Tore Hafting

Work Organisation, Competence Development, and Health

What is to be known and what is to be done?

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Summary:

Absence from work and disability represent a major social problem in Norway today. The first part of the working paper is a review of literature on work and health, taken mainly from Sweden from the 1980-1990-ies. The second part is an elaboration of a scheduled action research project on preventive health. The purpose is to explore the causes of illness arising in the work conditions and how to improve health and well-being.

Further, based on this knowledge, point to strategies of changing the work conditions of employees. We argue that psychosomatic and physical diseases are closely related to work tasks and the organisation of the company as a whole. Solutions to work-related illness should primarily address the redesign of jobs. The job-strain-model has to be supplemented with more recent theoretical contributions. The strategies of redesign have to be adapted to small and medium-sized companies in the action research project.

Høgskolen i Hedmark

Tittel: Arbeidsorganisasjon, kompetanseutvikling og helse: hva må vites og hva må gjøres?

Forfattere: Tore Hafting

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Sammendrag:
Fravær fra arbeidet og uførhet representerer et stort sosialt problem i Norge i dag. Den første delen av notat er en oversikt over forskningslitteraturen om arbeid og helse, hovedsakelig fra Sverige i 1980- og 1990-årene. Den andre delen er en redegjørelse for et planlagt aksjonsforskningsprosjekt om forebyggende helse.

Formålet med notatet er 1) Å utforske årsakene til sykdommer som har sin opprinnelse i arbeidsforholdene og hvordan man kan forbedre helse og velferd. 2) På grunnlag av denne kunnskapen å peke på strategier for å forandre arbeidsforholdene til ansatte. Vi argumenterer for at psykosomatiske og fysiske sykdommer er nært knyttet til arbeids-oppgavene og hvordan bedriften er organisert. Løsninger bør primært fokusere på omforming av jobber. I litteraturoversikten må modellen for arbeidsbelastninger utvides med nyere teoretiske bidrag. Strategiene for omforming av jobber må tilpasses små og mellomstore bedrifter i aksjonsforskningsprosjektet.

PREFACE

The present working paper was originally prepared for The Hawaii International Conference on Social Sciences to be held in Honolulu, 12th–15th of June, 2003. Members of The International Sociological Association were invited to contribute with cross-disciplinary submissions from all areas of social sciences.

This paper falls within the category of «Work-in-Progress Reports or Proposals for future projects» in the call for papers. The first part of the paper is a review of literature on the relationships between work and health, serving as a theoretical and empirical basis for a scheduled action research project described in the second part.

The author did not, however, succeed in getting institutional funding for the planned conference on Hawaii. The alternative was presenting the paper on the 13th World Congress of The International Industrial Relations Association (IIRA) held in Berlin, 8–12 September, 2003. The presentation was given at The Workers' Participation Study Group of IIRA. The conference delegates participating in the session contributed with constructive comments on my paper, which I highly appreciated.

The working paper is written in relation to the national R&D programme Value Creation 2010 (VC2010). The Hedmark University College, the Department of Business Administration, Social Sciences and Computer Science, was accepted to join the main programme by The Research Council of Norway from the 1st of August, 2002. The aim of VC2010 is to enhance innovation in the private business sector. The participation of employees in the enterprise is an important measure to achieve that. The parties of working life (LO and NHO) are playing a key role in the programme. There are presently eleven research groups working on VC2010, and their related networks, scattered all over the country.

VC2010 is scheduled to run to year 2010 and the budget of 2003 was equivalent to about 3 million 750 000 Euro.

Rena, Norway, November 2, 2004.

Tore Hafting (sign)

CONTENTS

1. WORK ORGANISATION AND HEALTH

A remarkable tendency of contemporary working life in Norway is a high level of sick leaves and disability pensions. Absenteeism has increased with 35 per cent since 1994 and about 200 000 man-labour years have been lost because of sick leaves. In the year of 2001 286 000 persons of working age were pensioned and additional 26 000 employees will be pensioned each year. Currently 800 000 people are on sick leaves, rehabilitation or disability pensions.

The pensions have increased among young people (age 20–34 years old). In the year of 2000 absenteeism was 9 percent, which means as an average 24 days of absence per employed. Absence of more than 8 weeks has increased most while shorter absence has been unchanged. The distribution of sick leaves suggests that a small proportion of the employees represent the majority being ill. In 1997 more than 16 days of absence represented 80 per cent and was made up of 5 per cent of the employees.

