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### **e-Learning and Small and Medium Enterprises**

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*By exploring the features and needs of learning in SMEs, this article proposes paradigm changes to promote the use of e-learning in SMEs as a tool to support the creation of knowledge.*

The attitude of individual managers is probably the single most decisive factor in influencing the development of ICT for learning in SMEs. Managers tend to be pragmatic in their wishes with regard to training rather than following any scientific method of assessing needs, and most SMEs lack qualified trainers.

Many SMEs want to break away from institutions and institutionally-based training. Despite the move towards flexibility in vocational education and training, VET institutions in general are still unable to meet the needs of SMEs. Managers are often looking not for 'just-in-time' but 'absolutely-last-minute' training. In order to provide this, they need flexible learning materials and flexible methods of delivery. Current technologies and processes for developing and delivering materials are problematic. SMEs also want to save money – many SMEs say they can no longer afford face-to-face training. They perceive e-learning as a potentially cheap and effective form of last-minute training. This is not without problems (see below).

However, a number of studies have shown little support amongst managers for introducing e-learning. More surprisingly, they show little support for SMEs or SME managers in developing e-learning in their enterprise. There appears to be no natural point that managers can turn to for help, nor does the use of e-learning appear to be a major issue for the various SME support agencies and networks.

### **Cost Benefits: e-Learning Should not Be Regarded as a Cheap Solution**

The question of who pays is perhaps the most pressing and complex issue in the development of e-learning for SMEs. e-Learning has been widely promoted as a cheap or cost effective answer to the policy issue of engendering and promoting lifelong learning within SMEs. Yet most researchers, and many consultants, are adamant that e-learning cannot be seen as a cheap solution. There may be economies of scale to be reaped in the future, but even this is open to doubt. e-Learning must, therefore, be justified in its own terms – in opening up access to lifelong learning or in providing richer environments for learning.

### **Learning Materials: the Lack of Multimedia Contents**

Access to learning materials is a major issue in the development and implementation of e-learning in SMEs. There is a lack of European multimedia educational content coming from institutional, professional and industrial sources in the education, publishing and educational software sectors.

Learning materials and programmes are usually for technologies – mainly on using standard software packages – for managers and management activities such as marketing, or for language learning. Beyond this the provision is very limited. Obviously these materials are largely targeted at technical, professional and management employees, that is to say, at white-collar workers.

The situation is further exacerbated in Europe because of the diversity of languages. e-Learning was pioneered in Europe in the university sector and most learning materials were provided in English. Most vocational learners (and learners in SMEs) require learning materials in their own language. There is a growing debate on the issue of globalisation and localisation in software and learning materials. Translating materials to different languages is not a straightforward technical issue and involves significant cultural transformations.

### **Technology and Standards: Enabling the Learner to Create Learning Materials**

The agreement and adoption of common standards would mean that learning materials and systems would be interoperable – and

therefore more sustainable. Standards would enable and facilitate the development of learning materials within an individual enterprise or cluster of enterprises.

Learning materials could be created by learners themselves as a result of their engagement in business activities. The primary role of the computer-based learning platform would not be in the delivery of the materials but in facilitating the transformation and communication of ideas as knowledge. The computer or ICT-based learning environment would be primarily a process tool to support the creation and transformation of knowledge. The overwhelming advantage of this approach is that it allows learning materials to reflect and support the different contexts in which learning takes place in SMEs.

Although early learning platforms tended to be produced and maintained locally, more recently the trend has been towards the adoption of increasingly technically sophisticated platforms developed by private sector e-learning enterprises. These do not, in general, meet the needs of SMEs.

To be effective and accessible for SMEs, learning technologies and systems should form part of wider knowledge sharing and development networks. It is important that they support the emergent standards for e-learning materials in order to allow interoperability and the sharing of development efforts, and to facilitate localisation.

## **New Paradigms**

The real challenge is to stop thinking within existing paradigms of learning and e-learning.

One new paradigm to be addressed is the nature of informal (or tacit) knowledge as opposed to formal knowledge. e-Learning has so far concentrated on formal learning and the reproduction of traditional courses through digital media. Yet most studies suggest that, at least for skilled work, it is tacit knowledge that is most powerful within SMEs. The question is how e-learning systems and architectures can be used to support the development and sharing of tacit or informal knowledge.

