TALLINNA PEDAGOOGIKAÜLIKOOL
SOTSIAALTEADUSTE DISSERTATSIOONID

TALLINN PEDAGOGICAL UNIVERSITY
DISSERTATIONS ON SOCIAL SCIENCES

12

THE MEANING OF LEARNING AT WORK IN ADAPTATION TO WORK CHANGES

ABSTRACT

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TALLINN 2004

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The dissertation is accepted for the commencement of the degree of *doctor philosophiae* in pedagogy on June 14, 2004 by the Doctoral Committee of Educational Sciences of the Tallinn Pedagogical University.

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The academic disputation on the dissertation will be held at the Tallinn Pedagogical University Faculty of Educational Sciences Viru Square 2, Tallinn (Lecture hall 20), on August 27, 2004 at 10 o'clock.

Trükitud:
OÜ VALI PRESS
Pajusi mnt 22
48104 Põltsamaa

ISSN 1406-4405 (trükis)
ISBN 9985-58-326-4 (trükis)

ISSN 1736-0730 (*on-line*, PDF)
ISBN 9985-58-327-2 (*on-line*, PDF)

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INTRODUCTION

The working life is changing very rapidly and therefore the requirements of the enterprises and the labour market to the employees change at a high rate as well. However, quite often these demands do not coincide with the professional capabilities, which the employee can offer to the labour market – the basis of knowledge, skills, competence, work-related attitudes and values, patterns of work identity. In the Estonian economy, significant contradictions can be observed in most spheres between the demands to the employees in their professional life and their ability to meet these demands. Almost throughout the economic independence period, especially since the second half of the 1990s, there has been an acute problem of the incompatibility of the employees' skills, competence, work-related attitudes and values and other indicators of professional competence to those required by their work.

Many sources claim that learning in working environment is one of the most powerful mechanisms helping the employees adapt to changes in work, to improve their professional capability and to compensate the impact of conflicts caused by structural changes (Descy, Tessarnig 2002, A Memorandom of Lifelong Learning 2000, Coffield 1999, Kämäräinen 2002, Maranda, Comeua 2000, A Memorandom of Lifelong Learning 2001, Lisbon European Council 2000)Leaning in the working life becomes more important also due to the differentiation of individual working and learning paths, their individualisation and the increasing variety of career paths (Young, Collin 2000, Dehnbostel, Dybowsky 2001: 394).

In order to understand the employee's learning from the aspect of adaptation to changes in work, both the contexts of organisation and individual career need to be considered. Either context requires an ability to adapt to the changing conditions, learning, the combining and development of various skills and competence, the definition of one's work identity and its re-definition, if necessary. Since the focus of the empirical study of the theses concerns primarily the work-related learning and adaptation at the subject level, the biographic perspective is highly significant. The way a worker learns and adapts the existing knowledge, skills, competence, work-related attitudes and values at different stages of life and in various working environments can be viewed as his/her construction, which to a greater or smaller degree corresponds to the capability required from him in work. Obviously, these individual adaptation processes take place in a context of certain structural conditions. The analysis of both micro- and macro-level processes is necessary to understand the role and interaction of the structures and the subjects in learning and adaptation in working environment. (Eraut et al 1999: 38, Pollert 1999: 4).

The approach to the problem is based on the statement that structural changes and the accompanying changes in work cause conflicts at the institutional level and principal changes in the required work-related capability of workers. However, it is increasingly difficult to co-ordinate the educational and labour institutions so as to ensure a correspondence of the capabilities acquired in the education and training system and required in work. The employees willing to remain employable, will have to adapt in their working life one way or another to the changing demands of work. As seen from the employee's individual perspective this means that he or she will have to learn and develop his/her work-related capability and to adapt it to what is necessary in current working environment, at the same time regarding the opportunities of further work-related development and career. It is presumed that learning in working environment is one of the most important factors in these processes.

This setting of problem leads to the central question of research of the theses: how does the employees' learning within the working environment take place as a response to changes of work and which strategies do they use?

Figure 1 depicts the object of study of the paper, constructed on a basis of the conflicts between learning and work at different levels – the macro- (structural conditions) and micro-level (the individual actor's level). Regarding the aspect of the supply and demand of labour-related capabilities, all relations between the main institutions and actors can be presumed to pose problems.

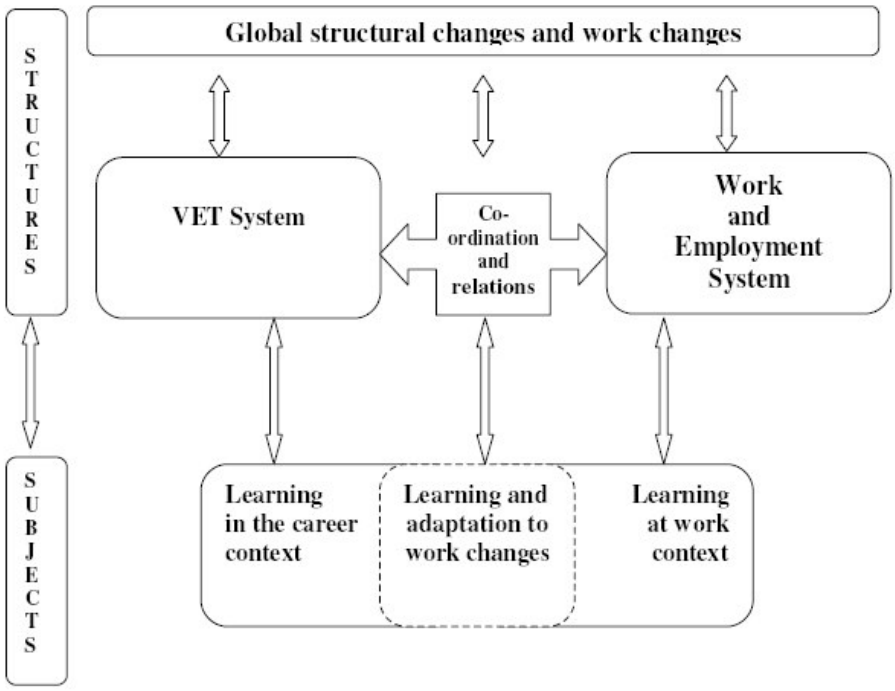

Figure 1. The object of investigation of the theses: learning and adaptation under structural changes

Individual patterns of the employees' learning and adaptation and their relation and interaction with structural changes - the main problem of study of the theses - has not been studied to great extent, especially in Estonia. The following circumstances make it necessary to study the issue:

1) the processes taking place in the field of interaction of education`s and economy's area in the context of development of Estonia as well as other transitional countries, have been weakly conceptualised, i.e. these processes have not been adequately described, explained or analysed in generally comprehensible and generalising terms. Although the highly developed European countries have addressed these issues consistently after the economic crisis of the 1970s, even these countries admit the need for continued studies (Bjornavold 2001, Schienstock 2003);

2) learning in working environment has been paid only modest research attention in Estonia and knowledge of the Estonian employees' adaptation to the changing requirements of work is certainly insufficient. Issues of the connections between education and economy have been treated and studied in Estonia at the macro-level, mainly within the studies of the labour market. Leaning in working environment has hardly ever been studied in Estonia, with a few exceptions, especially regarding the aspect of the significance attributed to such learning by the employees. Due to the integration into the common European economic and education space, general interest towards these issues is certain to increase;

3) the connections of education and economy are often treated in a simplified manner and unilaterally, disregarding the impact of the supply-side processes, incl. the activity of different actors, especially employees themselves. Therefore, attention should be paid to the bilateral nature of the relations between education and economy (Lassingg 2001a, 2001b, Masson 2002, Schienstock 2003).

Based on the above description of problem, the theses sets the following goals:

1. Explanation and conceptualisation of the process pf learning in the working environment;
2. Identification of processes and strategies of the employees' adaptation to the working environment;
3. Analysis of factors and trends influencing the requirements for work-related capabilities of the employees;
4. Explanation of the treatment of the development of vocational education in the context of Estonia's social-economic development;
5. Discussion of opportunities for the development, updating and more efficient co-ordination of institutions of work-related institutions

The defining of the need for learning and the learning patterns, which have emerged in organisations, possesses a significant importance for educational policy: 1) it would provide an opportunity to consider, recognise and support the learning taking place in the working environment; 2) it will enable a more up-to-date institutionalisation of the relations between the formal and informal learning, learning in the working environment and in the vocational training system; 3) to contribute to the development of education policy, especially the vocational education policy and to reduce its current strategic indeterminacy and inconsistency; 4) in the planning of development of institutions dealing with staff development and lifelong learning.

The general methodological strategy used in the paper is moderately constructivist (Fulcher, Scott 1999, Lagerspetz et al 1998, Noble 2000) and is based on the qualitative methods of data analysis. Based on the constructivist principles, the following methodological principles have been applied: 1) to proceed from the employee's perspective – the meaning attributed by the employee to the process of learning in the working environment and adaptation to the requirements of work; 2) proceeding from the principle of complete description, which requires a careful analysis of the structural conditions and context; 3) observance of the requirement of flexibility and dynamism of the study and avoidance of inflexible structure in research. (Bryman 1992, Fulcher, Scott 1999, Denzin, Lincoln 1997, Noble 2000: 9, Goldthorpe 2000, Sayer 1992). In the theses, there has applied a relatively open and flexible multi-stage strategy of research. The research methods applied include above all theoretical analysis, the benchmarking method, trend analysis, open interviews with the employers and semi-structured interviews with the employees and the pattern matching method.

The object of the empirical study included two groups of employees: medium-level specialists of the information technology sector and skilled workers in timber industry. The empirical part of the theses uses the of data frame collected within various research projects[*] under the author's direction and with her participation. The data base, which is formed by verbatim transcripts of interviews, consists of 26 open interviews with employers and 53 semi-structured interviews with employees. In order to ensure the reliability of the results, the principle of triangulation of theories and researchers[**] and un-exceptionality was used. (Alasuutari 1995). The generalisation of the results considers the restrictions caused by this approach: a) the results of the empirical study are applied only to the groups of employees being researched in the context of their working life; b) since the interviewees were a part of the employment system, it has to be considered that the gaps in skills, competence and other work-related capabilities of employees in the labour market as a whole are generally larger than in the researched sample; c) since this is a discourse analysis, it can be presumed that the employees' discourse is normative to some degree, i.e. the employees tend to speak what the employer is presumed to expect from them.

1. REVIEW OF THE RESEARCH – THE STRUCTURE AND STAGES OF THE THESES

The structure of the theses proceeds from the main problem of research – *the role of learning in the working environment in the process of adaptation to work-related changes* and the methodological principles applied in the research. There are three central stages in the structure of the paper:

1) analysis of structural conditions;
2) theoretical analysis of basic conceptions;
3) empirical analysis.

1.1. ANALYSIS OF STRUCTURAL CONDITIONS

The analysis of structural conditions proceeds from the premise that the development of the structures of education and work is a complex process, where various factors influencing parallel at different levels. In case of the structural conditions, three complexes of structural factors having influence on the requirements to employees and their learning at work have been analysed. *First,* the universal mechanisms of global changes, linked to social transitions. The latter are closely tied to the post-Fordist concept of production on the one hand and the development of the post-socialist countries' position in global division of labour on the other. *Secondly,* the theses analyses the relationships between education and economy based on

[*] FAME project of the EU 5th framework programme - "Identity, flexibility and mobility in the European labour market", 2000-2003 (methodology of interviews: Krista Loogma and Sofia Joons) and the project "Future of Estonian employment" conducted by the Estonian Institute for Futures Studies, 1999-2000, (methodology of interviews: Krista Loogma).

