Creating new learning communities: towards effective e-learning production

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Abstract

This paper examines how small firms that produce "e-learning" materials collaborate and communicate with their clients, external agencies and end users. Our premise is this: given increased demands for more sophisticated and "learning-led" products, it is becoming increasingly crucial for e-learning firms to source and exploit content, education, knowledge and expertise that is extrinsic to the traditional boundaries of the "firm". These shifts raise a set of problems related to how firms can effectively interact and collaborate with others in order to create, distribute and evolve effective e-learning tools and products. Based on our own case study research and building on the existing literature on "communities of practice", we argue that the formation of new "learning communities" is a strategy now being undertaken by leading firms in order to meet demands for "learning-led" products.

Electronic access

Introduction

This paper reports on research undertaken within small- and medium-sized enterprises (SMEs) that produce digital educational and training materials, hereafter known as "e-learning" firms. E-learning is a fast growing multimedia sub-sector that has emerged to meet increased demand for digital and distance based learning and training materials in educational and workplace environments.

The focus of this paper is to examine the ways in which small- and medium-sized e-learning firms collaborate and communicate with their clients, external experts and/or end users. These firms produce e-learning packages both for the market and for specific company clients. Our premise is this: given the increased demands for more sophisticated and "learning centred" products, it is becoming increasingly crucial for firms to source and exploit content, education, knowledge and expertise that is extrinsic to the traditional boundaries of the firm. This predominantly occurs in three ways. First, there is the sourcing of content from the client – material that can be shaped into or inform the e-learning product in question. Second, and increasingly, there is the need to draw advice from external "learning experts". These may be experts in teaching and learning or in the subject being taught. It is now necessary for firms to open up their organisation to exterior knowledge and know how, to create new collaborations that can position learning in the production process. Third, given the necessity of providing effective learning that is sensitive to learner/ end user needs, it is now more common to involve or conceptualise the end user within the development process – ensuring that learning products are able to engage with and enhance the learning of the end user involves more consultation, partnership and interaction with the end user than ever before.

Using case study examples from qualitative research with over 20 companies in the North West of England[1], we show how firms are attempting to develop new "learning communities" in order to effect progressive e-learning products.

The methodology used in the project is of an ethnographic type[2], which works under a qualitative rather than quantitative paradigm. Epistemologically, we were attempting to be

faithful to the research subjects involved in the project and their complex and shifting interpretations and understandings of e-learning in their situated contexts (Atkinson, 1990; Hammersley, 1992). More specifically, we wish to "let the data speak" and ground our theories from that in a sensitive and sensible manner (Glaser and Strauss, 1967). In so doing, we want to depart from any crude positivistic picture of their lived business experience. Thus, the logic of our approach is to attempt to provide some nuanced and adequate description of the natural setting of e-learning work. Quotes taken from the interview transcripts will be used to summarise and highlight key themes that emerged from our analysis.

The SME case studies, although all within the e-learning sector, varied in terms of size, management style, organisational culture and business history. The sample of 20 firms represents around one third of the total number of businesses producing e-learning that we could identify in the North West of England. In each case study, interviewing of key staff and participant observations of both working practices, client meetings and management meetings were undertaken over the fieldwork period (Hammersley, 1992).

While we recognise that the term "learning community" can be defined in many ways (Imel, 2001), we use it here to describe the interactions between the collection of "communities of practice" integral to the firm, and the range of external experts, clients and end users implicated in the creation of an e-learning product. We feel that given the need for flexibility and creativity in this sub-sector (Swanson and Wise, 1997), the more firms can exploit or integrate external expertise, client creativity and learners' knowledges and viewpoints, the more effective these "learning communities" and their e-learning products will be. However as we will reveal, while some successes have been identified, the strategies and pathways adopted in forming these new communities are often partial and uncertain. We conclude that e-learning firms need to more fully conceptualise and engage with the possibilities of expanding their "learning communities" to ensure the continued production of innovative e-learning products.

Organisational learning and the learning organisation – the conventional treatment

Organisational learning (OL) and the learning organisation (LO) are important yet complicated areas of which there is much debate about what the terms mean and how they, the individual, and the collective unit are related to the organisational unit. Both terms have become increasingly popular in both practical executive life and to academic theorists over the last ten to 15 or more years.

