E-learning in Danish enterprises

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In recent years, companies have increased the use of computer-supported education as it provides a good, inexpensive and flexible means of training employees. This paper presents an examination of the pedagogical theories and thoughts behind the application of computer-supported workplace training. The issue will be clarified through a study of companies’ application of computer-supported education and the supply of training programmes offered by e-learning businesses.

On both sides, the prevalent pedagogical organisation of computer-supported education focuses on individual, independent studies. The reason is financial considerations. Both users and suppliers recognise the problematic aspects of the training, but refer to the increased costs of other types of computer-supported education. Another reason why individual, independent studies dominate computer-supported workplace training is the pedagogical theory on which learning in workplaces rests today.

Introduction

The motivation to study learning in the workplace comes from my belief that learning processes at work differ from learning processes in schools. In schools, focus is centred on the meeting between individuals or groups of individuals (e.g. a class). In the workplace, the individual employee occupies a certain position and performs a number of more or less defined tasks. The employees, their positions and work content are part of the organisation that forms the workplace. These elements – individuals, positions, work content and organisation - form a whole that is the context of learning in the workplace. The workplace generates a sense of ‘community’ and collective work practice that the individual employee is part of – and which is the frame of reference for the learning at the workplace.
Theories on learning at work comprise concepts as e.g. ‘organisational learning’ (Argyris and Schön 1996, Easterby-Smith 1997) although this concept primarily focuses on individuals’ learning in organisations and less on learning related to the workplace as a collective entity (Cook and Yanow 1993). The ‘learning organisation’ is another concept that includes workplace learning, but here the organisation is often thematised as abstract structures (Pedler and Aspinwall 1998, Senge 1990). Organisations are regarded as systems consisting of sub-systems (e.g. the behavioural and the technical systems) (Elkjaer 1999, Roth & Senge 1996). The latter reflects an understanding of a company that has very little to do with the complex and incongruous life in a workplace. However, there are also concepts and theoretical perspectives that focus on the social context of learning. I am thinking e.g. of ‘learning as participation in practice’ (Lave & Wenger 1991) and learning through development of ‘activity systems’ (Engeström 2001). In another context, I have called the latter for ‘social learning theories’ as the perspective goes beyond the individual as a turning point for learning processes (Elkjaer under publication).

In this paper, I will present the results of a study where I have focused on a small area of workplace learning in the workplace, namely computer-supported education. The increasing popularity of computer-supported education has led me to examine how companies ‘contemplate’ pedagogy (content, purpose and organisation of learning processes) when they apply this type of training. In the paper, I refer to this part of the study as the ‘application study’. However, the supply of computer-supported education programmes to companies has also developed into a market of products sold as ‘e-learning’. In other words, the ‘users’ (i.e. companies) of computer-supported education are surrounded by ‘e-learning solutions’ on offer. Therefore, I subsequently studied the e-learning business trying to establish its pedagogical approach.

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1 This is probably the reason for the renewed interest in studies on work that can be seen in organisation research today, see Barley and Kunda 2001, Kreiner 2001.
2 However, the theories might be criticised for focusing too much on the ‘social’ aspects at the expense of the individual aspects of learning, see e.g. Elkjaer 1999, 2000, under publication.
3 A student assistant participated in the first study, another in the second study. This is the reason why I sometimes use ‘we’ in the text. In this way, I wish to acknowledge Mads Olsen and Tanja Marianne Nielsen’s work.
There are no precise answers, but, in short, e-learning related to learning in the workplace is applied and supplied as if its raison d’etre is to give individuals or groups access to more knowledge. Application of e-learning may well be part of a large, general elevation of competence and ordered as tailor-made solutions. However, it does not alter the fact that it is quite difficult to design learning processes for the workplace that reach beyond the individual employee’s acquisition of knowledge to include development of the workplace by using it actively as a frame of reference for learning.  

But now I am anticipating events. Before drawing a conclusion, it is necessary to tell a couple of stories. By way of introduction, I will briefly outline the theoretical main currents in computer-supported education. Subsequently, I will give an account of the two studies mentioned above. The paper concludes by suggesting an organisational and pedagogical, theoretical basis for how to proceed with opening the workplace as a special setting for learning processes.