[**] The results of research were evaluated, besides the author of the paper, also by Sofia Joons, Meril Ümarik and Silja Kurik.

functional, conflict-theory and interactive approaches, and, *thirdly,* the work and vocational education and training systems. In order to conceptualise the development of the vocational education and training system in Estonia, the two models historically dominating in Europe were used as a basis for comparison – the dual system with the prevailing of the occupation based labour market, which dominates in Central Europe, especially Germany, and the market-based model with the organisation-based labour market, which prevails in the UK (Anglo-Saxon system).

1. Global background of changes in work and education. A theoretical analysis of structural changes and changes of work brought forth and confirmed the significant influence of several universal mechanisms on the changes of work, education and learning structures as well as on the requirements to the employees at the labour market.

A general increase of structural complexity - integration and differentiation of structures taking place as parallel processes (Noble 2000: 40, Laszlo 1997, 1986) - finds its expression in contradictory trends of development of educational and labour structures. For example, the integration of technologies brings along the interweaving and expansion of the occupational profiles and necessary skills structures. At the same time, the differentiation processes take place that can be reflected by diversification and differentiation of the enterprises' subsystems and structures, while on the individual level in the expansion and differentiation of career paths, work values, etc.;

The development of service economy and the resulting selectivity and primacy of demand in the markets, incl. the labour market. The primacy and selectivity of demand in the markets is related to the increasingly differentiated demands of the consumer/client, which are accompanied by ever higher quality standards of the products and services (Giarini, Liedke, 1997). The leading role of demand in the labour market means that the demand of skills and competence in the labour market will increasingly determine the employees' learning, in other words, the subordination of education and training to economy.

The increase of the reflexivity of knowledge and the increasing importance of applied sciences has moved to the foreground among the work-related requirements to employees as the ability to apply knowledge and skills in different contexts. The circulation process of knowledge (Giddens 1991) is influencing the occupational life primarily through the constant need to renew and update the knowledge base.

The post-fordist production concept accompanying these general, universal trends, strongly emphasises the constant need for flexible adaptation and modernisation of economic agents. This is directly expressing the requirements to the employees in the working environment, which centre around the imperatives of constant flexible adaptation and innovations. A number of relatively universal requirements to the employees is also clearly expressed within the post-fordist production concept. Besides the increasing demand for specific technical skills the requirements to employees are changing in the following principal directions: broad scope and ability to solve complex problems, ability of continuous learning, increase in responsibility of the employee, development of work-related identity combined with the demands for commitment to work and loyalty etc. Besides the technical knowledge and skills, general/key skills becoming increasingly decisive, e.g. social and communicative knowledge and skills, especially competence as the ability to apply one's knowledge and skills in various contexts and situations. (Cressey, Kelleher, 1999, Kelleher 2000, Malhotra 2000, Boreham, Lammont 2002, Svensson et al 2000).

However, the criticism of the post-fordist production has pointed out the fact that post-fordist working environments are rather rare in reality and that there has rather occurred a broadly

varying adaptation of fordist production concept to new circumstances (Dehnbostel, Dybowsky 2001, Dejonckheere, Hootegem 2001). Thus post-fordism has rather become a normative model regarding a number of demands to the employees. Post-fordist demands to the employees are primarily evident in the working environments, which apply highly integrated technologies.

The prospects of the post-socialist countries in the global labour division are significant primarily as to the definition of the demand for labour in Estonia. It is unclear both theoretically and empirically, how will develop and what will be like the position of the post-socialist economies, incl. Estonia, in the global competition and accordingly in the global division of labour. The latter will in turn determine the general traits of demand for labour. The two leading theoretical approaches compete in the explanation of the post-socialist economies' demand for labour. (Noble 2000, King 1999). On the one hand, the model of the so-called periphery economy or dependent development presumes that cheap production and service functions lacking knowledge and unstable subcontracting economy will further incline the post-socialist economies' labour demands towards low-paid, low or middle-skilled labour force. (Wallerstein 1987, Galtung 1991). Supporters of the modernisation thesis forecast a modernisation of the economy and working environments and drawing closer to the developed Western economies. This will be accompanied by an increasing demand for highly educated and skilled workforce and a polarisation of the demand for labour.

According to this scenario, integration to global economy has through modernisation processes a positive impact on high skilled labour demands, above all through innovations, work-related attitudes and work ethics that accompany foreign investments. (Sachs 1991, Blanchard et al 1993).

2. Theoretical explanations of relationships between education and economy. It is not possible to explain the relations between education and economy without encompassing the broader social context. Thus the relations between education and economy, more broadly, between education and the society, have been explained according to the functional, conflict theory and interaction perspectives. The emergence of various perspectives has been influenced by social-economic conditions. (Turner, Mitchell 1997, Fulcher, Scott 1999, Maranda, Comeau 2000). In the context of functional approach, most powerful is still the human capital concept. Its explanative power has considerably reduced in terms of analysing macro processes, but it is still relevant on the micro/individual level as an analytical tool to study of work-related capability. (Human Capital Investments…, 1998, Westphalen 2001). The conflict theory approaches emphasise the contradictions between education and economy diminishing the economic function of education and pointing out the stratifying role of education system (Bourdieu, 1997, Bernstein 1996 et al.).

3.Work and vocational education and training (VET) systems. Another important structural aspect of the learning in work environment and adaptation of the employees are the structures of work and VET, their functions and impact in the broader social context. In case of relatively stable VET systems, VET is a system highly integrated not only with work and economy but also with the other social institutions (e.g. general education, culture, social structure). (Laske 1999, Young 2000). An analysis of the dual and Anglo-Saxon vocational education systems showed, how vocational education forms a historically developed integrated system with the cultural significance of work, education, the system of social stratification and the function of the economic organisations. However, general changes of structure are, one way or another, influencing the various European systems of vocational

education. The reorganisation of the dual system comprise attempts to improve it, regulate and correspond it to the trends of global changes and post-fordist changes. In case of the Anglo-Saxon system built on market reactions, the goal is rather to increase the reactivity of VET to changes of economy. In order to comprehend how and into which system will VET change in the context of Estonia's social-economic and cultural development, its analysis applies the benchmarking method, using as the basis of comparison the two above-mentioned VET models dominating in Europe – the dual and the market-based.

The development of the Soviet VET system in Estonia, an extremely centralised and extremely closely related to economy, was completely interrupted due to the transition to market economy. The new concept of VET, its functions and mission in the broader social context are not yet clear. Although VET aims at increasing reactivity to changes and the needs of economy, it is not well co-ordinated to the economy, at least not in the areas empirically studied by this dissertation. Besides, previous analyses and statistical data show that neither is VET in Estonia adequately related to general education and the labour market (Grootings 1998, Helemäe, Saar 2000, 2001, Zelloth 2003 et al). Thus the analyses enabled to reach a certain general conclusion that vocational education in Estonia is not an intrinsically coherent system nor is it integrated to the broader social-economic and cultural environment.

1.2 THEORETICAL ANALYSIS

Several concepts and theories have been analysed within the theoretical analysis, describing and explaining work-related capability and work-related learning. The theoretical analysis was aimed at the two principal goals: the drafting of a theoretically derived model for the analysis and categorisation of the empirical data and the analyses of the meanings and interpretations of main concepts of theses and the applications of theoretical approaches. The latter will be used for pattern matching in further empirical analysis so as to recognise and conceptualise the patterns of work-related capability and learning, which emerge empirically.

In case of concepts expressing **work-related capability,** primarily those were observed, which enable to express and explain the demands of flexible adaptation and the integration of work and learning in the context of the organisation as well as the biography/career of the employee. The following concepts were analysed: human and social capital, skills, competence. Despite the highly varying meanings, interpretations and applications of these concepts, one can generalise this analysis as follows: 1) all these approaches are context-specific, being greatly influenced by structural conditions. In case of the latter, a significant role is played by the different expressions of the post-fordist production concept impact and the culture-specific settings of the work, economic and (vocational) education structures in various countries. The meanings and interpretations of concepts expressing work-related capability have been influenced by the traditions and values of either the dual or the Anglo-Saxon systems of work and VET systems; 2) enable to express the employee's work-related potential, the capability the employee flexibly applies in different contexts according to specific needs.

According to some interpretations there is no significant difference in the treatment of skills and competence, while the ways how they develop differ (Kämäräinen 2002). In the dual system they develop in vocational education, i.e. based on school as well as work, while in the Anglo-Saxon system mostly based on work. According to other treatments, there is a difference between skills and competence. Skills, especially regarding to specific, technical skills, describe better the demands of routine and relatively simple work. Competence on the

other hand is a highly complex term and describes better a complex, rapidly changing demand, while covering the attitude to work, commitment and important aspects of occupational identity. (Ellström, 1997, Kellerher et al 2000, Hövels 2003).

On the other hand, theoretical approaches and concepts were analysed, which bear a direct relationship to learning in working environment. The theoretical aspects of **learning** in working environment were studied proceeding from categories of experience and participation in the development of occupational capability. The theoretical approaches of learning considering these principles are primarily cognitive and behavioural as well as social-cultural. The former primarily emphasise the output of learning – skills and competence, while the latter concentrate on the various processes of socialisation in a lifelong perspective. The latter are indivisibly related to the participation in various communities of practice and the development of occupational or work identity (Lave, Wenger 1991, Brown 1997). The latter may or may not coincide with vocational/occupational identity.

Learning in work was also observed from two mutually closely related aspects: the organisational and the employee's biographical aspects. The biographical perspective is important here, since for the employee, the development of skills and competence, commitment and occupational identity are continuous processes changing in time, which enable the growth and accumulation of work-related experience and capabilities. The individual meaning of learning is tightly related to the biographical occupational development, expressed by the concepts of career work identity. The recent treatments of both career and work identity are based on constructivist premises, i.e. the individual's active participation in the construction of own career and work identity. (Collin 2000, Young, Collin 2000). The organisational meaning of learning can be expressed by a number of dynamic concepts, which describe and explain a great variety of ways of learning in the working environment. The various meanings of organisational leaning are significant in this respect.

The analytical model developed as a result of this theoretical analysis interrelates from the viewpoints of the research question the following important categories: the learning and development of occupational capability of the employee, work (the meaning of work and learning potential of work), participation (as participation in communities of practice, work-related communication and work identity connected with the former). The theoretical analysis also demonstrated that the above categories have been treated/conceptualised as the most important factors in adaptation to changes of work. According to the theoretical analysis, parallel to the above, the following dimensions of learning, enabling to point out the structure of learning were found to be important regarding learning in working environment: formal–informal, individual–organisational, evolutionary–adaptive, self-controlled learning – controlled by others. (Engeström 1995, Bjornavold 2003, Kelleher et al 2000, Holmes 2000, Ellström 1999).

Thus the author has constructed as a result of theoretical analysis a model of learning in working environment, which connects learning and the development of work-related capability, the characteristics of work, participation in the communities of practice and the inseparably related development of work identity as the most significant factors of adaptation of employees to changes of work. The categories presented in this model serve as basis for the following empirical analysis.

1.3. EMPIRICAL ANALYSIS

The analysis of empirical data was accomplished on the bases of the body of data described in the methodological part above i.e., the transcripts of interviews. The analysis proceeds from the model of the employees' adaptation to work changes as depicted in Fig. 2, which combined the employee's learning and development, characteristics of work and work-related communication and participation in various communities, thus enabling to analyse the employee's learning within the processes of adaptation to the work changes.

The empirical data analysis was conducted in two stages.