A public commission on absenteeism and disability pensions was set up in April 1999 to analyse the causes and elaborate measures to solve the problem (NOU 2000: 27). The report was delivered to The Ministry of Social Affairs and Health in September 2000. The commission suggested a set of measures aimed at reducing absence and the number of disability pensions. Altogether the measures make out a programme called 'Including working life' which the parties of working life have supported.

The measures were put into effect from January 2002 and the main objective is to reduce the days of absence and have more disabled people back to work. The goal is to reduce absenteeism with 20 percent during four years.

Put together, however, the measures are chiefly addressing the symptoms of illness of the individual employee. Self-reported absence was extended from 12 to 24 days a year, and earlier intervention and closer follow-up of patients were introduced. The employees are encouraged establishing a dialogue with their employer while they are ill. The social security agency has had established specific positions for assisting the companies to deal with the matter. Employers and employees are expected to be more responsible for reducing sick leaves and the extent of excluding fellow workers from the labour market. Estimates suggest that about two thirds of unskilled workers have major problems with reading and writing. They are highly exposed to being excluded from the labour market and training programmes may relieve the problem. Finally, when sick leaves and disability pensions are granted, the ability of work of the patient has to be emphasised more.

Rather than addressing the symptoms of work-related illness, the present paper is about the causes arising in the work conditions of employees. The paper focus on the relationships between work organisation, the psychosocial work environment and health. What does social science on occupational health suggest about these relationships? How to prevent long-term physical and psychosomatic illness at the work place? A comprehensive review of the literature will not be given, but examples of research are presented. The majority are taken from Sweden from the 1980'ies and 1990'ies. The review of literature on work-related health will serve as a background for an on-going action research project on preventive health.

The purpose of the paper is to explore in depth the causes of illness at work and how to enhance preventive health and well-being. Further, on the basis of this knowledge, point to strategies of changing the work conditions of employees.

We argue that psychosomatic and physical strains and diseases are closely related to work tasks and the organisation of the company as a whole. Solutions to work-related illness have to address primarily how jobs are designed.

By work conditions (and work organisation) we mean work load, the content of work, influence and control exerted by employees and social support. Mental strains caused by the work conditions are, for example, a sense of powerlessness, psychiatric depression, anxiety, and fatigue. Physical strains refer to bodily processes as malfunctions of heart, stomach and high blood pressure. By redesigning jobs we mean specifically to extend the area of influence and control exerted by employees. Competence development is about the development of knowledge, skills and abilities that are related to specific tasks, enterprises, and industrial sectors.

The first part of the paper is devoted to the job-strain model predicting mental and physical strains and diseases. The attention is directed to high-strain and passive jobs because they represent major problems to the psychosocial work environment. The basic mechanisms of the model apply to physical diseases as well, and long-term disturbance of stress reactions in the body is a major explanation.

The second part of the paper directs the attention to preventing long-term physical and psychosomatic illness at work. Issues of job redesign and the provision of competence are presented.

The third part is dealing with a training programme for supervisors in a group of participating companies which is a part of an action research project.

2. THE JOB-STRAIN MODEL

Contemporary working life is marked by frequent changes as downsizing, restructuring and company closures in private and public sector. Demands for using available means more efficiently have lead to increased work load and pace of work. These changes in the work conditions of employees are essential for understanding the psychosocial work environment and the causes of work-related illness and health.

In the present paper we argue for starting with the work conditions of employees in order to grasp the causes of work-related health. In section 3 the focus is on mental strains caused by work conditions and in section 4 we will deal with physical strains.

The job-strain model is an attempt to analyse work conditions of employees based to a large extent on national survey data from the USA and Sweden (Karasek and Thorell 1990). The capability of workers of influencing and controlling the work conditions is put centre stage in the model. A high risk of getting mental strains is predicted when the work demands are high, the control and influence are low and the social support is low.

The model has been developed over the years by starting with control exerted by workers viewed in relation to job demands (Gardell 1986; Karasek 1979). Control is a set of variables predicting the degree of decision-making and skills discretion exerted by the worker. The job demands are the second dimension in the model and are defined broadly as the work load in a position and how workers are variously coping with that. It is presumed that the workload resides in the environment and influence work behaviour.

Social support and physical demands of work have been added to the job-strain model in a later work (Karasek and Thorell 1990). The interaction between these four dimensions is of central importance in the analysis of the psychosocial work environment. The control dimension is a set of variables mediating between the job demands and observed effects of illness, well-being and productivity.