**Pedagogy and computer support**

If we paint a picture in bold strokes of the general development of learning theories and concepts in the twentieth century, it spans a development from behaviourism, cognitivism, social psychology to different versions of social learning theories as the latest addition (Bredo 1997, Elkjaer under publication). The process might also be described as a development where focus has changed from behaviour over cognitive structures to relations between the individual and his/her environment (Altman & Rogoff 1987). The latter is the most interesting approach for learning in the workplace as it moves beyond focusing solely on the individual as the ‘unit’ that must be supplied with knowledge. It does not mean that the other perspectives on learning are uninteresting. On the contrary, a large proportion of the actual application and design of computer-supported education in workplaces is based on an individual, cognitive perspective. However, a focus on the relations between the individual and his/her environment always implies a focus that goes beyond the individual person’s actions and thinking. In the case of computer-supported education, it means that besides concentrating on creating the best possible relations between PCs and users by

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4 In the report from the initial ‘application study’, a couple of companies were approaching this type of application. Due to lack of space, I refer readers to Elkjaer & Olsen 2001.
focusing on design of interfaces, we should also include the context in which the learning processes take place – e.g. the workplace (Ludvigsen & Østerud 2000).

The historical development of learning theories is reflected in the development of computer-supported education (Koschman 1996). One of the early attempts at developing computer-supported education was Computer Based Training (CBT) that focused on learning processes which would enable individuals to acquire a certain subject. The approach of CBT entails that a user works his/her way through a set of teaching materials where both questions and answers are given in advance. Thus, CBT is developed to support the individual’s learning process and based on the interaction between the PC and the user. Over the years, CBT has become increasingly more interactive due to the technological development, but the interaction rarely goes further than to include the individual’s PC.

A more up-to-date design of computer-supported education is Computer-Supported Cooperative Learning (CSCL). This approach is based on an understanding of learning as a process that takes place through cooperation with others. CSCL represents a shift in focus from the individual to groups of individuals cooperating about learning (Crook 1996, McConnell 2000). The technologies that are used to cooperate about learning include network technologies, communication tools (e.g. e-mail, chat, conferences) and tools for collecting and distributing information (databases). This type of computer-supported education is almost only offered by institutions of higher education in the form of computer-supported distance education (Dirckinck-Holmfeld under publication, Lorentsen 2000). The problem is that the approach apparently has a hard time reaching the workplace.

‘Application study’

The idea to work with e-learning in the workplace came from reading the results of a number of studies showing an increasing use of computer-supported education in the private sector in Denmark (IFKA 1996-2000). The reports indicated that companies first and foremost used IT to improve the employees’ general IT competence. The reason for using computer-supported education rather than more traditional forms of training was the prospect of saving time and money. Besides, computer-supported
education made the framework for in-service training more flexible in time and space. However, the reports did not reveal anything about how the companies organised computer-supported education pedagogically.

In connection with IFKA’s year 2000 study, IFKA asked the interviewees that had used computer-supported education in 1999 to participate in an interview study. It was this study that I subsequently carried out and in which I examined the pedagogical organisation of computer-supported education more closely. 18 companies agreed to participate, but for various reasons I ended up making 15 interviews in 15 companies. In each company, I interviewed the person in charge of educational activities. However, during the interviews, I learned that only half (8) of the companies used computer-supported education. These are the conditions on which the paper is based.

Apart from a few interviews that for practical reasons were carried out over the telephone, all the other interviews took place at the company premises. All the interviews lasted from ½-1 hour during which time notes were taken. Transcripts of the notes were returned to the interviewees to allow them to make corrections, if any. After the corrections had been worked into the interview text, it was once more returned to the interviewee. As the interviewees were promised anonymity, they are represented by their line of business or type of company.

The interview texts were edited by reading them several times partly to reduce them, partly to succeed in finding the core in the answers (Giorgi 1975, Kvale 1996). In my presentation of the results, I have used quotations to make the text more vivid. The quotations are not necessarily precise formulations of the original text, but reflect the content of the response.

To what purpose do companies use computer-supported education?