1) *the categorisation of the primary data*, as said, was conducted according to the model developed by theoretical analysis and the basic categories presented in it;

2) The second stage was the *"pattern matching" or pattern recognition*. Pattern matching is a method, where the patterns emerging empirically are compared to theoretical, previously identified or hypothetical and expected patterns. (Yin 1989, 1998). Pattern matching enables to conceptualise the patterns of demand and supply of work capabilities of employees, learning and adaptation of them as expressed in the employees and employers discourse.

In accordance with the goals set of the theses, the empirical analysis focuses on the viewpoint of the employees, which describes their interpretation of the employers' demands, leaning and adaptation. The employers' discourse represents on the one hand the manifestation of work changes and demand for skills and competences of employees in the organisations of the timber industry and IT sectors. At the same time the discourse of the employer has been compared to that of the employee, in order to clarify the increasingly topical demand for skills and capabilities in the working environment, and the shortcomings in work-related capabilities.

As a summary of the empirical study, the following table has been compiled, which conceptualises learning in working environment and other important factors and processes related to the employees' adaptation to work changes.

Table 1. The conceptualisation of the processes of learning and adaptation in the work environment

Concepts describing factors of the employees' learning and adaptation		
LEARNING AND DEVELOPMENT IN WORKING ENVIRONMENT		
	Skilled workers of timber industry	IT specialists
General nature of leaning in working environment	Experiential, explained according to Kolb´s model of experimental, individual learning.	Experimental, explained according to model of experimental, especially well social-cultural leaning in communities of practice
Formal-informal learning	Significance of informal learning is greater. Significance of primary VET to necessary capability of work is low. Significance of primary VET to the formation of basis for personal development and lifelong learning is low. Learning from experience has the significance of lifelong learning	Significance of informal learning is primary in the achievement of necessary capability in work. Significance of formal education regarding necessary capability is generally low. Higher education has an signalising effect, sometimes significance of formation for basis for personal development and lifelong learning

Organisational – individual learning	Premises for organisational learning are absent due to hierarchic organisation of work. Learning according to needs of the organisation manifest in learning for new technology and changing products patterns. The organisation's needs regarding quality (good work) have been perceived. Low mobility between employers due to strong need for stability	Premises for organisational learning can be seen in project-based organisational structure and highly open learning in communities of practice; at the same time organisational learning is obstructed by high mobility of staff. High mobility, moving between employers and projects is interpreted as the best method of learning
Adaptive – developmental learning	Within a hierarchic working environment the learning of skilled workers is rather adaptive and controlled by the employer	IT specialists' learning is basically developmental/innovative and self-controlled
Learning resources	Traditional, closed, socially very restricted learning. Learning resources of skilled workers are accessible to a very limited number of learners. At the same time the resources are accessible in the organisational environment and thus potentially also via system of practice. Learning is restricted by stability seeking, discouragement from learning, limited theoretical knowledge and options	Leaning is directed at self-development, socially very open. Leaning resources of IT specialists are distributed in broad communities of IT specialists, which cover networks within and outside of organisation, local and global networks. Leaning is restricted by limited time resources and often underestimation of theoretical knowledge.
Concepts describing the employees' learning and adaptation		
	Timber industry skilled workers	IT specialists
WORK-RELATED CAPABILITY – requirements to employees (the employer's discourse and the employee's interpretation of demand of work-related capability)		
Knowledge	Practical, generally hidden, in individual cases theoretical knowledge	Practical, generally expressed knowledge Theoretical knowledge
Skills	Specific technical skills and good manual skills	Specific technical skills, general skills (social skills), poly-contextual skills
General skills	Demand nearly non-existent, with the exception of cases, when new master is elected from among workers	High demand, especially for social, management and administrative skills
Competence	Need to apply different capabilities for adaptation to new technology and new types of products, as well as for acquiring knowledge necessary in the work process. Readiness to adapt to new technology as well as to do the work "from beginning to end" – readiness for greater independence on context of routine work	Application of different skills and competence to often unique tasks (new projects, new clients) and to adaptation in highly various contexts; Readiness to offer new technical solutions inn different contexts; readiness to adapt to various social contexts is weak
Attitude towards work – working ethic dominating in discourse	Traditional joiner's ethic: that of conscientious, proper, reliable work *"a good man does good work"*	"Hacker ethic" – ethic of interest-centred, enthusiastic work. Shortcomings in client service culture

Flexibility	Limited functional flexibility – adaptation to new equipment and new types of products.	Very high functional flexibility – adaptation to rapidly changing technology, project- and team-based organisation of work, new unique tasks and clients.
Movement in labour market	Generally limited movement, influenced by stability seeking and settled practice. Horizontal movement dominates, except for founding one's own enterprise. Few options, movement restricted by learning narrowly from experience and discouragement from learning	Very extensive movement, dominated by horizontal movement, except for "transgressive", who also move vertically. High mobility is influenced by enthusiastic attitude towards work and work-related learning, strong need for self-development via new experience. Model of recruitment, where the employer highly values varied experience.
WORK		
Meanings of work and the resultant motivation	1)Creation relating to timber working process and its outcome. 2)Interest-centred meaning: timber working is a hobby related to seeking of continuity and stability. 3)Meaning based on working conditions and economic meaning of work 4)Redefining of work	1)Creation – every project as creation. 2)Interest-centred meaning: interest towards technology, dynamics of development, recreation, thrill, fun. 3)Meaning based on working conditions and economic meaning of work 4)Meaning based on self-development – can lead to redefinition of work via transgressive learning
Leaning potential of work	Limited. Low degree of self-management relating to limited independence. Learning centred on practical knowledge and specific skills relating to new technology and new types of products. Differentiation between joiners and machine tool operators within the general model. Generally high responsibility for the development of one's skills and competence	High. High independence – decision-making and responsibility related to project or client. Continuous varied learning caused by rapid development of technology (both skills- and competence-centred) learning. Generally high responsibility for the development of one's skills and competence.
Work identity and formation development	"Joiner identity". Develops generally traditionally, through initial socialisation and comprehensive and interest education. Role of VET is unclear.	"Hacker identity". Developed generally through participation in communities of practice, as well as initial socialisation and general education. VET has no significance
Core elements of work	Timber, the creative process related to its processing	Technical interest, interest towards IT
Basic model of organisation of work	Hierarchic	Team-/project-based
Discourse of affiliation and work identity	Occupationally determined (skilled timber workers)	Interest oriented, field of activity (IT) -oriented (IT-specialist, computer specialists)
PARTICIPATION and work-related communication		
Social self-determination	Class-based: bluecollar workers, working class (*versus* office workers, managers, sometimes small entrepreneurs)	Work-related: IT-staff (also: IT-men) *versus* common people, IT users, also managers, salespeople, administrators
Communities of practice	Very small groups of colleagues spontaneously/liberally forming within the working collective	Team/project group, real and virtual leaning communities of acquaintances working in the IT field

Based on empirical data, various strategies of adaptation to work changes can be pointed out. Their differentiation is based, *on the one hand*, on the different meanings attributed to work, directly related to the employees' work identity and motivation: a) occupational identity based on the creative and interest-centred meaning of work and b) work motivation based on the economic meaning of work. *On the other hand*, the various strategies can be differentiated according to goals related to the employee's occupational development and career/movement, which determine the directions and scope of the employee's learning. It is possible to point out three principal strategies of adaptation - passive, flexible and transgressive.

2. THE MAIN RESULTS OF THE THESES

The analytic survey will further present the main results of the dissertation. The following will integrate the conclusions of analyses of structural conditions and results of analyse of empirical data of the theses of dissertation. Theoretical conclusions and conclusions for the development of work-related learning structures have been presented separately. The theoretical conclusions concern above all the conceptualisation of processes and mechanisms of the employees' learning processes in work environment and strategies how they respond to the demands for changing work-related capabilities and learning at work. As one of the main result of the theses the model of the employees' adaptation strategies has been constructed. The recommendations for the development of the structures of work-related learning proceed both from the theoretical analysis of structural conditions and from empirical analysis – regarding the employees' individual adaptation and learning.

2.1. THEORETICAL CONCLUSIONS

Work-related demands and learning. The demands to the employees are generally influenced by the general dynamic observed in work: orientation from specific technical knowledge and skills general skills and competence. This tendency is gathering strength. The three main developments, which generate this type of demand, are the increasing client-orientation, the continuous increase of quality standards and the clients' requirements, the increasingly complex technologies and their integration.

Among the work-related requirements, it is possible to distinguish between three main aspects the employees will have to adapt to: 1) demand for specific technical skills starting from relatively narrowly oriented skill profiles up to complex ones, including hybrid skills. The latter require the knowledge of different technologies; 2) work ethics – certain work-related attitudes and values that ensure reliable labour; 3) flexibility – ability to acquire and develop the skills and competencies needed, to learn new skills, adapt to changing technologies, new product types and new clients. In the context of adaptation to work-life changes, flexibility serves as a central factor, depending on acquisition and development of general/key skills and competencies.

The described general requirements are expressed in various ways dependent on the groups of employees. While case of timber industry workers there is no special demand for nor supply of concerning general skills and competencies, in case of IT specialists there is strong demand

for general skills, above all communication, management, coordination and administrative skills and competencies. Major shortcomings in these particular skills are observed quite frequently.

In case of both employee groups, the knowledge applicable at work is to a large extent practical knowledge, acquired mostly by learning from experience. Generalised theoretical knowledge is often deficient or underestimated by employers as well as employees. The scarcity of adequate theoretical knowledge among the knowledge circulating in working environment and the learning going on there is related to the widespread working without initial vocational training or special education. This is the practice of working of many employees of timber industry and the so-called hacker-type IT specialists. The underestimation of theoretical knowledge is frequent among employees without primary vocational training or among the discouraged learners, who consider themselves too old to learn. On the other hand, an increasing tendency of continued learning in formal education is apparent; this is particularly notable among the IT specialists. In these cases the continued learning in the formal education system was explained, at least partially, by a need for "broad knowledge" as a base for flexibility in further working life. As the technology becomes increasingly complex, the absence of adequate theoretical knowledge is turning into an obstacle in the development of the employees' necessary skills and competencies.

By learning predominantly in everyday work, the result of learning will be practical knowledge, which cannot be easily transferred to other contexts and therefore restricts adaptation of empolyees. Together with the increasing demand for work-related flexibility and the increasingly abstract products conceptions, the demand for theoretical knowledge increases as well. Above all the type of theoretical knowledge is needed, which, integrated with experiential knowledge, will develop the employees' competencies and capabilities to apply their knowledge in different contexts. The predominantly learning from experience will no longer be sustainable from the organisational development aspect, let alone the development of the employee. In case of the IT specialists the demand for theoretical, generalised knowledge will further increase in the future, primarily related to the inevitable expansion of the service functions. While in the timber industry, due to the implementation of highly integrated technology, a demand for working process knowledge is already apparent, which cannot be acquired without theoretical knowledge.

Work as the basis and staring point of learning. Work is an important source of learning and learning in working environment is closely related to the nature of work in case of either group of employees studied. Work in various spheres of activity has primarily a different learning potential. The learning potential of work depends on the concept of production applied to the working environment/organisation and the accompanying organisational culture. A neo-fordist production concept dominates in the working environment of timber industry workers, which is related to the hierarchical environment and culture and generally has low learning potential. In this environment the demand for work-related capabilities and learning is influenced not only by the development of technology and fast changes in production types, but also by limited independence and one-dimensional, relatively simple work tasks/ problems. However, this general model does not include cases of joiners whose work includes elements of handicraft and demands more complex and creative approach as well as good manual capabilities ("golden hands"). Due to bigger share of independence, creativity and development of employees' capabilities that enables to apply skills also in new conditions (new product, new company), the work of joiners also involves higher learning potential. The post-fordist work environment of IT specialists is characterised mostly by project-based work organisation and "flat" hierarchies. Learning potential of work tends to be

high due to independence, the extremely rapidly changing and complex technology combined with differing needs of various clients and complex problems in the case of IT specialists.