3. CONTROL, DEMANDS AND MENTAL STRAINS

High-strain jobs

Work load, freedom of action, physical exertion and social interaction are the key concepts making out the psychosocial work environment. The most relevant dimensions to illness, health and productivity in the model are those called high-strain jobs and passive jobs. In the former case, the worker at the assembly line, for example, face a high workload and few options to control it. High job demands are causing stress and the psychological consequences are a higher likelihood of getting job-related diseases as fatigue, anxiety, and depression. The reason why workers in high-strain jobs are more subject to illness is that the strains will not sufficiently be relieved after they have emerged. The remains are called the residual of psychological strain and will after some time form the basis of being ill related to work. The model predicts that employees having few opportunities to make job decisions confronted with high demands of output are most subject to mental strains (Karasek 1979).

Passive jobs

The passive–active dimension in the basic job-strain model predicts work motivation, changed behaviour and learning. Passive workers are facing low job demands and low control of work conditions and represent the second major problem of psychosocial work environment. Passive workers do not fully use their potentials and skills leading to lower productivity. They have either experienced that they were not allowed to follow their own interests or their suggestions have been repeatedly rejected by superiors.

The passive work setting leads to lack of challenges, new ideas, and loss of skills, work motivation and productivity. These processes may occur independently of psychological residuals in high-strain jobs. Because the workload is lower than in high-strain jobs, the likelihood of getting ill is lower.

Social support is added to the basic job-strain model and is relevant to the training programme in the project that will be described later. Karasek and Theorell (1990) pay attention to the social relationships between workers and supervisors as foremen, the boss, the ganger and front manager. Social support is about reducing psychological strain and provide assistance for performing work tasks.

Investigations suggest that social support from supervisors is one of the most important factors leading to job satisfaction, low psychological strain and improved health. The function of social support is to mitigate work conditions in situations with restricted freedom of action and a high workload. It is likely, however, by extending the freedom of action of the workers social support by supervisors will foster motivation, learning, change and health.

Findings suggest that social support from supervisors is positively associated with low levels of depression among workers. The support by supervisors can to some extent be replaced by strong trade unions supporting their members.

Physical exertion

The use of physical labour at work will probably enhance the likelihood of getting ill, though the research findings are inconclusive (Karasek and Theorell 1990). Labour has to a large degree been replaced by machinery in modern industrial societies. Physical exertion has changed in character by regularity, loading and work positions. One-sided work positions still represent a major problem to many workers causing strains on muscles and skeleton.

Investigations suggest a strong relationship between high physical demands and restricted ability to control and influence the work situation. In that respect there are still social differences between the factory worker and middle and top management of the company. Examples of occupational groups are freight handlers, construction labourers, nurse's aids and waitresses. On the other hand, blue collar work has been socially divided into those having high physical demands and those having light. Examples of the latter are the keypunchers, telephone operators, janitors, dispatchers and watchmen. These occupations are more subject to mental illness combined with high work demands, restricted control and low support.

4. CONTROL, DEMANDS AND PHYSICAL STRAINS

Physical illness

The job-strain model predicts that there is a high risk of getting physical ill when the work demands are high, the control and influence are low and the social support is low (Sivik and Theorell 1995; Theorell 1998). Examples are cardio-vascular diseases and illness related to movement organs. The dimensions in the job-strain model play different roles in relation to gender and social groups. High demands and restricted control in the work situation explain high risk of getting a heart disease among men belonging to lower social groups. Low social support is more significant for explaining the risk, however, among women in general and men belonging to higher social groups.

Disturbed stress reactions

How are the relationships between work conditions and physical illness explained? The psychosocial work environment will cause physiological reactions in the individual which do not necessarily represent any harm to well-being and health (Theorell 1998). The risk of physical strain and illness will increase, however, when the physiological stress reactions are disturbed. That will likely occur when the stress reactions are frequently repeated, long-term and powerful. The balance between the destruction and production of hormones in the body will be changed so that the latter will be inhibited. The ability of the body to protect itself against strains and illness will be reduced.

Physiological stress reactions can be disturbed in three ways:

1. Substances causing higher activity in the body will remain too high. Signals from the brain aiming at reducing the process do not function any more.
2. Individuals facing strained situations do not mobilise any energy to react.
3. The whole organism is becoming extremely hypersensitive. The cells have got too sensitive to substances having an impact on the level of activity.

Several studies have documented a strong relationship between high job strain and high risk of getting cardiovascular diseases. The chances of getting ill in occupations with job strain have been estimated to between 20 % and 100 %.

