to carry out an in-depth analysis of learning organizations. Learning organizations are here seen as entities composed of two main dimensions: learning and organizations. Learning has its background in education, and organization in business sciences. The concept of a learning organization is also regarded as a structure of related elements: driving forces, finding purpose, questioning, empowering and evaluation and as levels of individuals and the whole. The second purpose was to analyze learning organizations as different types of actors, which leads us to consider learning organization styles.

The data were gathered from 15 Finnish companies during 1996 and 1997, and analyzed by qualitative research methods. The structural composition of these companies varied, as did the number of the text units and the content of the elements used in the analysis. Four different Learning Organization Diamond Styles were found: companies Challenged by the Future, Great Thinkers, Active Actors and Secure in the Past.

INTRODUCTION

Learning organizations have been widely discussed, but it seems that not much attention has been given to the most difficult issue: namely, the learning organization as a whole entity. The reason for raising this issue at all is the fact that managers are in charge of their organizations as a whole. The aim of the present

study is to explore some models or tools for helping managers in their efforts to create or develop the learning organization as a whole entity. This is a very broad and complicated matter, but development of a whole learning organization is really a question of the whole, and not only its independent parts.

Some ideas and models have been presented to answer this requirement of treating the whole. Among the most well-known are those outlined by Chris Argyris, Mike Pedler, Tom Boydell and John Burgoyne, as well as the ideas of Peter M. Senge, and these were also selected as the background and basic conceptual framework of this study.

The aim of this article, then, is to cover the whole and this will be done through a close dialogue between theory and practice. In the first phase, a short review of the most relevant elements of the whole will be presented and after that a model of a Learning Organization Diamond will be described. Analyses of some Finnish companies will follow. Finally, conclusions will be made about the structure and different styles of learning organizations, followed by a discussion about the remaining unanswered questions and topics.

CREATING THE WHOLE BY USING THE EXISTING MODELS BY ARGYRIS, PEDLER ET AL. AND SENGE

There are some categorizations, which describe different learning organizations: Chris Argyris and Donald A. Schön (1978) and George P. Huber (1991) have defined their own views into this topic. Argyris and Schön (1978, 321) have a very broad focus: organization as group, agent, structure, system, culture and politics. Shrivastava's (1983, 9) focus is on learning processes and Huber's (1991, 90) on the process of knowledge. One categorization based on individual learning theories was presented by Moilanen (in press) and its focus is on outcome-oriented, process-oriented and holistic views on learning organizations.

This review introduces three different models for learning organizations: the first by Chris Argyris and Donald A. Schön, the second framework by Mike Pedler and his associates and the third presented by Peter M. Senge. The main aim of this section is to explore the most relevant ideas for creating a learning organization as a whole entity. The focus of the review is on the most applicable aspects of these models as well as on what is lacking in terms of the whole. As an outcome of this review the most significant points will be raised and listed.

The process of identifying the points was not unambiguous, because the conception of the whole might be totally different for different scholars. Here the key aspects are presented in a framework covering the learning organization from finding the purpose up to the evaluation point. The framework also covers phases of recognizing obstacles (questioning) and offering appropriate means for learning and development (empowering). Besides these points the focus is also on the different aggregation levels of the organization - whether it is an organization or individuals.

Chris Argyris and Donald A. Schön

Chris Argyris has been writing about organizations, group processes and learning for forty years. In his early writings the focus was on individuals (Argyris 1957), but during the last decade Argyris has moved towards looking at the whole. Despite this move, his core ideas are still in individual and organizational mental models and their changes (Argyris & Schön 1978 and 1996, Argyris 1990, 1991, 1993, 1994). Although Argyris has addressed so many issues, he has most often concentrated on learning, and not organizations.

Argyris and Schön have given a definition on organizational learning, but they have not defined learning organizations: *"Organizational learning occurs when members of the organization act as learning agents for the organization,*

responding to changes in the internal and external environments of the organization by detecting and correcting errors in organizational theory-in-use, and embedding the results of their inquiry in private images and shared maps of organization" (Argyris & Schön 1978, 29).

The work of Argyris is so extensive that it would be impossible to even try to cover it here, and therefore only some key aspects from the point of view of this study are presented. These significant points are presented in the form of a list in order to make it possible to gather all the information needed in building the whole. In addition the relation between the ideas gathered from the literature and the Learning Organization Diamond developed will be shown in parenthesis.

1. individuals as actors in the learning organization (aggregation levels)
2. structural features as part of the learning organization, for example role and authority structures, information systems, systems of incentives and systems for organizational inquiry (organizations vs. individuals as aggregation levels)
3. learning systems as structures promoting or inhibiting organizational learning (questioning, empowering)

Mike Pedler, Tom Boydell and John Burgoyne

The second facilitator of this study can be found in Great Britain. The perspectives of Mike Pedler, John Burgoyne and Tom Boydell have been crucial for this study. In 1991 they published a book, in which they introduced eleven characteristics of learning companies (Pedler, Boydell & Burgoyne 1991). Since then their thinking has moved towards considering processes, which offers a more flexible basis for learning companies. (Burgoyne, Pedler & Boydell 1994).

The meaning of a learning company has remained almost the same since the late 1980's. The most recent definition by Pedler, Burgoyne and Boydell can be found in the second edition of their publication The Learning Company (1996, 3), purposing that *"A Learning Company is an organization that facilitates the learning of all its members and* ***consciously*** *transforms itself* ***and its context.***" The core of this definition is in facilitating the learning of everybody in the company and transforming the whole as well as its context. Other ideas important for this study has been presented in the books of Pedler, Boydell and Burgoyne (1989), Pedler (1983), Pedler and Aspinwall (1996).

Various interesting principles and ideas provided the direction from which to search for the different whole of the learning company. These points are presented below in the list with connections to the Model of the Learning Organization Diamond in parenthesis.

1. important parts of the whole (the whole)
2. connection to business strategy (purpose)
3. self-development opportunities for all, enabling structures (empowering)
4. assessing the organization as a Learning Company (evaluation)

Peter M. Senge

Peter M. Senge is the last to be reviewed here with reference to his two books about learning organizations. His first book (Senge 1990) is about five disciplines and it was written by Senge himself. The second book is edited (Senge & al. 1994) and it contains only some minor parts written by Senge. The concept of a learning organization is now broader than in his first book, but it still seems to remain on the level of ideas.

It is, in fact, quite difficult to find a definition of a learning organization in Senge's publications, although his work is full of valuable ideas and descriptions. His early focus is on five disciplines (systems thinking, personal mastery, mental models, building shared vision and team learning), which are interrelated to each other. Senge writes: "There is a common sensibility uniting the disciplines - the sensibility of being learners in an intrinsically interdependent world" (Senge 1990, 375). He also says, that "... *people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together*" (Senge 1990, 3).

His latest preoccupation is with organizational architecture and the concept of an implicate order and learning results. (Senge, Kleiner, Roberts et. al. 1994, 45). But still individual mental processes seem to be the core of his thinking.

1. systems thinking (the whole)
2. individuals and teams (the role of individuals)
3. architecture (manager's role and organizational level of the learning organization)
4. shared vision (purpose)
5. inquiry as a vehicle of analysing mental models (questioning)
6. assessing results of learning processes (evaluating)

Conclusions about Defining Learning Organizations

Definitions presented above seem to concentrate on groups and changes in mental models, actions or processes rather than on organizations and their changes towards a learning organization. The two first ones sound more like definitions of learning than of learning organizations, and the last one is about the learning

organization. The picture is not as simple as this when analyzed more thoroughly, but the general analysis of the writings cited above give support to this way of thinking.

Learning organizations can be seen more as organizations being managed and aiming towards business and developmental goals, and therefore some aspects should perhaps be added to the definition depicting the learning organization.

The definition written during the first phase of drawing the model of The Learning Organization Diamond is also a definition of organizational learning and its prerequisites (Moilanen 1996).

> *"Organizational learning refers to the individual's and groups' learning enhanced by organizational factors and is aimed at successful outcomes for both the individuals and the organization."* (Moilanen 1996, 9)

The second definition written is more like a learning organization definition:

> *"The learning organization has reasons for learning both at organizational and individual levels, it facilitates individual and group-based learning through all organizational, managerial and leadership means, and offers equal possibilities for all to enjoy and benefit from learning outcomes."* (Moilanen, in press)

This definition, written in 1996, can be elaborated by adding new aspects to it, as follows:

> *"A learning organization is a consciously managed organization with "learning" as a vital component in its values, visions and goals, as well as its everyday operations and their assessment. The learning organization eliminates structural obstacles of learning, creates enabling structures and takes care of assessing its learning and development. It invests in leadership to assist individuals in finding the purpose, in eliminating personal obstacles and in facilitating structures for personal learning and getting feedback and benefits from learning outcomes."*

This last definition might add something new to those definitions cited, because it consists of elements covering the whole offering a somewhat more concrete and precise definition than do the others. Although a learning organization could be said to be a metaphor - it could be also seen as a real organization emphasizing some characteristics important for learning and learning organization development.

This definition focuses on the different roles of individuals and the whole - individuals are operating and the organization surrounds these learners facilitating the learning process, thus ensuring the best possible results both for the individual and for the whole. The definition also stresses the importance of conscious management and leadership in running a learning organization.

Inevitably the definition also has some weaknesses because its background is in strategic management, but this also offers one of its most obvious strengths - the learning organization

is seen as a whole entity, with both structural as well as human aspects of the company in one and the same definition.

THE PURPOSE OF THIS STUDY

The concept of a learning organization or organizational learning can be analyzed from various different viewpoints. The focus of this study originates from these three different theories or models presented above. The reason for not choosing a single model is the feeling that the combination is a more valuable starting point. The challenge of developing learning organizations is so complicated that all helpful knowledge is needed in this process.

The main purpose of the present study is in combining learning and business as equals in the same learning organization concept. In this study the purpose is to see learning as valuable a part of the concept as business itself. The core of business actions is rarely in learning and, therefore both concepts need to be taken into account when developing the concept of the learning organization. The purpose includes firstly the necessity of seeing the whole consisting of its parts. Secondly, it includes the need of studying different types of learning organizations.

These purposes can be presented in the form of more precise questions:

1. What is the whole of the learning organization: which parts are important in a learning organization?

2. Can different types of learning organizations be found?

To be able to answer these questions the process of developing The Learning Organization Diamond has to be presented, as well as the precise form and content of the Diamond described. After that the data will be analyzed and the main conclusions about the structure and styles of learning companies will be drawn.

THE LEARNING ORGANIZATION DIAMOND

The roots of this study are clearly in the literature reviewed, and the actual shape and contents of the Learning Organization Diamond are based on the author's work published in 1996. The core principles of the Learning Organization Diamond Model are the existence of two different levels and four different elements. The levels are the individual and the organizational level, and the elements include finding purpose, questioning, empowering and evaluating. (Moilanen 1996)

This model offered a good framework for the first analyses conducted in 1996, but it was soon noticed that the model was too static. The first article written about the data, which were also used in this study, showed clearly that the model needed some expansion: management and leadership were added to the model because they were seen so important in interviews (Moilanen, in press). The Diamond is still presented at two levels, but now with five elements: driving forces, finding purpose, questioning, empowering and evaluating.

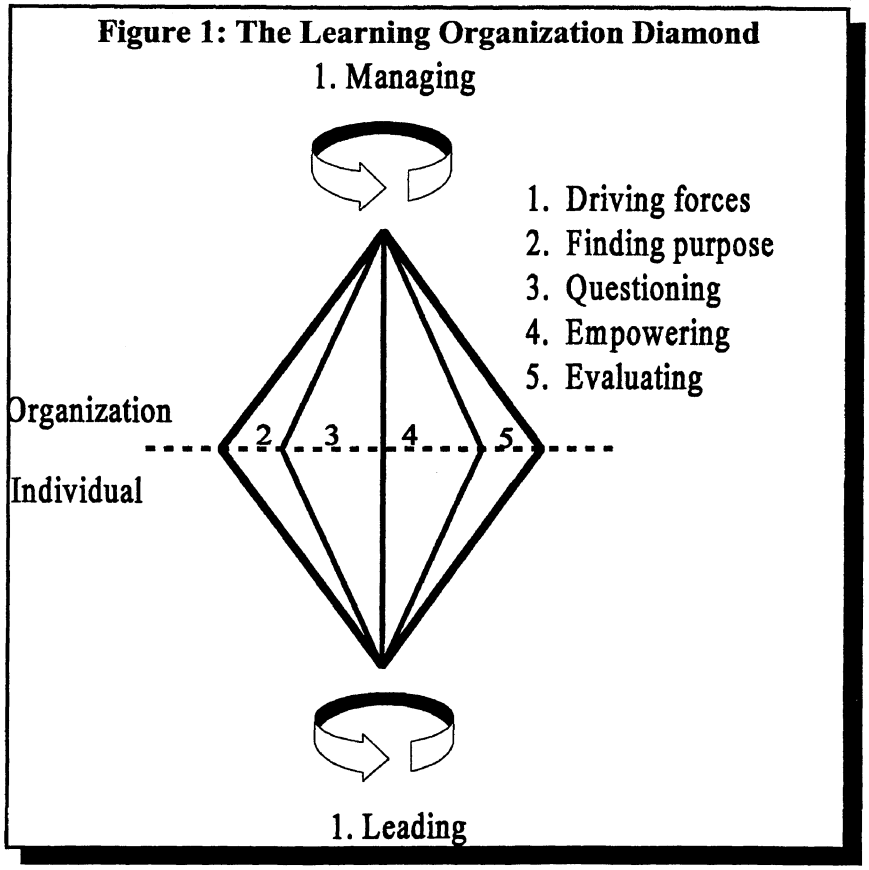
In order to clarify the connections between some other models and the framework suggested here, Table 1 presents the origins and elements of the whole for comparison:

TABLE 1
LEARNING ORGANIZATION: ORIGINS AND THE ELEMENTS OF THE WHOLE
(Moilanen 1996, in press)

	The whole	Managing and leading as driving forces	Purpose	Questioning	Empowering	Evaluating learning and Learning Organization
Argyris and Schön	no, the core is in mental models	no	not so evident	yes, mental models of individuals and groups	yes, group based means	no
Senge	yes partly, mental models, systems	yes	yes	yes, mental models	yes, group based means	yes partly, assessing learning results
Pedler et al.	yes	in baked but not very clear	yes	yes	yes, wide range of means	yes, assessing the whole (11 characteristics.)
Moilanen	yes, organizational and individual sides	yes	yes	yes, questioning all, analyzing obstacles	yes, wide range, including structural means	yes, the whole and special parts

The Learning Organization Diamond is presented here in the form of an imaginary diamond.

Figure 1: The Learning Organization Diamond



A diamond was chosen to visualise the basic ideas of the whole learning company. This metaphor offers several advantages: for instance, diamonds are valuable and they are full of opportunities. This Diamond Model also represents the basic idea behind this article and the entire doctoral dissertation. Diamonds and learning organizations are composed of two halves which are

in reciprocal dependence in terms of each other: organization (upper half of the diamond) and individuals (lower half).

Before going any further, the basic ideas of the elements are briefly presented below here in order to shed more light on the Learning Organization Diamond metaphor.

Driving forces are vital for the motion of the learning organization - managers are needed to enable structural and systemic changes in the organization. Further more, leaders are needed to help individuals and groups change their actor roles towards learner roles.

Finding purpose means knowing "why" and "where", which is important for developing the organization as a whole and also for the individuals as separate learners. This could be simplified by saying that organizations and individuals need directing towards their desired future.

Questioning means being critical and analytical about the history and present situation of the company or the learner. Organizations tend to have constraints, obstacles and problems which should be analyzed.

Empowering means using all the possibilities and means to foster learning in the whole organization as well as at the level of the individual.

Evaluating is the last phase of the model and its importance can be understood when analysing the correlation between doing and evaluation. Measuring is needed in normal operations as well as in development and therefore more emphasis should be given to this phase.

The Learning Organization Diamond offers a framework for analysing learning organizations. The framework is rather general, because organizations are different; their backgrounds, histories, cultures, processes and businesses vary enormously. But in spite of this great variety, frameworks or models are needed to help managers in their efforts to develop their companies towards the direction of learning organizations. The model offers one direction for searching for the core ideas and structures of a learning organization. The Learning Organization Diamond Model offers a tool which make it possible to see the whole, but also the elements included in this whole.

THE LEVELS OF THE MODEL

The most difficult question which was raised in the first phases of studying learning organizations was the question of the independence or relatedness of individuals and the organization. At present the answer seems to be "both and": why could not a learning organization have both the organizational side and the individual side?

Individuals are vital for the learning organization, because they are the actors and learners of this organization. It is very hard to find an organization which operates by itself, and therefore the other half of the model consists of individuals, their purposes, questioning, empowering and evaluating, as well as of leading these individuals and their learning.

The other half of the model consists of organizational factors. The point is that collective structures and processes are needed to facilitate learning. A learning organization is not only a group of "learning people". Structures and systems do not create the learning organization by themselves, and they can also be obstacles for learning and therefore crucial to pay attention to.

Driving Forces

Management and leadership are seen as the driving forces in the Learning Organization Diamond. Driving forces are needed especially in companies where chance factors challenge the overall existence and future of the company. Thus, the reason for developing this concept of "driving forces" is in motion and in change. In rapidly changing situations the value of directing, sharing the vision, leading people and facilitating learning through all possible means is extremely significant. Driving forces are divided here into management and leadership: management is seen as the main force at the level of the whole organization and leadership at the level of individuals.

Learning companies need managers and managing because forms, structures and processes have not been designed to serve learning and developing purposes. Organizations may have traditional or dysfunctional structures and systems which do not support learning. The development of a learning organization under these circumstances will meet problems, unless these structures and systems are changed accordingly.

Leading is as important as managing. The more learning is needed the more leadership is required. Leaders need to talk with people, to encourage them, to share the direction with them, to show possible routes for development, to challenge them, to help them in their learning difficulties and to support them. Leaders are simply needed to lead people towards the unknown future.

Finding Purpose

At the organizational level the creation of the whole learning organization will be started from finding and sharing purpose for the learning company. The future plans of the company are very significant for a learning company, because learning is not a separate phenomenon. Strategy and vision direct companies in their operations, and should also direct learning. This

emphasizes the necessity of concentrating on the most crucial needs of the company.

The needs derived from the strategy of the company are not the only important needs: individual motives and needs are also very important. Motivation, needs, and purposes of learning - and whatever other descriptions this concept has - seem to be so relevant that learning will not happen if people are not motivated to learn (Moilanen, in press).

Questioning

The second element of the Learning Organization Diamond is reflective questioning. It means observing and reflecting upon the present situation and existing qualifications of the learning organization. Organizations might have various structures or systems which do not facilitate learning. If individuals are encouraged to ask questions about these blockages, it might be easier for new systems and structures to substitute dysfunctional ones.

Questioning also means checking individual learning blockages at the individual level. There might be negative attitudes, dysfunctional habits or routines or lack of time and resources. These blockages need to be understood, in order to assist both individuals and the whole organization in applying learning tools and gaining benefits from their learning.

Empowering

Organization-wide arrangements and support systems are important in developing learning organizations. These do not only refer to what the individuals do themselves, but in some companies the most vital part of empowering learning and overall development might be changing the whole infrastructure of the company or building a totally different assessment system. In other

companies the core of development will be in working with the traditional values and management systems.

Creating learning possibilities in a smaller scale is also very important. There are various methods or means for individuals to employ in their learning, and therefore all of them cannot be described here. Some examples can be presented: learning by doing, social learning, training, listening, reading, practising, working in projects and job rotation are all vital routes for the development of the individual and the organization.

Evaluating

The last element is evaluating, which seems to have become more and more relevant, although companies do not always know how to work with evaluations of learning outcomes as they do with the results of everyday operations. This does not mean that learning outcomes should be separated from the action outcomes, but only that more emphasis could be focused on the learning outcomes themselves.

In this context evaluating means taking care of both the process of learning and building a learning company. The whole process of development is confirmed by both individuals and organizations becoming aware of the outcomes and results. In different companies and different situations this can take various forms: evaluating knowledge, process development, effectiveness of product development or the changing role of managers or teams. Rewarding is also included in evaluating, because people seem to need it in different forms for motivation, for instance.