An important factor influencing employees' motivation and work identity can be the "core element of work", specific to the given field of activity. For skilled workers of timber industry a specific material – wood - serves as the core of work and the related product development, which can at least partly take place manually; their work, interests and motivation for working and learning are concentrated around it and they are more or less to committed to the related activities. In case of IT specialists, the information technology itself constitutes the core element of their work. Most IT specialists are greatly enthusiastic about it and more or less identify in their work with the activities around this core. The core of work and the closely related motivation on the one hand and the patterns of work identity on the other constitute a space of values, where the employees' learning, development and adaptation take place.

Patterns of learning, participation and work identity. The learning realised in working environment is generally expressed, in case of both groups of employees studied, principally as learning from experience. The learning of skilled workers can be well explained by Kolb´s theory of experimental learning. The IT specialists' learning can be better explained via learning taking place in communities of practice by work-related communication and socialisation at work.

In case of learning in working environment, highly varied learning patterns emerge. However, empirical results in general confirm the position that both the employers and the employees value the significance of informal learning for a variety of reasons much higher than that of formal. Training is necessary and a large part of employees agrees with it at the discourse level. At the same time, there is a major shortage of training resources.

The situation concerning training in working environment can be briefly described as following: the case of IT specialists is characterised by a high supply of training by the employer as well as a high demand for it among the employees. At the same time, a strong shortage of time restricts participation in training, while the underrating of formal learning is not unknown either. Therefore the IT specialists are very selective regarding training. In case of skilled workers in timber industry there is no special supply of training by the employers nor demand for it among the employees. However, there is a significant share of indifferent and discouraged learners in this occupational group. While they do not care about training or other formal learning, they may view necessary learning within their everyday work as self-evident.

The employer rather expects functional flexibility, based on a broad circle of skills, which can be acquired through informal learning in the working environment, by leaning during work.

A need for very rapid adaptation, unless accompanied by sufficient general skills and competencies, can have negative effect regarding the sustainability of the employee's professional development, since in many cases such leaning does not particularly contribute to the development of the employee's competencies and tends to be short-term or sometimes rapidly dating, primarily aimed at helping to adapt to the minimum requirements of the work. This threat is especially high in case of timber industry skilled workers, where the opportunities for reflecting one's experience are extremely limited by the hierarchical working environment and highly restricted communities of practice. In order to turn this type of learning sustainable from the aspect of the employee's individual development, i.e., so that the learning would contribute to the development of the employee's competencies within his general professional development, this process should involve more theoretical, conceptual and generalised knowledge.

However, in case of some employees, especially in the IT sector, formal education and formalised learning have important meaning not only in the signalising meaning, but also in the sense of recognition of theoretical knowledge. The significance of theoretical knowledge for them is related to the idea that theory "teaches to think in a broader scale" and provides a wider basis for further learning. Some employees have also experienced that theory can actually be of use in practical work.

The employees can generally learn in order to adapt to minimum demands of the working environment – i.e. demands for specific technical skills, as well as broader technical skill mix and hybrid skills. The latter became topical only in the IT environment. IT specialists without primary vocational training can acquire technical skills with relative ease, but this need not mean competence in use as an ability to apply these skills in different contexts (in case of particular client, for certain business technology). This confirms the thesis that the output of relatively unilateral, (only) experience-based learning without integration of theoretical knowledge acquired through formal education, will be narrow-profile technical skills based on practical knowledge, which can be poorly transferred to other contexts. The employer often presumes that the necessary skills can be acquired at work either through independent/self-learning or by combining it with training provided by the employer. This skills learning pattern is in principle similar to the Anglo-Saxon skills-centred, organisation-based VET system, where a majority of the necessary skills are acquired in the working environment. At the same time it should include stronger management and greater control of the employees, since a number of elements of competence and especially work ethnic are acquired at the workplace.

The integration of work and life is evident in case of broth groups of employees. Experimental learning is to some degree everyday learning, in which case the learning necessary in everyday life and the related practical knowledge are part of the knowledge applied in the working environment and vice versa: the knowledge and skills necessary and acquired at work can be transferred to everyday life. This is evident in case of employees, the meaning of whose work is related to their interests, i.e. interest-centred. Their sphere of interest has once developed into occupation, while the work-related activity (timber working or use of IT) has remained, for various reasons, a part of everyday life. Thus these employees also learn out of work – either interest-based or while performing work necessary in their everyday life.

Organisational learning. Learning takes place in accordance with the goals of the organisation, being closely related to work. It cannot be stated, however, that it is accompanied by an effective inter-organisational communication or changes in the organisational culture. Therefore, organisational learning in the sense of a emergence of learning organisation, where learning is related to changes of the organisational culture, was not observed. Empirical data rather tend to reveal that the organisation can be viewed not as a subject of learning but as a socialising agent in the context of the employee's development and life long socialisation process.

Although it is difficult to state definitely, whether the employees' learning in the studied cases is individual rather than organisational, it can be claimed that:

1) the employees' mobility models need not promote the identification with an organisation. The primary mobility model of the mid-level employees is horizontal, where learning is primarily related to the expansion of one's competencies, improvement of career opportunities and acquisition of broader work experience. The change of employers or mobility between different employers is an important mechanism of learning and development in this case, especially regarding IT specialists. While the employers are highly

interested in the employees being committed to the firm, where they work, their recruitment strategies frequently support the very opposite trend. Since the employers primarily recognise the experience of employees rather than education and graduation certificates, the employees are oriented, in order to achieve a better position in the labour market, at moving from one firm to another, one project to another, so as to acquire learning and varied experience and gather the required resource of experience.

2) the employers themselves did not mention inter-organisational mechanisms of knowledge and information exchange nor attributed great significance to them, with the exception of relatively stable teams and some other all-organisational methods of exchange of information in case of IT specialists - regular meetings, sharing of learned knowledge at conferences and seminars etc.

3) adaptation to organisation in most cases was not related to identification with the organisation, but rather dependent on working conditions and/or external to work conditions (like housing situations).

In case of either group of employees a dilemma emerged: if learning coincides the demands of the employer, the learning frequently tended to be "poor" and may not correspond to the employee's needs of individual development and career. In cases, where learning exceeds he limits of current work requirements, rather being based on individual interests or needs, it can happen that the "employee thinks too much" or tends to cater to his/her own interests in learning, rather than those of the organisation. Therefore, organisational learning adapted purely to the employer's demands, is more likely to lead to specific, narrowly oriented skills-centred learning rather than to competence-centred learning. Theoretically as well, such everyday learning, which does not include theoretical knowledge and does not involve reflection, can lead to the development of practical knowledge and narrowly oriented skills rather than the formation of broad competencies.

In case of both studied groups of employees there were no formal professional communities, which could have supported the learning of the employees and the development of work identity. In case of IT specialists they have been replaced by informal professional bodies, which perform the analogous functions and operate as communities of practice. Informal associations (club-type informal associations, web-based communities, learning from friends and IT specialist acquaintances etc.) are highly important and even of primary significance in learning. The IT specialists' work identity is to a great extent based on communication and development in such communities. This kind of work identity can be defined as "hacker identity". The hacker ethic related to this identity is characterised by a highly enthusiastic, excitable attitude towards work and learning as far as they concern the solving of technical problems, enable to have fun with work and work-related communication, new technical solutions and opportunities in the IT sphere. It further encompasses extremely open learning and sharing of knowledge and the interweaving of learning, work and leisure time activities. On the other hand, working environment reveals the drawbacks of such work identity: limited willingness to learn and acquire general skills and competencies, especially social skills and competencies, which are in very high demand. The interaction of a specific work identity and deficit of communicative skills results in confrontation with "common people" and opposition to client service. Besides enthusiastic, excitable and open learning on one's own community the work identity includes a set of values, according to which the IT people on the one hand and the others/common people, incl. clients, on the other hand, are separated primarily by virtue of speaking in different languages. There were cases demonstrating that clients were considered "strange" and even belittled for their inability to understand the IT experts' language and failure to understand technical details of IT.

Work, work-related learning and the processes of development of work identity have turned highly individual among the timber industry skilled workers. The development into a timber worker together with the ethic of a "good workman" is still closely related to the functioning of the traditional mechanisms of selection of occupation and occupational identity, according to which interest in the particular work emerged through initial socialisation (family, relatives). Interest-related education and handicrafts training also play important role in the development of work identity. The timber workers attribute great significance to small groups of employees, which have liberally formed in the working environment and perform the role of communities of practice, thanks to the exchange and reflection of experience in them (to a limited degree), as well as learning and other processes, whose inseparable component is identification with said community.

Patterns of adaptation. Work-related identity (work identity) connected with the meaning of work generally determines the limits, within which take place the employees' adaptation – learning, the development of work-related capabilities and mobility in the labour market. Therefore the work identity constitutes a "space of values" of the employee's development and adaptation, which may better or worse coincide with the demands of the employer. These limits constructed by the employees themselves in accordance with their work identity display, which patterns of learning, flexibility and work-related mobility are "normal" for given group of employees and which are transgressive, i.e. break out of the values space of this group of employees. Transgression was observed in case of timber industry skilled workers as well as IT specialists and could be bi-directional – into the given values space and/or out of it. Based on the subjective meaning of work, it is possible to define, on the one hand, a relatively strong and on the other hand, a relatively flexible work identity, which is related accordingly to the creative and interest-centred meaning of work on the one hand and to the economic meaning of work on the other.

The work identity of the employees and the related sense of identification can either promote or obstruct the learning and development and the related career opportunities of employees, inasmuch learning and development are related to flexibility and are oriented, besides specific skills, at the acquiring of general skills and competencies. The following model constructed by the author of the dissertation depicts the adaptation and learning and development of employees dependent on their relationship to their work. The constructed model comprises four components.

The circle in the centre designates the meanings of work. In case of both groups of employees, four main components can be differentiated in the meanings of work, which are presented in table 1. From the aspect of the employee's learning and development, two halves can be defined in these meanings. On the one hand there is the creative and interest-centred meaning of work, which as a rule closely binds the employee to the core element of work, on which the motivation of work and learning and the work identity are based as well. On the other hand, a motivation based on working conditions and the economic meaning of work or other extra-work factors is always present, which need not have close relation to the core element of work. Obviously, the patterns of the meanings of work have been interwoven in a specific manner in the discourse of every individual employee.

The second circle encompasses besides motivation the work-related capability of the employees, which is related to the minimum requirements of the employer, primarily the acquiring of relatively specific technical skills and predominantly passive adaptation. Such adaptation was observed in case of timber workers being related to the redefinition of their work. A typical representative of this form of adaptation in case of IT specialists, who barely fits within the requirements of the employer and is unable to adapt to the demands of social

skills. Learning in this case is experimental, oriented on the acquisition of specific (often narrowly oriented) technical skills. The motives of learning may come from too strong relationship with the core of work or its complete absence, being connected to stability seeking or in an extreme case to phenomena of alienation from work.