IFKA’s study showed that computer-supported education in Danish companies first and foremost is used to increase the employees’ general IT-competence. But apart from instruction in IT, did the companies use computer-supported education for anything else? The study confirmed that the companies used computer-supported
education to improve the employees’ general IT-competence, e.g. in the form of CBT in the PC-driver’s licence modules and as a tool to acquire other IT-skills. An interviewee from a sales company points out that employees need to have a solid IT-competence. She states:

“We regard good IT-skills as an important competitive asset, e.g. in connection with our initiatives within e-business.”

Companies also used CBT for language instruction and quality certification if they belonged to a large group or an industry association (e.g. the pharmaceutical industry) that required standardised and documented skills and had the means to produce computer-supported education on a large scale. Besides, individual employees that aimed for promotion used computer-supported distance education. In cooperation with a university, one company had developed a highly specialised distance training programme, where the individual, (highly educated) employee could access the ‘net’ from his/her own PC. Out of all the examples, the latter came closest to CSCL as it provided a link to a virtual classroom with lectures, access to data bases with overhead films, notes, etc., including access to various forms of electronic group rooms presenting different discussion forums.

**Why do companies use computer-supported education?**

Do companies only use computer-supported education because they can save time and money, or are there other reasons behind the choice? As mentioned previously, it was cost-effective to employ CBT as a tool in maintaining the company’s quality certification if the company belonged to a group or an industry association. Application of CBT to preserve the company’s quality standard also required common standards in research, development and production. As a consequence, the company was able to make uniformed and standardised training programmes for many employees reducing the training cost of the individual employee. In this way, the company ensured that all employees went through the same course of training and

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5 When we look at computer-supported education in the PC driver’s licence modules, the companies involved were part of the home-PC arrangement. To qualify for the arrangement, the employees had to pass (some of) the PC driver’s licence modules, which they could do by working with the programme at home in their spare time or during intermissions at work.
could be tested on the basis of the same criteria. Thus, the purpose of computer-supported education was to ensure that a large group of employees received identical training at a low price. A representative from a pharmaceutical company comments:

“We use these (quality certifying, author) CBT-programmes as a means to gain uniform competence. Within our line of business, there are so many standards and requirements that we must comply with – and here computer-supported education is excellent.”

Companies that applied computer-supported distance education focused largely on training a few already well educated employees. These companies used the market for education and knowledge to provide their employees with highly specialised educations and university degrees. Computer-supported distance education was also a means to keep track of the development in an innovative industry. A representative from a telecommunication firm says:

“Competence development is a criterion for survival, and application of computer-supported education is part of our image creation and a means to increase the individual employee’s market value.”

Computer-supported education in the form of various CBT programmes performed at work or at home is a good and inexpensive solution. By means of computer-supported education, many employees can acquire a PC driver’s licence or become quality certified according to the newest standards at a low cost. Computer-supported distance education may also be used to give well educated employees access to university degrees and highly specialised training programmes in virtual classrooms.

How do companies organise computer-supported education?

Did the companies organise the training as individual, independent studies or as joint learning processes? I have already mentioned that the well educated employees participating in distance education represented the only form of training that came close to CSCL. Otherwise, the eight companies represented many pedagogical approaches to the organisation of computer-supported education. Some employees
worked at home on the ‘net’ or with a CD-Rom. In a few cases, the employees had access to a teacher as well as support, but there were also examples of training and contact to a teacher over the ‘net’. A representative from an auditing firm comments:

“A teacher provided the instruction through lectures that the individual employee could access at certain times. In addition, they could complete assignments and mail them to the teacher for correction. The training was structured in time as the system only allowed employees to follow the lectures at certain times.”

Other employees worked on an individual basis at the workplace. In this case, the training was performed in a special room with a PC only used for this purpose or from the employee’s own PC. One company had just dropped the individual ‘teach-yourself at home’ programmes and was in the process of planning a computer-supported education programme within the PC driver’s licence modules to be performed in the company. A representative from this administrative company says:

“We have previously bought the PC driver’s licence courses as ‘teach-yourself programmes’, but nobody used them as they were pressed for time at home. Many women with small children are employed in the company, and they do not have the time or the peace and quiet to sit at home and qualify themselves in their spare time.”