At the individual level the whole is not perfect without having the capacity to assess the outcomes of learning. It is very rewarding and motivating to be able to realize that learning and development have occurred. If the capacity to assess learning is insufficient, the outcomes of all these phases in a learning organization will not reach the best possible level.

RESEARCH METHODS

This study of learning organizations can be seen to follow the tradition of qualitative research (for details, see eg. Gummesson 1991, Silverman 1984 and Tesch 1990.) The pursuit for search of different meanings for the concept of learning organization is the most important task of this study, and the aim is to understand the core of learning organizations.

Interviews

The investigation into learning organization principles was conducted through semi-structured interviews in autumn 1996 in twelve large and medium-sized Finnish companies. The interview, based on the author's Licentiate thesis, contained themes like the learning organization as a whole, its elements, the present stage, the ideal of a learning organization and ideas of developing it (Moilanen, 1996). Another interview was conducted for the purposes of an EU -project in 1997, and three of these interviews were used to add some new aspects to this study.

There were some differences in these two interviews, but the advantage of using the second interview in this context could be seen in the application of the Learning Organization Diamond Model. Although the second interview was not planned to provide very much information about learning organizations, it actually did so. However, the information thus provided was not as broad and direct as in the first interview.

Analysing the Interviews

Interviews were coded according to the focus of their text units. The framework used in coding the data was The Learning Organization Diamond Model, and the key words chosen from the text units were categorized following the grouping of ten elements in the model. After this text units were collected in Excel-tables

and analysed to find answers to the questions set for this study. Quite soon it became necessary to change the model because some managers talked more about the whole than about individuals.

The first phase was structural and the analysis was conducted by gathering information according to five elements of the model. Consequently, data related to driving forces, finding purposes, questioning, empowering and evaluating were gathered in their own groups, but it soon became evident that there would be need for regrouping due to obvious similarities and dissimilarities between companies. This led the consideration regarding learning organization styles. In the second phase the content and style of text units were analysed and companies were categorised according to their foci.

One point has to be mentioned before addressing learning organization structures and styles. The interviews were done with one manager per company. Therefore, illustrations and pictures presented here are not derived from thoroughly conducted analyses of these companies, but, rather, they are personal opinions and interpretations based mainly on the interviews.

STRUCTURES AND CONDITIONS IN LEARNING ORGANIZATIONS

This part of the study concentrates on the structure of the whole. The number of text units coded in different elements will be analysed. Some interviews had far more comments than the others about learning and being a better organization for learning. The number of text units coded per interview varied between 13 and 261, and per one element from 0 to 73. The following text units chosen from one interview illustrate the content of the model's separate elements.

TABLE 2: TEXT UNITS CHOSEN FROM ONE INTERVIEW: TEXT UNITS ARE CATEGORIZED ACCORDING TO THE LEARNING ORGANIZATION DIAMOND MODEL	
The organizational side of the model	The individual's side of the model
Driving forces Managing (taking care) of the whole	Driving forces Leading (taking care) of the individuals and their learning
Making also big plans we do all the phases carefully managers start the process by creating the opportunities	manager's and leader's example leaders are responsible for individual's learning people are interested
Finding Purposes	
right application compared to strategy understand the relation of your work to the whole	any wishes, needs which come out there are very personal needs
Questioning	
the whole figure changed if these people won't believe not everything happens like lightning	we discuss through the teams it is smart to cross boundaries they don't have the courage to ask
Empowerment	
we'll go through the core processes structures needed to support learning a lot of investing you start change processes	they learn all the time I have the possibility to reflect they are able to help each other you consciously learn about learning
Evaluation	
we monitor continuously there is always discussion really our biggest challenges	we have self-evaluation

These text blocks show that this company works with the whole, although the last element of evaluating was at the time of this interview not yet developed. Other elements seemed to be equally important. Management and leadership were emphasized, as well as having a clear purpose for development. Questioning seemed to be important, and what is vital is that it was not a much weaker element than empowering. Evaluation, as mentioned above, had only few comments, although this company had applied various evaluation tools.

This analysis of the structure was not as fruitful as was expected, because companies and their properties as learning companies were so different. It was important to look at these elements, but more interesting will be to continue the work with different learning styles.

LEARNING ORGANIZATION STYLES

Some relevant case descriptions will be presented here on a comparative basis. The Learning Organization Diamond Styles based on the differences observed in five companies are presented in Table 3 and the companies placed in a Learning Organization Styles table. Also the styles will be described by using typical features of the companies. Five different companies were selected to show the variety of learning organizations. Some basic facts about these companies are presented here; the entire case texts are included in Appendix 1. Please note that the interviews were conducted in 1996.

COMPARING COMPANIES AND DEFINING LEARNING ORGANIZATION DIAMOND STYLES

The companies seem to have some similarities, but also many dissimilarities: some are "learning and developing", some are planning to do so, whereas some only dream of it. There are also companies, which do not even dream of it - they may not need learning or a learning organization at all.

These companies selected have been categorized and the foundation for styles has been established in the way that Table 4, below shows. The text units are organized in two categories so that the former 'management' and 'leading' have been discarded and the remaining elements categorized in 'thinking' and 'doing'.

TABLE 3: SOME FACTS OF THE CASE COMPANIES
Veho: selling quality cars
specialized in importing and selling cars: Mercedes-Benz and Honda ownership is family-based turnover in 1996 over 2 mFIM; employs about 1000 people develops continuously to serve the needs of its customers URL://http://www.veho.fi/info.htm
ICL-DATA: a company willing to be the best place for its personnel
IT systems and services company turnover in 1996 was 1.884 mFIM; employs 1850 professionals operates as an essential part of ICL plc operates also in the Northern European Region URL://http://www.icl.fi/icl/yritykset.htm
ABB Industry Oy: long traditions, vast experience, technology leadership, willingness to change
turnover 2800 mFIM; employs 1977 (1996) exports most of its products (91%) URL://http://www.abb.fi/fidri/fidri_e.htm
Nokia Research Center: unit behind the successful development of mobiles
a research unit concentrating on managing talent, enhancing productivity and managing change employs about 600 professionals (1996) interacts closely with the R&D units of Nokia business groups exploration of new technologies and product/system concepts and their exploitation URL://http://www.nokia.com/company/ overeview/business_units.html
Fazer Confectionery Ltd: Say Fazer when you want the very best
sales and marketing organization for confectionery in Finland personnel 70 + 55; turnover 511 mFIM market leader in Finland in confectionery URL://http://www.fazermakeiset.fi/english/index.html

TABLE 4: COMPANIES CATEGORIZED ACCORDING TO THEIR SIMILARITIES

Number	Interview	Company	Thinking* (purpose + questioning)	Doing* (empowering + evaluating)
1	A **	**Veho**	115	105
2	A ***	**ICL-Data**	28	32
3	A	**ABB**	42 ****	47
4	B	CCC-Corporation	28	45
5	A	Jollas-Institute	16	35
6	A ***	Continuing education center	12	14
7	A+B **	Kymppineon Oy	108	65
8	A	**Nokia**	91	55
9	A	3. nameless	41	33
10	B	Enviset	23	10
11	B	Nokka-Tume	19	10
12	A	1. nameless	10	29
13	A	**Fazer**	10	20
14	A	2. nameless	12	16
15	A	4. nameless	5	6

* purpose and questioning are combined together, because their contents are more focused towards thinking than doing, empowering and evaluating are more active and therefore represent doing type of actions

** long interview or talkative interviewee

*** short interview

**** most of the text units in this section were more personal opinions than ideas shared in the whole company

Additional information about the companies in www-pages, for instance Continuing Education Center: http://kala.jyu.fi/tkk/taukki.html, Enviset: http://www.enviset.com, Kymppineon Oy: http://www.kymppineon.fi and CCC-Corporation: http://www.ccc.fi.

'Thinking' consists of the former 'purpose' and 'questioning' and 'doing' of the former 'empowering' and

'evaluating'. The titles of the categories were chosen to illustrate the main orientations in these categories: 'thinking' means more planning, ideas, values, etc. and 'doing' on the other hand, for example experimenting, working intensively and experiencing.

Veho and ICL seem to be companies "challenged by the future". Competition is very hard either in selling products or keeping and motivating the best specialists. Challenges seem to be common for these two companies. They are also similar in their overall focusing, although Veho seems to have worked harder and for a longer time than ICL with the elements presented here.

Nokia Research Center is an organization with clear values and strategies. However, it could be stated that NRC has not yet fully implemented its strategies. One possible reason for this could be its enormous growth and success in developing mobile phones and other high-tech products.

The focus of ABB Industry Oy is more on developing processes and competencies than deriving learning needs from the strategy. It has some focus on strategy of course, but the main emphasis in on doing, acting, processing and developing.

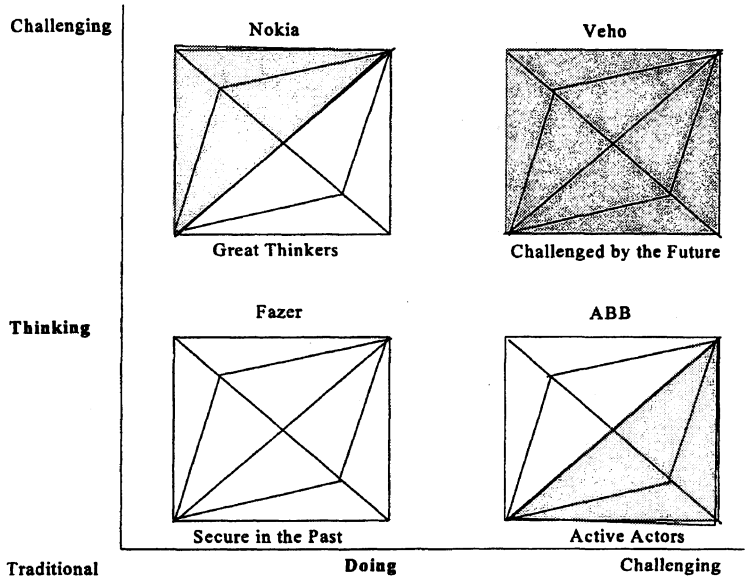
Fazer Confectionery Ltd. relies more on its experience, but is still a successful company. Its competitive advantage is not in learning, but somewhere else.

These companies may all be successful in their own market situations and businesses, and the main point here is that they are different in their Learning Organization styles. Some base their competitive advantage on learning and building infrastructure for a learning organization and some build it on other elements. Despite these differences all of them can be leaders in their operative fields.

Next, these different companies are illustrated by shadowed diamonds in the figure below. The shape of the diamond is still the same. The position of the diamond, however, has changed, because the analysis is now focusing on "thinking" and "doing". The emphasis towards thinking means shadowing the left (upper) half and the emphasis towards doing means shadowing the

other half. Shadowing the whole means being active in thinking as well as in doing types of activities in learning. Exclusion of shadowing means having some other strengths than learning.

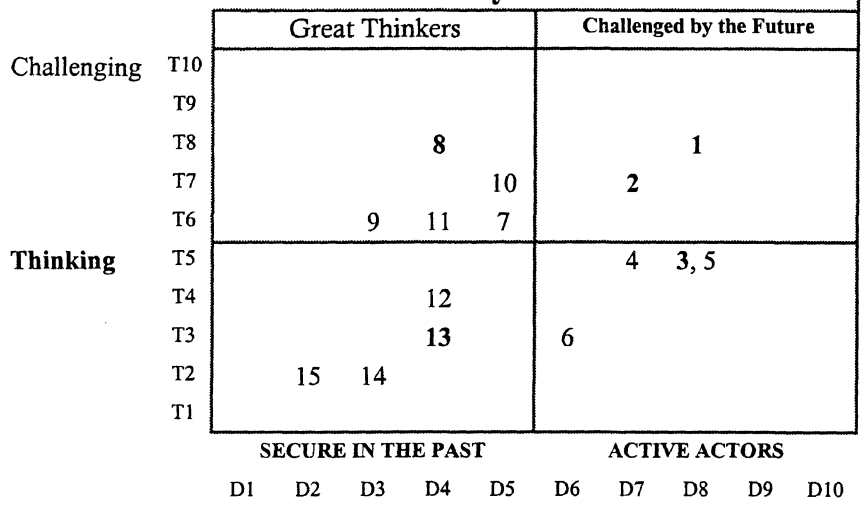
Figure 2
Case Companies and the Learning Organisation Diamond



Nokia Research Center is characterized as a *Great Thinker*, because the emphasis is on 'thinking' types of activities. Naturally this type of a company also has the other side of the Diamond, but it is weaker. Companies active in 'doing' - in this picture ABB Industry - were named as *Active Actors*. Those who were passive both in 'thinking' and 'doing' are called *Secure in the Past* and the last ones are called companies *Challenged by the Future*. These last companies seem to be those that have done quite a lot for their learning and infrastructure of learning.

The connection between the structure and different styles seems to appear in relation to certain elements. The main focus in finding purpose and questioning could be said to be on 'thinking' and the main focus of empowering and evaluation on 'doing'. But it is important to bear in mind that these are assumptions based on the limited data, available here.

Figure 3:
Companies placed according to the Learning Organization Diamond Styles



Traditional **Doing** Challenging

1	**Veho**	9	3. nameless
2	**ICL-Data**	10	Enviset
3	**ABB Industry Oy**	11	Nokka-Tume
4	CCC-Corporation	12	1. nameless
5	Jollas-Institute	**13**	**Fazer Confectionery**
6	Continuing Education Center	14	2. nameless
78	**Nokia Research Center**	15	4. nameless

Figure 3 shows the variety of companies interviewed for this study. All of them are now placed in the same figure. It has to

be kept in mind that placing is mainly based on the interviews and is therefore subjective. But, on the other hand, the managers interviewed agreed upon the places of their companies. Only one placing, (Enviset 10) was changed (from T7-D6 to T7-D5). Some of the companies placed in the Secure in the Past -style decided not to reveal their names, although it was emphasized that this placing does not mean that they are worse than the others. It was stressed that they have other competitive advantages than learning.

Case companies, as well as the others were analyzed as larger groups, which shed more light to the idea of the different styles of learning companies. Styles are described more thoroughly in Table 5 by using typical features and comments presented in the interviews. Again, it is important to bear in mind that the categories suggested are only tentative, because they have been formed on the basis of the interviews conducted in 15 Finnish companies.

To conclude, different organizations were analyzed and different views about learning organizations were found. It was not so easy to categorize and name the styles, but it was very fruitful. There are organizations operating in very diverse situations, and therefore their learning organization phases and styles cannot be similar to each other.

CONCLUSIONS ABOUT DEVELOPING A MODEL OF STRUCTURES AND STYLES OF LEARNING ORGANIZATIONS

The conclusions of this study are summarized in Table 6 and Table 7, according to the questions raised above. The first important focus of this study was the structure of a learning organization and the second was the different styles of learning companies.

TABLE 5:
DESCRIPTIONS OF LEARNING ORGANIZATION DIAMOND STYLES

GREAT THINKERS	CHALLENGED BY THE FUTURE
organization is more important based on thinking (purpose + questioning) huge challenges in products, very busy developing new products good strategists, not so good leaders of process excellent strategies and visions values, strategies and learning are in line with each other sharing the strategy is not always successful strong in analyzing and reflecting not able to integrate learning with work do not know how to measure learning	individuals and organization both important both thinking and doing challenges inside and outside (both products and processes) both strategists and leaders, as well as excellent examples of learning shared strategy process as well as shared strategy strategy and learning have clear relation questioning everything all possible means to empower learning: structural and human sides of the company evaluating, rewarding learning
SECURE IN THE PAST	**ACTIVE ACTORS**
from point of view of learning: individuals are actors, organization is for doing business not so active in either doing or thinking in relation to learning not so good managers or leaders in the field of learning and development traditional products and processes learning is not a key value strategy does not contain anything about learning not questioning small changes, no resources for significant learning evaluating has nothing to do with learning	individuals are more important more active than reflective focusing on processes and their changes leading processes and people, not the whole business or company not so good at strategy processes or sharing no connection between strategy and learning neither reflecting nor questioning very heavy emphasis on new processes, projects and experiments interested in results, but not in relation to the whole, instead in relation to individual results

Therefore, a structural analysis is first discussed in general followed by a summary of the elements used in the Learning Organization Diamond. Learning organization styles are also analyzed at two levels: first in general and secondly at the specific level of the styles developed here.

TABLE 6:
CONCLUSIONS ABOUT STRUCTURAL ANALYSIS OF SOME FINNISH COMPANIES

Structural analysis in general	Conclusions
is structure really needed	structure helps in recognizing the whole
this or some other structure	this study compares three different viewpoints and is only based on theory; no practical testing or formal comparison
elements of this study or some other	elements chosen seem to be general enough to provide frameworks for different types of organizations
Analyzed elements	**Conclusions**
driving forces	particularly in large and fragmented companies the role of someone taking care of developing a learning organization seems to be vital
purpose	shared direction is needed in developing the whole, motivation is needed to find the collective power
questioning	questioning is significant in realizing the current situation with its blockages and facilitators
empowering	this is needed to get things done; structures and systems may need to be formed differently and people need to be supported in their efforts
evaluating	evaluating is valued, but not yet implemented

It can be said that the framework used here made it easier to find significant viewpoints from these 15 interviews. Without knowing the key words, to look for it would have been very difficult to form the picture of the whole and its elements in these

15 companies. Furthermore, it was also easier to compare the companies with each other, because they were analyzed by using the same framework.

TABLE 7:
STYLES AND THEIR VALUE FOR THE DISCUSSION ON LEARNING ORGANIZATIONS

Stylistic analysis in general	Conclusions
stylistic analysis in general	organizations differ from each other so much that additional tools are needed to make these differences and their effects more visible
these or some other styles angles of the analysis	these styles are based on both theory and practiced doing and thinking, as well as past and future, were quite typical for analysis in the literature, although they were not used in the same way as in this study; in practice they seem to be good for finding differences between companies
Analyzed style	**Conclusions**
Challenged by the Future	this style seems to be shared by companies which have noticed for one reason or another that learning is a question of life or death in their companies
Great Thinkers	companies focusing more on "thinking" side of the real world seem to be existing: they have great ideas, which are not fully implemented
Active Actors	this style also seems to have real examples: no shared visions or purposes, either wondering about the basics, most emphasis is on doing and experimenting
Secure in the Past	all companies do not seem to need learning, at least in the short run, or they have not realized the real reason or need for learning

Table 7 contains the most important conclusions about the stylistic analysis of the interviewed companies. As has been indicated above, styles add insight to the discussion for as long as they offer some tools for analyzing organizations more easily or

more thoroughly. Styles are needed, if they make it possible for managers to recognize typical features and general ideas behind the features and use this knowledge in their own work.

The main findings of this study are related to broader interpretations.

1. The first and the most important finding is that business units always need business-orientation, in other words, a learning organization is not only a group of people, but it is organized and it operates under certain "business laws" and therefore needs concepts of its own to analysis.

2. The second main finding is that a generalized, structural analysis is necessary, because it is problematic to try to cover different organizations with only narrow concepts. The need for using some type of "meta concepts" is more useful in describing organizations.

3. The third main finding follows from the second one, namely that Learning Organization Styles are needed because of the great variety of organizations.

4. The fourth main conclusion could be said to be in the viewpoint of a manager and his/her company: organizations are not "bad" or "good" as learning organizations. Instead, they are different and therefore need different tools for developing towards better learning organizations.

DISCUSSION

Holistic analyses of the learning organization and learning organization styles are still rare in the literature of the field. Considerations about the whole have been presented by Mike Pedler and his associates, as well as by Peter M. Senge. Some other studies have also been conducted, for example by Tannenbaum (1997). More discussion about the whole and especially about differences between companies is needed, however.

This study on Finnish companies has some similarities with the work done by scholars reviewed here, but there is one obvious difference. This is the viewpoint of business-orientation and a consciously managed organization. The three models presented in this study seem to have their background more in psychology than in business studies, proper.

The viewpoints presented by Argyris are the most different in terms of the present study, ie. the core is in changing mental models. The need for finding dysfunctional processes and elements is similar in both views. The ideas by Mike Pedler and his associates are very close to the ideas presented here. The most important similarities are in establishing the basic angles (doing and thinking, individual and organization), although they are implemented here differently. The most important dissimilarity concerns the backgrounds of our perspectives: Pedler has his in Action Learning and managerial learning, whereas the background of this study is more in business studies. The similarities with Senge's ideas are few but clear. They include shared vision as one element and manager's role as an architect and servant.