The field representing flexible adaptation, including the employees, in whose case the motivational meanings are generally in accordance with the demands for work-related capabilities, although may contain smaller or greater disparities. Such employee is generally a ”normal” employee, whose flexibility and ability to adapt, as a general rule, coincide with the employer’s demands. Learning is also experimental, but in one way or another also related to formal education and learning, involvement of generalised and theoretical knowledge and therefore the development of general skills and competencies.

Transgressional adaptation, means the transgression of a limit constructed by the employees as members of certain communities of practice, combined with the demands of the employer. Transgression primarily means a development path of the employee, where it is no longer possible to hold on to the core element of work and thus retain the previous work identity. Transgression leads to transgressive learning, bricolage of meanings and work-related capabilities. The transgressor, while adapting, has to de-compose his/her previous work identity and patterns of capabilities and to construct them anew according to the new basis. Accordingly, from the learning and skills possession point of view, a former tractor driver may become a timber worker or a timber worker turn in a small entrepreneur, an IT specialist become a sales consultant or IT manager, (an employee of mainly managerial and communicative functions), who has lost his/her previous skills in the opinion of former colleagues. In case of bricolage the choice made is explained rationally as a rule, finding common elements between the previous and current occupation/work. It is important from the flexibility aspect that the employees find in the process of redefinition significant elements overlapping with the meaning of the previous work, on which they can construct new identity, learning and development of skills.

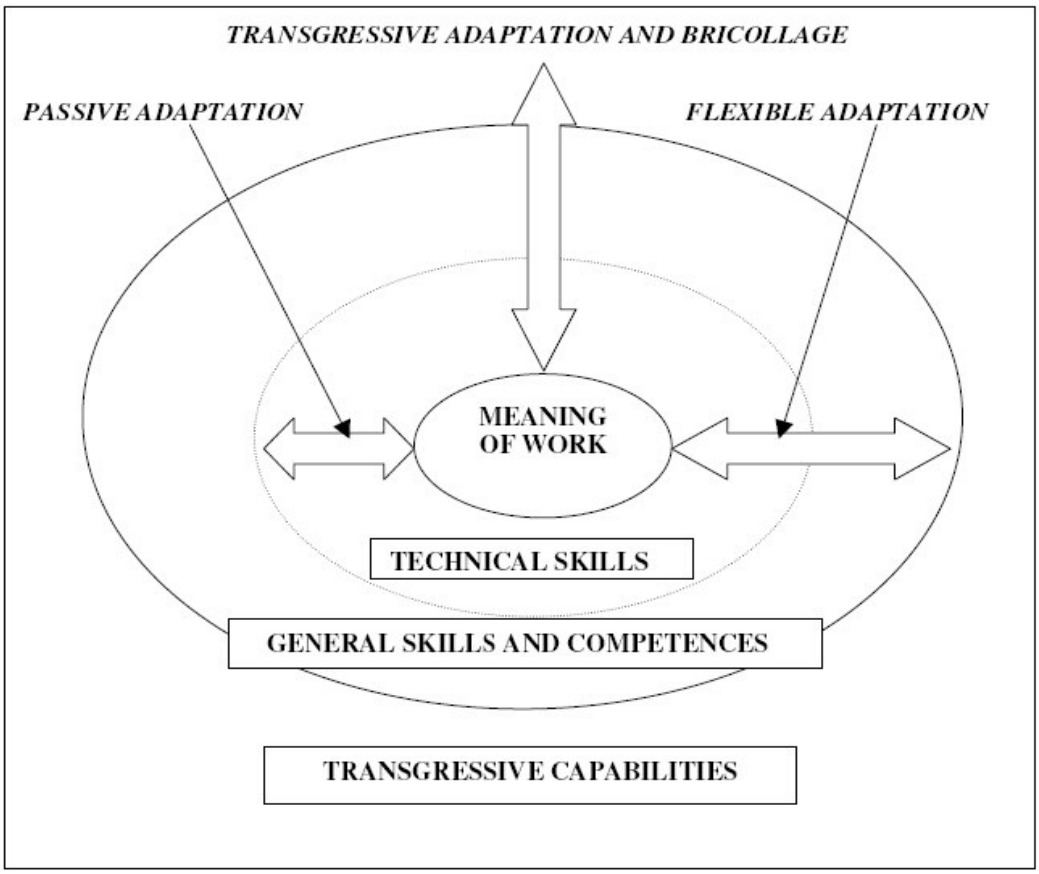

Figure 2. The employees' strategies for learning and adaptation to the demands of work

It is sometimes possible to define in the discourse of both employers and employees two work identities and accordingly two work ethics. In timber industry (e.g. in case of joiners) there is an occupational identity, i.e. the traditional work identity of a trained joiner as opposed to a skilled worker with redefined self-definition. The same phenomenon – difference between the skilled/educated and untrained employees was apparent in case of IT specialists, where two different attitudes towards client service can be found within the "hacker identity". This discrepancy was expressed as a rule in a discourse denouncing the work ethic of the "uneducated" colleagues.

Social learning theories emphasise the supportive and developing impact of various communities and/or associations on learning and the development of work identity. The data of this study confirm the operating of a traditional mechanism, where interest in the future work emerged through family, during initial socialisation, and serves as a premise for a strong work identity. Vocational education may not be significant in the development of work identity, while the strong work identity developed through initial socialisation sometimes emerges even in the absence of initial vocational education. Interestingly, this mechanism also works in the new economy. This traditional mechanism works in case of a traditional timber industry skilled worker, acting in local communities as well as post-modernist IT specialists, communicating in global communities. It is also apparent in case of IT specialists that interest in information technology is frequently initiated in the family as a community of practice. The working of such mechanisms demonstrates that traditional knowledge and knowledge acquired in the traditional way help the people to adapt to the changing work situation and

correspond in a number of aspects to the employer's demands. Another important mechanism, through which interest in work can emerge, is interest education and handicrafts lessons, especially in the basic school. Therefore interest education and handicrafts possess a potential for supporting the development of good mid-level employees.

2.2. CONCLUSIONS AND RECOMMENDATIONS FOR THE DEVELOPMENT OF WORK-RELATED LEARNING STRUCTURES

The Estonian VET is aiming at a responsiveness to economy and it is therefore developing similarly to the Anglo-Saxon model. However, this would call for a highly skilled management in organisations, which as a rule is absent in Estonia. This type of VET is incapable of adapting to the demand regarding work identity and related to this work ethics.

An analysis of learning in working environment and other adaptation processes enables to make significant conclusions about the reflection of structural conditions in the working environment and the employees' daily working life. The working environments of the observed groups of employees are developing in accordance to different models – that of the timber workers mainly according to the neo-fordist and that of the IT specialists rather according to post-fordist models. The impact of post-fordist principles on work-related demands and the employees' learning is quite clearly perceivable in the IT sphere. This influence on the demand of skills and learning of skilled workers in timber industry is nearly impossible to perceive. However, a strong demand for flexibility also exists in the working environment of timber workers, caused by the sub-contract nature of production and introduction of new technology. Yet the demand for flexibility is closely accompanied by structural and cultural transformations of the organisations.

A large share of responsibility for the employee's learning and development of working skills rests with the employee himself/herself. Learning by working is the basic method of learning and development of skills. On the one hand, this situation is considered natural and self-evident, on the other, this leads to overworking, stress and frequently takes toll of personal life. A major deficiency of managerial competencies was also evident in the working environment. These circumstances lead to unrhythmical work and stressful working situations.

Large enterprises, which apply more formalised and standardised, as well as hierarchical structures, force their employees to specialise more closely, especially if the employee is unwilling to develop and move vertically, i.e. to make hierarchical career. However, specialisation is related to greater routine in case of skilled workers and causes in case of the IT specialists a sense of being isolated from the broader context of the field. High level of specialisation can also result in a "specialisation trap." There are examples of high, but narrow specialisation becoming an obstacle to the employee's career and mobility, because the demand for a narrow speciality may be highly limited in Estonia's small labour market and will increase the risk of the investment/learning turning out to be waste.

VET is generally poorly related to all elements of its social-economic context.

Economic function of VET. Primary vocational education / specialised education and learning in working environment are disconnected and incompatible. A relatively large number of employees without primary vocational training work both as skilled workers in timber industry as well as IT specialists. The meaning of primary vocational training is of secondary

importance to the employer for a number of reasons. On the one hand the employer frequently has little choice. Although an employee with vocational education would be preferable, the employer need not find a suitable person in specific location. On the other hand, the employer presumes that by selecting employees with suitable ”personal qualities” - either with an inherent ability to develop or an ordinary decent and conscientious worker – the unsuitability of skills can be compensated by the employee’s better premises for adaptation and learning in the working environment. Employers, skilled workers and IT specialists themselves frequently argue that the knowledge provided at school is too theoretical and of little use once they enter the working environment. Everything they actually need at work has to be learned from the beginning – the school and work are two different worlds, which have little contact with each other.

In timber industry, the work identity and work ethics of employees with primary vocational training are occupation-centred, similar to the work ethics of a traditional joiner. The difference between the work ethics of trained employees and those having redefined their occupational identity by force of economic changes, is obvious. Yet vocational education need not be decisive in the forming of work ethics, since a number of employees without primary vocational or specialised education have also well adapted to the demands of work ethics.

The IT specialists with higher education, who have generally adopted the enthusiastic attitude towards work and learning, typical of the hacker ethics, at the same time denounce the strong opposition to clients (client service) characteristic of the hacker ethics; thus they have better adapted to specific flexibility in that sphere. The trained employees, within the general model of mainly experience-based learning and development of skills, also attribute greater significance to theoretical, expressed knowledge, therefore possessing greater potential for adaptation to the need for the development of general and transferable skills.

Social function. As demonstrated by theoretical analysis, the Estonian education system is generally selective and standardised. VET plays a significant role in the selection process. The standardisation level of VET is lower than that of the entire education system. This fact may further amplify the selective effect of VET, since it lacks transparency for many students – the vocational standards do not work, there are no state curricula or other regulations, especially at the secondary level. The integration of the curricula of general education and VET system is inefficient and inconsistent, dependent on the actors rather than on regulations. The shortages in the providing of general skills and competencies and the development of attitudes of lifelong learning are the main inadequacy of VET. This is a significant obstacle to the social mobility of youths with post-basic school vocational education. On the other hand, if the relationship between post-basic school vocational education and economy should further weaken, the social function will remain its primary function.

Cultural function. Empirical data of this study demonstrate that the mechanisms of traditional primary socialisation have an influence in the selection of occupation or field of work, directing youths from the families of timber workers or their relatives to vocational schools to learn wood working. This is also the mechanism, thanks to which the joiner’s creative and interest-centred work identity is still carried on from one generation to another. Such mechanism may work through VET, but not always. There were cases among timber workers, where so-called self-educated joiners worked due to the similar calling. It is however difficult to specify according to the data of this study, to what extent the development of such work identity is supported by the vocational education institutions. The skilled workers frequently emphasised that, besides primary socialisation, interest education and handicrafts lessons of general school had been important in directing them to vocational schools and further to

timber working. Although the significance of primary vocational education is secondary in the forming of the necessary capabilities, it may be important from the aspect of development of work-related identity. On the other hand, it is not possible to conclude within this study, whether vocational education is selected because of the interest, serving as the basis for the development of work identity, was born through primary socialisation and interest education or as a result of leaning at a vocational training institution.

