

**USE OF WEB-BASED COLLABORATION AND KNOWLEDGE
TRANSFORMATION TOOLS TO SUPPORT THE
DEVELOPMENT OF A LEARNING COMMUNITY TO ENHANCE
CAREERS GUIDANCE PRACTICE**

Alan Brown
Institute for Employment Research, University of Warwick, England;

Graham Attwell
Pontydysgu, Wales;

Jenny Bimrose
Department of Psychology, University of East London, England

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**Contact details:
Dr Alan Brown
Institute for Employment Research
University of Warwick
Coventry CV4 7AL
Tel: 00 44 (0) 2476-523512
Fax: 0044 (0) 2476-524241
E-mail:alan.brown@warwick.ac.uk**

1. Introduction

This chapter outlines progress towards the development of a learning community to enhance careers guidance practice, through the process of developing web-based collaboration and knowledge sharing tools. These will be used in order to provide a comprehensive telematic platform for interactive and focused knowledge sharing and transformation for Careers Guidance students, tutors, practitioners, policy makers, and training organisations as collaborative participants in a dynamic community of practice. One aim of a major European-funded ADAPT project was to seek to support the development of a learning community to enhance careers guidance practice as a key service to education and training in the United Kingdom.

The focus upon enhancing careers guidance practice is particularly apposite at this time because the massive and continuing changes in policy and practice in this area have left policy-makers, practitioners, trainers, students and researchers without a coherent view of how careers guidance will develop in the medium term. This presents an excellent opportunity to engage all players in a search for new understandings of the contextualisation, enrichment and renewal of Careers Guidance as a key service to education and training. A second reason for focusing upon the development of a learning community based upon careers guidance practice is because the training of careers guidance practitioners is also being extensively reshaped. This has profound implications for initial training and continuing professional development (CPD) programmes. The processes of teaching, learning, knowledge development and utilisation will all need to be reshaped. The project is working with training providers in England, Scotland and Wales to develop an imaginative way of linking processes of knowledge acquisition, development, transformation and creation with approaches to tackling the core problems of Careers Guidance practice.

The different groups mentioned above sometimes interact at conferences, seminars or careers guidance 'fairs'. However, the Careers Research Network established under the ADAPT project is the first attempt to bring together all parties with an interest in research and development of careers guidance practice. This bringing together of representatives of a dispersed community of practice has proved very worthwhile, but something in addition to face to face meetings is required to turn this into a more inclusive learning community. The ADAPT project is in the process of developing prototype web-based collaboration and knowledge sharing tools to support the network. The intention is to provide a comprehensive telematic platform (or Guidance Forum) for interactive and focused knowledge sharing and transformation for Careers Guidance students, tutors, practitioners, policy makers, and training organisations as collaborative participants in a dynamic community of practice.

The ADAPT project involved the set up of a National Careers Research Network for those interested in research and development in Careers Guidance practice and the development of prototype web-based collaboration and knowledge sharing tools to support the network.

The institutions include careers service companies; universities with responsibilities for initial training and continuing professional development of Careers Guidance practitioners; national training organisations; and others with an interest in research in

Careers Guidance practice, including Careers Europe, the National Youth Agency and the National Institute for Careers Education and Counselling. Internationally, a number of other Careers Guidance training and research institutions from Europe and beyond have expressed interest in participating in the learning community.

This chapter aims to map out the future potential of the telematic platform. The telematic platform was intended as a virtual support to the Careers Research Network (CRN), which in turn aimed to develop a learning community to enhance Careers Guidance practice, at a time when Careers Guidance policy, practice and training are all undergoing significant change. The learning community is intended to involve practitioners, policy-makers, trainers, students and researchers in the shaping of the renewal of Careers Guidance as a key service to education and training. The telematic platform would support face to face network and task group meetings, but the innovative aspect is the provision of a comprehensive telematic platform for collaboration and knowledge transformation for a dynamic community of practice.

2. Aims and objectives for future work in this area

The overall aim will be to develop a learning community to enhance Careers Guidance practice as a key service to education and training.