The present study has certain limitations despite the fact that its background is in theories and ideas tested by other scholars. First of all, the data come mainly from managers' interviews. The second limitation is in the fact that it was not possible to combine qualitative and quantitative data in this study. Originally, the ambitious purpose was to measure and interview the same

companies, which could have provided a more reliable picture of the whole. Measuring has been conducted only partly, but has not reached the level of reporting in this study, yet.

Evaluating and developing learning companies could be interesting questions for further studies. Some 20 companies have already been analyzed by the tool developed from The Learning Organization Diamond Model. This tool gives an overall picture of the learning company, but it is not sufficient, because it seems that the more information there is, the more questions can be raised about evaluating. Managers should be asked if they need more information about the top team learning, relations between learning and strategy, team learning, sources of learning, competencies or sharing competence, to mention only a few of the possibilities of evaluating.

The other area of great importance is the question of developing learning companies. A question not asked or answered in this study was the possibility of using styles in enhancing the development of learning companies.

REFERENCES

ABB Industry Oy [online]. Updated 11.02.1998 [cited 31.03.1998]. Available in www-pages: >URL://http://www.abb.fi/fidri/fidri_e.htm

Argyris, C. (1957) *Personality and organization.* New York: Harper & Row.

Argyris, C. (1990) *Overcoming organizational defenses.* Boston: Allyn and Bacon.

Argyris, C. (1991) 'Teaching smart people how to learn', *Harvard Business Review 69*(3), 99-109.

Argyris, C. (1993) *Knowledge for action.* San Francisco: Jossey-Bass Publishing Company.

Argyris, C. (1994) 'Good communication that blocks learning', *Harvard Business Review 72*(4): 77-85.

Argyris, C. & Schön, D. A. (1978) *Organizational learning; a theory of action perspective.* Reading, Massachusetts: Addison-Wesley.

Argyris, C. & Schön, D. A. (1996) *Organizational learning II; theory, method and practice.* Reading, Massachusetts: Addison-Wesley.

Burgoyne, J., Pedler M. & Boydell T. (1994) *Towards the learning company, concepts and practices.* London: McGraw-Hill Book Company.

Fazer Confectionery Ltd. [online]. [cited 31.03.1998]. Available at >URL://http://www.fazermakeiset.fi/english/index.html

Gummesson, E. (1991) *Qualitative methods in management research*. Newbury Park: Sage Publications.

Huber, G. P. (1991) 'Organizational learning: the contributing processes and the literatures', *Organization Science 2*(1): 88-115.

ICL-Data Oy [online]. [cited 31.03.1998]. Available in www-pages: >URL://http://www.icl.fi/icl/yritykset.htm

Moilanen, R. (1996) *Learning organization - background and the concepts*. (in Finnish) Jyväskylän yliopisto.

Moilanen, R. (In press) *Management and leadership in a strategically and motivationally focused learning organization.*

Nokia Research Center [online]. [cited 31.03.1998]. Available at >URL://http://www.nokia.com/company/overview/business_units.html

Pedler, M. (1983) *Action learning in practice.* Aldershot: Gover.

Pedler, M. & Aspinwall, K. (1996) *Perfect plc'? The purpose and practice of organizational learning.* London: McGraw-Hill.

Pedler, M., Boydell, T. & Burgoyne J. (1989) 'Towards the learning company', *Management Education and Development 20*(1): 1-8.

Pedler, M., Burgoyne, J. & Boydell, T. (1991) *The learning company, a strategy for sustainable development.* London: McGraw-Hill.

Pedler, M., Burgoyne, J. & Boydell, T. (1996) (2nd ed.). *The learning company, a strategy for sustainable development.* London: McGraw-Hill.

Senge, P. M. (1990) *The fifth discipline, the art and practice of learning organization.* New York: Doubleday.

Senge, P. M. (1994) 'Moving forward, thinking strategically about building learning organizations', in P. M. Senge, A. Kleiner, C. Roberts, R. B. Ross and B. J. Smith (eds) *The fifth discipline field book, strategies and tools for building a learning organization,* pp.15-47. New York: Doubleday.

Shrivastava, P. (1983) 'A typology of organizational learning systems', *Journal of Management Studies 20*(1), 7-28.

Silverman, D. (1984) *Interpreting qualitative data, methods for analyzing talk, text and interaction.* London: Sage Publications.

Tannenbaum, S. (1997) 'Enhancing continuous learning: Diagnostic findings from multiple companies', *Human Resource Management* 36(4): 437-452.

Tesch, R. (1990) *Qualitative research: analysis types and software tools.* London: The Falmer Press.

Veho [online]. [cited 31.03.1998]. Available in www-pages: >URL://http://www.veho.fi/info.htm

APPENDIX 1
FIVE DIFFERENT CASES

Veho

Learning and development are important at Veho, which is verified by the extensiveness and content of the interview. Learning is not only a vision in this company, but people from all levels of the organization have worked very hard to fulfill the goals of development and learning. Top managers are in charge of learning of the whole company. The CEO and his assistants concentrate clearly on forming new strategies, sharing them, starting processes required to fulfill these ideas, assessing the outcomes of development as well as challenging and supporting people. They also serve as good examples.

The role of individuals and their motives also seems to be significant at Veho, although it is not the main purpose. People are given a rough framework which directs their work and learning. Reflecting upon the situation seems to be easier than some years ago, perhaps because of the several change processes Veho has accomplished during this decade. Although reflecting is easy at the organizational level, individuals still have negative attitudes towards showing gaps in their own competence.

Empowerment seems to be very carefully done, and dysfunctional structures, systems or other elements have been changed without delay. Resources have been allocated to apply new ways of serving customers, and of developing processes or people themselves. Methods like Action Learning, training, running and participating in projects are actively applied in the whole company. People are also encouraged and financially supported to train themselves systematically. Evaluation is a very meaningful tool in this company, although the main emphasis is on business-based results. Evaluation of learning also seems to be desired in the near future, although measurement tools have not yet been developed.

Veho is a company, challenged by the market situation very heavily. The process of having different types of "learning projects" has given it confidence and a feeling of coping with an unstable situation.

ICL-Data

The Learning organization ideology at ICL-Data seems to consist of several elements with management and strategy as the key concepts for their development. This means a tight relation between strategy and learning: in fact it was said that learning is ICL's strategy. Strategy directs operations and learning, and the results of the company will be gained by consciously managing and leading this process.

People and their willingness to learn also seem to be very important in this company. This is easily understandable, because ICL-Data's personnel is mostly IT-specialists and they have to have motivation for both working and learning. When the infrastructure and learning possibilities are in good condition the results will also be better.

There seem to be some problems related to the prerequisites of learning and development here as in many other companies. People have certain habits and attitudes which hinder questioning and reflecting. Empowering and positive arrangements are better understood and accomplished than reflective questioning. Changes in the structure and systems, as well as in leader roles, have been carried out over the past few years, and all possible means of facilitating individual learning are used. Evaluation is one of the key questions also in this company, although tools have not yet been developed.

ICL Data seems to be a company that has thought out and worked hard to make the work environment more attractive for people who need to be the best in their fields and therefore learning all the time.

Nokia Research Center (NRC)

Nokia Research Center (NRC) is an organization which seems to have done more in values, visions and strategy than in the area of operationalizing these ideas. They are on their way towards the balancing out these, but at present the focus seems to be more on ideas and visions than actual operations. NRC and the whole company is developing new products and growing very rapidly. This might mean fewer resources for

developing the learning organization architecture and supporting people in their learning.

The role of strategy seems to be very important at NRC, as is its relation to learning. Values are also very important at Nokia and, one of its core values is learning and developing conditions for it. Questioning at NRS seems to be somewhat contradictory; questioning is needed in every day work, but traditions are still strong and limit further developing. In particular, sharing the vision or sharing the ideas invented in other units is slightly limited. Questioning seems to be difficult for the personnel: a heavy work load and time pressures keep the process going, but do not leave spare time for reflecting upon the whole situation.

Empowerment at NRS could be described with a metaphor of a one-idea movement. Conscious and systematic work is done to operationalize the ideas in the area chosen. This type of a heavy emphasis on only one area seems not to apply to the two companies presented earlier. The value of evaluating has been noticed and some tools have been developed.

This interview created a picture of an organization concentrating more on individual learning and finding a system of coping with the huge competence base needed in a high-tech company.

ABB Industry Oy

The particular manager interviewed at ABB Industry Oy has himself noticed the importance of learning and knowledge construction. The role of leadership and facilitating learning at a personal level seem to be more pronounced, the value of skills and continuous skill development is strongly stressed in different analysis. A heavy emphasis is placed on individuals and their motives for working, development and learning. The importance of the learning organization ideology has been noticed at ABB Industry Oy, but implementing has not yet been done. The company strategy could be said to be more like a business strategy than a learning strategy, however, when it comes to measures to create a learning culture and for instance to remunerate acquired knowledge as itself, the outcome is somewhat different.

Questioning seems controversial at ABB Industry Oy. Most of the individuals are able to ask for concrete help and information needed in developing their own work, but questioning about the models and attitudes directing their work seems to be more problematic. The area commented mostly upon in this interview was empowerment. ABB Industry Oy has focused on special areas like product development, recognizing the knowledge base, as well as future requirements of constructing new knowledge. They have developed various systems to help people in their learning. Evaluating is not focused on learning, but there are some elements which facilitate learning. Although many evaluation tools are lacking people and their knowledge is seen valuable.

In general, only a few points of this interview could be drawn and analyzed with the Learning Organization Diamond Model. The content of the comments also showed, that these ideas are not yet implemented at Fazer, but the need for applying them seems to be growing.

The long and successful tradition of Fazer is good for its business but not for developing a learning company. Some minor changes, as well as individual learning, could be seen, but nothing more radical from the point of view of learning could be noticed.

Managers and leaders of the company concentrate on business actions. They are not required to develop processes or structures of the company because of the learning needs and the same applies to leading people. Marketing and developing better products are the main points of emphasis of the company and its managers.

Purpose at this company is in running its business, and learning is not present in any significant form in its strategy or in the process of forming and sharing the strategy. Empowering learning was characterized by small things and applications, but nothing radical has been done to facilitate the learning of the whole company. Evaluating learning is missing - the focus of measuring is in business results.

As a conclusion it can be said that Fazer is a successful company, but its competitive advantages are somewhere else than in learning.

ARTICLE III

Diagnostic tools for learning organizations

By

Moilanen, Raili

Published in The Learning Organisation, Vol. 8(1), 6-20, 2001
Reprinted by kind permission of MCB University Press

Diagnostic tools for learning organizations

Raili Moilanen

The author

Raili Moilanen is a Researcher, University of Jyväskylä, School of Business and Economics, Jyväskylä, Finland.

Keywords

Learning organization, Diagnosing, Measuring instruments, Strategy, Whole system

Abstract

Aims first, to develop an instrument for a holistic analysis of learning organizations; and second, to test the validity and reliability of this instrument. The framework developed was mainly influenced by the work of Mike Pedler, Tom Boydell and John Burgoyne, Peter M. Senge as well as Chris Argyris and Donald A. Schön. Analyses eight existing diagnosis tools. The Learning Organization Diamond Tool was based on a concept of a learning organization regarded as a structure of related elements. Data consisting of 691 answers were gathered from 25 Finnish organizations in 1998. After analysis the reliability of the instrument was measured with Cronbach's alpha. Cronbach's alphas for the elements of the tool varied between 0.5141 and 0.8617. Validity of the tool was established by presenting the process as a chain of phases from theory to statements. Comparison between the tool developed and other tools presented in this article yields somewhat contradictory findings, because the purposes of the instruments differ. The tool developed here aims to create a holistic picture for further analysis and discussions and to serve as an internal tool for development. More tailored instruments should be developed for more specific purposes. The article is aimed at an audience involved in learning organizations and their development.

Electronic access

The research register for this journal is available at
http://www.mcbup.com/research_registers

The current issue and full text archive of this journal is available at
http://www.emerald-library.com/ft

The Learning Organization
Volume 8 · Number 1 · 2001 · pp. 6–20
 · ISSN 0969-6474

Introduction

Over the past years, the discussion on learning organizations has been extensive and diversified. Too often, however, this discussion has remained at the level of describing and defining, and the efforts to diagnose and measure the concept have been very rare. In this article the emphasis is on developing a measuring instrument for diagnosing learning organizations as whole entities.

The aim of this study was to construct and test a measuring tool for the diagnosis of learning organizations. The contribution of this paper lies in its comprehensive approach of combining strategic, holistic and individual viewpoints and in operationalizing and testing this comprehensive tool.

A literature review and some points made by some well-known scholars in the field are presented first, followed by a description of the process of developing the measuring instrument. Finally, the operationalization and testing of the tool are described.

Learning organization theories

For as long as an agreement on the concept of "learning organization" is missing, the task of diagnosing organizations in this respect is based on different theories, and producing, for this reason, various unequal analysis instruments. Comparing these instruments, as well as generating new ones is therefore very difficult. Also the traditions of measuring learning organizations are not well established or validated, which means that the development of new measuring tools has no solid or common ground to be utilized as a basis. Here, the viewpoint chosen is a holistic one. This means seeing the organization as a whole and manageable entity directed by its main purposes. Learning is seen as a vital part of all its structures and processes, although learning itself is a very personal and individual-based process.

The concept of holistic learning organizations is derived from a categorization based on individuals' learning theories (Moilanen, 1996). The core of this concept can be seen in the perceived wisdom of building a vision-based or holistic learning organization. The notions and beliefs that rise in this context seem to be more idealistic than

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

realistic due to their wide scope and holistic aim.

Views of learning companies as broad entities were already presented in the late 1980s, when Pedler *et al.* started investigating the learning conditions and features of learning companies (Pedler *et al.*, 1989; 1991; 1997; Burgoyne *et al.*, 1994). The next viewpoint presented here in this group of holistic thoughts is that of Senge (Senge, 1990a; 1990b; Senge *et al.*, 1994). The third holistic view into learning organizations could be seen in the work of Mayo and Lank (1994), and Watkins and Marsick (1996) also have a broad view of learning organizations.

Of these four viewpoints two (namely Pedler, Burgoyne and Boydell and Senge) were chosen to serve as the background of this study. The main ideas presented by Chris Argyris were chosen to strengthen the concept of the whole.

The works of these writers have had the clearest influence on the study reported in this article. Had they also had suitable measuring instruments for these organizations, they could have been used in this study, but, Pedler *et al.* (1997, pp. 15-16) were the only ones of these scholars, who have developed a diagnostic tool. Some other researchers, however, have developed diagnostic tools for different types of learning organizations and they will be presented later.

Pedler *et al.* (1989, p. 7; 1991, pp. 18-23) have shown in their first studies that learning is neither a single process nor an independent factor, and that learning organizations possess processes, individuals, organizational factors, managerial tasks, etc. In 1991 they published a book, which introduced 11 characteristics of learning companies (Pedler *et al.*, 1991). Since then their thinking has moved towards processes, which offers a more flexible basis (Burgoyne *et al.*, 1994). For them "A Learning Company is an organization that facilitates the learning of all its members and consciously transforms itself and its context" (Pedler *et al.*, 1997, p. 3).

Peter M. Senge is the second to be reviewed (Senge, 1990a; Senge *et al.*, 1994). His early focus is on five disciplines (systems thinking, personal mastery, mental models, building shared vision and team learning), which are interrelated to each other. Senge writes: "There is a common sensibility uniting the disciplines – the sensibility of being learners in an intrinsically interdependent world" (Senge, 1990a, p. 375). His latest preoccupation is with organizational architecture and the concept of an implicate order and learning results (Senge *et al.*, 1994, p. 45). For Senge, the learning organization appears to represent a combination of three architectural design elements, which are:

(1) guiding ideas;
(2) theory, methods; and
(3) innovations in infrastructure (Senge *et al.*, 1994, pp. 36-7).

Chris Argyris has been writing about organizations, group processes and learning for 40 years. In his early writings the focus was on individuals (Argyris, 1957), but during the last decade Argyris has moved towards looking at the whole. Despite this move, his core ideas are still in individual and organizational mental models and their changes. (Argyris and Schön, 1978; 1996; Argyris, 1990; 1991; 1993; 1994)

For Argyris and Schön (1978, p. 29) "Organizational learning occurs when members of the organization act as learning agents for the organization, responding to changes in the internal and external environments of the organization by detecting and correcting errors in organizational theory-in-use, and embedding the results of their inquiry in private images and shared maps of organization". Furthermore, Argyris and Schön (1996, p. 28) state that "an organization's learning system is made up of the structures that channel organizational inquiry and the behavioral world of the organization, draped over these structures, that facilitates or inhibits organizational inquiry".

Summary of previous theories

As a conclusion it can be said that the views presented above are among the most comprehensive from the holistic point of view, although Argyris and Schön are more process-oriented than comprehensive in their position. Yet, different types of orientations can be recognised in these three views, for example, systemic, process-type and business orientations are clear.

To be able to summarise these three views, then, a shift to another conceptual level is necessary. The ideas presented above seem to have several common denominators, named

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

here as managing and leading, finding purpose, questioning, empowering and evaluating. The elements seem to cover the whole reasonably well, but this composition does not exclude other potential ones. In general, however, some metaconcepts are required to be able to distinguish the whole from its dimensions.

The meaning of the whole, as well as its elements, are presented in Table I to summarise the main points of Pedler, Boydell and Burgoyne, Argyris and Schön and Senge and to compose the core of a holistic concept of a learning organization.

The main conclusion is that Pedler *et al.* have the same types of elements in their learning organization concepts as Senge. Argyris and Schön, on the other hand, seem to have less in common with either of these two models.

Pedler *et al.* clearly have all the other elements in their model except for managing and leading. Senge's model is somewhat different, but he nevertheless has elements which could be categorised into these five groups. There are some minor differences, the most obvious being his minor emphasis on evaluating the learning organization as a whole entity. Argyris and Schön, then do not have as many elements of the whole as do the others. Their main point is in mental models and their change, and not in the whole organization or suitable ways of constructing it.

Existing diagnostic tools

Diagnostic tools seem to be more often products of consultants than of thorough scientific development and testing. There seems to be a remarkable gap between practical and scientific work in diagnosing learning organizations. Also, there are altogether far too few measurement tools available regardless of their background or purpose. In the following, eight different measuring instruments are introduced to illustrate the scope of the tools in general.

The first diagnostic tool was presented as the result of a research study conducted in some British companies (Pedler *et al.*, 1988; 1989). The tool is based on interviews, joint working days and some workshops, and it contains nine sub-areas (Pedler *et al.*, 1988, p. 7). Since then the idea of a learning company has been refined as a clearer form of the whole and a corresponding questionnaire (Pedler *et al.*, 1991; 1997). Strategy, looking in, structures, looking out, and learning opportunities are the main areas covered. The emphasis is on the whole and on peoples' role in this whole. Managing the whole consciously or leading learning or learners does not seem to be as vital as the other parts of the whole. The background of the scholars are in action learning, management learning or self-managed learning and the focus is derived from these (Pedler, 1996; Pedler *et al.*, 1994; Pedler and Boydell, 1994)

The second questionnaire is introduced in the book by Mayo and Lank (1994). This Complete Learning Organization Benchmark is quite comprehensive, and includes 187 questions and nine dimensions. The emphasis is on diagnosing the actions which should be taken to achieve maximum impact on the development process of a learning organization. The emphasis is also on

Table I Learning organization – origins and the elements of the whole

	The whole	Managing and leading as driving forces	Finding purpose	Questioning	Empowering	Evaluating learning and learning organization
Pedlar *et al.*	Yes	Inbaked but not very clear	Yes	Yes	Yes, wide range of means	Yes, assessing the whole (11 characteristics)
Senge	Yes partly, mental models, systems	Yes	Yes	Yes, mental models	Yes, group-based means	Yes partly, assessing learning results
Argyris and Schön	No, the core is in the mental models	No	Not so evident	Yes, mental models of individuals and groups	Yes, group-based means	No

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

organizational factors, as well as on individual and team-based learning and managing and leading. The most obvious strength and weakness of this tool is in the number of questions. The tool covers the whole thoroughly, at least in organizations where the data are gathered from other respondents than only managers. A proper use of this diagnosis could be in using the data as background information in the discussions concerning learning organization development.