The significance of VET in the structures of work-related lifelong learning is mostly secondary in many cases as compared to learning at work. The following tendencies of structural changes are apparent through learning in working environment:

1) the changes of work in Estonia have restructure the functions of general education, primary VET, advanced training, working experience, informal training in the meaning structures of work-related training of timber industry skilled workers and IT specialists in such a fashion that the meaning of learning at work and acquiring skills is the most important for the employers as well as the employees. The transformation of the meaning of primary VET occurs differently regarding the various groups of occupation. Learning at work based on practical working experience, combined with other informal methods of learning and training, has become significantly more important in the acquiring of work-related skills and the necessary flexibility than the primary vocational or specialised training and in some cases training provided by the employer. This high significance of informal learning is a result of both the attitudes of the employees and the influence of working and learning structures. The employees themselves frequently decide in favour of informal learning. The reasons are also related to structural influences: haste, distrust towards VET and formal training, shortage of learning resources (time, basis of knowledge, lack of learning skills).
2) Formal education certificates have mainly signalising meaning. Both employers and employees also recognise international certificates;
3) a large amount of knowledge and skills necessary for work are acquired at work, relatively independently from formal education and the training provided by the employer. This tendency is related to the changes of the economic structure, within which many employees were forced to move, frequently “transgressively”, together with the redefining of their work identity, the failure of the VET structures and institutions to adapt to both the old and the new economy. In case of the old, traditional activity (the example of timber industry), major obstacles are the technological gap as well as the mismatch of knowledge and skills between the schools and the enterprises. While the potential of informal leaning taking place in the organisations is sufficient for solving the problem of mismatching skills, the inadequacy in theoretical knowledge cannot be overcome by learning at work.

When observing the employees’ adaptation to the working environment and learning from the aspect of reaction of the employees’ development and learning patterns on the development of the organisation, one can make some conclusions, which, however, would require checking primarily due to the limited sample used in this paper. No premises for significant innovative leaps can be seen in the organisations, dependent on the types of adaptation, learning and development of the employees. The organisations fail to take advantage of the employees’ capabilities potential at least in two aspects: in case of timber workers there is no preparedness of the employer to grant them greater independence, while in case of the IT specialists there are no development opportunities for the ambitious ”transgressors”. The limited opportunities in the Estonian labour market are also pointed out by the very highly specialised employees, who have little opportunities for development here and who are

therefore potential migrants to the European labour market. In case of both listed groups their "unused" potential will be realised as either movement to other firms, other labour markets or the starting of small businesses.

In case of organisational innovations a mechanism could be identified, according to which the technological innovations are based on inter-organisational existing knowledge and human resources, in whose development in turn only practical knowledge have an important role.

The contradiction created by the large share and high significance of informal learning to the background of its non-recognition or taking for granted, together with the limited learning resources, causes a large amount of stress in the working environment. The employee needs to learn in order to work, but also needs to perform the work. This is particularly apparent in the very rapidly developing IT field. This situation demands that the VET strategy must take measures enabling to legalise the informal leaning in working environment – to bring it out, recognise and certify.

Such extensive learning in working environment would certainly require very strong management and organisational culture, which would help to orient the employees and to learn work ethics. Therefore it is necessary to reinforce significantly pedagogy and training in working environment. The weakness of management became apparent in case of many organisations, although in different ways (inability to plan work, to manage a team, absence of management-related knowledge and skills, etc.).

The weakness of management is a problem, due to which the VET model in Estonia, which is developing rather towards the Anglo-Saxon model (responsiveness of the VET combined with the learning of a large share of skills at work) is ill-suited to the organisations' management culture. This is also partly the cause of the deficit of "right individuals" or the deficiency of capabilities apparent in work ethics. There is no institution, which would support and develop the formation of work ethics of the "right individual" and in the broader sense all employees. Thus the new economy is attempting to compensate for that shortcoming by using informal mechanisms and community-constructed work ethics (hacker ethics) within the third socialisation (socialisation at work). While the old economy constructs work ethics (the ethics of good and conscientious worker), mainly based on the traditional and primary socialisation mechanisms. The influence of VET may be significant here only in case of the trained joiners.

Conclusions and recommendations for the development of the VET system. It is very difficult to define the nature of the VET system in Estonia in the context of European VET systems, because it is full of contradictory developments. As said, the Estonian VET is more similar to the system dominating in the Anglo-Saxon countries as to its operation. Thus VET in Estonia is oriented at market regulation, which coincides with the prevailing economic-political orientation, but is inadequately related to the weakly regulated labour market. On the other hand, a strong demand is apparent in the working environments for work-related skills, which are connected to work identity (work ethics, commitment, strong motivation for work). The market-response-oriented VET, which "produces" somewhat separate, predominantly technical skills, which enable to combine them according to need and to lead a "portfolio" career, does not correspond to the demand related to this work identity. The demand could be responded by dual VET, which is typical of the German cultural area together with occupation-, rather than skill-based labour market.

Contradictions are also apparent within the education system itself. Primary VET is based on the school, while the entire adult education on market regulation. It was presumed that the application of modular curricula will help to overcome that contradiction. The data of the research conducted within this doctor's dissertation did not support the latter thesis. Based on

the data of this paper it can be stated that the training and learning in working environment (broadly: lifelong work-related learning) is very weakly (if at all) related to VET. This is confirmed the deficit of general skills and competencies and the fact that the significance of primary VET is secondary as compared to the meaning of working experience in the adaptation to working environment, recruitment and the assessment of personal work-related capabilities and learning.

This disconnection has several important consequences on the development of individual employees as well as organisations:

- in the development of an individual's meaning of work a significant factor is the traditional, primary socialisation, where the family can be defined as a community of practice, whose learning and identity resources are accessible to the learner. This patterns emerged in the traditional timber industry as well as in the post-fordist working environment of IT specialists. However, communities of practice are of prime importance in the formation of work-related identity and work ethics. The work identity constructed by them – the "hacker identity" has a strong normative influence on the learning and adaptation of the IT specialists;
- In case of IT specialists the reduction of meaning of the primary VET has been compensated by a significant increase of importance of strong informal, generally Internet-/network-basedcommunities of practice as to their work-related self-definition as well as informal learning. In case of timber workers this disconnection may have an impact on the sustainability of the joiners' occupational identity, since in their case there are no other mechanisms (except for the traditional), which would support their work identity and learning. Therefore their work-related self-definition is primarily based on social self-definition (belonging to the working class) together with the accompanying development barriers, which may be largely expressed in passive adaptation to work changes and opposition to learning of general skills and competencies..

The listed conflicts in the education system may further amplify the structural conflict between VET, above all post-basic-school VET and general education. IT is confirmed by the statistics of transfers within the education systems, which depicts two tendencies: a steady increase of pupils moving from basic school to gymnasium and movement to post-secondary VET. Based on the data of these theses dissertation, these tendencies can rather be interpreted as the pupils' strategy to ensure higher-quality VET and to improve their chances of progress in the education system as well as the labour market. This grammar school education is attributed a meaning of either indicating or of a precondition of access to university education. The tendency is also a sign of failure to integrate in the curricula of post-basic-school VET the components of VET and general education, which would include the teaching of general skills and competencies.

To sum up, the situation in the development of Estonia's VET can be compared to a general pattern of learning and capabilities, which was typical of the timber workers', but also to some extent the IT specialists' working environment. The knowledge circulating there is largely practical, acquired within daily experimental learning and as a rule does not include broader theoretical knowledge; neither is there a reflection of results of leaning from experience. All this is unlikely to create good premises for an innovative leap in Estonia's economy.

KOKKUVÕTE

Väga dünaamiline tööelu tähendab töötajatele ja ettevõtetele tugevat survet tööelu muutustega kohanemiseks. Nii eelnevad uuringud kui ka teoreetilised seisukohad kinnitavad, et koolitus- ning tööhõivesüsteeme on üha raskem koordineerida, tagamaks kooskõla haridus- ja koolitussüsteemis omandatava ja töös nõutava tööalase suutlikkuse vahel. Inimesed, kes tahavad püsida tööhõivesüsteemis, peavad aga nii või teisiti töömuutustega kohanema, säilitamaks oma tööoskussobivus. Töökeskkonnas õppimine on eeldatavasti kujunenud üheks olulisemaks mehhanismiks muutuva tööeluga kohanemisel. Eestis on teadmised selle kohta, kuidas töötajad töökeskkonnas õppimise kaudu, st igasuguse töökeskkonnas aktualiseeruva õppimise kaudu, kohanevad tööst lähtuvate muutuvate nõudmistega, üpris piiratud. Samuti pole selge, milline on siinjuures institutsioonide ja individuaalse kohanemise roll. Selline küsimusepüstitus viib keskse uurimisküsimuseni selles väitekirjas: kuidas toimub töötajate töökeskkonnas õppimine kohanemaks dünaamilise tööeluga?

Uuringu üldine eesmärk on töökeskkonnas toimuva õppimise mõistmine ja seletamine, töötajate töömuutustega kohanemise seisukohalt ehk teisisõnu: kuidas töötajad suudavad töökeskkonnas õppimise abil ületada töö nõudmiste ja oma suutlikkuse vahelisi vastuolusid, arvestades kaasaegseid töömuutusi ühelt poolt ja töötaja kui vähem või rohkem aktiivse tegija positsiooni teiselt poolt.

Lähtuvalt eespool kirjeldatud probleemipüstitusest on väitekirjas seatud järgmised eesmärgid:

1. Töökeskkonnas õppimisega seotud protsesside selgitamine ja kontseptualiseerimine;
2. Töötajate töökeskkonnas kohanemisprotsesside ja -strateegiate identifitseerimine;
3. Töötajate tööalast suutlikkusele esitatavaid nõudmisi mõjutavate tegurite ja trendide analüüs;
4. Kutsehariduse arengukäsituse selgitamine Eesti sotsiaalmajandusliku arengu kontekstis;
5. Tööalase õppe institutsioonide arendamis-, kaasajastamis- ja efektiivsemate koordineerimisvõimaluste selgitamine

Väitekirjas rakendatud üldine metodoloogiline strateegia on mõõdukalt konstruktivistlik ning toetub empiiriliste andmete analüüsi teostamisel andmeanalüüsi kvalitatiivsetele meetoditele. Empiirilise uuringu objektiks oli kaks töötajate gruppi: keskastme spetsialistid infotehnoloogia valdkonnas ja puidutööstuse oskustöölised. Andmebaas, mille moodustavad intervjuude sõna-sõnalised üleskirjutused, koosneb 26 avatud intervjuust tööandjatega ja 53 poolstruktureeritud intervjuust töövõtjatega. Tulemuste usaldusväärsuse tagamisel kasutati teooriate ja uurijate triangulatsiooni ning erandituse printsiipi.

Eeldatavalt sõltuvad töötajate oskuste ja pädevuste kujunemis- ja kohanemisprotsessid paljudest makrotasandi struktuursetest teguritest, nagu globaalsed majandus- ja töömuutused, haridus- ja majandussüsteemide toimimine, nende dünaamika, vastastikused seosed ja nende seoste iseloom, aga ka mitmetest organisatsioonis toimuvatest protsessidest. Nimetatud protsesside vastasmõjus kujuneb spetsiifiline kontekst, milles õppimine ja tööoskussobivuse kujunemine toimub ning mis mõjutab oskuste nõudmist.

Töö ülesehitus lähtub peamisest uurimisküsimusest - *milline on töökeskkonnas õppimise roll töömuutustega kohanemisel* ja uurimistöös rakendatavatest metodoloogilistest põhimõtetest.

Töö ülesehituses on kolm keskset etappi:

1) struktuursete tingimuste analüüs;
2) teoreetiline analüüs;
3) empiiriline analüüs.