A second issue is the tension between individual learning, which e-learning tends to promote, and the social nature of more traditional learning. The social dimension is recognised as an important motivator and driver for many learners, and a positive social environment can improve the effectiveness of learning, as well as allowing a wider range of methodologies.

Thirdly, if the sharing of existing knowledge and the generation of new knowledge are important future developments for SMEs and if e-learning or, better stated, e-resources are to be a medium for doing this, we need to look at the nature of the interactions in e-learning and to develop new processes and solutions. This requires moving towards a new paradigm of continuous learning based on the application of new working principles.

Fourthly, but arguably more fundamental, is the question of the nature of the problem that e-learning is trying to solve. Is it of benefit to SMEs at the present stage of technical and pedagogic development? Clearly SMEs are using ICT technologies for access to information, but they see that as very different to signing up for e-learning 'courses'. Some SMEs think they need e-learning, but they do not necessarily know why. In many cases they are being driven by the need to employ new information technologies, but the lack of any integration with e-learning is hampering progress.

Finally, there is a separate issue around how to persuade employees themselves, rather than their bosses, to use new technologies for learning, and to reconcile individual learning needs with collective ones. In other words, how can we resolve the PSP paradox – providing pleasure, sustainability and profit – all at the same time?

## **The possible solutions**

### **1. Promote a Culture of Learning**

The most critical issue is to promote a culture of learning in SMEs. This entails taking actions to involve a wide range of stakeholders as well as SMEs themselves. This is a long-term strategy but one without which no amount of e-learning-directed initiatives will succeed.

### **2. Mobilise SME Managers**

As part of such an approach, it is particularly important to mobilise SME managers through the development and support of sector networks, regional networks and regional learning networks.

### **3. Focus on Organisational Development**

e-Learning should not be viewed as an issue or aim in itself. In fact the present focus on learning and training can even be seen as unhelpful, particularly given the vague and unfocused nature of discourses on lifelong learning. Instead, e-learning has to be addressed within the context of organisational development, including more support for SMEs in introducing new forms of work organisation and new technologies within the workplace.

#### 4. Support Networks as a New Developmental Paradigm

Networks should be seen as a new developmental paradigm. Present policy makers and planners' approaches to learning still reflect an 'industrial age model', with lifelong learning merely seen as "more of the same for more people".

#### 5. Develop a Differentiated Approach

Such a new approach needs to be more culturally differentiated – "one size does not fit all". Due recognition of the different needs of different sectors and regions is necessary, rather than a blanket approach to introducing e-learning in SMEs.

#### 6. Recognise Triggers for Change

It is important to identify the different triggers that act as a catalyst for change and to promote a learning culture. These vary between sectors and regions and over time. When these trigger points are recognised, structures are needed to allow immediate short-term actions to be taken to capitalise on opportunities.

#### 7. Policy Support

There are many actions which could be taken by local, national and European policymakers to support the use of ICT for learning.

A change in present funding policies to promote and support larger numbers of small projects based on communities of practice, and running these projects more intensively over shorter time periods would be of benefit. Projects should focus on work-based learning rather than on the provision of distance learning courses or virtual classrooms, and should seek to develop and capitalise on informal processes of learning. Rather than looking to external learning materials developers or training bodies to supply learning programmes, they should focus on SME employees as providers (or senders) of knowledge. The development of competence in SMEs is predicated on the knowledge, skills and attitudes of the SME employees themselves.

At a European level, inter-regional networks and projects can be particularly valuable. Similarly, projects supporting clusters of SMEs offer great potential.

### **Research**

Research is also important. Future research is needed into how SME managers and employees use ICT within their everyday work. The findings should then be used as a basis for developing environments and opportunities for e-learning. We also need to recognise an ongoing paradigm shift from e-learning to knowledge management, and to initiate research on knowledge. Finally, we need more research into social networks and SMEs and their impact on knowledge sharing, development and learning.

New forms of research – for instance the promotion of 'accompanying research' – with research taking place alongside developmental activities, could help overcome the present divisions between research and practice, and researchers and practitioners.

Knownet, a small software research organisation based in north Wales, received funding from DG Education and Culture for managing two seminars on the use of information and communication technologies for learning in small and medium-sized enterprises. The seminars were held in late 2002 and early 2003, bringing together researchers from nine European countries. The full outcomes are available on the [Knownet web](#) and a publication based on the project can be obtained from the [University of Stirling](#). This article provides a summary of some of the issues discussed.