The objectives will be to:

- Search for new understandings of the attempts at the contextualisation, enrichment and renewal of Careers Guidance as a key service to education and training;
- Develop an imaginative way of linking processes of knowledge acquisition, development, transformation and creation with approaches to tackling the core problems of Careers Guidance practice;
- Provide a telematic platform for interactive and focused knowledge sharing and transformation for Careers Guidance students, tutors, practitioners, policy makers, and training organisations as collaborative participants in a dynamic community of practice;
- Produce models and strategies for effective continuous professional development (CPD) for communities of practice in Careers Guidance;
- Investigate the pedagogical aspects of the innovative use of telematic tools to support a professional community of practice.

3. Potential impact of this development

The impact of this development could include:

- continuing development of those training to become Careers Guidance practitioners and those already engaged in practice;

- the development of the capability of transforming both substantive and developing knowledge bases relevant to Careers Guidance practice. The essence of this approach is that it is possible to transform the knowledge base underpinning Careers Guidance into a form that is much more amenable to the active engagement of Careers Guidance professionals in processes of knowledge utilisation, transformation and creation;
- the focus of this approach is upon a single exemplar (Careers Guidance), but the approach, which is totally grounded in the development of research based practice, could eventually be applied to other areas of support for continuing professional development.

4. Overview

This development could support the enhancement of Careers Guidance as a key service to education and training. It involves an imaginative way of linking processes of knowledge development with approaches to tackling the core problems of Careers Guidance practice. The links with the CRN will provide opportunities for network and task group meetings as well as a web-based platform for interactive and focused knowledge sharing for Careers Guidance students, tutors, practitioners, policy makers, and training organisations as collaborative participants in a dynamic community of practice. Additionally, the development could be used as a base for the investigation of the educational aspects of the innovative use of web-based tools to support a professional community of practice.

The web-based platform for interactive and focused knowledge sharing and transformation draws upon material from direct practitioner experience; the use of 'tailored' tools and materials in particular local Careers Guidance contexts; and material relating to policy development and implementation; as well as reference and research material on guidance practice. As with the CRN, practitioner research is particularly encouraged. Training material on changing contexts and curricula for training could be produced in the next phase together with material on training exercises; interviewing practice; 'good practice' exemplars; and moderated discussions.

The key to the use of the telematic platform as a means of developing a learning community to enhance Careers Guidance practice is to set up a genuinely collaborative environment for a wide range of participants. The telematic environment should therefore enable participants to:

- (jointly) develop, edit and modify materials;
- share annotation on material;
- facilitate the sharing of experience;
- promote discussion, sharing and active collaboration;
- offer virtual (and real) spaces for debate and collaboration;

- support action research;
- offer active support and moderation;
- offer support to particular interest groups;
- provide a forum for discussion of attempts to tackle complex problems in Careers Guidance practice.

5. Setting the future aims and objectives in a broader context

The aim of this development is to develop a learning community to enhance Careers Guidance practice as a key service to education and training. The focus upon enhancing Careers Guidance practice is particularly apposite at this time because the massive and continuing changes in policy and practice in this area have left policy-makers, practitioners, trainers, students and researchers without a coherent view of how Careers Guidance will develop in the medium term. The 1999 policy intention of ‘refocusing’ the careers service (Social Exclusion Unit, 1999) is currently being rethought, and this has raised significant issues associated with the delivery, practice and training both for those working with those in danger of social exclusion and those working with a range of other clients. This means that the current context presents an excellent opportunity to engage all major players in a ‘search for new understandings of the attempts at the contextualisation, enrichment and renewal of Careers Guidance as a key service to education and training’.

A second reason for considering the use of the telematic platform as a means to support the development of a learning community based upon Careers Guidance practice is because the training of Careers Guidance practitioners is also being extensively reshaped. This has profound implications for postgraduate diploma, Masters and continuing professional development (CPD) programmes. The processes of teaching, learning, knowledge development and utilisation will all need to be reshaped. The telematic platform could be used by training providers to ‘develop an imaginative way of linking processes of knowledge acquisition, development, transformation and creation with approaches to tackling the core problems of Careers Guidance practice’.

The different groups mentioned above sometimes interact at conferences, seminars or careers guidance ‘fairs’. However, the Careers Research Network established by the ADAPT project team was the first attempt to bring together all parties with an interest in research and development of Careers Guidance practice. This bringing together of representatives of a dispersed community of practice has proved very worthwhile, but participants agreed that something in addition to face to face meetings was required to turn this into a more inclusive learning community. The use of the prototype web-based collaboration and knowledge sharing tools developed in the ADAPT project could be extended to include Careers Guidance students and practitioners on postgraduate diploma, Masters and CPD programmes. The intention then would be to provide a comprehensive ‘telematic platform for interactive and focused knowledge sharing and transformation for Careers Guidance students, tutors, practitioners, policy

makers, and training organisations as collaborative participants in a dynamic community of practice’.