An issue that has generated a lot of attention among OL/LO researchers is the differing views as to what "learning" is, and where it takes place. Argyris and Schon (1978) showed that views on the nature of organisational learning depend in part on what one considers to be the essence of an "organisation". More recently, Easterby-Smith et al. (1998) stress the need to ask why, who, what, how and when in relation to organisational learning.

There are different theoretical viewpoints from which organisational learning is typically addressed. Easterby-Smith (1997) has suggested six basic frameworks, including psychology and organisational development, management science, sociology and organisation theory, strategic perspective, cultural perspective and production management. Thus, the way one sees and describes OL, then, can give rise to different measures relating learning to business performance. Griseri (2002) has argued strongly that while these differences may make sense theoretically, in practice managers adopt a holistic conceptual framework for dealing with the problems they are faced with. Various researchers discuss the forms of learning as structured (Cross and Baird, 2000), interactive (Meeus et al., 2001) and embedded (Popper and Lipshitz, 2001).

The interesting challenge for the e-learning businesses in our research is that the location and hence perception of the organisation can be virtual, shifting and not fixed as in more conventional organisations. Consequently, OL/LO debates within our case study organisations take on a particular shape and form. It is our contention that such e-learning SMEs are marginalized in the OL/LO literature, which is still substantively based on corporate cultures and processes. Hence, e-learning as a business sub-sector is

subsumed and treated as a sub-field within the OL/LO discourse whereas our contention is that it is a distinctive field within SME research with distinctive analytic dimensions that need dedicated treatment.

Why "learning" is crucial

It is expected that the number of businesses in the e-learning field will grow; yet businesses vary in the extent to which they possess detailed knowledge or interest in "learning". We have identified a number of multimedia firms now adding e-learning packages to their product range but many lack grounding or understanding, or willingness to engage with, the philosophy or practices of learning. While some see issues of learning as central, amongst the majority of firms we studied, learning is often a secondary consideration to the provision of a "technical solution" or "design impact". The lack of recognition of the specific ways in which firms can proactively shape or deliver education and learning activities, for varied constituencies of end users, was a recurrent finding of our research – firms were either largely content to leave the "learning" input to the providers of content (e.g. academic departments, corporate trainers) or to assume that learning would proceed unproblematically at the point of delivery (in schools, workplace etc.) But we argue that firms should be more concerned about the philosophy, practices and the sheer number of possibilities contained within the concept of "learning" – not only in the design and utilisation of their product, but also in the organisation, activities and philosophy of the firms themselves. Not only is there a growing market for traditional forms of "rule based" learning product (see below), but also the demand for more effective bespoke and tailored learning products now demands that firms pay more attention to learning design, processes and outcomes – increasingly, learning about learning is good business sense.

There are three interlinked issues here: learning about learning, acquiring subject knowledge and learning to become part of a wider community. We argue that they cannot be contained within the conventional understanding of the firm as a bounded set of "communities of practice" – a more open ended conceptualisation is needed in order to capture the range of communities required to produce quality e-learning materials. We want to show how extending communities of practice, into what we call "learning communities" is one route that firms can follow to enhance the quality of e-learning products, as well as to help create a more open and reflexive attitude to learning within the firm itself.

The firm as "communities of practice"

The firm is often seen as a key organisation that can house the expertise, skills and knowledge necessary for efficient and effective e-learning production. Fransman's (1994) conception of the firm as a "processor of knowledge" (see Amin, 2000) is perhaps an apposite description of how firms in our sample operate. E-learning firms process knowledge for their own uses but they also trade in knowledge. They draw upon the knowledge of in-house experts and, increasingly, outside subject matter experts and build this knowledge into products. They comprise sections, each with responsibility for, or claiming to own, part of the design and production process.