There are mutual relationships between somatic and mental health of employees, but they are empirically difficult to validate (Karasek and Theorell 1990). Causes of physical strains and illness may also reside in the physical work environment which the researchers have to control for in the analysis of the psychosocial work environment.

Research findings on the biological heredity on twins are inconclusive, but rough estimates suggest that heredity (the genes of the individual) can explain about one third of the variance of psychosomatic diseases (Theorell 1998). Several studies on adults have shown that about 50 % of explained variance is related to properties of the genes of the individual. In preventive health programmes the focus should be kept on the interrelationships between the biological heredity and the psychosocial work environment.

Workers belonging to the high risk groups of mental and physical illness are those with high psychological work load, low control and low social support. Researchers and practitioners should not refrain from working with preventive health programmes because of gene-related illness of the individual employee.

5. REDESIGNING THE JOB STRUCTURE

The findings based on the job-strain model suggest that the causes of physical and mental work-related diseases arise in the work conditions of employees. Unhealth is explained by lack of control, influence and social support in the work situation. The implication is that employees have to be given more control, influence and support in their work situation. If these changes are carried out, improved health and productivity will occur in the company. How to do that?

The remaining part of the paper will address the problem of preventing long-term physical and psychosomatic illness at the work place. We will pay attention to the strategy of job redesign as measures aiming at extending the influence and control by employees (Karasek and Theorell 1990; Konarski and Theorell 1991). Job redesign practice may range from extending tasks of the work group confined to a department to introducing at a large scale autonomous work groups in a multi- national corporation.

There are no doubt company owners, top managers, technical experts, and workers as well who do not want more influence and control at the work place. The tradition of hierarchical principles of organisation and anti-democratic practice in working life are persistent. Political, technological and social aspects of control and influence are important, but will not be dealt with in the paper. The concern is directed towards practical measures of preventing strains and illness at work.

The strategy of job redesign is based on the premiss that the work organisation of the company has to be changed rather than the individual employee isolated from the work conditions. The social relationships of the work group is the point of departure for carrying out empirical analysis and implementing measures aiming at enhancing health of employees (Theorell 1998). The employees are expected to provide self-reported information on

their health and work conditions, participate in the ensuing discussions on measures to improve the conditions.

We will briefly outline the phases of a preventive health programme, (Karasek and Theorell 1990; Konarski and Theorell 1991) and relate them to our action research project. The programme consists of engagement, search, change and diffusion. Much attention is paid to the collection and feed-back of medical and social information to the participants. The job-redesign strategy implies that the workers are involved in all of the phases in the programme.

The engagement phase is about rooting the project in top management, the unions and the employees. They have to be informed about the goal, range, responsibility and anticipated impact on the participants. The participants will be prepared to face conflicts and disappointments during the programme. In the search stage, medical measurements, for example, are carried out and fed back to the individual worker, work groups and key personnel. The average results of the work group is then compared to other groups and related to their respective work conditions. Topics of redesign are explicitly addressed in the change phase. The participants are discussing how alternative organisation of work can improve work conditions and prevent job-related diseases. They will further relate job redesign issues to specific work conditions of the department which may vary among departments of the company. The diffusion phase is about communicating the experience of the programme to other work groups and departments.

A health preventive programme has been carried out on the basis of the phases that have been described (Konarski and Theorell 1991). Six different occupations located at as many work sites participated in the project. Examples of results from the project pertaining to physical health were problems of sleeping, stomach and intestine, and higher levels of blood pressure during working hours. The results are explained by the fact that increased work demands did not follow extended action of freedom to the participants. In general, the project had the effect of enhancing the consciousness among the participants of the relationships between

psychosocial factors and psychosomatic strains and illness. Results pertaining to organisational change and diffusion of job redesign were not reported.

The model of the action research project (figure 1) in our project on work and health has much in common with the preventive health programme which has been described. If the explicit goal of the programme is to change the job structure of the company, however, it will require long-term measures of practical and theoretical kind. The time perspective of the project has to be long and changes of work organisation have to be scientifically documented and reported. The initial training programme has the function of making people aware of the relationships between work conditions and health. It has to be followed up by consecutive projects dealing with various aspects of job design and diffusion.

Karasek and Theorell (1990) refer to examples of job redesign projects which are large corporations, as the car-producer Volvo, with in-house professions making out a team of preventive health. This is certainly not the case in our action research project. The participating enterprises in the training programme are small compared to European and American standards and the health preventive team is by and large located outside the company. Before the training schedule can start, co-operative alliances have to be established between the company health service, the participating companies and the University College.