The contribution of the CRN and the telematic platform to policy and practice in Careers Guidance could be further enhanced through the identification of the processes that play an important role in ensuring that CPD is reflective, forward-looking, dynamic and dialogical. Work in this area could therefore lead to an attempt to ‘produce models and strategies for effective CPD for communities of practice in Careers Guidance’. The participation of partners from England, Scotland and Wales could be important in this respect as the contexts, policies and practices of Careers Guidance show significant differences in the three countries. Hence these differences could provide opportunities for mutual learning. The wider significance of attempts to use the telematic platform to facilitate learning means that it would be important too to ‘investigate the pedagogical aspects of the innovative use of telematic tools to support a professional community of practice’.

6. Theoretical framework

The approach to the development of the telematic platform is dependent upon the integration of ideas from five strands of previous research, with each strand linked to one of the objectives for the further development of the platform. First, when seeking to develop a learning community to enhance Careers Guidance practice the most relevant unit of analysis is Careers Guidance practice within particular social, cultural, historic and political contexts. This fits with Engeström and Cole’s (1993) notions of cultural historic activity theory. Second, a fruitful way forward to the enrichment of Careers Guidance training and CPD programmes is through a focus upon the core problems of Careers Guidance practice (Onstenk, 1997). Third, the view of how knowledge creation and transformation processes, grounded in practice, can be facilitated is developed from the work of Nonaka & Takeuchi (1995) and Nonaka & Konno (1998). Fourth, the production of models of CPD is dependent upon utilising ideas from a range of sources: most notably Lave (1991); Schön (1987); Eraut (1994, 2000); Engeström (1994) and Guile & Young (1996). Fifth, the investigation of the pedagogical aspects of the innovative use of telematic tools to support a professional community of practice will draw upon Kaptelinen & Nardi’s (1997) activity methodology as the basis for the enquiry.

6.1 Analysis and development of Careers Guidance practice considered within particular social, cultural historic and political contexts

The design of technological support for the development of communities of practice calls for the use of highly innovative design methodologies that take into account the social, cultural, historic and political contexts in that any change is to be located (Engeström and Cole, 1993: see figure 1).

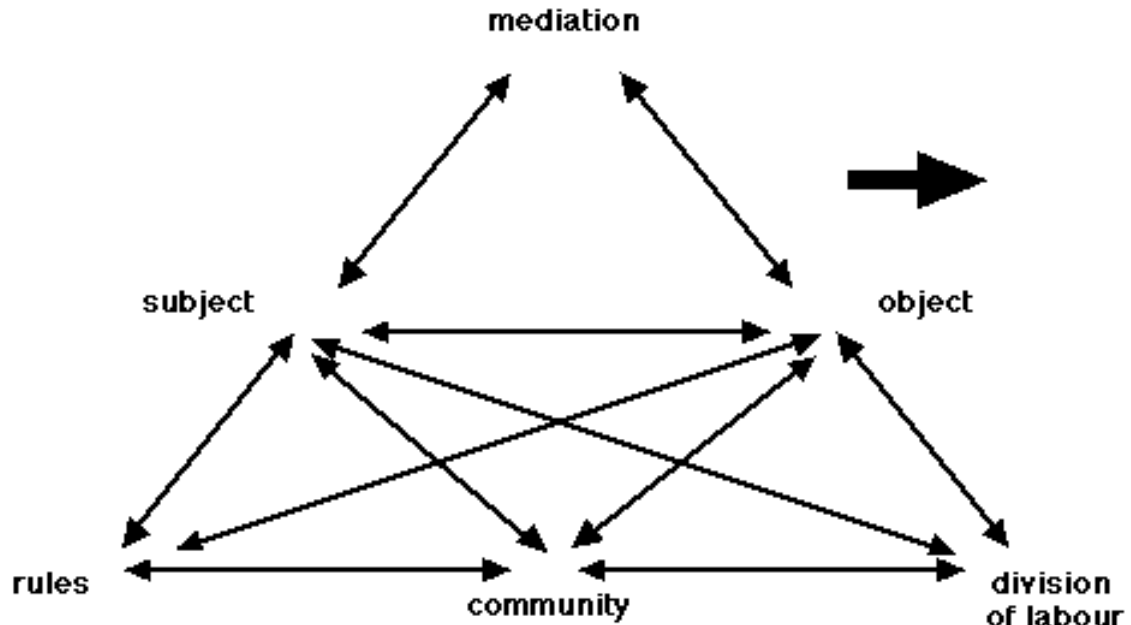


Figure 1: activity system

Applying Engeström and Cole's (1993) activity theory framework to our study of Careers Guidance practice would give the following:

