English summaries

The central issue of educational thought and implementation of educational activities have mainly revolved round schooling and teaching. However, as far back as in the 1960's education also became a field of research within the area of working life. Researchers as well as practitioners trained within the field of educational science came to engage themselves in problems of recruitment and vocational training, thus expanding the base for traditional educational theorizing so as to include topics of recruitment versus training, analysis of job qualifications and demands, questions of organizing work and work situations, leadership as well as circumstances promoting the development of work competence and learning on the job.

In this article, the above educational issues are presented under different headings, the way they come into focus chronologically even if there are no clear-cut chronological trends or distinct themes without overlap. The different themes are interwoven. However, the thematic distinctions serve the function of bringing clarity to the descriptive presentation.

The article is mainly based on the different PhD theses that have been defended in Sweden during the years from the mid 1960's until the end of year 2004. However, the ambition hasn't been to only present theses that relate to working life. Relevant reports pertaining to educational issues within work life that are not PhD thesis have also been included although the main empirical base for the article is in doctorial work. Neither is it an ambition to present an exhaustive coverage of all studies related to work life.

The most notable aspect that comes forth is that the issue of education and work life has been a bigger area of interest than what is popularly assumed in many departments of education in Sweden. In the beginning, the educational issues that were discussed came close to applied psychology with a focus on recruitment, job demands and employees' adjustment to work life. Traditional educational discourses were raised in connection with the ambition to arrange courses of studies for personnel at the workplace. Here, promoting leadership and courses for senior management became an area that also engaged a number of researchers. In the beginning of the 1980's, the question of leadership also came to focus on organisational structuring and group relations among employees.

An adjacent issue was the question of how employees experienced the work situation, both physically and socially, and how this experience came to affect the overall experience of work life. Focussing how the work situation appeared from the workers' perspective also led to research that raised the question of how the employed transformed his or her experience to useful knowledge about the workplace, not only overriding knowledge but also specific knowledge pertaining to the work process as such. From this perspective it is close at hand to ask what would be the optimal work conditions that could promote learning in daily situations and not only learning as a function of traditional teaching.

The overall impression, after having gone through a number of different research reports and a number of different theses, is that not only has educational research with a focus on work conditions contributed to an understanding of the workplace as such but it has also brought to the fore central educational issues with implications for educational research in general.

Per-Erik Ellström, 2005: Two faces of learning at work/ Arbetsplatslärandets två ansikten/. Pedagogisk Forskning i Sverige, Vol 10, No 3/4, pp 182–194. Stockholm. ISSN 1401-6788

Research on workplace learning is in certain respects ambiguous. In metaphorical terms we may speak of the two faces of learning at work, or its Janus face. These two faces are, like the double face of the Roman god Janus, turned into opposite directions. On the one hand, there is an emphasis on the alleged instrumental character of workplace learning. Behind this view is the assumption that learning at work is subjugated to a managerialist discourse of efficiency and instrumental means-ends calculation. This argument is in line with the principle of performativity as formulated by Jean-François Lyotard. Thus, as the argument goes, in »performative times» being a good learner is equal to being a good performer. Undoubtedly, there is a certain degree of truth in this argument. Learning has traditionally to a large extent been defined in instrumental terms, for example, in terms of how to acquire or improve a subject's capacity for dealing with situations in which problems and other parameters are given (or taken for granted).

However, this is not the whole story. For quite a long time, researchers have also conceptualized forms of learning that seemingly represent a break with performativity and instrumental rationality. In these forms of learning, there is a focus on exploring, questioning, reframing and transforming a situation, rather than simply adapting to a predefined reality. There are also a number of empirical studies that support and exemplify the existence of more creative and innovative forms of learning. What these studies all have in common, is

that they show how in practice there is significant potentials for creativity and learning in many types of jobs, and that these jobs also pre-suppose learning.

In this article, the two views of workplace learning referred to above are interpreted and discussed in terms of a distinction between two meanings of learning, called reproductive and developmental learning. Reproductive learning has a focus on a subject's adjustment to and mastery of certain, given tasks or situations. This is in contrast with developmental learning, where the focus is on transforming rather than reproducing a prevailing situation. This means there is an emphasis on exploring and questioning existing conditions, solving ambiguous problems, and developing new solutions.