Tannenbaum (1997) has composed his tool on the basis of scientific research and tested it with scientific methods. The main point in his tool is the learning environment. This questionnaire does not cover the whole as well as the ones presented above, but it is still good for diagnosing the learning organization as a whole. The main emphasis is on the processes and on training, but also on the ways of job-related learning. Support also has a role in this tool, but it is supposed to come from supervisors as well as co-workers. As a whole, this questionnaire seems to be aimed at managers' use only, but with its scientific background it provides a profound instrument for that purpose.

Pearn *et al.* (1995) developed The Learning Audit which is composed in co-operation with the clients, but the instrument has not been tested with scientific methods. This tool is comprehensive from the point of view of leading and encouraging learning, but superficial from the point of view of the whole learning organization's. The main focus of the questionnaire is on the way learning is encouraged by various departments and managers.

The fifth questionnaire is introduced in the book by Sarala and Sarala (1996). The statements included in this instrument have been grouped into philosophy and values, structure and processes, leading and making decisions, organizing the work, training and development and as the last part, the internal and external interaction of the organization. All these groups contain several statements. Simultaneously all these statements have five different forms illustrating different archetypes, which are: a bureaucratic organization, quality management, process orientation, managing by objectives and a learning organization. Thus, the main focus of the tool is to establish whether an organization is a learning organization or not.

A quick test for learning organizations (Otala, 1996) is a questionnaire composed of 20 statements. This questionnaire is very short and therefore very easy to fill in. But the questionnaire is also at a very general level and it does not provide a clear idea of the whole learning organization concept. This instrument could be useful in arousing the importance of learning, but other tools could be more appropriate in searching for profound information about the state of the learning organization.

The next tool to be introduced here is by Redding and Catalanello: Learning Organization Capability Assessment (1997). This instrument defines three archetypes, which are categorised into traditional, continuously improving and learning organizations. It is also very straightforward and easy to fill in, but the value of this tool is in getting some basic idea of the situation. Some other tools are needed to create a more sophisticated picture of the capabilities needed in learning organizations.

The last and probably the most comprehensive questionnaire is by Watkins and Marsick: *Dimensions of the Learning Organization Questionnaire* (1998). It is organized in four sections addressing individual, team, organizational and global issues. The core of the instrument was presented with seven dimensions, which are continuous learning, dialogue and inquiry, team learning, embedded system, system connection, empowerment, provide leadership, financial performance and knowledge performance (Yang *et al.*, 1998, p. 85). This tool has a scientific and empirically tested background, which is not the situation with the other instruments analysed here. The questionnaire covers the whole very broadly although there are also questions concentrating on other areas than just learning or learning organization. In any case, this instrument is well worth of becoming familiar with.

Summary of measurement approaches

The first conclusion relates to the added value of the instruments from the point of view of theories and organizations. Thereafter, an attempt is made to categorise and characterise the existing measuring instruments. Finally,

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

some totally different ways of measuring learning organizations will be presented.

In general, the present discussion concerning the measurement of a learning organization does not focus on the targets of measuring. Measuring is just measuring without any wider connections to theories or the needs of the measured organizations. Co-operation of scholars and combining existing knowledge are rare. The common ground for measuring is also missing. In addition, the feedback from the tool development process to more theoretical work is lacking.

Presenting the instruments does not in itself shed light to the way in which they can be utilized. All instruments are developed for some purposes, and it is important that they are appropriate for those purposes. If the purpose has been to serve the organizations, that should have been clear from the context. Also, how the feedback was given to companies and how they could use the information should be explained. Because the process of giving feedback has not been described, it is not known whether the managers get any benefits from the diagnosing process. In any case, generalising and crystallising, as well as some concrete ideas about possible development paths are needed.

Second, the focus is turned to the characteristics of the instruments. Table II is organized according to some special interests. The first focus is on the way learning organizations are treated: archetype means that the learning organization is only one of several different types and the questionnaire is just meant for identifying if an organization is a learning one or not. Holistic describes the capacity of the tool to cover the concept as widely as possible, e.g. strategic, and operational aspects as well as structures and processes. Profound is meant to describe the comprehensiveness of the tool, i.e. whether it is profound or superficial, comprehensive or not. This could be characterised by the focus of the instrument it cannot cover all the possible aspects but only the most important features that are carefully chosen, concentrating on these. Tested means statistical testing, for example the testing of the validity and reliability of the instrument.

The last point is some speculation about measuring in general. Although the emphasis in this article has been on finding the whole, there is an evident need for some other types of questionnaires, too. The first stage is to have some general information of the whole organization as a learning organization. But, as soon as the organization needs more specific information, the value of more specified and focused tools will grow. The ultimate focus of the tool in the internal use of the organization is dependent on the needs of the company.

One could envisage the meaning of the whole first, for example by studying the desired state of the organization compared with the present state. Some specific measurement instruments could be developed, for example learning qualifications and conditions, how strategy and learning are

Table II Some characteristics of learning organization questionnaires

Name of the instrument	Archetype	Holistic	Profound	Tested
Pedlar *et al.* (1991; 1997): The Learning Company Questionnaire	–	Yes	Yes	–
Mayo and Lank (1994): The Complete Learning Organisation Benchmark	–	Yes	Yes	–
Tannenbaum (1997): Learning Environment Survey	–	–	Yes	Yes
Pearn *et al.* (1995): The Learning Audit	–	–	–	–
Sarala and Sarala (1996): Recognising your organization	Yes	–	Yes	–
Otala (1996): A quck test of learning organization	–	Yes	–	–
Redding and Catalanello (1997): Learning Organization Capability Assessment	Yes	Yes	–	–
Watkins and Marsick (1998): Dimensions of the Learning Organization Questionnaire	–	Yes	Yes	Yes

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

connected, learning of top teams, managerial learning, teams and their learning, knowledge and sharing it, work-based learning styles and sources of learning. These are some examples and the development of the appropriate instruments is on the one hand dependent on the needs of the scholars and on the other hand on the needs of the organizations.

In the next section the questionnaire called the Learning Organization Diamond will be described. Definitions linked to the measurement process, as well as the overall structure, dimensions and development of the instrument will be presented.

The Learning Organization Diamond

Background and the main focus of the instrument

The roots of this study are clearly in the literature reviewed, and especially in the two holistic views presented earlier (e.g. Pedler *et al.*, 1991; 1997; Senge, 1990a). Some details have their origin in the work of Argyris and Schön (eg. 1978; 1996). Finnish managers, as well as their companies have also had a very clear impact on the contents of the new diagnostic tool described below.

The actual shape and contents of the Learning Organization Diamond are based on the author's work published in 1996. The first draft of the Learning Organization Diamond Model was composed of two different levels and four different elements. The levels were the individual and the organizational level, and the elements finding purpose, questioning, empowering and evaluating (Moilanen, 1996). An elaboration of the model was accomplished after collecting the empirical data. It indicated that management and leadership are vital in learning organizations (Moilanen, 1999b), which is why they were included in the whole.

The development of a measuring instrument is not just a process of formulating and operationalizing, but also involves understanding of the core of the concept to be measured. Informed awareness of learning organization definitions is vital because this understanding precedes the development of measuring instruments. Without defining the core of a learning organization, the content of the tool will lack adequate reliability (Nunnally and Bernstein, 1994, p. 104).

The definitions within the framework have been considerably changed during the research process as more information has become available. The latest definition is elaborated from the earlier ones:

> A learning organization is a consciously managed organization with "learning" as a vital component in its values, visions and goals, as well as in its everyday operations and their assessment. The learning organization eliminates structural obstacles of learning, creates enabling structures and takes care of assessing its learning and development. It invests in leadership to assist individuals in finding the purpose, in eliminating personal obstacles and in facilitating structures for personal learning and getting feedback and benefits from learning outcomes (Moilanen, 1999a).

This definition might add something new to the definitions cited earlier in this article. It includes various elements covering the whole and, therefore, it offers a somewhat more concrete and precise basis for developing the measuring instrument than the other definitions. Although a learning organization could be said to be a metaphor – it could also be seen as a real entity emphasizing some characteristics important for learning.

Inevitably the definition also has some weaknesses because its background is in strategic management, but this also offers one of its most obvious strengths – the learning organization is seen as a whole entity, with both structural as well as human aspects of the company in one and the same definition.

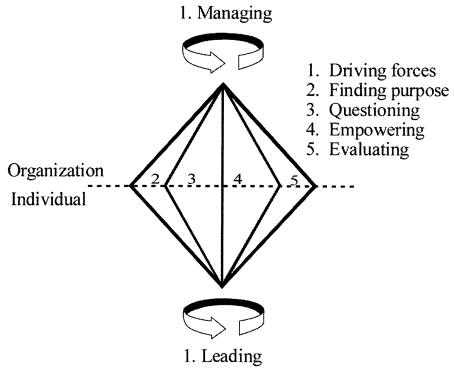
The model is now presented at two levels, the level of the whole organization and the level of the individuals. In this model the emphasis is on both of these dimensions and therefore the measurement instrument developed also has two sides.

The whole and its elements

The Learning Organization Diamond model can be illustrated by presenting it in the form of an imaginary diamond with two sides and ten elements. The upper side of the diamond covers the organization-wide aspects of the tool, whereas the lower side concentrates more on individual-based views. The whole is composed of ten elements, although there are only five elements listed in the diamond-figure. This means that the content of the five upper elements is comparable with the other five elements of the tool and only the viewpoint is different (Figure 1).

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

Figure 1 The learning organization diamond



A diamond was chosen to visualise the basic ideas of the whole learning organization. This metaphor offers several advantages: for instance, diamonds are everlasting and full of opportunities. A learning organization should also be an everlasting state of an organization, because of the everlasting need for learning.

The ten elements of the whole

At this point it is necessary to define the basic contents of the measuring instrument developed more clearly. Each dimension is described as a two-sided concept – first, the more holistic aspects of a learning organization and second, the more individual-based views are introduced.

Driving forces (1) form uniting elements of the whole learning organization. The core idea is that learning organizations will not be based or developed without conscious attention and work of the managers. The organizational side is here named managing the whole and it can best be defined by stating that a manager is taking care of, or at least being conscious of, all organization-wide systems, processes and structures which could enable or hinder learning. The individual side of managerial work, leading learners and their learning, means taking care of individuals and groups for as long as they need assistance in becoming better learners or masters of learning processes.

The concept of finding purpose (2) represents the vital starting point of a learning organization, i.e. by finding "the meaning". Organizational meaning can be found in the vision or strategy of an organization. On the individuals' side meaning is more personal, e.g. individual's motivation and willingness to learn new things and processes. This concept also contains linking individuals' motivation with the organization-wide purpose.

The core of the next concept is in questioning (3), inquiring, doubting and asking for the value of the present state. The organizational level points out the need of questioning organization-wide routines as does the individual side dealing with the individual's own routines, personal mental models and patterns.

The concept of empowering (4) is the most typical concept by which a learning organization is approached. Finding right tools for learning is important, but this cannot be regarded as the only element of a learning organization as often happens. Here, the organization-wide level is seen as having several different systems for learning enhancement and the individual side means knowing the way in which individuals select proper tools and apply them.

The concept of evaluating (5) means being interested in what has happened in the field of learning and development. The organizational level could contain assessing the development of the whole learning organization. The individual level might best be characterised by self-assessment and group-based evaluating systems.

Rationale behind the dimensions

The two-sided structure of the instrument has its origins in the basic differentation of management and leading there are always factors and systems which affect the whole. There are also people who work for the organization and thereby act as learners in the process. For the sake of clarity, the dividing was kept only between these two aspects. The level of groups was also considered, but it did not seem to offer any benefits.

The dimensions of the tool are based on five sub-areas, the first being the driving forces (1). This dimension, consisting of both managing the whole and leading learners and their learning, is based on the literature and the interviews conducted. For as long as organizations do have managers and leaders for some other purposes, learning organizations and learning should also be managed and led. If they are left without attention, they will not develop.

The second dimension of having purposes (2) for the organization and individuals is

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

derived from its origins in strategic management and all those writings emphasising vision as the main source of enhancement of an organization. Learning cannot be a diversified action without a connection to business actions. The connection between learning and strategy is vital, because learning only has resources for as long as it is valuable for the success of the organization.

The third dimension, which is called questioning (3), is not as typical of organizations as the other dimensions. The most important reason for having this dimension as a vital part of the whole is found in the writings of Chris Argyris. The concept of mental models and their role in the learning process includes so many interesting aspects that it deserves a more thorough analysis. Learning does not seem to happen without realising what factors might prevent it.

The fourth dimension is empowering (4), very often the only dimension regarded in connection with learning organizations. Having sufficient and suitable tools is important, but the whole should also have other aspects. The literature abounds with these tools, but quantity is not the only argument for excluding the other elements of the whole.

The last dimension of evaluation (5) is a vital part of the whole. The most valuable input in this section was provided by the managers interviewed in 1996, because at that time there was very little documentation about measuring learning or evaluating learning organizations. This dimension was also regarded as an important part of the whole because of business logic in general. Almost everything is assessed, and the question is what will happen to learning if it is left out of assessment procedures.

Formulation of the measuring instrument

The Learning Organization Diamond tool is composed of 40 statements; 20 of them focus on the organizational level and 20 on the individual level. The statements are presented in two clusters for answering, but during the analysis phase and when giving feedback they are clustered according to the basic model of the Learning Organization Diamond (driving forces, finding purpose, questioning, empowering and evaluating).

The statements were formed to operationalize these levels and elements. The aim was to formulate the statements in such a clear and simple way that filling the questionnaire could be possible for everyone in different kinds of organizations and at different levels.

The core of the tool is in creating a holistic picture of an organization and seeing the present state of the learning organization. Two separate portrayals can be created (organizational and individual sides) as well as separate pictures of the different respondent groups of the organization.

Table III presents the basic ideas of the elements by means of some examples.

The core of the tool – synthesizing

To begin with, the structure and the contents of the tool can be simplified as shown in Table IV.

This questionnaire offers a framework for analysing learning organizations. The framework is rather general, because organizations are different; their backgrounds, histories, cultures, processes and businesses vary enormously. But in spite of this variety, frameworks or models are needed to assist managers in their efforts to develop their companies towards the direction of learning organizations. The Learning Organization Diamond Model offers a tool which not only makes it possible to see the whole, but also to identify the elements of this whole.

The whole which is covered by this tool can, of course, vary. The framework chosen directs the logic of the tool and the further choices at a more concrete level. The crucial question is whether this tool gives enough information about learning organizations. This will have to be established. At present, the value is twofold: it serves the theoretical world by providing an analysis of validity and reliability. The more practical value is in its capacity to serve organizations in their diagnosis as learning organizations.

The way this questionnaire was developed could be questioned. The theoretical starting point was chosen because this study is part of scientific studies, where the respect for existing schools of thoughts and theories is higher than in some other context. The measurement instrument is based on theory and has been tested statistically. It could have been composed by following some other

Table III Some statements operationalizing the framework

Focus	Organizational level	Individual level
Driving forces	Building a learning organization has got a lot of resources in our organization	Leaders support and encourage my learning
Finding the purpose	Learning is seen as a vital part of our organization's competitiveness	The goals of my organization direct my development and learning
Questioning	Learning obstacles have been eliminated in our organization	I am not afraid of big changes
Empowering	Our people are coached to master new processes and techniques	I am able to apply my learning to develop my work
Evaluating	The development goals are meaningful, because they are evaluated	I am able to assess the outcomes and methods of the work of our team

Table IV The core of the Learning Organization Diamond questionnaire

Focus	Organization	Individual
Driving forces	Building the whole	Learning learners
Finding the purpose	Where and why?	
Questioning	Why not,what hinders?	
Empowering	In what ways?	
Evaluating	To know if succeeded	

guidelines, but a holistic view of learning organizations was chosen as the main criterion.

The depth could also be criticized, because the questionnaire has only 40 statements. Some statements could have been added, but the aim of developing a short and easily accessible questionnaire was seen as more important than the number of statements.

Comparison of the Learning Organization Diamond tool with other instruments

Table V compares the eight measurement instruments presented above and the new tool developed. This comparison is based on the published documentation related to these instruments and focuses on the tool's capacity to cover the whole learning organization, on the structure of the tool, and on some other aspects.

Table V can only provide some subjective observations about these instruments. The main conclusion is that the tools are very different and the comparison is very hard to conduct. The purposes of the instruments do not match, nor do the scopes and the comprehensiveness of the tools. The most important criterion for the suitability of the instrument would be in its internal use and benefits of the tools, but this aspect is almost impossible to analyse here, because it has not been made apparent in the articles and books analysed.

Process of developing the Learning Organization Diamond Diagnostic tool

The development process of this Learning Organization Diamond tool started in 1996 with a questionnaire of 20 statements at the organizational level. The statements were grouped according to five main factors, which were named as follows:

(1) manager's role in organizational learning;
(2) connection between learning and strategy;
(3) unlearning and noticing of new requirements;
(4) new means of learning; and
(5) assessing learning and rewarding.

The first version of the questionnaire was tested in one company. The main findings of this preliminary test concerned the emphasis of the tool, and the scale and number of statements. The instrument was then extended to cover the original concept of two levels, and 20 more statements were added. The scale was modified to cover a broader field of opinions, and operationalized with numbers from 0 to 4. This first questionnaire was published as a part of a larger project funded by the EU and Finnish authorities. (Moilanen, 1998).

The development of the second version continued in Autumn 1997. The collection of the data with this new version started in January 1998 and continued up until January 1999. This was followed by the process of testing the tool and analysing the findings. In the following the testing process is described.

Table V Comparison of existing instruments with the Learning Organization Diamond Tool

Name of the instrument	Weaknesses compared to the Learning Organization Diamond tool	Strengths compared to the Learning Organization Diamond tool
Pedlar *et al.* (1991; 1997): The Learning Company Questionnaire	Learning is not derived from strategy; managers' and leaders' role is not clear	Based on the fundamental work in this field, more human-intensive
Mayo and Lank (1994): The Complete Learning Organisation Benchmark	Is not suitable for all respondents	Better tool for a thorough analysis and specialists
Tannenbaum (1995): Learning Environment Survey	Does not cover the whole as comprehensively	Concentrates on learning and its environment
Pearn *et al.* (1995): The Learning Audit	Concise, does not cover the organizational side of the concept	Based on clients' opinions and works with them
Sarala and Sarala (1996): Recognising your organization	Does not tell very much about the state of the learning organization	Classifies organizations
Otala (1996): a quick test of learning organization	The background of the tool is unclear, too simple for covering the whole	Includes the present and the desired state
Redding and Catalanello (1997): Learning Organization Capability Assessment	Complicated instrument, much time is needed to fill in the questionnaire	Very thoroughly tested and very profound measuring tool
Watkins and Marsick (1998): Dimensions of the Learning Organization Questionnaire	The focus is more general, which might decrease the intelligibility of the tool	Enables a thorough analysis, as well as some important business parameters

Actual findings are presented in a separate article.

The focus is now directed towards the methodology, which means describing the respondents, procedures and processes, as well as the results of the statistical analyses conducted.

Respondents and procedures

The survey instrument was tested in a group of 691 respondents and 25 organizations. The aim of this study and the data collection was to have a varying group of respondents for analysing the tool, and not analyse these organizations themselves as whole organizations.

The organizations chosen were categorized into six groups: the public sector with 148 respondents (21.6 per cent), information technology 109 (15.9 per cent), manufacturing 52 (7.6 per cent, the smallest group), banking and insurance 219 (31.9 per cent, the biggest group), training/educational companies 105 (15.3 per cent), and wholesale/retail 53 (7.7 per cent). Most of the organizations were large and the respondent groups represented only small sections of these organizations.

The respondents were asked for their gender, age and the period of time they have been employed by the organization in question (Table VI). Their occupation was also asked, as well as their educational background, but those were not in numerical or coded form.