- Subject: Careers Guidance practitioners (goal-directed actions; beliefs; ideas; mental models);
- Object: Careers Guidance practice (patterns of behaviour; relations with clients);
- Mediation: socio-cultural ideas about guidance practice (tools; theories; approaches; historical traces and cultural meanings associated with careers, occupations and identities);
- Rules: changing frameworks for regulation of practice (focus of guidance practice; statutory entitlements; service targets);
- Community: extent to which value systems are shared (ideas about 'good practice', meeting targets, nature of professionalism);
- Division of labour: between practitioners, specialists and assistants (roles and relationships).

The 'value added' of applying cultural historic activity theory to the enhancement of Careers Guidance practice is that it gives a much richer framework for searching for new understandings of the attempts at the contextualisation, enrichment and renewal of Careers Guidance. In general, it can be used to highlight the value of analysis of the consequent effects elsewhere in the system of changes in one part of the system. In particular, this framework can help participants in the learning network and the researchers to generate questions for discussion. For example: what are the consequences for ideas of professionalism of proposed changes to the recognised

vocational qualification?; what values do practitioners place upon innovative practice?; to what extent can an individual change practice and who else has to be involved?; how much is critical reflection valued in the system? Such questions can help ensure that the complexity and inter-relationships between issues are addressed when considering the renewal of Careers Guidance as a key service to education and training.

6.2 Link processes of knowledge creation with approaches to tackling the core problems of Careers Guidance practice

A major concern with the development of learning networks to support practice is that the knowledge generated will be largely decontextualised. This may then mean it is of relatively little use to practitioners in coping with many of the problems they face in practice. One way of meeting this concern would be for certain parts of training and CPD programmes to focus much more closely upon what practitioners see as the core problems of a profession. Onstenk (1997) defines core problems as the problems and dilemmas that are central to the practice of an occupation. These problems and dilemmas will have significance both for individual and organisational performance. The problems are likely to contain characteristic combinations of organisational issues and socio-cultural problems as well as requiring fine professional judgement. For example, reporting requirements or the need to produce particular types of action plans following an interview may conflict with practitioner views about appropriate practice. How this conflict is resolved could also have implications for the careers company and the educational institution as well as for the client.

It is not necessary to pre-specify the core problems within the telematic environment. Rather it is important to identify these through a facilitation of a dialogue between practitioners and other participants of the learning community. It will then be possible to have a discussion of the situationally specific choices made in a way that contributes to the development of the profession by, in the terms of Engeström (1994), developing a new activity system.

7.3 Knowledge Transformation

Brown & Attwell (1999) have produced an overview of how computer-mediated collaboration and knowledge transformation processes can support a community of practice (in that case of Vocational Education and Training Researchers in Europe). The task here is to focus upon how the theoretical framework developed to explain processes of organisational knowledge creation (Nonaka & Takeuchi, 1995; Nonaka & Konno, 1998) can be adapted to provide a theoretical underpinning for the development of the telematic platform. In this case knowledge transformation for a learning community to enhance Careers Guidance practice will involve a mix of real and virtual encounters.

The approach makes use of a social model of knowledge creation and transformation. The key process for genuine knowledge transformation to occur is that knowledge has to move from the individual level into wider communities of interaction that cross organisational boundaries. Nonaka & Konno (1998) use the idea of *ba* as shared spaces for emerging relationships that provide a platform for advancing individual

and/or collective knowledge and of generating collaborative processes that enable the transformation of that knowledge to other contexts. In this framework if knowledge is separated from *ba* – space for interaction and relationships – it becomes merely information.

Information can reside in networks through associated papers, but knowledge resides in the relationships of the *ba*, because it allows for possibilities for collaboration to transcend particular perspectives. In the field of Careers Guidance, for example, much labour market information (LMI) remains underused in practice precisely because it remains as information – few opportunities are given for practitioners to transform this into practical individual and collective knowledge.