How, then, can we understand this alleged duality, this Janus character, of workplace learning? As argued in this article, the two aspects or forms of learning, reproductive and developmental learning, presuppose different conditions of learning. A main point made in this article is that the seemingly contradictory observations mentioned above may be explained by the conditions of learning that prevail in a certain situation, and that these conditions, in their turn, are shaped by the overall pattern of practice that characterizes the work system. In this perspective, it is further argued, both positions distinguished above can be valid. Their validity depend on how we define learning, but also on how work is organized, and thereby what conditions of learning that prevail.

The purpose of this article is to explore and elaborate this thesis. This will be done by distinguishing between two different, although complementary, logics of work and learning, called the logic of performance and the logic of development. These two logics are viewed as patterns of practice that, intendedly or unintendedly, shape the learning environment in an organization. Somewhat simplified one could say that the logic of development has a focus on fostering new ideas and solutions through a process of developmental learning starting from current practice. It entails action and learning that calls for risk-taking and acceptance of failures, a capacity for critical reflection, together with sufficient scope and resources for experimenting with and testing alternative ways of acting in different situations.

The logic of performance, on the other hand, has a focus on promoting efficient and reliable action that, as far as possible, is also relatively stable over time. Thus, in principle, these two logics are complementary, and they presuppose each other like two sides of the same coin. However, in practice, there is in many organizations a significant risk for a lack of balance between them. The actual balance between the two logics in the daily flow of practice is assumed to have a crucial bearing on the available space for reproductive and creative learning respectively. Some of the factors that affect the balance and the interplay between the two logics are discussed in the article.

To conclude, it is argued that there is a need for a better understanding of the interplay between the two logics in actual work processes. In particular, seeking a better understanding of how developmental learning takes place in practice and how it can be supported is a key task for research on workplace learning.

Learning has become an increasingly focused and important part of life in society and at work outside formal education. This development leads to a need of educational thinking as a basis for educational practice in contexts traditionally not considered as educational. The most immediate context for learning is an activity itself. When it comes to learning at work, the activity of work is the most central part of the activity, that possibly involves learning. The activity of doing something is the most immediate environment for learning, if we think of learning environment as what is closest to and surrounding learning itself.

However, here we are using the term learning environment to refer to what is outside the activity of the individual, but important to learning involved in the activity. There is an internal relation between the character of the activity and what parts of the environment that are involved. The kind of activity in turn has to be expected to make a difference, when it comes to what learning is involved. The specific character of the activity will be dependent on specific qualities of the external environment interacted with. These internal relations and contextual dependencies have to be clarified in revealing the nature of learning environments.

In a research project under the *Fourth Framework Programme*, sponsored by the European Commission, learning environments in knowledge intensive and innovative units of companies in Denmark, Sweden, The Netherlands, The Republic of Ireland, and The United Kingdom were studied. The data collection included company documentation, non-participant observation and interviews with general managers, HR managers, line managers, employees and union representatives (when appropriate). In some cases a short survey was also used. On the basis of the data, case descriptions were made in relation to the national learning contexts. The cases were described in terms of dominant themes derived from data in each case.

The themes from the different cases have been compared and grouped together in four kinds of contexts and the dominant themes across the cases in each kind of context are presented. In relation to (i) national institutional contexts, the dominant themes in the data were, that learning opportunities have increasingly become an incentive to employees, an increased demand for certification, and development of learning alliances. In relation to (ii) organisational contexts a main theme was continuous efforts to integrate diversified learning opportunities together with a broadening of the role of HR managers and an increasing professionalisation of the field. Another theme was that especially some of the biggest companies had developed rather extensive competency, knowledge or skills management systems. A third theme was decentralisation of responsibility for HRD to line management and a fourth was the use of mentors.

In relation to (iii) working contexts one theme was training on the job, mainly introductory training. Another theme concerned learning in relation to developing the work, being creative and innovative in doing the work. A third theme was collaboration with others in teams and projects. The fourth kind of context delimited, (iv) communication at distance, included two themes, networking and use of ICT, especially intranet and internet. The networking was mainly within units and companies and had the character of communication with other employees that were not directly involved in the same project or teamwork.