A very interesting feature is the clear majority of women. The most typical age

Table VI Background of the respondents

	n	%
Gender		
Male	229	33
Female	431	62
No answer	31	5
Total	691	100
Age		
<-30	91	13
31-40	183	27
41-50	259	37
51->	118	17
No answer	40	6
Total	691	100
Years in this organization		
<-5 v	225	33
6-15 v	195	28
16-25 v	154	22
26 v->	48	7
No answer	69	10
Total	691	100

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

was from 41 to 50 and over half of the respondent group were between 31 and 50 years old. Half of the group had been in their organizations between six and 25 years, i.e. long-lasting employment was typical. The spectrum of different occupations was broad: teachers, trainers, cleaners, shop assistants, salesmen, clerks, factory-workers, information technology specialists, and naturally also several types of foremen and middle managers. The educational background of the respondents was as variable as the occupation, and the grades from lower to higher education were well represented.

The data were gathered and organized by one person in each organization. In 24 cases the questionnaires were handed out personally or mailed, the package including a two-page questionnaire, instructions and a background information sheet. One organization wanted to respond by e-mail and for their purposes the questionnaire was transformed in electronic form. The response rates were not monitored nor analysed, because the first and main target of this data gathering was analyse the questionnaire, and not to draw further conclusions about the organizations themselves.

Data analysis

The information provided by the questionnaires was recorded and filed and an Excel-based software application was used to process the data. The data were processed for two purposes: first the scientific purpose, involving the testing of the instrument itself, and secondly a more practical purpose, namely to give feedback to organizations participating in the study. For the scientific purpose, the data were collected on a combination chart, which was transformed to the SPSS-form. After that the reliability of the tool was measured.

Reliability

Peterson (1994, p. 381) writes that "There is virtual consensus among researchers that, for a scale to be valid and possess practical utility, it must be reliable. Conceptually, reliability is defined as 'the degree to which measures are free from error and therefore yield consistent results'". Nunnally and Bernstein (1994, p. 213) state that reliability "is freedom from random error, i.e. how repeatable observations are (1) when different persons make the measurements, (2) with alternative instruments intended to measure the same thing, and (3) when incidental variation exists in the conditions of measurement".

Finding out the real reliability of a measurement instrument is important, although "the required degree of reliability is a function of the research purpose, whether the research is exploratory, applied, or so forth" (Peterson, 1994, p. 382). In this study the purpose could be analysed from two viewpoints. Theory in this field is not shared among researchers and therefore there is no common background to be utilised. Regardless of this, some main principles of holistic learning organizations do apply here, although there were no ready-made tools for direct application. For that reason the research purpose also has exploratory aspects.

Peterson (1994) has stated that the most commonly used reliability coefficient is the coefficient alpha, an estimator of internal consistency. Nunnally and Bernstein (1994, p. 212) stress the importance of Cronbach's coefficient alpha, because it provides actual estimates of reliability. According to Peterson (1994, p. 381) Nunnally recommended in 1967 that "the minimally acceptable reliability for preliminary research should be in the range of 0.5 to 0.6", whereas in 1978 he increased the recommended level to 0.7. Peterson (1994) himself noticed that 75 per cent of the observed coefficient alphas were 0.7 or greater.

Alphas were analysed at different levels: first the level of the whole tool (1), then the levels of the organization and the individuals (2) and as the last, the level of the chosen elements of the tool (10). The coefficients analysed were as shown in Table VII.

The main conclusion to be drawn about the reliability of this Learning Organization Diamond tool is that nine out of 13 alphas analysed here are over 0.7 as recommended in 1978 by Nunnally (Peterson, 1994). The four alphas gaining the level of the previously set standards, but not the 1978 level, are all located on the individual side of the tool. As a whole, the reliability seems to be at a very acceptable level in view of the fact that this instrument has a very exploratory background. The reliability of the survey instrument was also analysed from the viewpoint of deleting some statements. The

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

Table VII Results from analysing Cronbach's alphas

	Alpha α organizational level (n = 661)	Alpha α individual level (n = 686)
The whole tool with 40 statements	0.9500	
Levels with 20 statements	0.8672	0.9566
1, 6 Managing the whole	0.8617	0.8274
2, 7 Finding purpose	0.8479	0.6803
3, 8 Questioning	0.7582	0.5467
4, 9 Empowering	0.7959	0.5141
5,10 Evaluating	0.8499	0.6225

tool would be a slightly more reliable if three statements were eliminated. At this stage, however, changes have not been made, because the reliability of the whole instrument is at an acceptable level.

Validity

"The term validity denotes the scientific utility of a measuring instrument, broadly statable in terms of how well it measures what it purports to measure" (Nunnally and Bernstein, 1994, p. 83). Before going any further with the issue of validity, a short review of the purpose of this study is necessary. The purpose of the whole study was to define holistic learning organizations and to create a comprehensive picture of them. The purpose was, thus, to make this very abstract concept more explicit and accessible by developing a diagnostic tool composed of suitable variables and items.

A great variety of domains and variables are related to the concept of learning organizations. As noted by Nunnally and Bernstein (1994, p. 86) domain size and specificity are intimately related; the larger the domain of observables related to a construct, the more difficult it is to specify the variables that belong in the domain.

The task of defining the learning organization and making it more concrete and visible by using some few observable variables has been interesting work. The construct defined is a limited way of analysing learning organizations. "A construct is only a word, and although the word may suggest explorations of the internal structure of an interesting set of variables, there is no way to prove that any combination of these variables actually 'measures' the word" (Nunnally and Bernstein, 1994, p. 107).

There have been several alternative options within the process, and the result could be said to be based on theory as well as intuition. As was noted earlier, the theorizing process is necessarily intuitive (Nunnally and Bernstein, 1994, p. 88). Therefore, there are always some uncertainties, in spite of clear purposes and thorough analyses of background theories. A discussion of how one can, if all, obtain sufficient evidence how a domain of observables to relate to a construct requires an analysis of the deepest "innards" of scientific explanation (Nunnally and Bernstein, 1994, p. 90).

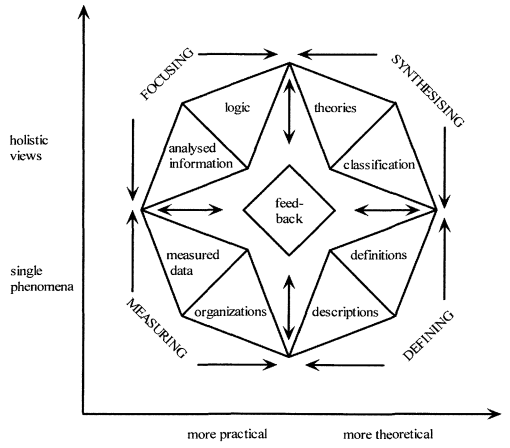
The attention will now be directed towards the content of the learning organization concept. What is very important is that content validity is more properly ensured by the plan of content ... *before* it is constructed. (Nunnally and Bernstein, 1994, p. 110). This means that the preliminary work is of great significance. Theories, the definition of the concept and the framework, empirical data, trials in formulating the tool, comparing theoretical viewpoints and practical conclusions and processing the tool are all based on this information. A framework a plan of the content of the concept turned out to be of more significance than was expected in the early stages of the process.

The development of the questionnaire was based on certain theories. The most relevant parts representing the idea of holistic learning organizations were chosen and a structure covering the whole was developed. The whole composed of two levels and ten domains were clarified, and the statements operationalising the whole were chosen.

As a result of this process the information of single phenomena and holistic views at both empirical and more theoretical level were combined and a picture of them and their connections was composed. Figure 2 illustrates the depth and thoroughness of developing learning organization measuring

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

Figure 2 From practice to theory and single phenomenon to whole systems



instruments and creating frameworks for directing the developmental process.

Discussion

The discussion of learning organizations seems to continue to flourish, although the topic has already been very popular for years. The quantity of articles is so huge that it could be assumed that some new steps would have been taken towards new stages or phases of learning organizations. An analysis of current writings, however, affirms the impression that most of the writings concentrate on defining or developing learning organizations without having either a holistic or a very profound theoretical basis.

It could easily be argued that the whole concept of a learning organization is a qualitative issue, and the absence of quantitative measures could be justified for this reason. Defining and describing learning organizations without analysing existing organizations seems to be easy, but measuring and diagnosing is much more controversial and difficult.

The aim of the article was to deepen the discussion concerning learning organizations and to direct it more towards diagnosing and measuring, as well as towards more holistic views of the whole concept. The development of the measurement instrument for diagnosing purposes was conducted as a thorough process of analysing the theoretical concepts and practical ideas about learning organizations, defining the core of the learning organization whole, and operationalising the definition. The data were gathered from 25 organizations, and almost 700 questionnaires were returned and analysed.

A brief summary of the main points is presented below with reference to theories of learning organizations, existing measuring instruments, process of developing a new diagnostic tool, contents of the tool and testing the tool.

Learning organizations as such:

- Developing a meta structure or joint concepts to share some of the most important aspects of learning organizations could be useful. Exchange of such would enable a more thorough and effective work in organizations, because the concept itself is too complicated for one scholar or practitioner.
- The framework created in this study is meant to clarify the whole composed of some special areas of learning organizations. Managing the whole learning organization and leading learners and their learning are still not treated very often. Purpose of the whole organization or that of individuals are more often addressed, whereas analysing the hindrances (questioning) is still very rare. Concentrating on empowering is the most popular topic to be handled. Measuring has got more emphasis than before, but a lot more could still be done in this field.

Existing measuring instruments:

- The diagnosis tools analysed in this study vary a lot. Some of the tools categorise organizations as learning organizations or other types of organizations (Sarala and Sarala and Redding and Catalanello). Three are more holistic than the rest (Pedler *et al.*, Mayo and Lank and Watkins and Marsick), and the remaining three concentrate more on encouraging or empowering learning (Tannenbaum, Pearn *et al.* and Otala).
- Only minor empirical evidence has been reported, and only Tannenbaum and Watkins and Marsick have tested the reliability of their tools. Others do not

The Learning Organization
Volume 8 · Number 1 · 2001 · 6–20

report of having tested their measuring instruments.
- The process of developing the tools has not been explained, which means that the validity of the tools is hard to analyse and assess in most cases.

Developing a new instrument: the process had several overlapping stages and for that reason it was not very clear or linear. In spite of this some evident strengths can be seen in the process. For instance, the whole knowledge-building process is more versatile and profound when theory and practice are combined than in theoretical or empirical work alone.

Contents of the measuring instrument:
- The basis of the tool is in existing thoughts and concepts, but the whole concept created is not a direct derivation of any of these. The most suitable and the most commonly used elements, as well as some new elements that were clearly missing, were compiled to form a framework containing two levels and five elements at both levels.
- The elements covering the whole are more general than specific in order for the framework to be applicable in different type of organizations.
- The specified content of the tool is still only a good guess. The field that this learning organization concept covers is so extensive that the content of the tool could also be compiled by formulating other kinds of statements.

Comparing existing measuring instruments
- Full comparison of different tools is difficult to carry out, because the value of the tool is in its internal use and benefits.
- The Learning Organization Diamond tool seems to cover the whole at least as equally well the "best" of the other tools, although it not as thorough-going as some others. It serves well in creating an overview of the present state of the organization and it is also a useful tool for different organizations and respondents because it is sufficiently general in its approach.

Testing the instrument:
- The reliability coefficient used in this study was Cronbach's alpha. Its values varied between 0.5141 and 0.9566. The reliability of the whole tool and its two levels were analysed, as well as the ten modules representing the elements of the whole. Six of these ten elements reached the recommended level of 0.7 and the previous recommendation of 0.5 or 0.6 was reached in all the elements.
- The validity of the tool was created by relying on existing theoretical and empirical knowledge. The chain from theory to the practical and basically very simple statements was established with extreme care.

The whole:
- A solid basis and a good interaction between theory and practice is needed in developing a reliable and valid tool, but this requires far more time and other resources than composing a tool without attending to this requirement.
- Describing, defining, making synthesis and measuring are all needed in learning organization development, but none of them alone will give enough information for managers in their work.

To conclude, perhaps some speculation is in order. The question is for what purposes measuring and diagnosing is to be developed? One of the answers could be for the needs of real organizations. But, do they need holistic views for whole system development or do they need some special measuring tools for some special, but strategically important purposes? Is knowledge management really the main need, or could for example sharing knowledge, strategy and learning or learning to learn subjects be more important for organizations?

It would be very interesting to see the whole composed of several specific measuring tools, which still cover the whole adequately. The composition could vary depending on the strategies of the organizations. Because of the variety of the strategies and the needs of different organizations much more work is needed to develop new reliable and appropriate measuring tools for learning organizations.

References

Argyris, C. (1957), *Personality and Organization*, Harper & Row, New York, NY.
Argyris, C. (1990), *Overcoming Organizational Defences*, Allyn and Bacon, Boston, MA.

Argyris, C. (1991), "Teaching smart people how to learn", *Harvard Business Review*, Vol. 69 No. 3, pp. 99-109.
Argyris, C. (1993), *Knowledge for Action*, Jossey-Bass Publishing, San Francisco, CA.
Argyris, C. (1994), "Good communication that blocks learning", *Harvard Business Review*, Vol. 72 No. 4, pp. 77-85.
Argyris, C. and Schön, D.A. (1978), *Organizational Learning: A Theory of Action Perspective*, Addison-Wesley, Reading, MA.
Argyris, C. and Schön, D.A. (1996), *Organizational Learning II; Theory, Method and Practice*, Addison-Wesley, Reading, MA.
Burgoyne, J., Pedler, M. and Boydell, T. (1994), *Towards the Learning Company. Concepts and Practices*, McGraw-Hill, London.
Mayo, A. and Lank, E. (1994), *The Power of Learning. A Guide to Gaining Competitive Advantage*, IPD House, London.
Moilanen, R. (1996), "Oppiva organisaatio tausta ja käsitteistö", ("Learning organization – background and the concepts"), English abstract. *Jyväskylän yliopiston taloustieteellisen osaston julkaisuja 100/1996*, (*Reports from the School of Business and Economics of the University of Jyväskylä 100/1996*), Licentiate thesis.
Moilanen, R. (1998), "Oppivan yrityksen uudemediaopas CD-rom" ("New Media Guide for Companies CD-rom"). *Tampereen yliopiston täydennyskoulutuskeskuksen julkaisusarja C 1/98* (*Reports from the Institute for Extension Studies of the University of Tampere C 1/98*).
Moilanen, R. (1999a), "Finnish learning organizations: structure and styles", *The Entrepreneurial Executive*, No. 4, pp. 1-40.
Moilanen, R. (1999b), "Management and leadership in a strategically and motivationally focused learning organization", in Lähteenmäki, S., Holden, L. and Roberts, I. (Eds), *HRM and the Learning Organisation*, Publications of the Turku School of Economics and Business Administration A-2, pp. 51-76.
Nunnally, J.C. and Bernstein, I.H. (1994), *Psychometric Theory*, McGraw-Hill, New York, NY.
Otala, L. (1996), *Oppimisen etu kilpailukykyä muutoksessa* WSOY, Porvoo.
Pearn, M., Roderick, C. and Mulrooney, C. (1995), *Learning Organizations in Practice*, McGraw-Hill, Maidenhead.
Pedler, M. (1996), *Action learning for managers*, Lemos & Crane, London.
Pedler, M. and Boydell, T. (1994), *Managing Yourself*, Fontana/Harper Collins, London.
Pedler, M., Boydell, T. and Burgoyne, J. (1988), *Learning Company Project Report*, Training Agency.
Pedler, M., Boydell, T. and Burgoyne, J. (1989), "Towards the learning company", *Management Education and Development*, Vol. 20 No. 1, pp. 1-8.
Pedler, M., Burgoyne, J. and Boydell, T. (1991), *The Learning Company, a Strategy for Sustainable Development*, McGraw-Hill, London.
Pedler, M., Burgoyne, J. and Boydell, T. (1994), *A Manager's Guide to Self-development*, McGraw-Hill, Maidenhead.
Pedler, M., Burgoyne, J. and Boydell, T. (1997), *The Learning Company, a Strategy for Sustainable Development*, (2nd ed.), McGraw-Hill, London.
Peterson, R.A. (1994), "A meta-analysis of Cronbach's coefficient alpha", *Journal of Consumer Research*, Vol. 21, September, pp. 381-91.
Redding, J.C. and Catalanello, R.F. (1994), *Strategic Readiness. The Making of the Learning Organization*, Jossey-Bass, San Francisco, CA.
Sarala, U. and Sarala, A. (1996), *Oppiva organisaatio oppimisen, laadun ja tuottavuuden yhdistäminen*, Tammer-Paino, Tampere.
Senge, P.M. (1990a), *The Fifth Discipline, the Art and Practice of Learning Organization*, Doubleday Dell, New York, NY.
Senge, P.M. (1990b), "The leader's new work: building learning organizations", *Sloan Management Review*, Vol. 32 No. 1, pp. 7-23.
Senge, P.M. (1994), "Moving forward, thinking strategically about building learning organizations", in Senge, P.M., Kleiner, A., Roberts, C., Ross, R.B. and Smith, B.J. (Eds), *The Fifth Discipline Field Book, Strategies and Tools for Building a Learning Organization*, Doubleday, New York, NY, pp. 15-47.
Tannenbaum, S. (1997), "Enhancing continuous learning: diagnostic findings from multiple companies", *Human Resource Management*, Vol. 36 No. 4, pp. 437-52.
Watkins, K.E. and Marsick, V.J. (1996), *In Action: Creating the Learning Organization*, American Society for Training and Development, Alexandria, GA.
Watkins, K.E. and Marsick, V.J. (1998), *Dimensions of the Learning Organization Questionnaire.*
Yang, B., Watkins, K.E. and Marsick V.J. (1998), *Examining Construct Validity of Dimensions of the Learning Organization Questionnaire.*

ARTICLE IV

Diagnosing Learning Organization

By

Moilanen, Raili

Published in Working papers from the School of Business and Economics
232/2001

Abstract

This article addresses the notion of a learning organization from the point of view of measuring. A great deal of the writings in this field concentrate on defining and describing learning organizations, whereas diagnosing has received much less attention. There are some tools developed for measuring purposes, but no uniform or well-established foundation for measuring learning organizations exists and all the measurement instruments interpret the concept in a different way. Therefore, there was an apparent need for a general and holistic measurement instrument. The tool described in this article is a continuation of the research work published in 1996. The Learning Organization Diamond Tool is based on a holistic concept of a learning organization being regarded as a structure of related elements: driving forces, finding purpose, questioning, empowering and evaluation at two interconnected levels of individuals and the whole. Data consisting of 686 answers were gathered from 25 Finnish organizations in 1998. The outcomes of the study are mainly presented in the form of imaginary diamonds complying with the basic framework. In 24 organizations the individuals relied more on themselves and their own learning than on their organization as a learning environment. When comparing different business sectors the variation on the organizational side was clearly greater than on the individual side. Comparison of the elements called "driving forces", i.e. managing the whole and leading the learners and their learning, was also interesting. The statements formed to operationalize these elements correlated positively with the diamond sizes of the whole organization indicating that the stronger these elements were the better scores these organizations obtained as whole learning organizations. In addition to findings, the article includes evaluation of the tool itself. The Learning Organization Diamond Tool was developed for managers' use in particular, and this purpose also affects the way in which the results are presented, because the basic structure of the tool and a clear illustration of the results were important issues in reviewing the results for the managers involved. A learning organization is such a complex entity and concept that a framework and illustrations are needed in order for organizations to benefit from the diagnosis.

Keywords: learning organization, diagnosing, measurement instruments, strategy, whole system.

Learning organizations and their measurement

Learning organizations have been defined and described in almost countless different ways, but measured or diagnosed very seldom. This disparity is so clear that the need for more in-depth study and discussion about the issue is evident. Measuring or diagnosing is more complicated than defining or describing, but it could be very promising. It could offer more practical and applicable information about learning organizations, and thereby some more concrete ways of developing organizations towards actual learning organizations.

In this article the emphasis is on developing a measurement instrument for learning organizations, administering it in practice, and on analysing the "learning organization portrayals" created by this tool.

The aims of this study are:
1. To find some form for a holistic learning organization.
2. To analyse the variation of learning organizations in different business sectors.
3. To verify and visualise the existence of "learning" and "non-learning" organizations.
4. To find out the role of management and leadership in learning organizations.
5. To analyse the feelings of being diagnosed.