Within a telematic environment it is possible to get contributions from a whole range of perspectives. It has great potential, although in many computer-mediated communication (CMC) environments that potential is not always realised. This may be because the analytically rational world of ‘pure’ CMC environments may be too ‘cold’ for many people: they need a richer form of engagement. Nonaka & Takeuchi’s (1995) SECI model (of socialisation, externalisation, combination and internalisation) of dynamic knowledge conversions gives insight into why this lack of engagement may occur (see figure 2).

Figure 2: Adaptation of Nonaka & Konno’s (1998) fourfold characterisation of *ba*

<p>Stage 1: Socialisation Originating Ba (Space for socialisation: face to face interactions)</p>	<p>Stage 2: Externalisation Interacting Ba (Space for active reflection)</p>
<p>Stage 4: Internalisation Exercising Ba (Space for conversion of explicit knowledge to tacit knowledge of individuals and groups)</p>	<p>Stage 3: Combination Cyber Ba (Space for combining new forms of knowledge with existing information)</p>

Note: Continuous spirals occur through SECI process (1234 – 1234 – 1234....).

Nonaka & Konno (1998) point to the need for an originating *ba* (or space for socialisation) where individuals can share feelings, emotions, experiences and mental models. This is necessary not only to generate initial commitment (the value of which has long been recognised), but also because genuine knowledge transformation also requires a “magic synthesis” of rationality and intuition that requires a greater depth of human engagement than just thinking.

This model could be implemented through the CRN and telematic platform in the following way:

Socialisation (through originating *ba*):

The Careers Research Network meetings remain open to all members of the proposed learning community. The purpose of these meetings will be to provide an ‘open forum’ (of face to face meetings) to allow for the integration of new members (and reinforcement of existing members) of the learning community. Events will continue to involve a mix of plenary sessions and workshop sessions (with encouragement of presentations by practitioners).

Externalisation (through interacting *ba*):

This could be achieved through the set up of thematic groups, comprising individuals with a mix of backgrounds, knowledge and capabilities. Individuals could share their own models, ideas and understandings, and through processes of reflection and analysis, seek to generate some common understandings of the group's particular themes. Through focused interaction tacit knowledge could be made explicit and some new understandings of 'knowledge' could be created. As a result of the final CRN evaluation workshop three thematic groups have been set up.

Combination (through cyber *ba*)

In the next stage each group's ideas (and explicit knowledge) are presented in the telematic environment, where their ideas will be combined with existing information and knowledge drawn from the rich evidence environment in a process of knowledge transformation. Other members of the learning community will be encouraged to contribute to and engage with this process. Members of the initial groups would be expected to facilitate the systematisation of this explicit knowledge for the learning community as a whole.

Internalisation (through exercising *ba*)

The exercising *ba* is a shared space in the telematic environment to facilitate the conversion of the (newly generated) explicit knowledge into the tacit knowledge of individuals and groups. This will involve active consideration of how to apply that knowledge in different contexts and the use of strategies to support the knowledge conversion process.

This approach will involve the spiralling of knowledge creation and transformation through continuing SECI cycles on the different themes. The dynamic structure of the telematic environment will also allow material and ideas to be rapidly transferred between themes. The essence of the *ba* of the learning community as a whole is that it will not involve a static accumulation of different materials, documents and information, but rather it will possess the dynamism to continually create new knowledge. Within this vision the role of the telematic platform is to provide a rich virtual knowledge environment to support the processes of collaboration and knowledge creation and transformation in the learning community developed to enhance Careers Guidance practice as a key service to education and training.

6.4 Production of models and strategies for effective CPD for communities of practice in Careers Guidance

This approach attempts to align pedagogic processes and a web-based knowledge environment to support the processes that lead to the development and use of new knowledge in an innovative way. But for this to happen a deeper understanding of the ways in which individuals and communities of practice communicate and the ways in which communication leads to knowledge development is required. Hence any attempt to produce models and strategies for effective CPD for communities of practice in Careers Guidance should take account of the possibilities of combining use of telematic platforms with other types of support. Attwell (1997) identifies that the Continuing Professional Development (CPD) of professionals needs to be reflective, forward-looking and dynamic within a culture that acknowledges the importance of

developing practice, expertise and a research capability in an inter-related way so as to be able to support the generation of new forms of knowledge. The CPD of professional communities of practice needs to incorporate current concerns, but also have the ability to look beyond these.