With these issues in mind, in recent years it has become common to refer to firms as a composite or collection of different "communities of practice". The idea of a community of practice was developed by Lave and Wenger (1990) as a theory for practice-based learning in which one could undertake "legitimate participation", to serve a kind of apprenticeship with a group of "insiders" in an organisation; organisations being comprised of a range of different disciplinary groups or collectives, each charged with specific areas of responsibility. The theory was referred to by Brown and Duguid (1991) to support their contention that the separation of knowledge from practice is unsound. They argued that the ways in which people actually work differ from official descriptions and that "learning in working" is a better way to improve performance, and most characteristic of how firms share and develop knowledge. Wenger and Snyder (2000) later described a community of practice as a "group of people informally bound together by shared expertise and passion for a joint enterprise", with members inevitably sharing knowledge in order to solve

problems in their organisation. Yet, while these communities might be informal and resistant to supervision, they cannot exist without management support and structure – they are bounded, to varying degrees, within the bureaucratic organisation of the firm.

Given the ways in which "communities of practice" are often associated with firms working in the "creative" or cultural industries (Raffo *et al.*, 2000), we felt bound to test out how far our digital media firms were acting as "communities of practice" in the production of e-learning products. However, while the theory could be observed in action, at a number of levels, we began to stumble over some key questions:

- Can "communities of practice" operate across different organisations?
- Can they operate without geographical proximity?
- In e-learning, how does involvement with external agencies impact on the firms' "communities of practice"?

Given the increasing importance of outside experts, we became concerned with how far agencies and forces external to the organisation – whether in conflict, co-operation or collaboration with the firm – are able to penetrate or impact upon Wenger's "locally negotiated regime of competence" and "shared histories of learning" that make up the "community of practice" (Amin, 2000). We observed that trading in knowledge and putting in the "learning" involves several complex processes of negotiation, particularly around companies that produce speculative and bespoke products. The firm negotiates with clients who commission products, with the external freelance experts who are selling their knowledge, the end users and with the firm's own staff who design and produce the learning products. The types of exchanges and relative bargaining positions of the parties to these negotiations vary according to the stage in the production, but in one of the companies we observed there is an officially encouraged series of "challenges" to the material as it passes through the production process. Knowledge is constantly passing through these firms and we considered that firms ought be able to benefit from these internal and external challenges in terms of enhancing their own performance. We thus concluded that as long as we considered the

community of practice to be synonymous only with the firm, we were unable to account fully for the complexities of the production process and understanding of learning that we were detecting in our e-learning SMEs.

Further, referring to Amin's (2000) discussion of the definitions of communities of practice offered by Wenger (1998), while the key dimensions of "mutual engagement", "joint enterprise" and "shared repertoire", can be individually applied to many of the firms delivering e-learning, as well as the clients and end user groups – we wanted to discover whether such mutuality was as pronounced within the collaborative and convergent networks and communities we identified as necessary for the production of e-learning products. From the existing literature, communities of practice as defined is not multi or inter-organisational. The groups studied by writers on communities of practice are usually involved in discrete organisations or task based activities, for instance Wenger's group dealing with insurance claims, where decisions are negotiated within a given organisational framework but on the basis of tacit knowledge or unwritten convention. The emphasis is on close study of single organisations, rather than on the diffuse and diverse networks that make up the production process in (for example) the e-learning sector. In a sector where management skills and knowledge for effective production can be acquired through extended and exterior communities of clients, experts and learners, where mechanisms for the creation, exchange and possession of knowledge are much harder to define and where relying on others (non-firm members) is a necessary imperative, the received notion of a community of practice begins to unravel – thus we needed to develop a more appropriate understanding of how communities of practice operate within the context of production in the e-learning SME sector.

Examples from our case studies are chosen to shed light on the extended and more complex role of community in the e-learning production process. We show how, as production necessarily involves members of communities working in different organisations, the firm ceases to have primacy in terms of bounding the parameters of creativity and communication, or defining learning and learning outcomes. Just as Tyre and Von Hippel (1997, p. 4), refer to

communal or collaborative processes and "the importance of such collaborative processes [being] that no one person embodies the requisite knowledge to comprehend complex organisational problems or the requisite variety to clarify equivocal issues", amongst our sample the definition of learning is no longer bound by the needs or objectives of the individual firm. We would go as far to say that the primacy of the firm may be compromised for the greater good of the production process and the advancement of the learning community of which the firm is a member.