The theoretical background used can be found in the works of Mike Pedler, Tom Boydell & John Burgoyne, Chris Argyris and Donald A. Schön, as well as Peter M. Senge, because these writers seem to have the most holistic views of learning organizations. Had

they also had suitable measurement instruments for these organizations, these could have been used in the study, but of them, only Pedler, Burgoyne & Boydell (1997, 15-16) have developed a diagnostic tool, which is called "11 characteristics of learning organizations".

Only a short summary of the thoughts of these scholars is presented here. A thorough analysis has been presented in an article written about the whole process of developing the measuring instrument (Moilanen, in press). The concepts used in the table below were derived from the works of the scholars mentioned above. Since they used so many different concepts, and varying definitions for these concepts, it was necessary to attempt to classify these thoughts by some means. The approach adopted was to group the concepts and elements as *managing and leading* (I), *finding purpose* (II), *questioning* (III), *empowering* (IV) and *evaluating* (V). In addition to this the holistic focus was also analysed. The outcomes of the grouping are presented in Table 1.

	The whole	Managing and leading as driving forces (I)	Finding purpose (II)	Questioning (III)	Empowering (IV)	Evaluating learning and Learning Organization (V)
Pedler et al. (1988, 1989)	Yes	Inbaked but not very clear	Yes	Yes	Yes, wide range of means	Yes, assessing the whole (11 characterist.)
Senge (1990a)	Yes partly, mental models, systems	Yes	Yes	Yes, Mental models	Yes, group based means	Yes partly, assessing learning results
Argyris and Schön (1978, 1996)	No, the core is in mental models	No	Not so evident	Yes, mental models of individuals and groups	Yes, group based means	No

Table 1. Learning organization - origins and the elements of the whole.

Pedler, Boydell and Burgoyne clearly have all the other elements in their model except for managing and leading. Senge's model is somewhat different, but he nevertheless has elements which could be categorised in these five groups. There are some slight differences, the most obvious being his minor emphasis on evaluating the learning organization as a whole entity. Argyris and Schön, then, do not have as many elements of the whole as do the others. Their main point is in mental models and their change, and not in the whole organization or in the suitable ways of constructing it.

The viewpoints taken above form the main basis for the new diagnostic tool introduced below. Before that, however, eight measurement instruments have been selected to illustrate more closely the present state of diagnostic tools for learning organizations. Other instruments may exist, but as was mentioned above the documentation in the literature is relatively scarce regarding the whole of learning organizations.

The first diagnostic tool was presented as the result of a research study conducted in some British companies (**Pedler, Boydell & Burgoyne** 1988, 1989). Since then the idea of a learning company has been refined as a clearer form of the whole with a corresponding questionnaire (Pedler, Burgoyne & Boydell 1991, 1997). Strategy, looking in, structures, looking out, and learning opportunities are the main areas covered. The emphasis is on the whole and on the individual's role in this whole.

The second questionnaire is introduced in the book by **Andrew Mayo and Elizabeth Lank** (1994). This **Complete Learning Organization Benchmark** is very broad

and includes 187 questions and 9 dimensions. The emphasis is on diagnosing the actions which should be taken to achieve maximum impact on the development process of a learning organization. The emphasis is also on organizational factors, as well as on individual and team-based learning and managing and leading.

Scott I. **Tannenbaum** (1997) composed his tool on the basis of scientific research and tested it with scientific methods. The main point in his tool is the learning environment. The main emphasis is on the processes and on training, but also on the ways of job-related learning. Support also has a role in this tool, but it is supposed to come from supervisors as well as from co-workers.

Pearn, Roderick and Mulrooney (1995) developed a tool which is comprehensive from the point of view of leading and encouraging learning, but superficial from the point of view of the whole learning organization. The main focus of the questionnaire is on the way learning is encouraged by various departments and managers.

The fifth questionnaire is introduced book by **Sarala & Sarala** (1996). The statements included in this instrument have been grouped under philosophy and values, structure and processes, leading and making decisions, organizing the work, training and development, and the internal and external interaction of the organization. The focus of the tool is in establishing whether an organization is a learning organization or not.

A quick test for learning organizations (Otala 1996) is a questionnaire composed of twenty statements. This questionnaire is very short and therefore very easy to fill in. But the questionnaire is also at a very general level and does not provide a clear idea of the whole learning organization concept.

The next tool to be introduced here is by **Redding and Catalanello**: **Learning Organization Capability Assessment** (1994, 1997). This instrument defines three archetypes, which are categorised as traditional, continuously improving and learning organizations. It is also very straightforward and easy to fill in and the value of this tool is in getting some basic idea of where the organization stands in terms of its orientation.

The last and probably the most comprehensive questionnaire is by **Watkins and Marsick**: **Dimensions of the Learning Organization Questionnaire** (1998). It is organized in four sections addressing individual, team, organizational and global issues. In 1998 the core of the instrument was presented with seven dimensions, namely, continuous learning, dialogue & inquiry, team learning, embedded system, system connection, empowerment, provide leadership, financial performance and knowledge performance (Yang, Watkins and Marsick 1998, 85).

The ten blocks of The Learning Organization Diamond Tool

The next phase is to explore and analyse the field of learning organizations more closely from the viewpoint of the five concepts or elements used as the basis for grouping (p. 2). Managing and leading will be first analysed from the organizational point of view and thereafter from the individual's perspective. Other elements will be viewed at two levels respectively which means that there are altogether ten domains or elements to be considered. By doing this, the field of learning organizations will be covered as thoroughly as possible in the areas composing the whole.

Managing and leading (I) form uniting elements of the whole learning organization. The core idea is that learning organizations will not be based or developed without conscious attention and work of the managers. The organizational side is here named "managing the whole" and the individual side of it is named "leading learners and their learning".

The content of the first part - **managing the whole (1)** can best be defined by stating that a manager is taking care of, or at least being conscious of, all organization-wide systems,

processes and structures which could enable or hinder learning.

In the literature on learning organizations, Senge (1990 a), as well as Pedler and his associates (1991) emphasize more the whole itself than the managing of that whole, as do also Montgomery and Scalia (1996, 436). Kim (1995, 362) has raised the issue of the managers' new roles as researchers and theory-builders. Holistic views can also be found in the literature of strategic management (see e.g. Garratt, 1995) and in some structural views of organizations (e.g. Galbraith, 1973, 1996), but these views have rarely been combined with the concept of the learning organization.

The individual side of managerial work is defined in the following way: **leading learners and their learning (2)** means taking care of individuals and groups for as long as they need any help in becoming better learners or masters of learning processes.

Pedler and his associates (1991) have some roles in their 11 characteristics model which are very close to this idea of leading learners, but still the core of their thinking is more in self-managed although encouraged learning than in conscious leading of this learning (Pedler, Burgoyne and Boydell, 1997, 37). Senge (1994, 1996), on the other hand, stresses the importance of leaders by stating that the new leadership is composed of designer's, teacher's and steward's roles. Argyris (see e.g. 1993) has a somewhat different view on this topic, although he in some occasions does emphasize the value of leading learning.

According Mayo and Lank (1994, 22, 240) the role of the leader in a learning organization consists of six qualities producing the roles as visionary, risk-taker, empowerer, learner, coach and collaborator. Cunningham (1994) has also stressed the importance of managers' primary roles as coaches and mentors.

The concept of finding purpose (II) means focusing on the vision and strategy which direct learning and development, and not only the core of the business. The individual side of this concept has a similar idea, but at the individual level. Purpose can mean motivation, desire, willingness or some other ways of being motivated to learn. This concept also contains linking individual learning with the organization-wide purpose.

There are various different views about **vision and strategy (3)** in learning organizations. The main content of the vision and the strategy of a learning organization is seen here as a guiding system for development and learning. Senge (1990a) presents vision as one of the main disciplines and Pedler et al. (1997, 18-19) suggest that strategy is a learning and a participative process in a learning organization. However, for Pedler, strategy is not the source of deriving learning needs from, directing learning or allocating limited learning resources. A learning-based view of planning can also be recognized in the works of de Geus (e.g. 1996, 92). Furthermore, the shift from setting strategy into the context of defining purpose is important to Bartlett and Ghoshal (1994), but without a connection to learning. Thompson and Weiner (1996, 466), then, consider strategic planning as a forum for learning, and discuss how managers can boost organizational learning by taking the long–term view.

The individual side of this purposeful learning organization is in the **motivation of individuals (4)**. Although individuals are seen as the actors of learning organizations (e.g. Argyris 1997), the value of their motivation or their needs do not seem to be as important as the way in which people change their mental models. For Pedler et al. (1997), individuals seem to be learners. Senge (1990 a, 144), on the other hand, values the quest for continuous learning very high by describing it as "the spirit of the learning organization".

The core of the next concept is in questioning (III), inquiring, doubting and asking for the value. The organizational level points out the need of questioning organization-wide routines as does the individual side dealing with the individual's own routines and models.

Organization-wide questioning (5) is the area where Argyris and Schön (1996) seem to operate most systematically. These scholars have had a direct influence on Senge's work in the field of mental models (Senge 1990 a, 178, Senge 1990 b) and on many others

(e.g. Bennett & Brown 1995). Another direction could be taken towards organizational memory as the storage of organizational routines or learned behaviour as Cohen and Bacdayan (1995, 408) have done. The third possible direction is in the unlearning-type of thoughts. "Unlearning habitual behaviour and embarking on a new strategy may constitute revolutionary change..." (Hedberg and Jönsson, 1989, 177). Bennett and Brown (1995, 167) have seen this topic from the viewpoint of strategic dialogue for breakthrough thinking.

The individual side of this concept is **questioning personal mental models and patterns (6)**. Recognising the limitations in this field is the main focus. In addition to Argyris and Senge, many other researchers have written about the importance of questioning these models (see Cavaleri & Fearon, 1996, 30). The difficulty of analysing writings in this section is in the fact that the patterns of individuals and organizations are not so clearly separated from each other and therefore the actual formulation of this area is not so easy.

The concept of empowering (IV) is a combination of several enhancing processes, structures or means needed in a learning organization. The organization-wide level means having several different systems, and the individual side refers to knowing which means to choose and how to best cope with personal learning styles.

The concept of **organization-wide empowering (7)** includes the learning climate and providing self-development opportunities for all (Pedler et al. 1997, 37), or the theory, method and tools for developing the new skills and capabilities required for learning (Senge 1994, 36). For Argyris (1993) the most essential tool for learning is conversation, or more generally, an action perspective into learning and teaching (Argyris 1997). For example Kolb writes about the managers' abilities to enhance their own and the organization's ability to learn (Kolb 1996, 270). Some writers concentrate on organizational education (Swieringa & Wierdsma 1992), performance- and competence-based development (Lassey 1998) and self-development or group-based development (Mumford 1995, Pedler 1996).

In the literature of the field creating organization-wide systems or tools for learning has not been separated from **the individual side of empowerment (8)**. The way in which individuals select proper tools and apply them has not been discussed thoroughly in learning organization literature. Some scholars, however, do concentrate on individual learning styles and their connection to learning organization (e.g. Alava 1998).

The concept of evaluating (V) means being interested in what has happened in the field of learning and development. The organizational level could contain assessing the development of the whole learning organization. The individual level might best be characterised by self-assessment and group-based evaluating systems.

The measurement of results in the short run is important in most organizations. The need for **diagnosing the state or learning of learning organizations (9)** is not very evident yet in the literature, but there are already some efforts of diagnosing. For example Pedler et al. (1997) have developed a measuring system for the whole. The other tools presented in the next chapter are also aiming to measure the whole. The Balanced Scorecard (Kaplan & Norton 1992, 1993, 1996, Kaplan 1994, Newing 1994, Skyrme & Amidon 1998) is a famous way of combining four areas into one measurement instrument (customer, internal, innovation & learning and financial perspectives). There are also other ways of measuring, for example measuring collaborative know-how (Simonin 1997).

The **individual side of this evaluating phenomenon (10)** does not seem to be as clearly dealt with as diagnosing the whole. One way of seeing this phenomenon is in reference with the basic learning theories. For example Hendry (1996) has some examples of diagnosing learning outcomes especially from the point of view of cognitive theories. One possibility of measuring learning also lies in the tradition of action learning or self-managed learning (see Pedler 1996, Smith & Peters 1997).

Conclusions about this review

The major observation is that learning organization phenomena are so extensive that it is very hard to find a proper and tested conception for the whole or even for some of its main parts. The information about learning organizations is included in small details in different publications. The main observation about in most publications is that they do not have a scientific background or use any scientific methods to validate the content. There are, of course, also very comprehensive and carefully thought out articles and books, but most of them are still at the level of describing organizations from some special and detailed aspect.

The following conclusions can be drawn from existing literature:

1. **Managing the whole** and **leading learners and their learning** are concepts which does not exist as such.
2. **Purpose** (vision) is quite common in learning organization discussions, but the individual side of this concept is usually not treated.
3. **Questioning** is quite rare: only Argyris and some others concentrate on this.
4. **Empowering** is the most popular aspect addressed in connection with learning organizations.
5. **Evaluating** or diagnosing is not as popular as it could be from the practical point of view.

In the next section the new questionnaire based on the ten elements above, and called the Learning Organization Diamond, will be described.

The Learning Organization Diamond

Background and the main focus of the instrument

The roots of this study and the measurement instrument developed are clearly in the literature reviewed, and particularly in the works of Pedler et al. (e.g. 1991, 1997) and Senge (e.g. 1990 a). Some details have their origin in the work of Argyris and Schön (e.g. 1978, 1996). Furthermore, Finnish managers and companies have also had a clear impact on the new diagnostic tool described below.

Before going any further with the instrument, the basic idea of the tool is illustrated by presenting it in the form of an imaginary diamond.

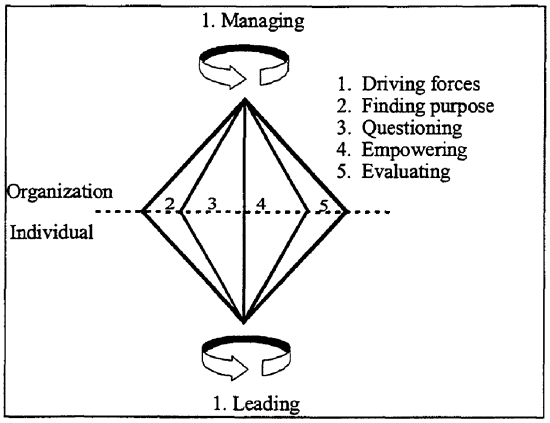


Figure 1. The Learning Organization Diamond

A diamond was chosen to visualise the basic ideas of the whole learning organization. This metaphor offers several advantages: for instance, diamonds are everlasting and full of opportunities. Diamonds and learning organizations are composed of two halves which are in reciprocal dependence in terms of each other: organization (upper half of the diamond) and individuals (lower half). Learning is a continuous process and a learning organization should be an everlasting state of an organization, because of the continuous need for learning. (Moilanen 1999 a, 1999 b)

Composition and structure of the instrument

The core of the measurement tool is in creating a holistic picture of an organization and seeing the present state of the learning organization. Two separate portrayals can be created (organizational and individual sides) as well as separate pictures of the different respondent groups of the organization. The statements have been formulated in order to operationalize these two sides and the ten elements. The aim was to use such formulations the statements in a way that filling the questionnaire would be possible for everyone in different organizations and at all organizational levels.

The Learning Organization Diamond Tool is composed of 40 statements; 20 of them focus on the organizational level and 20 on the individual level. The statements are presented in two clusters for answering, but during the analysis phase and in the feedback they are clustered according to the basic model of the Learning Organization Diamond (driving forces, finding purpose, questioning, empowering and evaluating).

The visualisation of the data has been conducted by imaginary diamonds, the first one visualising the organizational side of the data and the other one visualising the individual side. The size of the diamond is significant, because it shows the number of assessed elements. Respondents have provided highest scores if the diamond is in its largest form, and lowest scores, if it is in its smallest form.

The structure and the contents of the tool can be simplified as follows:

Focus	Organization	Individual
Driving forces	Building the whole.	Leading learners.
Finding the purpose	Where and why?	
Questioning	Why not, what hinders?	
Empowering	In what ways?	
Evaluating	To know if succeeded.	

Table 2. The core of the Learning Organization Diamond questionnaire.

The basic ideas behind the elements can be exemplified in the following way:

Focus	Organizational level	Individual level
Driving forces	Building a learning organization has got a lot of resources in our organization.	Leaders support and encourage my learning.
Finding the purpose	Learning is seen as a vital part of our organization's competitiveness.	The goals of my organization direct my development and learning.
Questioning	Learning obstacles have been eliminated in our organization.	I am not afraid of big changes.

Empowering	Our people are coached to master new processes and techniques.	I am able to apply my learning to develop my work.
Evaluating	The development goals are meaningful, because they are evaluated.	I am able to assess the outcomes and methods of the work of our team.

Table 3. Some statements operationalizing the framework.

This questionnaire offers a framework for analysing learning organizations. The framework is rather general, because organizations are different; their backgrounds, histories, cultures, processes and businesses vary enormously. But in spite of this variety, frameworks or models are needed to assist managers in their efforts of diagnosing their organizations. The Learning Organization Diamond Model offers a tool which not only makes it possible to see the whole, but also to identify the elements of this whole.

The whole which is covered by this tool can, of course, vary. The framework chosen directs the logic of the tool and the further choices at a more concrete level. This measurement instrument is based on theory and tested statistically, but the crucial question is, of course, whether it gives enough information. It could have been composed by following some other guidelines, but a holistic view of learning organizations was chosen as the main criterion. The comprehensiveness of the instrument could also be questioned, because the questionnaire has only 40 statements, but the aim of developing a short and easily accessible questionnaire was seen more important than the number of statements particularly since reliability and validity measures were also to be taken.

The process of developing the Learning Organization Diamond Diagnostic Tool

The Learning Organization Diamond Tool is based on a post-graduate thesis (Licentiate thesis) published in 1996 (Moilanen, 1996). The first version of the questionnaire was tested in one company. This first questionnaire was published as a part of a larger project funded by the EU and Finnish authorities (Moilanen 1998). The development of the second version continued in autumn 1997. The collection of the main data started in January 1998 and continued up until January 1999. This was followed by the process of testing the tool and analysing the findings.

In the following the focus is directed towards the methodology, which means describing the respondents, organizations, procedures and processes, as well as the results of the statistical analyses conducted.

Respondents, organizations and procedures

The survey instrument was tested in a group of 691 respondents (686 accepted) and 25 organizations. The primary aim of the data collection was to have a varying group of respondents for analysing the tool, and not analyse these organizations themselves as whole organizations. However, it became evident that the need to know more about organizations themselves also increased the necessity of analysing the data from this point of view.

The 25 organizations chosen were categorized into six groups: the public sector with 148 respondents (21.6 %), information technology 109 (15.9), manufacturing 52 (7.6, the smallest group), banking and insurance 219 (31.9, the biggest group), training / educational companies 105 (15.3), and wholesale / retail 53 (7.7). The boundaries between these six groups are not as clear as they could be in more formal settings, because the purpose of the categorization into different lines of business is merely to assist in the interpretation of the outcomes of the study.

The public sector includes four groups of Finnish local authorities and one unit of technical and two groups of education (7 alltogether). Information technology is composed of

six organizations representing "traditional" information technology, but also software import and telecommunications (6). The third group is the smallest one with two factories representing Finnish food industry (2), and the fourth group consists of three banks or insurance companies, as well as one related organization. In addition to this, one individual case was located in this fourth group, namely one hotel (5). The fifth group is composed of three training units owned by private organizations (3), and the sixth group of two retail and wholesale organizations (2).

Most of the organizations were large and the respondent groups represented only small sections of the staff of these organizations. Almost all of them have operations all over Finland and some are also international.

The background information included questions about the gender, age and the period of time the respondents had been employed by the organization in question. Their occupation was also asked, as well as their educational background, but these variables were not in numerical or coded form.

A very interesting feature is the clear majority of women among the respondents. The most typical age varied between 41 and 50, and over half of the respondent group were between 31 and 50 years old. Half of the group had worked in their organizations from 6 to 25 years, i.e. long-lasting employment was typical. The spectrum of different occupations was broad: teachers, trainers, cleaners, shop assistants, salesmen, clerks, factory-workers, information technology specialists, and naturally also several types of foremen and middle managers. The educational background of the respondents was as variable as the occupation, and the grades from lower to higher education were well represented.