Although in the company units studied an interest in giving access to learning opportunities was expressed, seen from a learning perspective important learning conditions were missing. The two most problematic conditions were support in prioritising what to learn and time to learn. The competence systems developed in some companies, the ongoing integration of LT&D (learning, training and development) into HR management and business strategies, increased line responsibility and mentoring were helpful in supporting the identification of what to learn. However, the formalisation of this support risks to restrict the support to already defined competencies, while in many of the units researched there was a need for innovative learning, which can not be restricted to predefined competencies.

The character of the work situations in many cases invited creative and developmental learning. The often tight time limits for delivery of results were to a certain extent experienced as a challenge and stimulated learning but to a far too large extent they prevented reflection over and integration of what is learned into the competence of the employee and the organisation. In order to support knowledge intensive organisations, governments and educational institutions should support organisation specific and internal training activities and forms of co-operation other than participation in regular courses.

We found that human learning and development has become very important to the companies investigated. This has made an educational perspective and educational questions in a broad sense, concerning the relation between learning conditions and learning and how to create good learning conditions, crucial. The kind of learning wanted, especially creative and innovative learning, requires an engagement and quality of activity from the learner or employee that demands some freedom and responsibility for the learner in combination with support. An important part of the support for learning has a general cultural character and is described as values, ethos, climate and culture. The companies are working on the creation of an appropriate learning culture.

Much of what was found in this investigation has in the literature about work been discussed in normative terms as the good work that leads to personal development and lately this has also been discussed as equal to the flexible work. The variation of work situations referred to seems to represent far-going demands on the employees. The demands involve a large degree of self-management, especially concerning learning. Much of the learning needed and carried out does not clearly stand out as learning. Rather it tends to be an implicit part of the management and carrying out of the work. At the

same time decisions concerning possibilities of learning and the responsibility for learning environments is shared between several levels and parts of the organisation. There is a lack of educational leadership and educational awareness as a basis for creating learning environments and managing learning. There is a great need of educational thinking and research as a basis for developing learning environments supporting knowledge intensive and innovative work.

Marianne Döös & Lena Wilhelmson, 2005: Collective learning: On the significance of interaction in action and common action arenas/ Kollektivt lärande: Om betydelsen av interaktion i handling och gemensam handlingsarena/. Pedagogisk Forskning i Sverige, Vol 10, No 3/4, pp 209–226. Stockholm. ISSN 1401-6788

This article deals with variations in collective learning in different action contexts. The purpose is to examine the processes of origin of collective learning in order to further deepen and specify the concept's active ingredients. Our study has pointed to the importance of a common action arena, and of interaction in action (both nearby and at a distance), rather than solely of communication and talk within the bounds of a work team. The conclusions account for how collective learning can be comprehended in distributed and changing contexts.

The study's theoretical foundation is in theories on experiential learning, interaction and communication. In a concentrated form learning according to these theories is seen as an action oriented process of situated knowledge construction, where the learning individual is seen as an active constructor of knowledge and skills. The empirical foundation is a study of Ericsson Telecom AB, and our research question dealt with knowledge formation within and between production development teams. Data was gathered during the spring 2000. The organization under study was a unit for product development and testing of stationary telephony with approximately 700 employees. Four teams, representing different parts of the development and test chain, were studied. At the time of the study the organization was in the midst of a decisive technological change.

The results focus on the processes that over time meant that a collective learning within Ericsson as an organization took place. This learning was multifaceted, but was for the single individual specifically related to the product or service that he and his team had the task of testing. On an overall level we could say that the learning generated competence in the organisation within a technical area under development, and its integration within and coordination with technology that had since long been used. The employees

developed a similar but not identical object knowledge and action oriented understanding.