Developing e-learning products

Before we examine the components of the learning community, it is useful to reflect on the particular kinds of e-learning products that our companies were producing. Most commonly, firms were producing interactive CD-ROM's or Web-based products – sometimes converging the two – and while the content of products differed markedly, we identified three broad product "types". Each involves a different level of "community involvement" from the four key parties involved: the firm, external experts, the client and the enduser[3].

Organisation-specific "rule based"
In certain cases, learning material is ready made and is converted into technology-based training (TBT). Some of this is rule based, for example the conversion of client companies' internal regulations or induction procedures. The appreciation of how learners learn should not be underestimated, but the client companies' needs and those of their learners are relatively easy to define. Much of the work concerns creating rule sets and programming. There are many models for doing TBT and a growing literature on instructional design (Christian-Carter, 2001). In these products the learning and learning design are largely the province of the firm and the client – external experts and learners are less likely to be involved in this learning community.

Organisation-specific "non-rule-based"
In the production of bespoke learning materials, there is a growing emphasis upon client and enduser needs, which are often difficult to establish or easily built into a client brief – open ended and non-rule based

learning is becoming more popular. Firms are therefore beginning to involve the client or end user in the creative process and this requires the involvement of new disciplines such as the learning designer (see below) – in order to create or facilitate specific products and/or forms of delivery. The concentration of firms on the clients' or end users' learning requirements leads us to argue for a complex assessment of the types of creativity necessary for effective production, one that incorporates understanding of the interpretation of client needs, the design of the learning approach and the graphic design and technical elements. In these products the firm, the client and the enduser are often closely involved in the design, development and evaluation – potentially a creative learning community.

Non-organisation-specific
Some e-learning products may be generic, but often broadly targeting a particular occupational, educational or industry sector. In other cases, the product is produced speculatively for general sale, often in "high street" retail. Whichever the case, the company producing the products has to acquire knowledge and decide on the outcomes and objectives of the learning. In generic "high street" retail products, the firm and its designers will usually not have any sustained engagement or full knowledge of the individual client or end users themselves. Thus, the notion that end users are engaged in the wider "learning community" is limited – though depending on what that product is, they may of course decide to form their own community of practice. In this kind of "generic" production, the notion of a learning community may be firm-led, drawing upon established commercial models of design expertise, learning delivery or market research.

However, it is in the case of "high-end" corporate or management generic learning products, supported by a range of tools and e-coaches, that another type of "learning community" may come more into play. Individual or small groups of learners, from different organisations at different times, might be invited to register or share knowledge of the product. Their learning is not situated in an organisation, as in a community of practice, but in their professional arena. It may also be subject to

evaluation and formal review. We refer here to a different kind of community, one of learners, sometimes a community of practice but sometimes, where the link is professional rather than organisational, as a community of practitioners. Owing to its role in creating knowledge and the interaction with the e-learning firm, this community can form part of the firm's own "learning community".

While there is no necessary relationship between the type of product produced and the strength and scale of the learning community, as a learning-led approach emerges, it is becoming increasingly necessary that firms strengthen their own learning community, whether involved in the creation of more tailored or bespoke "non-rule" based products or to cope with the increased potential for interactivity even in generic or "rule based" sets.

Extending "communities of practice" into "learning communities"

As argued, in e-learning production, the extension of a "community of practice" into a "learning community" involves integration and exchange between the firm and its internal communities with the external world – most notably freelance or exterior experts, the client and communities of endusers. While client and enduser might be one and the same (such as someone who buys an e-learning product in the high street) it is more common for companies, schools or universities to act as the client and their staff or students to be identified as the end users. By showing how each of these constituencies have a role in the production of e-learning products we hope to show how effective learning can be better obtained through a more open and open ended approach, one embedded within informal "learning communities".

The firm in the learning community
While the firm, as a set of communities of practice, is engaged in formal, structured, but also informal and tacit modes of learning (Amin, 2000), for e-learning firms, "learning" must take on a more central role – it is, after all, the raw material and raison d'être of the firm. We find that the successful e-learning SME is one that is pushing the learning dimension much more to the fore – both in

terms of product and production process. In terms of product, the way in which this is most evident is in the increased creation of specific roles for an in-house expert in the design and delivery of learning. Often referred to as the "learning designer", this figure acts as the designer, director and evaluator of learning needs and outcomes in the production process.

