

## **New Perspectives for Learning - Briefing Paper 47**

### **Organisational Learning in the Chemical Industry**

#### **Context of the Research**

Terms like “learning company” or “learning organisation” are now often used to describe a “new quality of learning” within companies. However, there is a lack of clarification as to what companies really do when they declare themselves as “learning companies”. The term “learning company” is also used in very different ways. It can be identified with teamwork, in-company training and the adaptation of the company to changing market requirements. In Germany, both terms have been criticised as an attempt to separate the learning process from the individual.

This project has aimed to identify ways of organisational learning in European companies and its implications for vocational education and training. It has focused on the chemical industry particularly in Belgium, Germany, Italy and the United Kingdom. Organisational learning is defined as happening when “an organisation stimulates individual learning in order to share learning processes between individuals and to distribute the results of such learning within the organisation”.

#### **Key Conclusions**

The following conclusions have been reached: -

1. Although impressive examples of organisational learning were identified, they were not always a result of a company’s general policy. Only to some extent can organisational learning be regarded as systematically implemented by company management. In other cases organisational learning was a result of efforts at a decentralised level or as a side effect of the restructuring of work systems.
2. Worker specific knowledge is now being used to improve company performance as well as health and safety at work. Formerly, improvements of performance and safety were almost exclusively tasks for engineers and managers. Now, workers at all company levels are being asked to share and utilise their specific knowledge about production processes, technical installations and co-workers in order to improve normal production flow and how to cope with incidents.
3. This merging of theoretical knowledge with practical know-how is regarded as work process knowledge, which operates within a broader horizon than just a single workplace.

4. The stimulation of the development and acquisition of work process knowledge involves evaluation of that knowledge, documenting it and distributing it within the organisation.
5. This has implications for vocational education and training when it is not linked with the acquisition of work process knowledge and is resulting in changes in vocational education.
6. In countries where education and training is merely behaviour-oriented, theoretical elements are added to provide a sound foundation for the acquisition of work process knowledge. Where education and training is mainly theoretical, practical elements of learning are integrated into vocational training.
7. Learning in a “learning company” is oriented towards the running of the plant and towards improving performance, combined to some extent with career opportunities. It is not oriented towards job descriptions and the range of vocational competences that are defined like the German “Beruf” concept. Job descriptions and “Berufe” are not suspended in a learning company, but interpreted less strictly.
8. Vocational education and training as a means to prepare somebody for given work routines is losing its importance and becoming less specialised as a large number of competences are and will continue to be acquired through learning at work.
9. Companies do benefit from organisational learning by gaining greater flexibility.
10. Individuals gain from improved working conditions and making work more interesting especially through knowledge creation and sharing, through utilising more discretion and dialogue and through greater autonomy. There is also the opportunity to attain a higher salary in some cases.
11. Organisational learning does provide multiple opportunities for learning that are appreciated by a large majority of employees. However, these benefits only exist as long as those employees stay with their company.
12. An unsolved problem is the accreditation and validation on external labour market of skills acquired within organisational learning.

## **Key Recommendations**

Recommendations include: -

1. Programmes and qualifications in initial vocational educational training and in further or continuing vocational educational training should be related to work. The concept of work process knowledge serves as a sound framework for this purpose.

2. As participative ways of organisational learning lead to superior results, workers should be involved in stimulating this process.
3. There is a need to find ways for accrediting skills acquired in organisational learning so that this can benefit the individual on the external labour market.

### **Further Information**

Full title of the project: "Ways of Organisational Learning in the Chemical Industry and their Impact on Vocational Education and Training", July 2003.

[Final Report](#) [State of the Art Report](#) [Project Web Site](#) [Partner details](#)

### **Key Publications**

Boreham, N.C., Samurcay, R., Fischer, M. (eds.), *Work Process Knowledge*, London, Routledge, 2002

Fischer, M., Röben, P. (eds.), *Cases of Organisational Learning in European Chemical Companies. An Empirical Study*, ITB-Arbeitspapiere Nr. 35., Bremen, Universität, 2002.

Fischer, M., Röben, P. (eds.), *Ways of Organisational Learning in the Chemical Industry and their Impact on Vocational Education and Training. A Literature Review*, ITB-Arbeitspapiere Nr. 29., Bremen, Universität, 2001.

Fischer, M., Boreham, N.C. (eds.), *European Perspectives on Learning at Work: The Acquisition of Work Process Knowledge*, Cedefop Reference Series, Luxembourg: Office for Official Publication for the European Communities, 2004 (to be published).

Fischer, M., "Organisationales Lernen: Ergebnisse eines europäischen Forschungsprojekts" in Fasshauer, U., Ziehm, S. (eds.), *Berufliche Bildung in der Wissensgesellschaft*, Darmstadt, Wissenschaftliche Buchgesellschaft 2003, pp. 225-239.

Fischer, M., "Possibilities and Problems for Stimulating Work Process Knowledge in Companies", in Smith, M. J., Salvendy, G. (eds.), *Systems, Social and Internationalization Design Aspects of Human-Computer Interaction*, Mahway, New Jersey, London, Lawrence Erlbaum, pp. 29–33, 2001.

Mariani, M., "Enforcing benefits of workplace learning in an era of temporary jobs", in Smith, M. J., Salvendy, G. (eds.), *Systems, Social and Internationalization Design Aspects of Human-Computer Interaction*, Mahway, New Jersey, London, Lawrence Erlbaum, pp. 34-37, 2001.

Fischer, M.; Röben, P., *Arbeitsprozesswissen im Fokus von individuellem und organisationalem Lernen. Ergebnisse aus Großbetrieben in vier europäischen Ländern. Zeitschrift für Pädagogik*, Heft 2, Weinheim: Beltz, 2004, pp. 182-201.

Fischer, M., Röben, P., "Berufliche Bildung im „lernenden Unternehmen“ und das Konzept der Kernberufe" in Schudy, J. (ed.): *Arbeitslehre 2001. Bilanzen – Initiativen – Perspektiven*, Hohengehren, Schneider, pp. 31-40, 2001.

Fischer, M., "Challenges and open questions raised by the concept of the learning organisation" in: Cressey, P., Kelleher, M., Nyhan, B., Poell, R. (eds.), *Learning Organisations and Vocational Education and Training*, Cedefop – the European Centre for the Development of Vocational Training, Thessaloniki, 2003

Röben, P., "Organisationales Lernen in der chemischen Industrie" in Hecht, B. (ed.), *Chemieberufe in der Wissensgesellschaft*, Gütersloh, Bertelsmann, 2002.

Fischer, M., "Organisationales Lernen in der europäischen Chemieindustrie und dessen Bedeutung für die Berufsbildung", *Berufsbildung – Zeitschrift für Praxis und Theorie in Betrieb und Schule*, Nr. 78, 56. Jahrgang, Seelze, Kallmeyer'sche Verlagsbuchhandlung, pp. 41-42, December 2002.

Fischer, M., Röben, P., "Ansätze und Resultate des Wissensmanagements in der europäischen Chemieindustrie. Ergebnisse aus großen Chemieunternehmen in vier europäischen Ländern" *Wirtschaftspsychologie*, Heft 3, Lengerich et al., Pabst Science Publishers, pp. 27-33, 2003.

Röben, P., "Individuelles und organisationales Lernen in der chemischen Industrie", *Arbeitswissenschaft im Zeichen gesellschaftlicher Vielfalt*. Dortmund, GfA-Press, pp. 272-274, 2002.

## Research Institutions

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