Another company also used computer-supported education performed at the workplace. According to a couple of the interviewees, computer-supported education as individual, independent studies is not well suited to acquire completely new skills. It is difficult to acquire new skills and knowledge when you start completely from scratch. A representative from a sales company says:

“For some persons, it was difficult to get started (with the training at home by means of a CD-Rom, author), and it was also difficult to learn in this way. It was especially difficult to learn to use completely new programmes.”
A representative from a pharmaceutical company has a similar comment:

“Computer-supported education is excellent for ‘mass training’, but we do not use CBT for introductory courses.”

It requires a great deal of self-discipline to complete a course by means of CBT as an individual, independent study regardless of whether it takes place at home or at the workplace. The lack of personal contact to a teacher or to fellow students means that the employees are unable to motivate themselves to work with the computer-supported education programme. It is not sufficient to qualify yourself by yourself; you must do it together with others. The problem with maintaining the motivation to qualify oneself alone is also evident in computer-supported distance education where the drop-out rate often is high. A representative from a finance business says that motivational problems in relation to computer-supported education have led to a re-evaluation of the use of CBT. He also questions the benefits from this type of computer-supported education:

“We do not use CBT as the only ‘right’ solution, but we consider CBT as a valuable alternative to other forms of educational activities. In the beginning, our aim was to make 20 per cent of all educational activities based on the computer, but it has become less and less important. What is the benefit of struggling through a CBT course if there is no learning? The problem with CBT is that it is impersonal and requires a high degree of self-discipline. In CBT, you are not examined in the curriculum and you do not have to submit assignments, etc.”

In comparison, experience showed that the motivation to learn was flourishing in computer-supported education where both teacher and fellow students were present. The possibility of creating a ‘private learning space’ around the PC meant that the individual employee could ask the teacher for advise without simultaneously displaying his/her ‘stupidity’ in public. It was stressed that this type of computer-supported education was especially relevant to employees unaccustomed to schooling
Companies apply computer-supported education to improve employees’ general IT-competence, for ‘mass training’ in connection with e.g. quality certification and language instruction and to provide opportunities for individuals to participate in distance education at universities and other schools. In return for participating in the home-PC arrangement, the individual employee had to acquire general IT-qualifications. This was the reason why the companies launched computer-supported education in PC driver’s licence modules. Another reason for application of computer-supported education was a wish to secure uniform training of large groups of employees at a low cost. Finally, the companies used computer-supported education to give employees the opportunity to develop and maintain their qualifications through participation in distance education.

Computer-supported education in companies is primarily organised as individual, independent studies although it is widely recognised that this type of pedagogical organisation is problematic. Computer-supported education organised as individual, independent studies demands more self-discipline than most employees have. Apparently, it is not motivating enough to make computer-supported education more interactive. To most people, it is not enough to use the keyboard and the mouse when they participate in training. Apparently, it requires some type of (virtual or other) contact to one or more persons to become engaged in learning processes. The question is whether the e-learning business provides this option in their supply of computer-supported education programmes.

‘Study of supply’

We found that there were no previous studies of supply covering e-learning businesses from which we could retrieve information. Therefore, we had to start from scratch and generate a list of relevant companies that offered e-learning to workplaces. Some of our first efforts to retrieve information in the spring 2001 showed that the e-learning market was still in the making in Denmark. When searching for e-learning via a Danish browser, Jubii or Opasia, we only got approx.
10 hits. Since then, things have changed, and now it does not make sense to search for information through this channel. Instead, we have tried to get an overview of the companies in the industry by participating in different conferences and seminars about e-learning and by reading various newspaper supplements, pamphlets and publications from the industry. The list is under constant development as companies within this line of business appear, merge, die and reappear, perhaps under new names.

However, fairly quickly we realised that the e-learning business provides many different offers relating to e-learning in different ways (Aldrich 2000). Thus, we can distinguish between suppliers of content, suppliers of software for production of e-learning and distribution of data in connection with e-learning and suppliers of systems for administration of e-learning in addition to consultants offering the whole package.

The suppliers of content offer both standard courses and ‘tailor-made solutions’. The courses are offered on a CD-Rom or via the ‘net’ and are often asynchronous, i.e. independent of time allowing the individual user to work with the course whenever he/she prefers. Synchronous courses take place at certain hours, where the employees can register as participants. Both asynchronous and synchronous courses may provide opportunities for contact with teachers and fellow students via e-mail, electronic bulletin boards, discussion groups and chat facilities. Whether the offer from the supplier strictly includes content without any other facilities depends on what the customer is willing to pay.