Our study shows that collective learning in product development followed a somewhat different order than earlier shown in research on more stable work tasks (such as in child care, public service and school). What generated synergy was not so much collective dialogues, instead synergy emerged in the organisation through interaction in an extensive question-and-answer activity within a common action arena. When looking for facts, this activity was sometimes transformed into a mutual process of sense making. Frequent contacts far beyond the bounds of the work team were necessary in the search for information and clues. Neither single individuals nor teams were sufficient knowledge sources.

The technological development relied on overall work tasks, which made it relevant to talk of common tasks at an organisational level. Vital ingredients in and preconditions for the collective learning was the existence of common work tasks and an action arena where technology and terminology were rapidly changing. On the common action arena people worked with other persons' technical solutions and developed these through individual effort and interaction in pairs. Instead of primarily taking place in a continuous close-by context, the interaction took place in single two-way relations, often at a distance, between large numbers of persons.

A conclusion is that collective learning occurs according to different principles and order in different specific environments, in different contexts. How collective learning takes place depends on the organization's core task, i.e. in different action contexts common knowledge is developed in partly different ways. The development of knowledge is thus context dependent.

Otto Granberg & Jon Ohlsson, 2005: Collective learning in teams: Development of collective rationality of action/ Kollektivt lärande i team: Om utveckling av kollektiv handlingsrationalitet/. **Pedagogisk Forskning i Sverige, Vol 10, No 3/4, pp 227–243. Stockholm. ISSN 1401-6788**

Today team-organizations appear as the organizational solution to many different kinds of problems in working life and workplaces. Teams, where people work together, suppose to support and facilitate learning and competence enhancement. It seems appropriate to describe the team as a desired generator of collective learning processes in the workplace. Two central conceptual problems are related to the issue of collective learning in teams which we introduce in this article. One of them concerns the relations between learning and competence.

The other problem regards the relations between individual and collective learning. Rooted in the often used and discursively wide spread concept of

»learning organization», team-organizations seems to provide a corner stone in efforts to build up effective and highly competent organizations in working life. Usually the literature on learning organizations and collective learning in organizational settings underlines the necessity of shared visions and goals, and also the importance of dialogue as a kind of non-antagonistic, harmonious kind of conversation. This strong emphasis on consensus seems to be problematic, especially when taken an organizational pedagogic perspective into consideration.

In this article we are trying to further elaborate a conceptual framework aimed to contribute to our knowledge of collective learning processes and people's attempts to organise collaboration and teamwork in teams. The conceptual framework concerns organizing as ongoing processes, and not, as in the predominant sociologically oriented perspective in research on organizations, organization as an object. The orientation towards organizing, communicative actions, and teamwork gives opportunity to deal with collective learning in a conceptually meaningful way that goes beyond the metaphor of learning organization.

Traditionally, learning is described as an individualistic concept, including change of behaviour or cognitive change. In contemporary research on learning in working life, learning is rather described as a process of social construction, discursively and contextually formed in social practice. In this article we define learning as both an individual process of reflection, understanding and acting, and a social, contextually bound activity, where other people participate in the learning processes. Obviously learning seems to connote development of competence as well as socialization.

Competence is here used in the sense of a potential ability to perform, which is to act intentionally in order to solve a certain task or to handle a specific situation or problem. This indicates that it must be something that will be learned and done, and learning is therefore the process through which competence will be generated. But competence is dependent on social interaction, and aspects of power and participation, whereby the competent performance and acting are contextually valued as the appropriate actions.

Although learning always is a socially formed process we certainly argue for a conceptual distinction between individual and collective learning in teams. When a single person reflects on his or her concrete experience, and finds out a new solution to a problem, it can be described as an individual learning process whereby the individual uses his or her earlier experiences, reflections and interpretations. In a team context where several people work together with joint tasks, where they exchange and transform experiences through joint reflection, and help each other to solve problems, it seems appropriate to describe this as collective learning processes. Collective learning and individual learning are thus conceptually separated from each other, but practically the processes are interrelated. The team has some kind of joint tasks, which can be solved more or less adequately. By focusing people's communicative actions within the team, we attend to collective learning as an issue of joint sense making and reflective processes through which the team members coordinate their actions when trying to solve their common tasks.