The role of a "learning designer" will vary from company to company but most crucial is an outward looking, experimental approach to learning. For the learning designer, the parameters of learning are "worked out" in and through the production process in a manner contingent on a range of issues including client needs, resource constraints and pedagogic (and andragogic) principles. It is against the background of this process of negotiation with external agencies that innovative firms have increased the development of learning dialogues and attempted to redefine and reposition the role of a "learning designer".

Many of our firms were engaging with a varied client base, producing e-learning across industrial or educational sectors. Such expansion has increased the primacy of the role of the learning designer. Good learning designers were described by one respondent as "experts in not knowing" and can ideally work with any type of content. We wonder if this is true – but clearly a figure that can manage and manipulate any kind of content to effect and implement an effective learning process must clearly be attractive in a burgeoning e-learning marketplace.

As well as employing learning designers, in terms of production, firms are becoming more outward looking and experimental in their search to create a learning community. This involves integrating external experts into the learning dialogue. One of our small firms has established its own forum and network of individual practitioners and organisations interested in e-learning. Further, one of the case study firms, which relies heavily on outside knowledge experts, has a system of "challenge and review" meetings with subject matter experts as the content is created and agreed.

External experts in the learning community
Given that many small firms are unable to employ a full time "learning designer" or

expert, and with the need for ultimate flexibility in a fast changing and uncertain market place, the role of external experts, such as freelance learning designers, evaluators and educators becomes more crucial. As these respondents offered:

> We've had a group of experts in the field writing materials for us, to put together, to create a programme, which has been quite interesting because they've all been very, very much their own people, very much with their own ideas[4].

> I can write all the words for playing a game ... but for dialogue I'll go to Brian he lives up the road so he comes down for that – because he needs to see how we're working.

The role of external experts has grown in recent years as multimedia firms with strong technical and design competence but little in the way of educational expertise are looking to factor the "learning" dimension into the product and production process. These experts are often members of close knit and informal networks, often, though not necessarily geographically "clustered" around the commissioning firm, but bound together by a history of collaboration, shared experience and know how. Given the high levels of self-employment and freelance work in this sector, the role of the "external" expert is more pronounced and vital than in other, more traditional industry sectors – making them key members of any learning communities.

The clients in the learning community
The client must now play a central role in the formation and maintenance of an operative "learning community". Attitudes to clients varied among the firms we interviewed, with some of them talking about managing their clients' expectations and the "whole process being managing the client to accept the creative". However, others took a different view, seeing the client's creative contribution as a central part of developing learning products. Although there was general agreement that clients' needs were often difficult to define, a problem often compounded by the clients' (quite understandable) lack of appreciation of the scope of e-learning – the point about collaboration is that clients become involved with the developers at an early stage in the production process and can provide creative input into the design and development of learning materials – while, at the same time

enhancing their own understanding of learning within the context of their own organisation.

For the firms that we would call "learning-led", the negotiations with clients and the meeting of their needs assumed a central role; as one manager put it:

> There's usually somebody who is the project manager at the client end and there may be a group of people who are involved on the project and I'd like to meet with them ... what are the specs, what do they want the project to be able to do at the end of it and what do they want? If it's likely to be an educational/training project, what do they want the learners to use and so be able to do at the end of the project. Get that defined and, up front.

While the extent to which clients are engaged in a learning dialogue with firms will vary, it was clearly evident that more successful and progressive firms understood the client as central in the definition and delivery of learning – not merely a hindrance to be "managed" out of the production equation. This ensures that the issue of learning – for both parties – remains open and subject to creative development.

The learners in the learning community
While firms, external experts and clients can often generate productive learning communities, the involvement of end users/ learners is an area that needs more work. The needs of both individual and groups of learners are often subordinated to concerns over development and design, time-scale, budget, distribution, price and so on. But there are a number of other, more hidden reasons why end user learning needs and experiences are often secondary concerns. It may be that in the provision of tried and tested "rule based" software, learners' needs are assumed to be simple and straightforward and unworthy of detailed consideration. Further, it is often the case that clients assume that their staff or student learning needs are homogenous or easily predetermined – consultation and testing at the point of "learning" may not therefore occur. Also, firms themselves may feel uncertain in challenging client's identification of what constitute the key learner "issues" in evidence – particularly in the case where the client is an educational institution for example. Even when partnerships involve the end user, there is no guarantee that the learners' input will be as valued as that of the firm or the "experts".