Initial competence as a professional is often associated with the ability to 'survive' and gradually assume a full position within particular 'communities of practice' (Lave, 1991). However, practitioners need to have a continuing commitment to explore, reflect upon and improve their professional practice (Schön, 1987). The initial key to going beyond competent practice lies in the ability to transfer skills, knowledge and understanding from one context to another (Eraut, 1994), so CPD has to be able to support this process, including through helping practitioners to perform effectively when they work with colleagues and in groups with different kinds of expertise (Engeström, 1994). It should also be noted that understanding and, if appropriate, application of theory has a role to play within developing expertise. While the value of practical theory or 'theorising' in the sense of reflecting upon his or her own practice is central to the process of becoming an experienced professional (Schön, 1987), this on its own is insufficient. Rather because it is locked into current modes of practice, it is important that 'theoretical learning' is also developed (Guile and Young, 1996).

Theoretical learning provides the concepts for analysing the problems that arise for professionals at work and for making explicit the assumptions underlying existing practice (Guile and Young, 1996). This conceptual knowledge can then be used to underpin reflection upon practice at a deeper level than just 'theorising' practice. Such conceptual knowledge can have both explanatory power and be applied to (changes in) practice. It therefore complements the development of practical learning, based upon reflection on practice. Crucially, however, the development and application of theoretical learning also facilitates a forward-looking perspective: enabling thinking about how practice might be developed in future. Practitioners have a key role to play in how new knowledge is generated and applied in practice (Engeström, 1994), and this could be linked with an attempt to create wider communities of practice that embrace research as a guide to both policy and action. The ability to design and carry out authoritative research into aspects of professional practice individually or as part of a team is an integral part of practitioners developing a research capability. However, possession of research skills will also be valuable in helping professionals analyse, interpret, evaluate and, if appropriate, apply the research findings of others.

Professional knowledge can itself be regarded as a personal synthesis of received occupational knowledge and situational understandings, derived from experimental learning, which are capable of being further transformed through a process of critical reflection. As expertise develops, and new contexts are utilised in the performance of practice, so the processes of research, review and reflection can lead to the creation of new forms of knowledge (Engeström, 1994). Continuing professional development can play a role in making these processes explicit such that others too can share in the developmental process. Eraut (2000) points to how practitioners also have to deal with contextual variables, such as the time available and the crowdedness of the situation in terms of the volume of information to be processed, that mean they have to produce appropriate responses in situations where the conditions for 'good practice' are not present.

6.5 The investigation of the innovative use of telematic tools in supporting a professional community of practice

The evaluation of the use of collaborative technologies in supporting communities of practice is vital if lessons learned from this approach are to be generalised. There has been considerable interest in the role of technology in the support of collaborative and communicative work and learning. These have been seen for instance in the context of work flows and the language of work flows (Winograd and Flores, 1987), as collaborators around living documents (Brown and Duguid, 1996) or as socio-cultural activity systems (Engeström, 1994). These ideas have been applied to education (see, for example, Guile and Hayton, 1999), where they have generated both strong opposition (Robbins and Webster, 1999) and major supporters for the use of collaborating technologies as learning tools (Mason, 1998). In general, however, practice has not always lived up to the potential (Hilz, 1985), so critical scrutiny in both a formative and summative sense is vital in considering the degree of success of the innovative use of telematic tools proposed in this approach. It is therefore important to evaluate the processes of collaboration and learning supported by the technology.

If possible then future work should involve the study of the community of practice in its socio-cultural setting to uncover some of the reasons, issues, problems and so on which make the use of this technology successful or unsuccessful. One possible approach to such an evaluation would be to adapt the methodologies of systems design that are firmly based on socio-cultural activity theory (Engeström and Cole, 1993). Kapetelinen and Nardi (1997) have produced outline guidance upon how this could be incorporated into an appropriate evaluation methodology.