Competence on preventive health and job redesign has to be provided from outside, but adopted to the specific work conditions of the company. Academic knowledge has to be coupled with the experience of the employees.

6. COMPETENCE DEVELOPMENT

Implementing preventive health programmes in companies will require the enhancement of competence of key personnel. Training may include professions working in the company health service, top and middle managers of the company, supervisors and workers. The action research project that will be described in the paper will start with the relationships between the supervisors and the workers. The argument is, as we have pointed to previously, that social support from supervisors is essential for promoting health among employees. Secondly, front managers are responsible for a substantial number of people in the enterprise. The aim of the training programme is combined with other measures to improve health among employees and productivity of the company. Productivity is closely related to value creation of the enterprise and the ability of creating new products, services and principles of organisation.

The training programme in the project entails a focus on formal and informal in-house training and the significance of tacit knowledge. Competence refers to knowledge provided from outside as a response to pressing needs of the company. This type of knowledge is explicit while parts of the practical knowledge of production are implicit or tacit knowledge that the employees have got.

Recent research suggests that competence development has gained importance as an investment for the value creation of the enterprise compared to other factors as production technology, information and communication technology (Heum 1998).

Nordhaug and Gooderham (1996) define competence as knowledge, skills and abilities that are related to specific tasks, enterprises and industrial sectors. The concept of competence can be difficult to distinguish analytically from other factors of production because there is embedded

competence both in production technology and data systems. Research has made limited progress by accurately determining the relationships between competence development and value creation of the enterprise. There are some selected indicators of competence and higher profitability, for example, competition advantage, professional management, improved service and more customers.

The results from the investigation by Nordhaug and Gooderham (1996) suggest that a majority of the investigated firms expect an increased need for competence and the need is increasing with the number of employees in the firm. They are more systematically going in for both formal competence development as in-house courses and seminars and informal counselling and the use of mentors. The larger the company is, the more means are devoted to in-house professional training. And related to this: When the enterprise has its own personnel department and is included by the Basic Agreement (paragraph 16–3), the extent of in-house training will be larger than opposite. Public resource centres as the Norwegian Employment Service has usually a reactive rather than a proactive stance towards competence development.

The meaning of tacit knowledge is generally that people do know more than they are able to express in words (Gheradi 2000; Grimen 1991). The challenge is how tacit knowledge can be used as a basis for creativity and change of work organisation in order to increase value creation. Tacit knowledge refers to knowledge being developed in close relation to specific actions, built on particular experience and reasoning by examples. Grimen argues that tacit knowledge is a theoretical, sensitising concept in social science showing the direction the researcher has to look for in empirical observations, but not the content.

The relationship between competence development and value creation can be elucidated by five specific steps where tacit knowledge plays a key role: Share tacit knowledge, develop ideas, legitimise ideas, develop a prototype and fortify knowledge (Krog, Ichio and Nonaka 2001). These five steps can be applied in strategies for improving existing or new products, services, technology and routines. Tacit knowledge can be made common

by observation, imitation, story telling, experimentation, common performance and reflection.

Competence development in the training programme deals with preventive health, design of jobs and principles of organisation. From the project plan it is shown that more people are successively involved in the action research project. The skills of organising are quite essential for building up, sustain and extend social relationships. The actors have to co-operate, organise and co-ordinate activities in the programme (Gustavsen et al. 2001).

When workers are supported by their supervisors and they are gradually given more influence and control of work conditions, then it is more likely they will tell about their practical experience of production. This knowledge is vital for improving products, services and the organisation of the enterprise. These changes are aimed at improving the mental and physical health of employees and increase productivity.

7. METHODS

When the purpose is to map central problems, goals and strategies in the training programme, ‘democratic dialogue’ can be used at conferences and seminars in the participating enterprises (Gustavsen 1992). The method can be used at the level of enterprises, networks of companies, and development coalitions. The use of ‘democratic dialogue’ is aimed at ensuring broad participation by the participants in the project.

Trail research will be conducted in the action research project which is a combination of action and observation (Sletterød 2001). The researchers will participate actively in designing the scheme for competence development by co-operating by the assigned organisation. The researchers will evaluate the processes of the programme and the effects at various points of time during the period of the programme. The purpose of trail research is to develop and systematises the basis of knowledge from the project and feed it back to the participants of the project.

The programme will be evaluated and the utilisation focused approach in evaluation is preferred because it is the most adequate approach in relation to the goals of the project (Sverdrup 2002; Patton 1997). The approach emphasises the practical value of use to the users who are the supervisors. The evaluation will focus on the goals, expectations and needs of the users and the results of the evaluation will be fed back to them in order to be used.