Suppliers of software for production and/or distribution of e-learning may e.g. offer writer’s tools to assist a company to design a module or a complete course. Software for distribution of e-learning includes technologies that electronically link course students and enable transmission of data over the ‘net’. These technologies are essential to the content suppliers when the content no longer is delivered on a CD-Rom. The technologies may be fitted to work asynchronously with teaching materials and assignments and to provide a synchronous content. The latter version leans against the traditional classroom and is often called a ‘virtual classroom’. Finally, we have the suppliers of software for the administration of courses (the so-called
Learning Management Systems, LMS) and the consultant industry that delivers complete ‘packages’ to which the above-mentioned companies are sub-suppliers.

The study only covered Danish companies or foreign companies represented in Denmark. Similarly, the consultant industry and the supply of educations from schools have been left out. Our focus has been e-learning companies (or part of the companies as some deliver several different products) that supply e-learning to workplaces. We have interviewed representatives from 15 companies and used relevant material from their homepages. We have not tested the products, but tried to understand through the interviews how this industry ‘thinks’ pedagogically.⁶

**E-learning as individual, independent studies**

Out of the fifteen suppliers, nine produced e-learning content, five produced writer’s tools and one produced software for distribution. The manufacturers of content can often be traced back to course organisers that following the entry of e-learning have started to produce e-learning courses. All the suppliers – both of content and writer’s tools – primarily focused on producing asynchronous independent courses. Most of the companies delivered tailor-made solutions intended to meet customers’ specific needs. Previously, a couple of the companies had produced standard products e.g. for the PC driver’s licence, but when the home-PC arrangement came to an end, their source of income stopped and they adapted production to fit a more customer specific content.

Most of the content manufacturers aim their production at large Danish companies as it is expensive to produce e-learning courses. Moreover, in terms of content, there is a move from supply of courses teaching ‘hard skills’, such as more or less advanced IT-skills, to ‘soft skills’, e.g. sales training, which many see as a new e-learning market.

The suppliers of e-learning employ different pedagogical theories. Several manufacturers apply a certain taxonomy to differentiate between what e-learning can

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⁶ Qua our method, it is impossible to say whether we have focused on a certain ‘segment’ of the e-learning industry. But people in the industry know each other well, and when we asked about competitors and cooperators, we were referred to companies that in most cases were included in our study.
and cannot be used for. It means that they distinguish between different learning levels: knowledge, ability and mastery. A developer of writer’s tools says:

“E-learning only enables the student to reach an ‘ability level’. A ‘mastery level’ requires more dialogue and lots of experience.”

Another developer in a content producing company comments:

“We do not expect that communication of information will enable people to move up the taxonomy ladder. They will not acquire ‘ability’. They will not acquire any knowledge in such a way that they can use it.”

Most developers regard e-learning as part of an overall educational portfolio. By defining the goals they wish to achieve with e-learning (knowledge, ability, mastery) and by analysing people’s learning style, it is possible to determine when it is appropriate to apply e-learning and when it is not. One developer says, for example:

“We build on Gardner’s 7-8 intelligences. We try to develop our material so it supports all learning styles.”

A developer of content says that in her company they have almost entirely produced independent study materials in the form of CD-Roms. She says:

“Typically, e-learning is not involved in our conceptual world. E-learning requires communication.”

However, e-learning based on communication has not yet been greatly developed as there was no market for the product. But, according to the same developer, it is coming and an example might be employee introduction in a firm. She explains:

“The introduction would be spread over four weeks and include something about our tools, which we would maintain as an independent study. But then we could do other things with a group of people, e.g. get to know your house, where is the canteen? Where is
the personnel department? Many topics would be very useful to learn in a group, and at the same time we could create a network between new employees. In this case, I believe e-learning would be the obvious tool to use. But it would be a combination of e-learning and independent study. We are in the process of developing such a course."