Empirical results from a case study of a managerial team and several studies of teacher teams show different levels of co-ordination of actions. With regard to decision-making, managers tended to avoid from critical joint reflections, which means that the team's decisions were not based on the collective competence of the team. Within the observed team the members generated a »mutual tacit support», which seriously constrained attempts to make the potential ability of the team explicit. As a consequence, collective learning did not occur and hence, a collective rationality of action certainly not will be developed.

Studies of teacher teams and their meetings show that the conversations provide a key to team members organizing of collaboration, creating joint tasks and the potential for joint solutions. Meetings are usually arenas for planning and decision-making. But the studies of teachers talk show that planning, in a traditional rationalistic view, was not a major part of the meetings. Analyses show communicative and collective sense making processes, which differed strikingly from rational planning and decision-making.

In the observed teacher teams meetings were often used for information. The team leader delivered information from the principal or other kind of information. Teachers' story telling and small talk about pupils and parents were also parts of the talk at meetings. Of especially interest regarding collective co-ordination of actions and collective learning were joint reflec-tions between the teachers. Joint reflection is a kind of conversation where the team members raise questions about, or question each others utterances. Through such questions the team members start to communicate in an argumentative way, whereby the person addressed tell something, maybe an answer to the critical or curious question.

Through this kind of backward reflections the teachers helped each other to pay attention, to heed. When they reflect together like this, they make their own private thoughts available and make sense collectively of parts of the complexity of everyday work, which otherwise would be shadowed. The teachers' joint reflections also show a forward orientation. This kind of joint reflection has a proactive aspect, which makes possible an active formation of preparedness regarding potential future events or problems. The team members form joint tasks and construct mutual understanding of them. Thereby, through their why-questions and talk about motives for future actions, they strengthen their co-ordination of actions.

It seems reasonable to describe joint reflection as a critical step to a higher level of action co-ordination in the team and hence, as an important step in the collective learning process of the team. To reflect together on why they have done something and why they ought to do something else, or at least would be prepared to do, is certainly a more qualified co-ordination of actions than planning without such reflections. These processes show a collective rationality of action expressed by a potential to perform more adequate and rational actions, related to the team's specific goal or task. But it does not mean that rationality can be properly described as a supposed logical transformation of goals to concrete actions, open for a traditional top-down leadership in the organization.

Instead the rationality of actions ought to be related to context, which amount conflicting perspectives grounded in different interests and ideas in the organization. In this sense rationality is a more complex concept than traditional organizational theory describes it. This contextually bounded rationality depends on the co-ordination of actions at different levels, where joint reflections provide »high-level» co-ordinations leading to more elaborated joint understanding of the everyday tasks. The rational actions of teams are based on the team members' ability to co-ordinate their individual actions and these co-ordination processes involve the opportunity to learn collectively and to build up collective competence in the team.

These findings indicate that collective learning processes in teams are ongoing and complex activities, difficult to steer in a traditional top-down manner. This in turn points out a weakness in the consensus oriented theories of learning organization and harmonious dialogue-models. It seems as conflicting ideas and different viewpoints reflected through arguments provide enabling and supporting forces concerning collective learning processes in teams.

Maria Gustavsson, 2005: Potential for learning in process operator work: a contextual perspective/ Potentialer för lärande i processoperatörsarbete: ett kontextuellt perspektiv/. **Pedagogisk Forskning i Sverige, Vol 10, No 3/4, pp 244–255. Stockholm. ISSN 1401-6788**

The purpose of this article is to discuss the potentials for learning that exist in the work of process operators. The theoretical points of departure in what is referred to here as a contextual perspective of learning is based on *situated learning theory* and *activity theory*. The reason that these theories have been chosen to develop what I call a contextual perspective, is that they stress that learning and work are two integrated processes and that work creates various opportunities for learning and development in everyday activities.

The term *learning potential* is used here to denote opportunities operators have for learning in their daily work. Learning potentials may be utilized by individual operators and by different groups of operators, or remain unused – a line of reasoning which will be developed and empirically examined more closely here. The discussion is based on empirical material from a study of the work and learning of process operators in four different shift teams at a paper mill.