The researchers will focus on the views of the front managers pertaining to the practical value of use to their work. Data on the training scheme can be collected by informal and formal interviews with the participants.

The evaluation of effects for health and value creation is more complex and presumes probably using more than one method (triangulation) in

order to get reliable data (Sverdrup 2002). The effects of competence development are chiefly aimed at promoting preventive health in the enterprise. The results serve as a basis for directing the attention of the employees towards value creation and innovation.

8. THE ACTION RESEARCH PROJECT ON WORK AND HEALTH

The Department of Business Administration, Social Sciences and Computer Science, made an enquiry to the Company Health Service in the region about Value Creation 2010 (VC2010). The discussions with the service lead to a co-operation on a competence development programme focussing on preventive health.

The participating enterprises of the action research project reported that the greatest need for competence development is among the supervisors. They are variously called foreman, boss, ganger or front manager in the enterprise. Four companies have joined a pilot project which is a training programme, all are a member of the company health service and they have all together 800 employees. The programme is a scheme for in-house training and the target group in the first stage of the project is the front manager of the enterprise.

The supervisors are playing a substantial role for efficient production, work environment and the participation of the employees in promoting health and productivity. Through their work they have established many relationships in the enterprise. The development of the front manager presumes the development of the fellow workers. Managers and employees have to direct their attention together towards enhancing health in the enterprise.

The University College will co-operate with the company health service on designing the training programme and have it adapted to new firms joining the project. The parties will elaborate networks of companies and establish a regional development coalition on competence development. Researchers at the Department will conduct trail research on the training programme by

evaluating the effects of competence development and carry out consecutive analysis of the social processes in networks and the coalition. The results from the evaluations of the scheme and analysis will be fed back to the participating companies and documented by reports and scientific publication.

8.1. Tasks and responsibility

Before the project will start in the enterprise, the researchers at the Department are responsible for the following conditions are present:

- the parties of working life are represented in the company
- the inquired enterprises are strongly interested in participating in VC2010
- in order to ensure sufficient dissemination of the project, there has to work more than 100 employees in the company
- the companies have to be located close to each other – they are making out a group of enterprises – a network of companies
- the point of departure of the co-operation between practitioners and researchers are practical problem solving in the enterprise
- relevant theory will be adapted and developed later in the project
- the participants have to perceive the measures as relevant for increasing the competence on health

Top management of the enterprise has the responsibility for the strategy of competence development of the front managers and the Work Environment Committee has to look after that the work is carried out in accordance with the strategy. The task of the shop floor steward is to inform about the project and give the project legitimacy among supervisors and employees.

It is the responsibility of the Company Health Service and the Department to co-operate with the Work Inspection, the ‘new’ Social Service, The University of Women and the host community on the establishment of the regional development coalition.

8.2. Phases in the training programme

The training programme for front managers is organised in modules. Topics are attractive places of work, communication, conflict management and change management, health and productivity Researchers at the Department have gained positive experience with a similar scheme of in-house training called 'Management of Public Front Service', Sverdrup (2002). The target group of the programme is employees working in the public sector rendering daily service to the general public. There are elements of practical problem solving and research in the scheme having a transfer value to the training programme on health.

A model of the training programme

Figure 1 suggests a circular model of implementing and improving the methods of competence development in the individual enterprise.