However, most companies are still developing asynchronous independent study programmes and do not work with mentors, discussion groups, chat, etc. The argument for renouncing this type of e-learning is the cost to the customer as it is very demanding on resources e.g. the use of mentors. The argument for using e-learning based on communication or at least for developing some kind of support structure relating to e-learning emphasises the frequent lack of results in e-learning as independent studies. As an example, one developer says:

“Most of what we do is based on the condition that the employees work with the subject independently and preferably in their spare time. In return, they are provided with a PC. It is not very successful except if we provide some sort of support arrangements, e.g. sitting in a café-like situation with access to support. But that requires a real intention to improve the employees’ qualifications. I have an example where a production company believed that if only the employees were given a home-PC and started on a training programme, the company would see some results. But I think it is only about 25 per cent of the participants that show results and achieve something from the study. In some cases, it is as low as 3 per cent, it depends a bit on what kind of materials have been used.”

The industry believes strongly that the materials and the very design of e-learning courses are essential. In particular, stimulation of the visual aspects is stressed. Some of these ideas derive from studies of human cognition based on brain research, concepts about differences between the left and right cerebral hemispheres and ‘emotional intelligence’. One developer comments:
“We also know that when we work with pictures, we rely on the long-range memory. As soon as something is related to pictures, we remember it far better than words unless we have a teacher who is very good at talking in pictures or metaphors. If a company wants to work with values, it is much easier to implement the values if we say e.g. ‘fresh as a fish’ or ‘busy as a beaver’. Something that is related to behaviour. The pictures give an association to behaviour. The words are not merely words, but provides us with pictures that tell us something about a certain behaviour.”

These theories are based on close studies of how people’s mental activity functions, i.e. a development of individuals’ cognitive structures. It means that feedback is regarded as an essential part of learning as it has a structuring effect on a person’s thinking.

**Summary**

It appears that the supply of e-learning corresponds with the companies’ application of e-learning. Apparently, the supply covers precisely what the companies use in terms of computer-supported education – namely, computer-supported education as individual, independent studies. However, both parties – companies and suppliers – question the benefits of learning through this pedagogical organisation of computer-supported education. They even give almost the same reasons for their concern. Both parties find it problematic that computer-supported education processes are confined to the individual employee’s ‘interaction’ with a PC and a training programme. In addition, they refer to the financial aspects and the increased costs of developing computer-supported education that goes beyond the confined learning situation to include communication and dialogue with teacher and fellow students. Computer-supported education as individual, independent studies that allow employees to work independently of time and space is based on the principle of mass education. It enables a large number of employees to get access to a uniform training content and achieve comparable certificates. In other words, computer-supported education is applied and developed on the basis of financial rationality.
However, we might draw a few more conclusions from the two studies. Conclusions that may sow the seeds of turning application and design of computer-supported education into something else and more than mass production of training programmes aimed at individual, independent studies.

First, the companies had a number of employees that participated in educational programmes from universities and other schools to ensure their continued value on the labour market (sometimes called their ‘employability’). However, in our study only well educated employees participated in this line of computer-supported education. They participated in distance education that focused on cooperative learning processes and the virtual learning environment. The reason for allowing the employees to participate in this type of computer-supported education was to upgrade them as employees and at the same time maintain and develop an innovative workplace.

Second, the e-learning industry was aware of the organisational aspects relating to content in their computer-supported education offers. They were aware that the strength of computer-supported education was the unique possibility of simulating and visualising processes that otherwise would be impossible to access in a teaching situation. This is probably the reason why it is ages ago that computer-supported education was embraced by some professions, e.g. within the health sector where it is not always possible to ‘train’ on living patients.

As such, both the user and supplier sides understood that there were other approaches to pedagogical thinking than individual acquisition of knowledge, just as they realised the importance of understanding the strengths and weaknesses of using computer-supported education in relation to the working life. Apparently, it is financial considerations that set the limits, as computer-supported education is believed to reduce the overall educational costs in a company, which in turn affects the anticipated need for development costs of such training. However, the use of computer-supported education in companies will probably quickly fade away if it does not result in better learning. To forestall such a development, it is necessary, I believe, to use and design e-learning in such a way that it will ensure a simultaneous development of the individual and the workplace.
These ideas are not new and, as mentioned, they already exist in embryo in companies and e-learning suppliers. The question is how developers and research can contribute to a positive development where e-learning is not a goal in itself, but a means to learn, i.e. e-learning is used for what it is best suited, namely to link people across time and space and to simulate and visualise processes. Inspiration can be drawn from the offers of distance education made by institutions of higher education. But, in my view, these experiences must be ‘translated’ to encompass the workplace as a whole – the individuals, their experiences and positions, including work content and the organisation in which they are part. In the following, I will suggest a few outlines for such a development.