Struktuursete muutuste ja töömuutuste teoreetiline analüüs tõi esile ja kinnitas mitmete universaalsete mehhanismide olulist mõju nii töö-, haridus- ja õppimisstruktuuride muutumisele kui ka töötajatele esitatavatele nõudmistele tööturul: teenindusmajanduse areng ja sellest lähtuv nõudmise selektiivsus ja primaarsus turgudel, sh tööturul; teadmise refleksiivsuse ja rakendusteaduste tähtsuse kasvuga on töötajaile esitatavates tööalastes nõudmistes esiplaanile kerkinud pädevus kui suutlikkus rakendada teadmisi ja oskusi erinevates kontekstides; teadmiste tsirkulatsiooniprotsess mõjutab tööelu eelkõige teadmiste pideva uuendamisvajaduse kaudu. Üldine struktuurse komplekssuse kasv väljendub ka haridus- ja tööhõivestruktuure mõjutavate vastuoluliste trendide kaudu: paralleelselt toimuvad nii struktuuride integratsiooni- kui diferentseerumisprotsessid. Tööelus vajalikku suutlikust Eestis mõjutab ka postsotsialistlikele majandustele iseloomulik positsioon globaalses majanduses ja sellest tulenev üldine tööjõu vajaduse spetsiifika. Postfordistlik tootmiskontseptsioon rõhutab väga tugevalt majandussubjektide pideva paindliku kohanemise ja uuenduste vajadust. Lisaks spetsiifilistele tehnilistele oskustele mõjutab see - otsesemalt või kaudsemalt - tööturul töötajatele esitatavaid nõudmisi järgmistes suundades: kompleksprobleemide lahendamise oskus, töötaja vastutusvõime kasv, tööidentiteedi areng koos töölepühendumise ja lojaalsuse nõudmistega, pideva õppimise võime jm.

Kutsehariduse areng Eestis on olnud küllaltki ebaselge ja vastuoluline. Kutsehariduse ja -koolituse seoseid majandusliku, sotsiaalse ja kultuurilise kontekstiga võib kirjeldada aga pigem konfliktiteoreetilisest seisukohast, kuna kutseharidussüsteem pole sisemiselt koherentne ega ka hästi sidestatud oma sotsiaalmajandusliku keskkonna erinevate aspektidega. Kutseharidussüsteem Eestis on muutumas sarnaseks pigem anglosaksi turupõhisele süsteemile, kus süsteemi reageerivuse suurendamine seoses struktuursete muutustega on peamine ümberkorralduste suund. Sama tendentsi toetab moodulõppekavadele üles ehitatud õpe kutsehariduses. Selline kutseharidus on suunatud pigem töö majandusliku tähenduse (*versus* kutse-/ametiidentiteedi) arendamisele. Probleem, mida peaks aga selgelt teadvustama, seisneb selles, et anglosaksi süsteemile sarnase süsteemi suutlikkus tööidentiteeti ja sellega seotud tööeetikat arendada on äärmiselt piiratud. Samas on aga töötajate tööeetikaga seotud hoiakute kujunemine töökeskkonnas äärmiselt kriitiline nõudmine. Kutseharidus on halvasti seotud ka oma peamise konteksti ja sidussüsteemide - majandus-/tööhõive-, üldharidus- ja elukestva õppe süsteemiga ning sotsiaalse süsteemiga, toimides pigem stratifitseerivalt ja õpilasi jaotavalt.

Teoreetilise analüüsi objektiks olid kontseptsioonid, mille abil on võimalik avada ja kirjeldada töötaja tööalast suutlikkust ja tööoskussobivust, vastamaks adekvaatselt tööturu nõudmistele. Põhirõhk oli siinjuures tööd ja õppimist sidestavate ning töökeskkonnas ja individuaalse karjääri kontekstis õppimise sidestamist kirjeldavatel kontseptsioonidel. Teoreetilise analüüsi oluline eesmärk oli peale kontseptsioonide erinevate tähenduste ja tõlgenduste esiletoomise ka empiiriliste algandmete analüüsiks vajaliku teoreetilise raamistiku loomine. Sellest seisukohast on olulised järgmiste kontseptsioonide tähendused ja tõlgendused: inim- ja sotsiaalne kapital, oskused ja pädevused. Töökeskkonnas õppimise teoreetilise analüüsi raames oli peatähelepanu pööratud töökeskkonnas õppimise teooriatele, nimelt kogemusliku ja sotsiaalkultuurilise õppimise teooriatele, osutades seega kogemusele ja osalusele praktikakogukondades kui töökeskkonnas õppimise fundamentaalsetele teguritele.

Teoreetilise analüüsi tulemusel on autori poolt välja töötatud töökeskkonnas õppimise teoreetiline mudel, mis oli aluseks ka algandmete empiirilisel analüüsil.

Empiiriline algandmete analüüs toimus kahes osas. *Esiteks* - algandmete kategoriseerimine vastavalt teoreetilise analüüsi tulemusel tuvastatud üldistele põhikategooriatele. Need kategooriad esindavad samas ka töötajate kohanemise olulisi tegureid: tööalase suutlikkuse nõudmine ja pakkumine; töö - töö iseloom, tähendus ja töö õpipotentsiaal; tööalane suhtlemine ja osalus praktikakogukondades; töökeskkonnas aktualiseeruv õppimine, eelkõige aga järgmised õppimise dimensioonid: mitteformaalne – formaalne; organisatsiooniline – individuaalne; adaptiivne – arenguline. *Teiseks* - mustrisobitamine – empiiriliste mustrite võrdlemine teoreetiliste ja/või varem tuvastatutega. Mustrisobitamine oli peamine meetod kontseptualiseerimaks töökeskkonnas õppimise ja töötajate kohanemisprotsesse. Nii struktuursete tingimuste ja teoreetilise analüüsi kui ka empiirilise uuringu kokkuvõtteks võib töö eesmärkidest lähtuvalt esile tuua alljärgnevad järeldused.

Üldiselt mõjutab võimekuste nõudmist keskastme spetsialistide töös täheldatav üldine dünaamika: orientatsioon tehnilistelt teadmiselt ja oskustelt üldoskustele ja -pädevustele. See tendents süveneb. Sedalaadi nõudlust genereerivad kolm peamist arengut: 1) tugevnev kliendiorientatsioon 2) kvaliteedinõuete ja klientide nõudmiste pidev kasv 3) tehnoloogiate muutumine üha komplekssemaks ja nende integratsioon.

Tööalaste suutlikkuse nõudmises on empiirilistele andmetele tuginedes võimalik esile tuua ja eristada kolme peamist võimekuste gruppi, mida tööandjad tugeval rõhutavad, kuid töövõtjad väga erinevalt tõlgendavad:

1) nõudmine valdkonnaspetsiifiliste tehniliste oskuste järele alates kitsaltorienteeritud oskuste profiilidest kuni kompleksoskuste profiilideni, mis hõlmavad ka erinevate tehnoloogiate tundmist vajavaid hübriidoskusi;
2) tööeetika – teatud tööalased hoiakud ja väärtused, mis kindlustaksid usaldusväärse tööjõu;
3) paindlikkus – õppimisvõime vajalike oskuste ja pädevuste omandamiseks ja arendamiseks, uue ameti õppimiseks, kohanemiseks muutuva tehnoloogiaga, uute toodanguliikide ja uute klientidega. Töömuutustega kohanemise aspektist on keskne tegur üldoskuste ja -pädevuste omandamisest ja arengust sõltuv paindlikkus.

Üldjoontes suudavad keskastme töötajad õppida, kohanemaks minimaalsete nõudmistega töös, st spetsiifiliste oskuste nõudmisega. Kui puidutööliste puhul ei esine erilist nõudmist ega ka pakkumist üldoskuste ja -pädevuste suhtes, siis IT spetsialistide puhul valitseb tugev nõudmine üldoskuste, eelkõige suhtlemis-, juhtimis-, koordineerimis- ja administratiivsete oskuste ja pädevuste suhtes. Puudujäägid üldoskustes, eriti suhtlemis- ja koostööoskuses on suurimate negatiivsete tagajärgedega IT spetsialistide puhul. See võib kajastuda töö halvas kvaliteedis, piirata uuendusi organisatsiooni aspektist, aga võib piirata ka töötaja enda arenguväljavaateid.

Mõlema töötajate grupi puhul on aga töös rakendatavad vajalikud teadmised suures osas praktilised teadmised, mis on omandatud peamiselt töökeskkonnas, kogemusest õppimise teel. Teoreetilised, üldistatud teadmised, mis võimaldaksid töötajatel pädevuste arengu kaudu paremini kohaneda, on neis töökeskkondades selgelt tagaplaanil ja neile ei omista ei tööandja oma nõudmistes ega ka töövõtja töökeskkonnas õppimisel erilist tähendust. Samas aga hakkab selle üldise mudeli raames üha enam väljenduma formaalhariduses edasiõppimise tendents, eriti IT spetsialistide seas, kes töötavad ilma esmase kutse- või erialase õppeta. Taotlus omandada parem formaal-/üldharidus on seotud nii selle signaliseeriva, aga ka arendava tähendusega.

Puidutööstuse oskustööliste tööeetika diskursus on üldiselt mõjutatud traditsioonilistest tisleritöös vajalikest väärtusest nagu korralik, kohusetundlik ja täpne töö. Samas esineb selle kõrval ka diskursus, mis viitab sellele, et eelkõige ümberdefineeritud töö tähenduse alusel töötajad ei ole sellist tööeetikat omaks võtnud. IT spetsialistide diskursuses domineeriv tööeetika viitab IT koosluste ja praktika kogukondade kaudu kujunevale nn "häkkerieetikale", mis sisaldab ühelt poolt entusiastlikku, avatud õppimise eetikat, mis on kooskõlas tööandja nõudmistega. Teiselt poolt aga ei ole selline tööeetika kooskõlas klienditeenindus-nõudmistega, kuna toetud "häkkeriidentiteedile", mis sisaldab psühholoogilist barjääri / piirjoonte tõmbamist IT inimeste ja tavaliste inimeste, k.a klientide vahele.

Töö tähendus ja õpipotentsiaal. Töö "tuumelement" ja sellega tihedalt seonduv tööidentiteet ning motivatsioon moodustavad väärtusteruumi, milles töötajate jaoks tähenduslik õppimine, tööalaste võimekuste areng ning kohanemine toimub. Töö on oluline õppimise allikas ning töökeskkonnas õppimine on tihedalt tööga seotud mõlema uuritud töötajate grupi puhul. Oluline tegur, mis töötajate õppimise motiive otseselt mõjutab, on antud tegevusvaldkonnale iseloomulik töö tuumelement, millega töötajate huvid, motiivid ja tööidentiteet seonduvad. Puidutööstuse oskustööliste puhul on selleks spetsiifiline materjal – puit - ja sellega seotud tootekujunemise protsess, mis kas või osaliselt toimub käsitsi. IT spetsialistide puhul on nende töö tuumelemendiks eelkõige informatsioonitehnoloogia ise. Sõltuvalt seotusest antud valdkonna töö tuumaga, võib töö subjektiivses tähenduses eristada kahte peamist mudelit: a) huvi- ja loomingukeskset, mille puhul töötaja on tugevalt seotud oma töö tuumaga, mis on aluseks ka tema tööga identifitseerumise viisile - tööidentiteedile. Viimane võib väljenduda kas kutseidentiteedina (nt tislerite puhul) või siis valdkonna-kesksena (IT spetsialistide puhul); b) töö majanduslikule tähendusele toetuvat mudelit. Selle puhul on töötaja antud valdkonna töö tuumaga nõrgalt seotud. Seda tüüpi nõrk side ilmnes nende töötajate puhul, kes olid liikunud 90ndate algul teistest sektoritest puidutööstusesse ning väga ambitsioonikate IT spetsialistide puhul.