In short, we observe that much of what constitutes the debate over learning has often missed out the learners themselves.

However for a growing number of firms, the integration of the end user into the learning dialogue is now deemed crucial. We found a number of firms where it was considered vital to "know" the learner and develop learning technology that is positively learner centred, and seek to develop partnerships with them in a collaborative learning network:

> If you look at it from three points of view, the first point of view is, what does the learner require? What are the specific requirements of the individual learner? The second point of view is, do we want to make a profit from this? The third point of view is what level of quality should we be aiming for? In all cases the primary focus of attention needs to be on the needs of the learner.

And, as another manager said:

> Get the analysis right and keep your user's hat on.

Not only are firms looking to expand their testing, evaluation and feedback strategies, an increasing tendency now aims to generate a dynamic among learners in "softer" skill areas and encourage them to share learning experiences and stories, and generally to engage more widely with the providers and producers of e-learning. The idea of "recursive loops" for learning is suggested – the goal being to create a set of mechanisms whereby all parties can provide feedback and engage for the duration of the production process. How this can be achieved, however, remains a crucial question.

Mechanisms for managing the learning community

How are these four disparate constituents of learning communities able to bind and act to effect the development of learning and learning products? Our respondents indicated that certain emotional and conceptual leaps must be made to open out all parties, including the firm, to the influence of the "others" an openness which requires the development of relationships with reciprocity and trust (Cross and Baird, 2000). For example, the firm needs the expert's knowledge and the expert needs to trust the firm with it.

Geographical proximity remains important in the learning community; to involve clients, external experts and learners in face to face exchanges remains the best way for identifying and agreeing objectives, processes and outcomes and for helping to facilitate trust. In production, it was noted that face to face meetings avoided "endless e-mails", course content was largely written within face to face meetings, and problems caused by the lack of understanding of each other's functions and of the development process itself could be overcome with face to face exchanges.

Further, while the e-learning sub-sector is relatively immature and under-developed, we found evidence that firms wished to strengthen local networks in order to provide some context and comparison for their activities with other firms in the sub-sector – geographical proximity being seen to provide a strong basis for (future) networking and collaborative mechanisms. This can lead to the "development of a 'local industrial atmosphere' of personal relationships and trust" (Amin and Thrift, 1992; Ingrams and Roberts, 2000; Keeble, 2000; Maskell et al., 1998) both among the firms themselves and within groups of learners from different organisations. Trust and friendly collaboration are pivotal in cementing this community (Ingrams and Roberts, 2000).

Where it was not possible to meet directly the clients or external experts a secondary option was to use ICTs to enable relationships to be maintained across distance – this was a strategy many firms employed. However, often, firms found it difficult to meet or engage with the learners or end users, face to face or at distance. But if learners are to become more central to the learning community then mechanisms for integration must be found. This is one example of the mechanisms one firm provided to support communities of learners from different organisations over distance; one manager offered:

> From the home page, you can go to the parts you are allowed access to, for instance, course material, discussion groups, chat, where you are up to individually, syllabus, personal pages. [There is access to] course material – accessed via the menu bar – material, management of material, links and live unit activities. There are five levels of collaboration open to individual learners – to other individuals, to the present activity, to the cohort [group of learners on

course], to the curriculum [others on the same programme but at a different stage], to all others on all programmes.

Some firms now make it a priority to update knowledge, to provide toolkits for learners, interactive resource centres with archived documents, links to material and more opportunities for learners "to do things themselves". Additionally, "e-coaches" now assume a central role in cementing the dispersed body of learners into the learning community. Learners may be more engaged in feedback activities, or even privy to on-going consultation and development discussions. One respondent referred to this as the provision of "facilitated communities of application", allowing learners to create content and put it on line themselves and to generally enhance the contribution of learners in the e-learning production process.