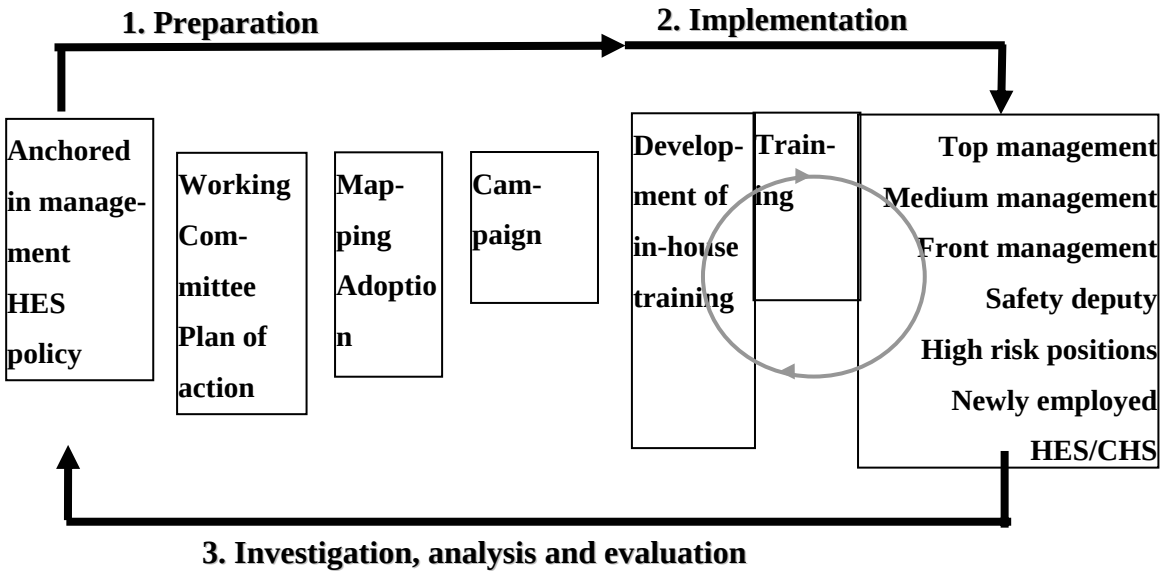

Fig.1: Model of the training programme (Project Memo, 2002)

In 1. 'Preparation', the scheme for competence development will be anchored in business management and union officials. The programme will be processed in the decision- making bodies; map the need for competence development, adapted to local conditions and the employees will be

informed. In 2. ’Implementation’, the programme will be carried out with supervisors of the company and evaluated by the researchers from the Department in 3. ‘Investigation, analysis and evaluation’. The results of the evaluation are fed back to management and employees of the company informing new measures to enhance preventive health and productivity.

8.3. Diffusing competence on work-related health in the action research project

Networks of enterprises

The project on competence development will start with the individual company which is a part of a group of companies making out a network (Finsrud 1995). The purpose of the enterprise networks and the regional development coalition is to ensure that experience with preventive health and productivity will be diffused. The network is the arena of supporting organisational change by employees and management, exchange experience and disseminate innovations among the enterprises. The core of the training programme is a group of four firms recruited from different business sectors. The enterprises are selected in this way to ensure that they do not compete on the same markets and the topics will not be too specific to the branch of business (Gustavsen et al. 2001). Examples of general topics are organisation, management, competence and work environment.

Networks of enterprises are horizontal relationships of co-operation which provide favourable options for disseminating information and learning (Nesheim 1998). They are also well suited for eliciting tacit knowledge and technological innovations. The dissemination of competence is difficult in major companies because of their hierarchical structure. Co-operation in a network is a way of organising competence development – co-operation is becoming a form of organisation. It is a vital source for increasing the competence of the enterprise and has to be anchored in the strategy of the company, suggesting clearly the possible areas of co-operation. The

advantages of co-operation are time spent on development will be less because more associates are participating. The participating companies are sharing the costs of development and the risk will be reduced. On the other hand, the enterprises have to take into account the costs of co-operation and the risk of leaking core competence to other firms in the network.

Regional development coalition

The company health service has recently given more priority to forward preventive health in working life. The frame factors of the enterprise are changing rapidly having great impact on the psychosocial work environment of the employees. The aim is to downplay the significance of medical consultation of the individual employee and rather work on the social relationships of the work group, for example, competence development of foremen. The new strategy of the service implies having access to new knowledge on preventive health and productivity, also outside the area of the medicine of occupation. Working life does not need more rules and policies for the work environment, but rather, more incentives to create attractive places of work. Departments, enterprises and the public management of means succeeding in making a good work environment, have to be enumerated rather than punished. In the years ahead there will be more competition of manpower between public agencies and private business. The reputation of the industrial environment has to be elevated by, for example, public agencies and the host community contributing together with efforts and competence. The reputation ‘it is meaningful to work here’ is a vital competitive advantage ensuring improved health and productivity in each enterprise and the business community.

There is already developed a co-operation of high commitment on the programme VC2010 between the Company Health Service, the parties of working life (LO and NHO) and the Department. The co-operation will be extended later in the project to The Work Inspection, the ‘new’ Social Security Service, The University of Women and the host community of the enterprise. The new social security is a planned merger between the Agency of Employment, The National Insurance Service and The Social Security Office. The parties have been inquired joining the training

programme and will be invited at a later stage to join the regional development coalition.

A regional development coalition may consist of enterprises making out one or more networks, a research group, the parties of working life and public agencies. The members of the coalition are considered having a partial competence on the basis of their practical and theoretical competence.