Töö on erinevates tegevusvaldkondades erineva õpipotentsiaaliga. Töö õpipotentsiaal sõltub organisatsioonis rakendatavast tootmiskontseptsioonist ja sellega seotud organisatsioonikultuurist. Kahe vaadeldud töötajate grupi töökeskkonnad arenevad erinevate mudelite alusel. Lisaks arenevad erinevalt suur- ja väikeettevõtted. Puidutööliste töökeskkonnas, mida võiks nimetada "postsotsialistlikuks neofordismiks", on tootmine seotud hierarhilise keskkonna ja kultuuriga. Tööalaste võimekuste nõudmist ja õppimist mõjutab seal peale tehnoloogia arengu ja tooteliikide kiire muutuse ka piiratud iseseisvus, ühemõõtmelised, suhteliselt lihtsad probleemid, mida tuleb töö käigus lahendada, mistõttu on töö õpipotentsiaal üldiselt madal. Samas ei mahu selle üldise mudeli raamidesse keerulisemad, loomingulist lähenemist nõudvad, käsitööelementidega tisleritööd, mille puhul on nõutavad head käelised võimed ("kuldsed käed"). Nende töödega seostub suurema iseseisvuse ja loovuse tõttu ka kõrgem õpipotentsiaal. Samuti töötaja pädevuse areng, mis võimaldab tal oma oskusi ka uutes tingimustes (uus toode, teine firma) rakendada. Üldiselt üsna postfordistlikku laadi töökeskkonnas, kus töötavad IT spetsialistid, on töökorraldus enamasti projektipõhine ja hierarhiad "lamedamad". Töö õpipotentsiaal on seal suure iseseisvuse, äärmiselt kiirelt muutuva ja komplitseeritud tehnoloogia, unikaalsete probleemide ning erinevate klientide diferentseeruvate vajadustega seotud komplitseeritud probleemide tõttu kõrge.

Töökeskkonnas õppimine. Üldiselt on õppimine töökeskkonnas kontseptualiseeritav kui kogemuslik, mitteformaalne õppimine, mis on halvasti seotud formaalse õppimise ja teadmistega, küll aga tihedalt seotud töötajate tööidentiteediga. Töökeskkonnas ringlevad teadmised on suures osas praktilised teadmised, mis on omandatud kas siis igapäevase või/ja

kogemusliku õppimise teel. Mitteformaalse, kogemusliku õppimise tähendus töökeskkonnas õppimisel on tunduvalt olulisem kui formaalse õppimise tähendus, kuna vastab paremini tööandja nõudmistele. Töötaja võimekuste jätkusuutliku arengu seisukohast on selline õppimine piiratud üldistatud teoreetiliste teadmiste vähesuse või nende alahindamise tõttu töökeskkonnas.

Töötajate õppimine on organisatsiooni eesmärkidega kooskõlas eelkõige spetsiifiliste tehniliste oskuste õppimisel. Töötajate kohanemise raames toimuv liikumine, millel on subjektiivne õppimise ja arengu tähendus, ei pruugi toetada aga organisatsioonilist õppimist, kuigi on töötaja enda jaoks oluline õppimismehhanism.

Õppimine on arenguline ja samas ka enesejuhitud neis töökeskkondades, mille puhul töö õpipotentsiaal on kõrge. Töö õpipotentsiaal on kõrge eelkõige IT spetsialistide, aga ka tislerite puhul, kelle töös on ülekaalus loomingulised momendid.

Tööidentiteedil on töökeskkonnas õppimisega tugev, kuid vastuoluline seos. Tööidentiteet võib nii soodustada õppimist niivõrd, kuivõrd õppimine on seotud töö tuuma ja selle ümber toimuva tegevusega. Samas võib tööidentiteet piirata õppimist ja tööturul ilmnevate üldiste töömuutustega kohanemist, kui need pole kooskõlas spetsiifiliste praktika kogukondade poolt konstrueeritud "väärtusteruumiga".

Töötajate kohanemine ja töö tähendused. Töömuutustega kohanemisel on töökeskkonnas õppimisel otsustav tähendus. Neid protsesse on võimalik interpreteerida, vaadeldes neid tihedalt koos töö tähenduse, tööidentiteedi, töö iseloomu, ja liikumisega tööturul. Kui töötajad kohanevad organisatsiooni nõudmistega, ei pruugi nende õppimine olla nende endi karjääri seisukohalt jätkusuutlik. Töötajate kohanemisstrateegiad on kontseptualiseeritavad vastavalt töö subjektiivsele tähendusele ning töötaja vähem või rohkem aktiivsele positsioonile selles protsessis. Õppimise, tööidentiteedi, motivatsiooni-, liikumise ja arengumustrid on nendega seotud. Kolm peamist kohanemisstrateegiat võib esile tuua: passiivne, paindlik ja piiriületav. Passiivsele kohanemisele on iseloomulik peamiselt spetsiifiliste oskuste nõudmisega seotud õppimine. Paindliku kohanemise raames on töötaja orienteeritud ka omandama rohkem või vähem üldoskusi ja –pädevusi. Piiriületav kohanemine aga on seotud erinevate töövaldkondade vahelise liikumise ja õppimisega.

Töökeskkonnas õppimise institutsioonilised aspektid ja nende arendamine. Töötajate elukestva tööalase õppe struktuurides on kutseharidusel või muul erialasel formaalharidusel teisejärguline tähendus. Kutseharidusest palju olulisemat tähendust omavad mitmekesised kogemusest õppimise viisid. Üks põhjusi siinjuures on kindlasti Eestis toimunud ülemineku kiirus, teine peitub kutsehariduse arengus ja kolmas tööandjate vastuolulistes nõudmistes.

Ettepanekud kutsehariduse arendamiseks. Kutseharidussüsteemi arengut Eestis võib suuresti iseloomustada samasuguse üldmustri alusel nagu töökeskkonnas õppimistki: nimelt on süsteemi arendamiseks rakendatavad teadmised suures osas praktilised, omandatud igapäevases töös (kogemusest ja vigadest) õppimise teel. Reeglina ei ole sellesse arendusse kaasatud laiemaid, teoreetilisi teadmisi erinevate kutsehariduse süsteemide sotsiaalmajanduslikust toimest. Samuti ei toimu ka kutsehariduse süsteemi arengu ja toime mõju uurimist, st kogemusest õppimise tulemuste reflekteerimist. See kõik kokku ei loo tõenäoliselt häid eeldusi innovatiivseks hüppeks Eesti majanduses.

1. Eestis on väga vajalik kutsehariduse ühiskondliku missiooni teadvustamine. Ühelt poolt sõltub kutsehariduse kujunemine selle ajaloolis-kultuurilisest arengust, teiselt poolt hariduse ja majanduse vastuolulistest suhetest. Ettekujutus kutseharidusest on mõjutatud osaliselt nostalgiast duaalse süsteemi toime reguleerituse järele. Teisalt aga on majanduse/tööandjate

nõudmisel kujunenud otse vastupidise toimega, turureeglitel toimiv, vähe reguleeritud süsteem, mille puhul on täheldatav struktuurne konflikt üldharidusega (sekundaartasemel). Viimane võimendub veelgi haridusliku ekspansiooni trendi tõttu. Samuti tuleb arvestada, et kutseharidus on sisemiselt diferentseerunud. Keskkoolijärgsel kutsharidusel on arvestatav majanduslik funktsioon, võimaldades töötajate edasijõudmist tööturul ning kultuuriline/kasvatuslik funktsioon, võimaldades edasijõudmist hariduses. Põhikoolijärgse kutsehariduse majanduslik funktsioon aga pigem taandub selle sotsiaalsete funktsioonide ees. Eelnimetatud vastuolusid teadvustades ja arvestades tuleks Eestis loobuda kutsehariduse ja majanduse suhete ühekülgsest käsitlusest ning arvestada kultuurilist, üldhariduslikku ja sotsiaalset keskkonda. See on ka võti kutsehariduse prestiiži ja kvaliteedi parandamiseks, kuna vastaks paremini kutsehariduse ”tarbijate” (õppijad, tööandjad, avalik sektor) eristuvatele vajadustele.

2. Kutse- ja üldhariduse lõimimine. Peamine puudujääk tööalases suutlikkuses on seotud üldoskuste ja –pädevustega. Üld- ja kutsehariduse lõimimine kõigi vahenditega oleks antud uuringu analüüsidele toetudes äärmiselt vajalik. Kutsehariduse ümberkorraldamisel on aga orienteerutud peamisel reageerivusele, st otseselt tööandjate nõudmistele vastavate spetsiifiliste, kitsalt orienteeritud oskuste õpetamisele. Piisava paindlikkuse ja elukestva õppimise hoiakute ja oskuse omandamiseks vajalikku üldoskuste taset kutseharidus väitekirja empiirikale toetudes tagada ei ole suutnud. Seda vastuolu teadvustades on olukorra parendamiseks võimalik kaks põhistrateegiast:

- praegu niigi nõrga juhtimise oluline tugevdamine organisatsioonides juhtimispädevuste õpetamise teel kutsehariduses
- üld- ja kutsehariduse integreerimine ühtsesse süsteemi põhikoolijärgsel tasandil, kuna põhikoolijärgse kutsehariduse majanduslik funktsioon taandub.

3. Süsteemi reguleerimine. Kutsehariduse strateegias peaks ühe olulise suunana rakendatama meetmeid süsteemi mõõdukaks tsentraalseks reguleerimiseks nii õppekavade kui praktikasüsteemi kaudu.

4. Mitteformaalse tööl õppimise tunnustamine ja toetamine. Arvestades olulist tähendust, mida nii tööandja kui töövõtja omistavad mitteformaalsele õppimisele töökeskkonnas, peaks töökeskkonnas esineva mitteformaalse õppimise tunnustamine ja institutsionaliseerimine olema kutsehariduse ja tööpoliitika oluline osa.

5. Professionaalsete ja kutseühingute toetamine. Tööandja eeldab, et ei üldpädevuste ega tööeetika arendamine pole tema vastutusalas. Samuti pole ka kutseharidusreformid suutnud seda kutsehariduse kaudu tagada. Kuna ka praktikakogukonnad ja erialaühingud on mitmel põhjusel Eestis nõrgad, ei ole õieti institutsiooni või subjekti, kes laiemas ühiskondlikus kontekstis toetaks töötaja kutsealast/professionaalset enesemääratlust, arengut, õppimist ning kohanemist. On esmatähtis, et riik kui strateeg arendaks tegevust kolmes suunas: tõstaks tööandja teadlikkust, reguleeriks kutseharidust tsentraalselt ning toetaks erialaliitude ja kutseühingute arengut.

6. Praktikasüsteem. Praktika peaks kujunema süsteemiks, mis oleks osa kutsehariduse reguleerimisest riiklikul tasandil. Praktikasüsteem Eestis on väga oluline nii tööeetika kujunemisel, eriti nende kutse-/erialade puhul, kus muud mehhanismid puuduvad. Eriti oluline on see näiteks sellisel traditsioonilisel tegevusalal, nagu puidutööstus, kus tööandja ootustega kooskõlas olevat kutseidentiteeti ning sellega tihedalt seotud tööeetikat kannavad edasi vanema põlvkonna töötajad. Praktikasüsteemi loomisel omakorda on äärmiselt oluline tähendus kaasaegsel kutsepedagoogikal, mis on Eestis veel välja arenemata.

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