The data gathering was monitored by one person in each organization. In 24 cases the questionnaires were handed out personally or mailed, the package including a two-page questionnaire, instructions and a background information sheet. One organization wanted to respond by e-mail and for them the questionnaire was transformed into electronic form.

Data analysis

The information provided by the questionnaires was recorded and filed and an Excel-based software application was used to process the data. The data were processed for two purposes: first the research purpose, involving the testing of the instrument itself, and secondly for a more practical purpose, namely to give feedback to organizations participating in the study. For the scientific purpose, the data were collected on a combination chart, which was transformed to the SPSS-form. After that the reliability of the tool was measured.

Reliability

Peterson (1994, p. 381) writes that "There is virtual consensus among researchers that, for a scale to be valid and possess practical utility, it must be reliable". Conceptually, reliability is defined as "the degree to which measures are free from error and therefore yield consistent results". According to Peterson (1994) the most commonly used reliability coefficient is coefficient alpha, an estimator of internal consistence. To analyse the reliability of this Learning Organization Diamond Tool, alphas were analysed at different levels: first the level of the whole tool (1), then the levels of the organization and the individuals (2) and as the last, the level of the chosen units of the tool (10). The coefficients analysed were as follows:

	Alpha α Organizational level (n=661)	**Alpha α Individual level (n=686)**
The whole tool with 40 statements	.9500	

Levels with 20 statements	.8672	.9566
1, 6 Managing the whole	.8617	.8274
2 ,7 Finding purpose	.8479	.6803
3 ,8 Questioning	.7582	.5467
4, 9 Empowering	.7959	.5141
5,10 Evaluating	.8499	.6225

Table 4. Results from analysing Cronbach's alphas.

The main conclusion to be drawn about the reliability of this Learning Organization Diamond Tool is that 9 out of 13 alphas analysed here are over .7, as recommended in 1978 by Nunnally (Peterson, 1994). The four alphas gaining the level of the previously set standards, but not the 1978 level, are all located on the individual side of the tool. As a whole, the reliability seems to be at a very acceptable level in view of the fact that this instrument has a very exploratory background. (Moilanen, in press)

Validity

"The term validity denotes the scientific utility of a measuring instrument, broadly statable in terms of how well it measures what it purports to measure" (Nunnally & Bernstein 1994, 83). The purpose of measuring is the main point here. The Learning Organization Diamond Tool purports to measure the whole learning organization, not any particular part of it, but the whole as seen from the manager's point of view. The whole has been composed of various types of elements driving to cover the whole as widely as possible, while also keeping in mind the framework of the whole.

The whole of a learning organization is based on certain theories. The most relevant parts representing the idea of holistic learning organizations were chosen and a structure covering the whole was developed. The whole was composed of two levels, and ten elements or domains were established, and the statements operationalising the whole were chosen. The process of developing the theoretical framework has been presented more thoroughly in another article. (Moilanen, in press)

In this field, there is no agreement upon the concept itself or the elements of the whole. A great variety of domains and variables are related to the concept of a learning organization. As noted by Nunnally and Bernstein (1994, 86) domain size and specificity are intimately related; the larger the domain of observables related to a construct, the more difficult it is to specify the variables that belong in the domain.

Results

The data covers Finnish organizations very widely, because there are answers from 25 different types of organizations. This is a very interesting starting point for analysing the data, but also somewhat restricting, because the variety makes generalization difficult. In other words these data provide information about these organizations, but not necessarily as whole organizations. This is due the fact that the data were gathered for analysing the validity and reliability of the measurement instrument, (Moilanen in press) and not to analyse the organizations themselves. In any case, some conclusions can also be drawn from the point of view of these organizations. The main emphasis is on four areas: firstly on the portrayals created from the data as one organizational unit, secondly on the six lines or sectors of business, thirdly on some individual organizations, and fourthly on the role of managers and leaders in learning organizations.

1) The data as a portrayal of one large organization

The whole data were gathered with 691 questionnaires, but 686 were only accepted, because five questionnaires did not comply with the aims of data analysis. If these 686 respondents were representing one company, the portrayals would be as presented in Figure 2. Before going any further in the analysis one comment should be made about the shape of the portrayal. In Figure 1 (p. 7) the shape of the diamond was slightly different compared to the figures below, because *driving forces* were not within the diamond, but acting upon (i.e. spinning) it. For the sake of clarity, all the elements are now included in the portrayals. The shape is now also slightly changed in that the diamond has been split in two halves and the halves have been turned to be viewed from the top (organizational side) and from the bottom (individual side). The bigger the portrayal the higher the scores given by the respondents.

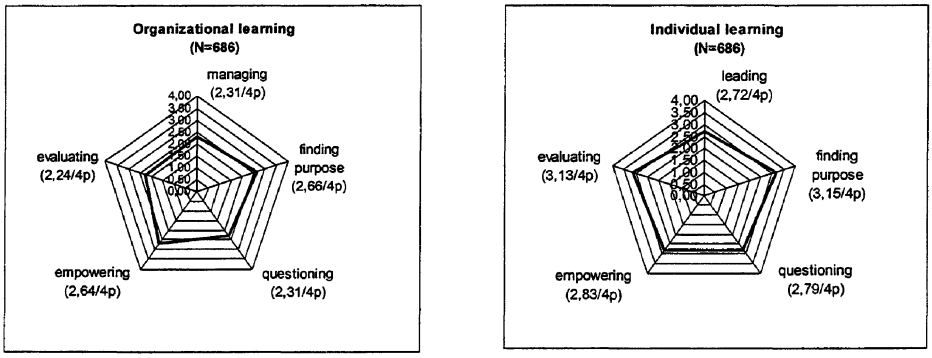


Figure 2. The data as a portrayal of one large organization.

The first portrayal describes organization-wide elements seen by the respondents and the second portrayal illustrates the respondents' beliefs about themselves as learners. There is one exception to this distinction between the organizational and individual aspect. The element called leading learners and their learning mainly represents the way people are treated as individuals, and not their personal beliefs. The assessed elements are driving forces (managing and leading), finding purpose, questioning, empowering and evaluating. The core of the elements assessed is the same, but the weight is either on the organizational or the individual side of the element.

The portrayal of the organizational side is relatively balanced, but the size is not as large that it could be. The mean values of the elements vary between 2.2 and 2.7., but they were nowhere near the maximum values. None of the elements are distinct from the others, only finding purpose and empowering have slightly higher scores than the other three elements.

The second portrayal, which creates the sum of respondent's opinions about themselves as learners is clearly larger than the organizational portrayal, and it also covers the whole better. All the mean values are near 3, e.g. 2.7-3.15. It is in balance, despite the minor variation in the first element, e.g. the way how individuals feel that they are being treated as learners.

The last interesting viewpoint taken is the clear difference in the size of the portrayals. The individual diamond is distinctly larger than the organizational one. For elements one to three, e.g. driving forces, finding purpose and questioning the distinction is about 0.4 to 0.5, whereas empowering has 0.2 and evaluating 0.8. The portrayals also

visualise some different weights in these two sides of a learning organization. The organization diamond has got the biggest means in finding purpose and empowering, whereas the individual diamond is slightly emphasized in finding purpose and evaluating.

To sum up, the whole data give some ideas about the essence of organizations as learning organizations and individuals as learners. The whole is quite balanced in both cases, but the whole is clearly larger when reviewing the individual side. None of the elements seem to have clearly higher weights on either side of the diamond.

2) Business sectors

In general, the portrayals of the different business sectors were not full diamonds in any of these lines of business. Some had more of the measured elements than the others, but most of the highest mean values of the elements were between 2.5 and 3.1 on the organizational side and between 2.9 and 3.4 on the individual side of the instrument. This means that individuals regarded the elements concerning themselves as more descriptive than the elements concerning the whole organization. The shape of the portrayals was also different, the individual diamond being more balanced than the organizational diamond.

Another general point was the minor difference in the portrayals in the individual side. The respondents in different lines of business regarded themselves very similarly as individual learners, and, thus, the majority of the diamonds of the individual side have almost the same shape and the same size. In contrast, the shapes and the sizes of organizational portrayals diverged much more.

When the results were analysed according to the lines of business, some very interesting outcomes could be seen. The best diamonds on both sides of the instrument were found in retail and wholesale business, whereas the smallest portrayals were in information technology business. Table 5 gives the basic information about the comparison of mean values, describing the whole composed of the ten different elements of the instrument. The mean values for all elements are presented according to the lines of business involved. The organizational side of the instrument is presented first to be followed by the individual side.

Organizational Side	**Public sector** N=148	**Information technology** n=109	**Traditional manufact.** n=52	**Banking and insurance** n=219	**Training** n=105	**Retail and wholesale** n=53	**All** n=686
Management	2,2482	2,0142	2,082	2,328	2,490	2,799	2,308
Finding purpose	2,5164	2,4238	2,505	2,717	2,833	3,061	2,660
Questioning	2,3175	2,0330	2,096	2,367	2,425	2,594	2,312
Empowering	2,6186	2,3703	2,413	2,730	2,671	3,071	2,642
Evaluating	2,2135	1,8373	2,034	2,408	2,345	2,457	2,236
Individual side							
Leading	2,7449	2,3578	2,692	2,744	2,945	2,877	2,720
Finding purpose	3,1250	3,0321	3,125	3,151	3,200	3,373	3,150
Questioning	2,7821	2,7592	2,928	2,781	2,721	2,910	2,799
Empowering	2,8530	2,6950	2,716	2,861	2,910	2,934	2,835
Evaluating	3,1233	3,0161	3,154	3,150	3,183	3,231	3,134

Table 5. Mean values of the elements for the six lines of business and the whole data.

A very general and speculative observation about Table 5 is the splitting of the data. A careful analysis of the table shows that, the left side of it (public sector, information technology and traditional manufacturing) has smaller means than the rest (banking and insurance, training and retail and wholesale). The differences are statistically significant.

This might be due to the fact that the lines of business represented on the right side

of the table are more human-intensive than the others. Particularly traditional manufacturing and also information technology are characterised by a very heavy weight on end products and the production itself. Heavy pressure on productivity, cost awareness and time limitations are characteristic of these organizations, whereas less emphasis has been directed to people and resources for learning. The organizations representing the public sector are somewhere in the middle (in these data), but information technology is here clearly grouped together with traditional manufacturing. There are of course many other different features, but the main point is the way in which the organization operates. Information technologies also includes creative units like product development, but the basic orientation is more machine-like than human-intensive.

To repeat, the fullest diamonds of the **organizational side** were found in the lines of business which are more human-intensive than technical or machine-like. These lines of businesses were retail and wholesale (1. biggest portrayal), training (2.) and banking and insurance (3.). The other three were public services (4.), traditional manufacturing (5.) and information technology (6.).

The shape of the organizational portrayal was similar in all businesses. Three elements, e.g. management, finding purpose and empowering had the highest average means in all business lines. Only information technology and manufacturing had a slightly lower average means in management than the others. The "weakest" elements in practically all businesses were questioning and evaluating.

Figure 3 illustrates the organizational and the individual diamonds of retail and wholesale as well as information technology. The size and the shape of the portrayals and also the differences between separate elements are to be noticed here.

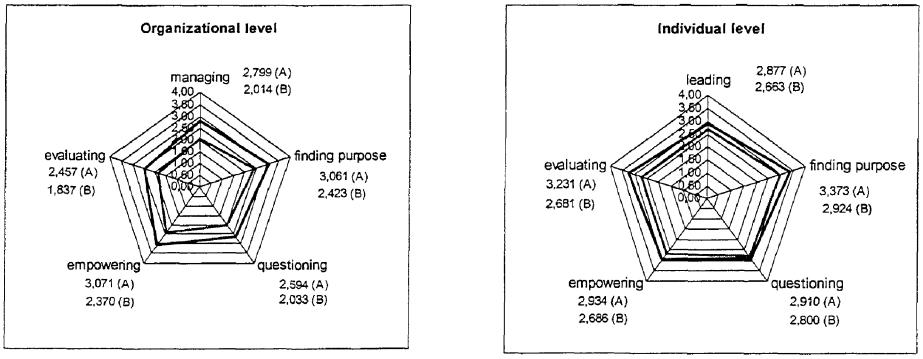


Figure 3. Retail and wholesale business (A) compared with information technology (B) – both sides of the instrument.

On the **individual side** of the diamond the variation between these two lines of business was clearly smaller and the portrayals are very close to one another. The ranking of the lines of business from the largest to the smallest portrayal is: retail and wholesale, training, public, banking, manufacturing and IT. The only considerable change in the list is the public sector with its placement as the third.

The shape of the diamond on this side is more balanced than on the organizational side of the instrument. The highest mean values are in the elements of finding purpose and evaluating. The other three elements were not markedly smaller, but, still had the lowest means of all these five elements.

Two exceptions could be found, the first one concerning the information technology

business and the element leading learners, and the second one the training business and the element questioning. These elements on these special lines of business had slightly lower mean values when compared to other industries. The first exception means that IT-specialists do not feel having as much "leading them as learners" as do the representatives of the other lines. The second exception indicates that the training business seems to involve slightly less questioning than do the others.

The **comparison of organizational and individual sides** of these analysed businesses is interesting. The respondents felt that they are better in being learners than their organizations are in being learning organizations. The same phenomenon appeared in all business sectors regardless of the size of the portrayals. The difference was smallest in the retail and wholesale business and greatest in the information technology business as well as in the other businesses with small organizational portrayals.

3) The greatest and the smallest portrayals

At the level of separate organizations the variation was very clear. The highest means were between 3.0 and 3.5 and on the lowest between 1.5 and 2.0. In this section the "best" and the "least good" organizations are introduced and the shape, size and the means of the elements are analysed. These organizations are illustrated in Figures 4 and 5.

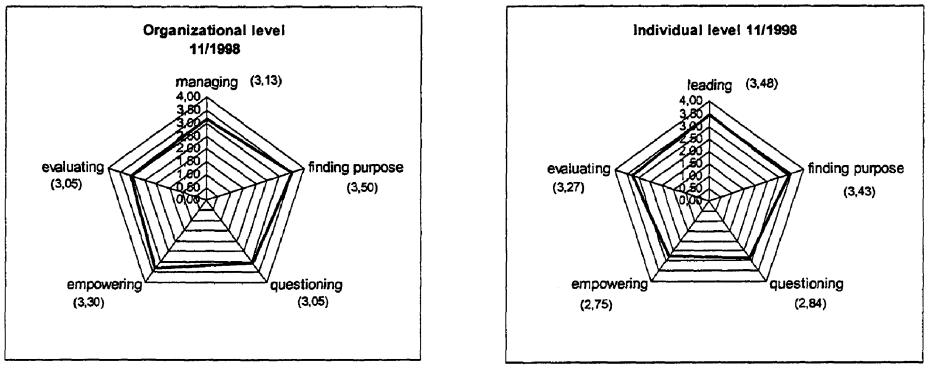


Figure 4. The two portrayals of the "best" organization: Hotel Salpaus.

This hotel is a good example of organizations assessed by its personnel as being a learning organization. The hotel is a privately owned and well managed hotel in Lahti in Southern Finland. Hotel Salpaus has 140 rooms and two restaurants and its turnover was EUR 2.2 to 2.5 million per year in 1996 and 1997. The hotel was established in 1990, and in 1996 it was bought by three persons, who still own the hotel.

The total number of personnel was at that time about 40 - 45 and the questionnaire was filled by 11 persons. Almost half of this personnel are full-time staff and the rest works on a part-time basis. The average age of this group is clearly under 30, so the people involved are young and able to learn and act in a very flexible way. What is characteristic of this organization is job rotation and variety at work. A clear emphasis is on customer satisfaction, but this aim is meant to be reached through better personnel satisfaction, not at the cost of it.

The main finding is in the fullness and balance of the first portrayal. This portrayal is exceptional because it is so large and also very well balanced. None of the elements exceeds the other elements and therefore the portrayal is in good balance. The second diamond (individual side) is also exceptional, but this time because it is of the same size as the

organizational diamond and heading towards the top. The staff seem to be very satisfied with their managers' leading them and their learning.

The comparison of these two diamonds reveals some unexpected features about Hotel Salpaus and its management and leading. The elements called questioning and empowering have higher means at the organizational level than at the individual level. This reflects a situation in which discussion is allowed and encouraged and means for change and learning are provided. Leading learners and their learning (element one at the individual level) has particularly high scores, e.g. 3.5, the average of the whole data being 2.7.

The second organization to be analysed and visualised in Figure 5 differs totally from the first organization. The two portrayals presented next support this observation.

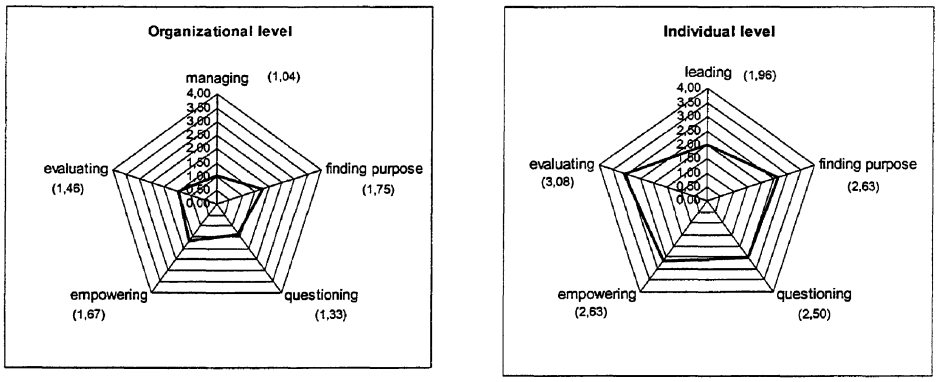


Figure 5. The two portrayals of a less learning organization.

This second organization has totally different origins from the first one. It is a small part of an old, previously very bureaucratic organization and it operates in the whole country as numerous smaller and larger units. This unit was chosen to illustrate the organizations assessed as "non-learning" organizations.

First of all, the size of the organizational diamond is very small. All the elements have been assessed to be between 1.0 and 1.75. Particularly small means are in management and questioning, but none of the other elements are high either. The main concern among the respondents is that they feel that the management is not at all attentive to e.g. taking care of the organizational learning and the learning environment.

The same concern, but at the individual level, is seen in the other portrayal, where the average mean for leading learners and their learning is only 1.96. The other elements have higher mean values. The other elements and the size of the individual diamond is actually quite close to the individuals' diamond based on the whole data. The important question is how well this unit could be operating and developing itself, when the individuals regard themselves as so much better than their own organization?

4) The value of management and leadership

The focus is now turned to comparing management as a separate element with the other elements at the organizational level, e.g. comparing it with the average of the other four elements (finding purpose, questioning, empowering and evaluating). The purpose of this is in analysing if the size of the organizational diamond correlates with this management element. Organizations were put in order according to the mean values of this element of management. The six best and the six weakest of this list were chosen for further analysis, so

that they formed approximately the best and the weakest quarter of the data. After that the values of other elements were summed up and the differences were analysed (Table 6).

Organization	Management, means	The sum of four other elements, means	Difference
1. strongest	3.3125	3.1823	0.1302
2. strongest	3.1250	3.2250	-0.1000
3. strongest	3.0000	3.0028	0.0028
4. strongest	2.9615	2.9439	0.0176
5. strongest	2.9318	2.9021	0.0297
6. strongest	2.9091	2.8807	0.1103
6. weakest	1.9167	2.1696	-0.2529
5. weakest	1.8846	2.2524	-0.3678
4. weakest	1.7500	1.9183	-0.1683
3. weakest	1.7375	2.0469	-0.3094
2. weakest	1.7292	1.9271	-0.1979
1. weakest	1.4853	1.7266	-0.2413

Table 6. Management compared with the "whole" of the organizational side.

The table shows that the stronger the management element has been, the greater the whole diamond (the four other elements), and similarly the smaller the average of this, the smaller the whole diamond. The other point is that in the "best" companies, the mean value for management was higher than the mean of the other elements. In the organizations with small averages in management, the difference between management and the whole is the opposite, in other words, the means for management are smaller than the means for the whole.