The main purpose of the coalition is the co-ordination of business strategies and to encourage the use of available means more efficiently. The members are co-ordinating the projects in the region and discussing political, social and economic aspects of innovation.

8.4. Time schedule

A pilot project has been carried out in the first company that joined gaining experience with the training programme. The pilot project of the in-house training schedule has been evaluated by researchers and necessary revisions will be made in order to improve the programme. The results of the evaluation have been fed back to management and supervisors of the company and to those responsible of the programme. The scheme will be implemented in the remaining three enterprises during 2003.

Figure 2 suggests the development process from a group of companies to a regional development coalition.

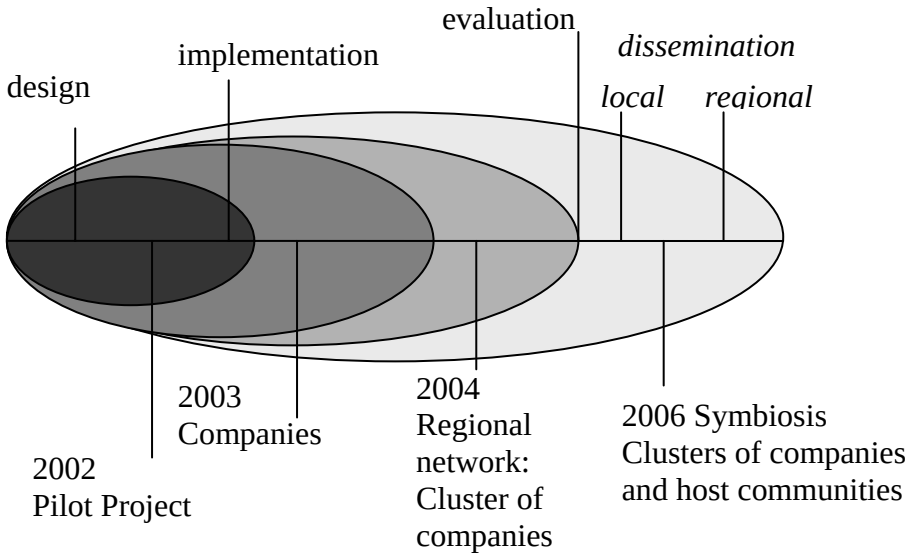

Figure 2. A development model of four stages from the training programme to a regional development coalition. (Project Memo, 2002).

The group of four companies will during 2004 be extended to eight enterprises forming a regional network. Business managers, shop floor stewards, supervisors and workers from the first group of enterprises are invited as ‘ambassadors’ of the training programme to those which have not yet participated. The ‘ambassadors’ will inform about the in-house training scheme on the basis of the successful experience from their own companies.

According to the plan, more networks of enterprises will be formed in a similar way during the year of 2005. The training programme will be adjusted to small and medium sized enterprises and to micro firms. The latter have less than 10 employees and are estimated to make out more than half of the members in the Company Health Service. The programme has to be adjusted to different patterns of communication between management and employees compared to those companies having more than 100 employees.

Regional development coalition

The aim is during the year of 2005 that the co-operation has been formalised with the partners from the company health service, the parties of working life, the 'new' social security service, The Work Inspection, The University of Women and the University College. The Social Security Service and The Work Inspection have been inquired to join the programme because they have a partial competence on preventive health in working life. The University of Women has been inquired to join because the majority of employees are women in some of the participating companies in the project.

Trail research on networks and the regional development coalition

Trail research will be conducted parallel to the establishment of the networks of enterprises and the regional development coalition. The research focus is on the enhancement of competence on preventive health and productivity.

Democratic dialogue and participation

The researchers will arrange seminars with supervisors and their fellow employees to inform about the project on competence development. The organisers will have feed-back from the participants on topics, goals and organisation of the proposed programme. The researchers have to ensure that at least one seminar or conference will be arranged at each enterprise. The seminars and conferences will according to the plan be funded by the common organisation of the parties of working life (HF).

9. CONCLUSIONS

The job-strain model may serve as a useful point of departure for doing research and improve the practice of preventive health at the work place. In the paper we have not to a sufficient extent supplemented the model with more recent research. It is necessary to do so and confront the job-strain model with competing models and theories. The researchers we have cited are viewing the relationships between work conditions and health mainly as objective entities. This view is also present when the strategy of job redesign is discussed. The subjective views of specific work conditions should be more addressed when short-term training programmes are implemented and evaluated. The participation and subjective views of employees for changing the work organisation should be paid more attention to in theory and in designing training programmes.

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