Kapetelinen and Nardi's (1997) checklist, for the application of Activity Theory to human computer systems design, is a conceptual tool for identifying the most important factors influencing the use of computer technologies in a particular setting. The process from their perspective follows a clear sequence. The first phase involves starting from observational data to indicate potential problems, then formulating requests for further analysis, and providing some suggestions on how the 'problem' can be solved. In the second phase an Activity Checklist is introduced. The general structure of the Checklist corresponds to the four main perspectives on the use of the technology to be evaluated:

1. focus on the structure of the user's activities - that is the extent to which the technology facilitates and constrains attaining the user's goals and the impact of the technology on provoking or resolving conflicts between different goals;
2. focus on the structure of environment - that is the integration of technology to support a community of practice with requirements, tools, resources, and social norms of the environment;
3. focus on the structure and dynamics of interaction - that is internal vs. external components of activity and support of their mutual transformations with the use of systems to support and build communities of practice;

4. focus on development - that is the developmental transformation of all the above components as a whole.

This technique could therefore support the further iterative development of the telematic platform. The collaboration technology could be refined and more learned from how it is used. This would provide the basis to prototype further changes and to introduce them progressively into the users environment.

7. Further technical development:

The basic infrastructure of the prototype telematic platform was produced within the ADAPT project. A simple Web authoring interface has been developed that allows users to render and annotate documents. This means all future users will be able to produce structured documents. The prototype communication and knowledge transformation tools have been produced through intensive collaboration with practitioners. The knowledge transformation tools will therefore allow for the contextualisation, 'tailoring' and enrichment of the results of research and development activity through further processes of knowledge transformation and creation. Further technical development, refinement, monitoring and reviews of electronic architecture (including the tools for knowledge transformation and collaboration) are envisaged beyond the lifetime of the ADAPT project.

8. Types of documents and materials that could be used to facilitate the knowledge creation and transformation processes

The telematic platform for interactive and focused knowledge sharing and transformation could utilise eleven types of material. All material will be coded in DHTML, allowing for varying representations of material drawn from the different strands. The strands will not remain as discrete areas, rather material will be dynamically created on a thematic basis.

The eleven types of material are:

Introduction to the site:

material relating to the purpose of the site; aims, objectives and description; invitation to collaboration; opportunity for general comments;

Material from direct practitioner experience:

this could relate to identification of core problems of guidance practice; 'good practice'; critical reflection upon experience; implementation of special programmes; use of 'tailored' tools; evaluating practice

Material relating to policy development and implementation:

key elements of policies; commentary, analysis and discussion; range of stakeholder perspectives; development of evidence-based policy; policy and programme evaluation

Reference material:

labour market information, analysis, forecasts and intelligence; skills observatory; education, training and employment pathways;

Research material:

on guidance practice (interviewing; group-work; ethics) and related issues (social exclusion; refugees; labour market transitions; identity formation processes; completion rates in education and training; equal opportunities). Research findings will be drawn from pure and applied research. Practitioner research will be particularly encouraged.

Training material:

changing contexts and curricula for training; training exercises; video material on interviewing; ‘good practice’ exemplars; moderated discussions; assignments;

Tools:

supporting the development, testing and evaluation of tools and materials for use in Careers Guidance;

Signposting material:

reference to other sites and sources of information;

Student material:

project work; assignments; sharing of experiences; developing expertise;

Evidence of continuing professional development:

evidence of reflection upon practice; professional model of regular supervisory practice; portfolio creation;

Evaluation material:

responses to use of telematic tools and environment; links to practice; critical reflection; dynamics of interaction; continuing feedback

COLLABORATIVE ENVIRONMENT

The environment has to be used interactively and collaboratively if it is to be a genuine shared space for knowledge transformation. The interactivity within the rich evidence environment comes from the ability to:

- (jointly) develop, edit and modify materials;
- share annotation on material (annotation will be available alongside the material, not simply as a ‘thread’ as with existing CMC systems);
- facilitate the sharing of experience;
- promote discussion, sharing and active collaboration;
- offer virtual (and real) spaces for debate and collaboration;
- support action research;
- offer active support and moderation;
- offer support to particular interest groups (e.g. managers; those assembling evidence of continuing professional development; students etc.);

- contribute to a forum for discussion of attempts to tackle complex problems in authentic contexts.

CONCLUSION

The process of building a Guidance Arena comprising a rich knowledge environment (accessible to all through the web), that uses telematic tools for collaboration and knowledge development, is still in the early stages of development. The intention is that this should act as an essential support for establishing a learning community of careers guidance. We are interested in extending our collaboration, and we would particularly welcome the involvement of those who are interested in the substantive issues of careers guidance practice or in how to offer virtual support to dispersed communities of practice.

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