The other side, i.e. individuals and their leading as learners, is analysed next and compared with the sum variable of the individual side of the diamond. The table below has been composed by following the same principles than in the previous table illustrating the value and meaning of management. In other words, the table illustrates the connections between leadership and the sum variables of the elements on the individual side. Organizations are presented in the decreasing order from the strongest to the weakest means in two groups, e.g. six organizations having the best averages in the element leadership and respectively the six organizations with the smallest means.

Organization	Leadership, means	The sum of four other elements, means	Difference
1. strongest	3,4773	3,0739	0,4034
2. strongest	3,3636	3,3068	0,0568
3. strongest	3,3264	2,9497	0,3767
4. strongest	3,3125	3,1823	0,1302
5. strongest	3,2045	2,9673	0,2372
6. strongest	3,0761	3,2038	-0,1277
6. weakest	2,5357	2,8780	-0,3423
5. weakest	2,5000	2,9406	-0,4406
4. weakest	2,3519	2,9444	-0,5925
3. weakest	2,3462	2,9399	-0,5937
2. weakest	2,2368	3,0428	-0,8060
1. weakest	2,1664	2,8264	-0,6600

Table 7. The element named leadership compared with the sum variable composed of four other elements representing the individual side of the measuring instrument.

The conclusions drawn from this table above are, to a large degree, similar to the conclusions

on the organizational side. On top of the list, i.e. in the "best" organizations, the correlation between the element called leading learners and their learning and the sum variable representing the rest of the elements on this side, is clear: The highest sum variables are also found in the group which has the highest mean values in the element leadership. The connection exists but it is not equally evident as on the organizational side of the tool.

The other conclusion that can be drawn is the sign preceding the mean figures. On top of the list, the mean values of the leadership element are higher than the mean values of the sum variables, but at the end of the list, all the differences are reversed. If the mean values of the sum variables were low, then the means of the element called leadership were also 0.3 to 0.8 points smaller. One might speculate that leading is needed to get good results on the individual side.

The last conclusion concerning the value and the meaning of managing the whole learning organization and leading learners and their learning can be derived from the table combining the main points of the last two tables. This last table (Table 8) illustrates the situation from the point of view of those six organizations which have the highest and those six organizations which have the lowest mean values in managing.

Organization	Management, means	Order	The sum of four other elements, means	Order	Leadership, means	Order	The sum of four other elements, means	Order
N=686	N=658		N=645		N=686		N=683	
1.best	3,3125	1	3,1823	2	3,3125	5	3,1823	3
2.best	3,1250	2	3,2250	1	3,4773	1	3,0739	6
3.best	3,0000	3	3,0028	3	3,0761	7	3,2038	2
4.best	2,9615	4	2,9439	4	3,2045	6	2,9673	12
5.best	2,9318	5	2,9021	5	3,3264	3	2,9497	17
6.best	2,9091	6	2,8807	6	3,3636	2	3,3068	1
6.worst	1,9167	20	2,1696	21	2,5357	16	2,8780	23
5.worst	1,8846	21	2,2524	17	2,3462	22	2,9399	21
4.worst	1,7500	22	1,9183	24	2,1667	25	2,8264	24
3.worst	1,7375	23	2,0469	22	2,5000	19	2,9406	20
2.worst	1,7292	24	1,9271	23	2,3519	21	2,9444	19
1.worst	1,4853	25	1,7266	25	2,2368	24	3,0428	9

Table 8. Management and leading elements compared with the sum variables.

This table is suitable as a concluding one for the whole article, because it shows in numbers how the sizes of the portrayals are dependent on the driving forces, or at least that there is a positive correlation between management, leading and the size of the organizational portrayal represented here by the organizational sum variable. The better the means of management and leading are, the better these organizations seem to be as whole learning organizations.

The sum variable of individuals does not have such a clear dependence. The portrayal visualising the sum of individuals seems to be more universal and non-dependent on the organization where the respondens are employed. Individuals seem to assess themselves in a very similar mode, which does not vary from organization to organization. Only some minor differences occur, but they are not very significant. Although the variation on the individual side of the measuring is small, the three best portrayals of it are also placed among the six best ones in the table. Accordingly, the four smallest portrayals are placed in the other group composed of the six weakest ones.

To conclude, the use of this Learning Organization Diamond Tool provides some very interesting viewpoints. The elements called management of the whole and leading

learners and their learning seem to be good at predicting the means of the whole. The better the means of these elements are, the better also the means of the organizational side of the instrument, and vice versa, the lower the mean values of these elements, the worse both the organizational and the individual whole. The only exception to this line of interpretation is on the individual side and with the biggest means, where such a direct dependence cannot be found. To say it in other words, the fact that individuals assess themselves as "good learners" does not seem to guarantee the well being on good mean values at the organizational level.

One speculation has to be derived from these outcomes. That is, the four statements regarding both of the driving forces, i.e. managing and leading, do predict the sizes of the portrayals on the organizational side at both ends of the continuum and tend to produce the smallest means on the individual side. The higher the mean values of these elements, the better the organizations as learning organizations.

5) Measuring as a process

The last viewpoint analysed here is more general. The interest is in the need of measuring and in the attitudes of the respondents regarding measurement of learning organizations.

The need of having a measuring instrument of the whole became evident. The need was expressed in almost all the situations in which managers were discussing learning organizations. There was so much willingness to participate in this study that the data gathering had to be restricted. The need for making the concept more concrete by means of measuring it was obvious. One possible reason for the willingness to participate was the interactive research process. The organizations participating received a thorough feedback for their analysis and also some ideas for further development. The managers obtained new information about their organizations which could be used as part of their management and leadership procedures.

Discussion

Learning organizations have been discussed very widely over the past decade. The discussion has most often been at the level of describing and defining, and much more seldom at the level of diagnosing. The more the discussion is flourishing the more separate ideas of learning organizations are emerging. It almost seems that the field is like a field of flowers, and all flowers are allowed to flourish.

There is nothing against this situation, but some questions will inevitably rise from it. What is the future of this discussion and thereafter the concept of a learning organization? Will "the learning organization" be left to be as a soap sliding from our hands or as an ameba which cannot be touched or caught? How are we handling this many sided and apparently very important concept? Shall we share our opinions with others or shall we raise new concepts before analysing the previous ones? Are we able to deepen the discussion by diagnosing existing organizations?

This article, which is part of a doctoral dissertation, offers one step towards diagnosing. The measuring instrument developed for diagnosing purposes has been statistically analysed and the results of the 686 respondents and 25 organizations reviewed. The reasons for gathering this type of fragmented data was originally in carrying out tests about the measuring instrument and getting some ideas of the analysed organizations, and not in analysing the organizations as whole entities. Nevertheless, some analyses of the data have been conducted and some conclusions have been drawn even in the sense not originally intended.

The main conclusions are presented in the following in the order of the aims presented at the beginning. The aims were:

1. To find some form for a holistic learning organization.
2. To analyse the variation of learning organizations in different business sectors.
3. To verify and visualize the existence of "learning" and "non-learning" organizations.
4. To find out the role of management and leadership in learning organizations.
5. To analyse the feelings of being diagnosed.

The imaginary learning organization (i.e. founded on the basis of the whole data)

1. Individuals relied more on themselves and their learning capabilities than on their organization as a learning environment, which was seen in the bigger portrayals of the individual side.
2. The whole organization reached average values between 2.2 and 2.7. Not one of the elements had clearly higher values than the others, so the diamonds were in quite a good balance.

The six lines of business

3. Organizations as learning environments differed more from one another than individuals feel that they themselves vary as a group of learners.
4. Respondents representing the retail and wholesale business gave the highest scores to their organizations, and the smallest scores were in the information technology business. This is not a universal truth, but describes the situation in the organizations analysed.
5. The best lines of business in terms of learning seem to be more human-intensive than machine-like.

Learning and non-learning organizations

6. Hotel Salpaus was a good example of an organization assessed high in this research. The organizational side was markedly greater than on the average, whereas the individual side did not deviate to any great degree form the average. Hotel Salpaus is exceptional in one particular aspect: the organizational diamond was larger than the individual one, whereas in the other organizations the order is reversed.
7. The "non-learning" organization had clearly lower scores. The shape of the organizational diamond was exceptional because management got very low points. The individual side was not considerably different from other organizations. What is exceptional that the element evaluating had equally good scores as was the average in other organizations.
8. Hotel Salpaus got twice as good average means as the "non-learning" organization. The lack of driving forces in the "non-learning" organization and the plentitude of them in Hotel Salpaus was distinctive.

Management and leadership

9. The higher the value of the management element, the bigger the whole composed of four other elements.
10. Leading learners and their learning seemed to also be a valuable force, because the best mean values correlated with the size of the sum variable formed in the same way as on the organizational side. As regards the top six organizations, it can be noticed that the bigger the means of this leading element were, the bigger the wholes of this side.

Needs and attitudes in the measuring process

11. The need of having a concrete and holistic measuring instrument for analysing the whole learning organization is evident and therefore the willingness to participate was excellent.

12. The background of the measurement instrument proved to be very important, because understanding such a holistic concept was easier for everybody because of the framework and visualization of the concept.

What remains at this point of this article is to remind the audience of the inevitable to speculate on the basis of the results and the use of the measurement instrument, as well as to explore some important topics for further study in this field.

As was mentioned above, the data analysed in this study were gathered for a statistical analysis of the measuring instrument, and not for analysing the organizations directly. However, this type of data containing 25 organizations and almost 700 respondents also offers interesting opportunities, which stimulated a wider use of the data. But, the data also had restrictions in this respect, in that it does not include large organizations as whole entities. Only a few of these could be said to be representative.

The "whole" in this study was not a real organization, but one created by the data. Therefore it was also affected by the measuring instrument by which the data were gathered. The effort to proceed in this field of learning organizations was, nevertheless, taken, because defining and describing learning organizations are still more popular approaches than diagnosing real organizations and because there is an obvious need to develop instruments for this type of development work. A more comprehensive portrayal of the whole could have been created if the data had included some larger samples, but at this point the data has to be taken as it is. The next step is to aim at more holistic portrayals of fewer organizations.

The whole divided into six lines of business was also slightly speculative, because comparison between different lines of business is always somewhat provocative. Organizations with different values, principles, background, personnel, clients and so on are not fully comparable because of the number of variables involved. The best possible use for this, and similar, tools is the internal use of the organization, and not as a tool for comparison.

Ranking the organizations according to their mean values was not the main task here, because it does not tell the whole truth. However, further discussions and questioning could perhaps be raised by analysing the data in as versatile manner as possible. In any case, the order is what it is and some reasons for it being like that could be found. One possible reason for the best average means in the wholesale and retail business could be in the very active change and training process which has taken place in the organizations analysed here. Another point worth considering is that the sector of information technology with its low mean scores could also be connected with the wider situation. The "millenium problems" and the very rapid development of the products and the processes of this field could be reasons for such means values of this IT business. Whatever the reasons, this was the order established by the data for these 25 organizations analysed.

The variation between the 25 organizations is very interesting. They have totally different learning organization diamonds, which on the one hand verifies the differences between the organizations, and on the other hand the usefulness of measuring them. The variation can well be captured by diagnosing the organizations and analysing the results, but to be able to fully utilise the data, a framework is really needed. Separate statements or elements will not give the information needed to help managers in their work of developing their organizations towards learning organizations or scholars in their efforts to understand the great complexity of the concept.

The best use for the Learning Organization Diamond Tool and other similar types of measuring instruments is without doubt in its internal use in one organization, and not in comparing different organizations with one another. Raising discussion and questioning, finding the best practices and also the weakest elements from the point of view of learning becomes possible and more pointed when some learning organization measurement

instrument is used.

Since the field of diagnosing learning organizations offers almost endless opportunities and perspectives the aims of the measuring have to be analysed and established thoroughly. Diagnosing produces outcomes typical for that tool, and other tools will give some other types of outcomes. If the aims are in some specific areas, then the measuring should be directed differently than when the purposes are more general. Furthermore, if the viewpoint taken is the managerial one, then the diagnosing should serve that purpose and not anything else. In any case, the field is open for various types of analysis, and all of them are probably needed.

REFERENCES

Alava, J. 1998. Strateginen oppimiskehä ja strategisen ajattelun kehittäminen (Strategic learning cycle and developing strategic thinking). Unpublished.

Argyris, C. 1993. Knowledge for action. San Francisco: Jossey-Bass Publishing Company.

Argyris, C. 1997. Learning and teaching: A theory of action perspective. Journal of Management Education 21 (1), 9-26.

Argyris, C. & Schön, D. A. 1978. Organizational learning; a theory of action perspective. Reading, Massachusetts: Addison-Wesley.

Argyris, C. & Schön, D. A. 1996. Organizational learning II; theory, method and practice. Reading, Massachusetts: Addison-Wesley.

Bartlett, C. A. & Ghoshal, S. 1994. Changing the role of top management: Beyond strategy to purpose. Harward Business Review (November-December), 79-88.

Bennett, S. & Brown, J. 1995. Mindshift: Strategic dialogue for breakthrough thinking. In S. Chawla & J. Renesch (Eds.) Learning organizations. Portland: Productivity Press, 167-183.

Cavaleri, S.A. & Fearon, D.S. 1996. Managing in and through the knowledge ecology. In S. A. Cavaleri & D.S. Fearon (Eds.) Managing in organizations that learn. Oxford: Blackwell, 12-35.

Cohen, M. D. & Bacdayan, P. 1995. Organizational routines are stored as procedural memory; Evidence form a laboratory study. In M. D Cohen. & L. S. Sproull (Eds) Organizational Learning. Thousand Oaks, Ca.: Sage, 403-429.

Cunningham, I. 1994. Your move. Works management 47 (8), 50-52.

De Geus, A. P. 1996. Planning as learning. In K. Starkey (Ed.) How organizations learn. London: International Thomson Business Press, 92-99.

Galbraith, J. 1973. Designing complex organizations. Massachusetts: Addison-Wesley.

Galbraith, J. 1996. Designing the innovating organization. In K. Starkey (Ed.) How organizations learn. London: International Thompson Business Press, 156-181.

Garratt, B. 1995. Developing Strategic Thought. Rediscovering the art of direction-giving. London: McGraw-Hill.

Hedberg, B. & Jönsson, S. 1989. Between myth and action. Scandinavian Journal of Management 5 (3), 177-185.

Hendry, C. 1996. Understanding and creating whole organizational change through learning theory. Human Relations 49 (5), 621-637.

Kaplan, R. S. 1994. Devising a balanced scorecard matched to business strategy. Planning Review 22 (5), 15-22.

Kaplan, R. S. & Norton, D.P. 1992. The balanced scorecard – measures that drive Performance. Harward Business Review (January-February), 71-79.

Kaplan, R. S. & Norton, D.P. 1993. Putting the balanced scorecard to work. Harward

Business Review (September-October), 134-143.
Kaplan, R. S. & Norton, D. P. 1996. Using the balanced scorecard as a strategic management system. Harward Business Review (January-February), 75-85.
Kim, D. H. 1995. Managerial practice fields: Infrastructures of a learning organization. In S. Chawla & J. Renesch Learning organizations. Portland: Productivity Press, 351-363.
Kolb, D. A. 1996. Management and the learning process. In K. Starkey (Ed.) How organizations learn. London: International Thompson Business Press, 270-287.
Lassey, P. 1998. Developing s learning organization. London: Kogan Page.
Mayo, A. & Lank, E. 1994. The power of learning. A guide to gaining competitive advantage. London: IPD House.
Moilanen, R. 1996. Oppiva organisaatio – tausta ja käsitteistö (Learning organization - background and the concepts), English abstract. Jyväskylän yliopiston taloustieteellisen osaston julkaisuja 100/1996 (Reports from the School of Business and Economics of the University of Jyväskylä 100/1996). Licentiate Thesis.
Moilanen, R. 1998. Oppivan yrityksen uudemediaopas CD-rom (New Media Guide for Companies CD-rom). Tampereen yliopiston täydennyskoulutuskeskuksen julkaisusarja C 1/98 (Reports from the Institute for Extension Studies of the University of Tampere C 1/98).
Moilanen, R. 1999 a. Finnish Learning Organizations: Structure and styles. The Entrepreneurial Executive (4) , 1-40.
Moilanen, R. 1999 b. Management and leadership in a strategically and motivationally focused learning organization. In S. Lähteenmäki, L. Holden & I. Roberts (Eds.) HRM and the learning organisation. Publications of the Turku School of Economics and Business Administration A-2, 51-76.
Moilanen, R. (in press). Diagnostic tools for learning organizations.
Montgomery, J. M. & Scalia, F. 1996. Integrating learning and organizations. In S. A. Cavaleri & D. S. Fearon (Eds.) Managing in organizations that learn. Oxford: Blackwell, 435-465.
Mumford, A. 1995. Learning at the top. Berkshire: McGraw-Hill.
Newing, R. 1994. Benefits of a balanced scorecard. Accountancy 114 (1215), 52-56.
Nunnally, J. C. & Bernstein, I. H. 1994. Psychometric Theory. New York: McGraw-Hill.
Otala, L. 1996. Oppimisen etu – kilpailukykyä muutoksessa. Porvoo: WSOY.
Pearn, M., Roderick, C., Mulrooney, C. 1995. Learning organizations in practice. Berkshire: McGraw-Hill.
Pedler, M. 1996. Action learning for managers. London: Lemos & Crane.
Pedler, M., Boydell, T. & Burgoyne, J. 1988. Learning company project report. Training Agency.
Pedler, M., Boydell, T. & Burgoyne J. 1989. Towards the learning company. Management Education and Development 20 (1), 1-8.
Pedler, M., Burgoyne, J. & Boydell, T. 1991. The learning company, a strategy for sustainable development. London: McGraw-Hill.
Pedler, M., Burgoyne, J. & Boydell, T. 1997 (2nd ed.). The learning company, a strategy for sustainable development. London: McGraw-Hill.
Peterson, R. A. 1994. A Meta-analysis of Cronbach's Coefficient Alpha. Journal of Consumer Research, 21(September), 381-391.
Peterson, Robert A., (1994), A Meta-analysis of Cronbach's Coefficient Alpha, Journal of Consumer Research, Inc. Vol. 21, September.
Redding, J. C., Catalanello, R. F. 1994. Strategic readiness. The making of the learning organization. San Francisco: Jossey-Bass.
Redding, J. C., Catalanello, R. F. 1997. Learning Organization Capability Assessment, survey

questionnaire, sample items. Institute for Strategic Learning.
Sarala, U. & Sarala, A. 1996. Oppiva organisaatio – oppimisen, laadun ja tuottavuuden yhdistäminen. Tampere: Tammer-Paino.
Simonin, B. L. 1997. The importance of collaborative know-how: An empirical test of the learning organization. Academy of Management Journal 40 (5), 1150-1174.
Skyrme, D. J. & Amidon, D. M. 1998. New measures of success. The Journal of Business Strategy 19 (1), 20-24.
Swieringa, J. & Wierdsma, A. 1992. Becoming a Learning Organization, Beyond the Learning Curve. Cambridge: Addison-Wesley.
Senge, P. M. 1990 a. The fifth discipline, the art and practice of learning organization. New York: Doupleday Dell.
Senge, P. M. 1990 b. The leaders new work: building learning organizations. Sloan Management Review 32 (1), 7-23.
Senge, P. M. 1994. Moving forward, thinking strategically about building learning organizations. In P. M. Senge, A. Kleiner, C. Roberts, R. B. Ross, & B. J. Smith, (Eds.) The fifth discipline field book, strategies and tools for building a learning organization. New York: Doupleday, 15-47.
Senge, P. M. 1996. The leaders new work; Building learning organizations. In K. Starkey (Ed.) How organizations learn. London: International Thompson Business Press, 288-315.
Smith, P. A. C. & Peters, V. J. 1997. Action learning worth a closer look. Ivey Business Quarterly 62 (1), 63-67.
Tannenbaum, S. 1997. Enhancing continuous learning: Diagnostic findings from multiple companies. Human Resource Management 36 (4), 437-452.
Thompson, J. & Weiner, J. 1996. Strategic planning as a tool for building learning capacity. In S. A. Cavaleri & D. S. Fearon (Eds.) Managing in organizations that learn. Oxford: Blackwell, 466-490.
Watkins, K. E. & Marsick, V. J. 1998. Dimensions of the Learning Organization Questionnaire.
Yang, B., Watkins, K. E. & Marsick V. J. 1998. Examining construct validity of Dimensions of the Learning Organization Questionnaire.