A new beginning

As already suggested, I consider learning to be both a personal process and a process dependent on the social worlds and relations in which a person has access to develop – in this case, the workplace. Learning provides us with the opportunity to commit ourselves – to experiment, experience and create a meaning out of the commitment. And we need workplaces where such processes are possible. Together with Thomas Binder, I have previously suggested that a parallel organisation, a ‘development organisation’, in a company might provide the right framework for such a development (Binder and Elkjær 2000).

The purpose of establishing a development organisation is to create a frame of reference for learning close to the work-related practice, but still at such a ‘distance’ as to make room for experiments. The development organisation might e.g. work on innovation of new products, services, new approaches to work organisation and new management and cooperation forms. The experimenting practice in the development organisation might be based on John Dewey’s (1859-1952) pragmatic theory on learning.7 Dewey’s theory on learning is based on his concept of experience. According to Dewey, the living experience is the basis for all knowledge, and people become knowledgeable (‘experienced’) by exploring the world.

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It is part of life itself to explore, turn things over intellectually, draw conclusions and make assessments. People do it all the time regardless of whether they are aware of the process or not. This is how people learn and acquire qualifications. The provocative element in the human development of experience is the interference with routine actions, i.e. when people encounter uncertainty. This feeling cannot be imputed to anybody from the outside and must exist within the person’s capacity for problem definition and solution. As a result of exploration, people gain new experiences and construct new knowledge. In the pragmatic theory on learning, learning involves a process where we simultaneously become conscious of and part of the social world to which we belong.

Thus, the method of learning is an exploration that involves problem definition, experimenting with different models of problem solution, concrete actions and reflections on the connection between problem definition and solution. Exploration is a way in which we can acquire knowledge, but it is not necessarily a way that starts with the language and conscious reflections. It may emerge from the senses, physical sensations and emotions. But to share the benefits of the exploration with others, they must become conscious and verbalised – they must be expressed in words to allow verbal communication and learning together with others. These processes cannot be restricted to head and body, thinking or action, they comprise all parts. Their consequences are not limited to ‘knowledge acquisition’. They lead to development of experience, to ‘growth’, which includes both emotion and cognition.

Learning in the development organisation depends on the experiences found in the company. Both individuals and organisations have a history, a present and (a notion of) a future. When the development organisation is going to be established, these experiences must be included in the picture. The sum of experiences in the organisation plays a part in determining what is possible in a company. These experiences determine on which aspects attention can be focused and which solutions can be proposed. The development organisation makes it possible to create an experimental ‘space’ in relation to the work organisation, but within a structure that allows the experiment to move beyond the existing work organisation and practice. It is a way in which to create a learning environment that is closely intertwined with the company, but still experimental in nature. The development organisation requires
active participation and commitment from everybody in the company. Therefore, it
must be taken into account that different employee groups have access to different
organisational experiences and as such will present problems and solutions from their
various positions.

The development organisation may apply computer support in various suitable ways.
Computer support may be used as a means of communication between developers and
users of e-learning if e.g. the development organisation establishes cooperation with
an educational institution. Computer support can also be used in the experimental
learning environment in the development organisation. Computer support may be
used to simulate different problem solutions, e.g. by visualising development of new
products and production methods. In this way, computer support becomes part of the
learning processes with a basis in specific employees, their experiences and work
practice. But because the experiment takes place within a development organisation,
it is possible to go beyond the limits that may exist in the real organisation of work
and practice.

How these ideas can be put into practice is a challenge to future research and
development of workplace learning.
References


Elkjaer, Bente (under publication): Social learning theory: learning as participation in social processes, in Easterby-Smith, Mark & Lyles, Marjorie (red.) *Handbook on Organizational Learning and Knowledge Management*. London: Blackwell.