The work of the operators in the four different shift teams has more similarities than differences despite the fact that the teams are located in different production environments with unique characteristics and the organisational conditions differ. In my study, a relatively stable picture emerges of the work of process operators with certain recurrent features and with work situations that are generally concurrent with the picture found in earlier research on the

work of process operators. It is these work conditions and situations, as well as the shift teams' and paper mill's environment, that create the various opportunities for learning and development in the work of process operators.

Some of the conditions which together or alone can be assumed to create various potentials for learning in the work of process operators will be discussed. As for example within situated learning theory, learning potential is discussed in terms of acquiring access to participate in social experiences, activities and interactions.

Another basic assumption of a contextual perspective is that there are potentials for learning when there are contradictions in the daily work. Contradictions do not necessarily have to be conflicts, rather they can in the context of specific situations have their origins in dilemmas and questioning of, e.g. tools, division of labour, and systems of rules. A third basic assumption is that organizing a variety of transfers within and between activities and workgroups creates potentials for learning. Through movement in different ways between workgroups and activities, horizons are expanded, more relationships are established and access is gained to more contexts where action is taken. Finally, there is a general perception among the shift team operators that there are potentials for learning, even though they also feel that the work has little or no development potential.

This may seem paradoxical. How then can this relationship between learning opportunities and development opportunities at work be understood? When the operators actively reflect on their own learning, it is clear that there are natural learning situations where work is learned in various ways, e.g. by working together with more experienced co-workers, by taking part in events including everything from daily routines and procedures to various problem situations, by pursuing individual study, by testing at work and either succeeding or failing, by taking part in training programmes and in large-scale construction of machines and facilities. These learning situations are interpreted as potentials for learning, i.e. opportunities for the operators to learn (individually and collectively), depending on whether or not they have the opportunity to take part in these activities and events at work.

Two overall conclusions are reached based on this study. The first conclusion is that the work of the operators is dominated by adaptive form of learning. The learning deals with mastering the work, e.g. being better at a known task, ensuring a reasonably stable production process, and solving daily problems at work. At the same time there seems to be a potential for a more development oriented learning or expansive learning. The potential for development has a mainly local and ad-hoc emphasis, primarily through the contradictions that exist in the shift team.

Nothing however indicates that this development potential might also include a development of the production level at the paper mill. An emergent system in a shift team is rarely acknowledged by company management and thus »a lid is put on» further development of the activity. How can the potentials for learning become accessible, i.e. how can the »invisible» learning that is found on the »shop floor» in a shift team be supported so that it can lead to a development of the company's operations?

Firstly, there is an »opening» that has to do with how the company can improve organization of the work so that the available competence is utilized and developed. Earlier studies have shown that in this context, work organization and technical and competence development must go »hand in hand» in order to create better opportunities for learning at work. The question then is how the company can remove the organizational and technical obstacles so that operators and teams can, to a greater degree, use the competence that seems to exist at the local level in the operation?

Secondly, there is an »opening» that has to do with how the company and shift team culture can create a different attitude towards learning that favours a more development oriented learning. The operators are often schooled in a work community where involvement in development of operations is unthinkable. What takes place in terms of the quality of learning, as noted above, is in reality primarily a question of recreating the shift team's activity so that a reasonably stable production process is ensured and daily problems at work are solved.

A second conclusion from the study is that the desire and willingness of operators is an important requirement for the utilization of the learning potential that exists in a shift team. Important »openings» are thus the influences on the subjectivity and attitude of the operators to learning in the shift as well as the incentives the company can create to encourage the operators' individual and collective desire to improvise, experiment and develop new work routines in their local activity. To return to the paradox that there are potentials for learning but no development opportunities, it appears likely that there are potentials for gradual development of the operations in the local work groups where the operators' inclinations comprise a significant part of the learning.

KFY 2000+ was a 5-year developmental programme with a focus on competence development among production workers, employed by the engineering industry in the Southwest region of Sweden. In particular, small and middle-sized companies were the target group but also large companies participated. This article discusses conditions for collaboration between the participating companies and the developmental programme. The analysis is directed towards KFY 2000+'s initial development as network and the change over to the operative phase. A conclusion is that *competence development* work as a uni-

fying boundary object between the different participating social practices in the initial project phase.