Barriers to the formation of learning communities

We have revealed some of the possibilities and strategies of new learning communities, as they take shape around our e-learning SMEs. However, it would be misleading to suggest that this is a general or even a widespread process – many firms remain locked into the traditional separation of the firm from the external world, prioritise firm "expertise" over external knowledge and give short shrift to opening up the debate on learning within the firm or questioning the learning qualities of their products:

> Everyone has a first class honours here, they get the training they require when [they] switch the computer on, that's it. Go and learn it ... You need the Internet to learn and we don't need anything else.

One of the firms we interviewed spoke of encouraging its staff to experiment and make mistakes; it wanted to avoid the "blame culture" it had encountered among its clients. Another, however, while claiming that its size and attitude allowed it the luxury of debate on learning theory, was later criticised by its own staff for its concentration on deadlines and profits which discouraged staff from being innovative. It seems clear that while some learners are encouraged to use tools experimentally to construct their learning, create their own content and upload whatever they like into their shared space, the capacity

of many SMEs to experiment, make mistakes and survive is limited.

The economic pressures placed upon a small company may make it difficult to enjoy the luxury of debate on learning – this is accepted. All activities take place within budgetary, human resource and time limitations. Even if the firm wishes to develop a network of external experts, clients and learners, a decision has to be made whether to formalise and structure this network – and incur maintenance costs through communication, meetings, events and so on, or to leave it open ended and informal, but potentially losing impetus. Finally, even when learning communities are in evidence, the power relationships within that network may be asymmetrical – not everyone is able to shape the direction or definition of learning exactly as they would wish.

Conclusions: who's doing the learning?

The creation of e-learning products involve new convergences of technology, media, skills and, increasingly, individuals and organisations themselves. The management of firms and production processes must now focus on the human aspects of these convergences – the "learning community". In our sample, this has led to the emergence of "learning designers", as well as the increased utilisation of client knowledge, and where required, the involvement of the external experts, clients and endusers in the creative learning process, providing an added, challenging dimension.

We suggest that as more firms enter this sub-sector and as "learning design" has the potential to become a profession in its own right, the need to acquire knowledge from outside sources will increase. This question of knowledge acquisition over distance therefore applies to firms as well as learners and is one of those addressed in our project. There seemed to be an irony in that firms find face to face meetings essential in the development of distance and e-learning products – a necessity perhaps only partially offset by new relational communities that are emerging across geographical space. The end result is a loosely bounded "learning community" comprising of members from a variety of organisations and groups interacting face to face and at a distance.

As more and more firms look to enter the e-learning market, not all will come ready equipped with "learning designers" or a discrete learning philosophy – we argue that this may (but certainly not always) undermine the quality and effectiveness of learning products. But by engaging in exchange with those who do have an understanding of the power and potential of a "learning-led" approach (other firms, learning and education experts) and by engaging with the wider communities in the e-learning marketplace – clients, experts and learners – firms can go some way to resolving the current dilemmas of this emergent industry; namely how to provide materials that are sufficiently researched, tested and pedagogically and andragogically appropriate for a diverse, and fast expanding, range of end users. Who's doing the learning? – many groups in many different ways.

Notes

1 This paper is based on findings from SMILE (Skills for the Missing Industry's Leaders and Enterprises), a research project conducted at MMU and part sponsored by the ESF/Adapt-University for Industry. The aim of this research is to evaluate the range of management skills within small- and medium-sized digital media enterprises in the North West of England, more specifically those enterprises producing educational and training products – a key sub-sector. The research is being undertaken by a team led by the Centre for Employment Research (CER), part of the Manchester Institute for Telematics and Employment Research (MITER), and the Department of Sociology at Manchester Metropolitan University.

2 This is rather an umbrella term covering a wide variety of approaches. There is dedicated literature on ethnography that discusses its diversity, problematics and history (see for example Atkinson, 1990; Hammersley and Atkinson, 1989; Hammersley, 1992; Brewer, 2000).

3 These categories broadly describe the main parties involved – often, however, the boundaries are blurred: for example, the client and the enduser may be one and the same; the "firm" may merely be a single operator who acts as a hub for a range of "external" experts. We have used the categories schematically for analytical clarity.

4 All quotes are from interviews with 20 SME owner/managers. They have been extracted to support and highlight key findings from the analysis.

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