We also point to, that attempts to handle heterogeneity in the operative phase by ›designing an order‹, break up the initial network. The standardised breaks down what something more plastic and formable can tie together. KFY 2000+'s engagement in itself as a programme also led to that the production workers and the community of which they were a part of was forgotten.

The initiative of starting the programme came from network collaboration, which had been established since two decades. The network consisted of regional actors on higher levels representing major enterprises, a business organisation and the local trade union department, as well as the university and the municipal provider of adult education. This means, that KFY 2000+ must be seen in the light of former regional work within the area of education and training directed to production workers with short education.

A KFY 2000+ ambition was to create what was called a »culture of competence». The intention was that investment in competence and learning would be valued in the same way as investment in machines and other equipment. A basic idea was to create forms for organising formal learning in connection to the production floor, without disturbing the production process. Among other things, ICT-equipped work-based learning centres at the different participating companies were established.

KFY 2000+ was a programme in three different phases. The aim of the first phase was to create a strategic and theoretical platform for the development work. During the second phase, the project applied for further funding. After about two years of preparatory work, KFY 2000+ got financial support from Trygghetsfonden SAF-LO (The Swedish Security Fond, The Swedish Employers Federation, The Swedish Trade Union Confederation). Thereby, the business organisation and the local trade union department became the main interested party and talked about themselves as owners of the project.

From now on, they also got the opportunity to define the future direction. During the third phase, the project organization was more formalised with a steering group, one main project leader and four sector leaders. This also changed the original idea of network collaboration. In the third phase, KFY 2000+ became a top-down programme in relation to the participating companies. As the companies often was in a time pressure related to the production process, the project leaders from KFY 2000+ had to »stay outside the factory doors», i.e. the project was separated from problems related to the productions process. The designed KFY 2000+ model for learning, i.e. the work-based learning centre, became the dominant approach irrespective of what was going on in the companies. We argue that a model designed for learning only can be understood in its situated use, as here on the production floor. There is nothing in a formal and general description of a model that predicts its usability as a tool for learning.

It has always been a fact that most pedagogical activities pursue the objective to develop the ability to perform work-life related tasks and to cope and act on the labour market. But with the emerging knowledge society the mere concept and perceived role of knowledge and competence has undergone a gradual qualitative conversion.

For many knowledge intensive enterprises, there is a clear and direct connection between competence- and product development. The introduction of new technology is often combined with internal reorganisation. Another particular complex set of problems is related to the increased role of knowledge and competence as economic factors, where potential for serious conflicts are hiding in the dynamic relations between human capital of the individual and the structural intellectual capital of the organisations.

The continuously accelerating pace of change in today's society has in itself brought about deep transformations in work-life conditions as well as in the general settings for work-life related learning. The massive introduction of ICT within all spheres of life has not only influenced our access to information and communication, but has also altered our perception of time and space.

The natural opportunities for pause and recovery, that were an inherent part of the contextual inertia, have been reduced to a minimum. The permanent access to communication also means a constant accessibility and availability, where often the boundaries between work and spare time are deleted. It can sometimes appear that everything is simultaneously here and now.

The current dynamic changeable reality offers interesting opportunities for many, but it also causes a lot of challenges and strain. There is a price to pay for increased existential ambiguity combined with heightened demands on versatility and individual development.

One alarming distress signal here is the increasing rate of health related absenteeism. Today (2005) more than 14% of the incumbent Swedish work force is on long-term sick leave. The diagnosis »mental ill-health» has in recent years increased with up to 200% The majority of those on long-term sick leave are women and often exactly the young women are being marginalised from the active labour market due to health related problems.

If we interpret these increasing rates of ill-health and absenteeism as a warning of our lacking capacity to handle the ongoing transformations, then this is at the same time a call for action and an indication that we must develop improved individual and societal models and strategies how to deal with a changeable context.

Many of the issues referred to might not first and foremost be considered as pedagogical problems, but in the quest for possible solutions, there is certainly a need for a pedagogical scrutiny and a deeper understanding of both positive and negative learning at work.