

# **‘Change of heart!’: a new e-learning model geared to addressing complex and sensitive public health issues**

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Psychosocial risk factors for poor health show that we are highly sensitive to particular dimensions of the social and work environments. Central is the contrast between mutually supportive collaborative relationships versus stressful relationships of social dominance—in the workplace and at home. These social ordeals can exacerbate the effect of environmental pressures and risks (noise, pollution, disruptions). Helping the individual learner to identify and work collaboratively with the salient issues is difficult, especially in the classroom where issues may be too personally experienced. A dynamic, interactive e-learning environment, on the other hand, offers more scope for exploring issues at a safe distance, while promoting individual and group enquiry and the formation of intellectual relationships. However, it is argued here that a new approach to e-learning is needed, to afford the kinds of experiences necessary for learning about complex and sensitive issues.

## **Introduction**

This paper concerns the design and development of an e-learning delivery model geared to addressing complex public health issues. Since 2001 the School of Health Care Practice (HCP) at Anglia Polytechnic University (APU) and Ultralab, APU’s learning technology research centre, have been collaborating on the development of Ultra-learning-lab (ULL): innovative narrative-based learning software that ‘dramatises’ aspects of HCP curriculum and integrates socio-cultural-linguistic support into masters-level modules. The innovation builds on work undertaken by Ultralab for British Telecom’s AngliaCampus to support language learning for vocational purposes (Millwood & Mitchell, 1999, 2001).

We first explain the rationale and focus of the new HCP e-learning module: ‘Risk and Public Health’. We then outline the pedagogy and features of the ULL delivery model, implemented in the ‘Change of heart!’ web site, going on to explain why the model was developed for this kind

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of subject area and what will be the next stages of development. There follows a discussion where we argue that the model represents a new direction for e-learning.

### **The APU ‘Risk and Public Health’ module: rationale and focus**

Issues relating to public health and environmental management have been placed high on political and public agendas at international, national and local level by the United Nations and its specialised agencies: the World Health Organisation (WHO, online), the United Nations Educational Scientific and Cultural Organisation (UNESCO, online), the European Union and the Organisation for Economic Co-operation and Development (OECD, online). These organisations have established programmes involving development of methodologies for situation analysis, risk perception, risk assessment and risk communication, together with approaches to developing environment, health and socio-economic indicators and economic instruments, public health access to information and participating in decision-making. The programmes are important not least because the current expansion of the Single European Market and increasing diversity of the workforce means that organisations need people who not only have office-based and subject skills but who also know how to get the best out of people and are capable of fast and flexible reaction. Managers must be capable of anticipating problems and of finding creative and sensitive solutions (Dearing, 1997).

Against this background, the new HCP module ‘Risk and Public Health’ has been developed. It is based on the view that healthy cities, risk analysis and management, risk communication, and the democratisation of the decision-making process for managing public health and the welfare of individuals and community will demand generation and flow of trustworthy information from reliable sources. Furthermore, towards this end, practitioners need to be empowered to act as information developers and multipliers, researching, generating and distributing information concerning the possible impacts of environmental, societal and life-style risk on the individual and community health status. The module design therefore aims to facilitate an action research approach (e.g. Hart & Bond, 1995) to the way Health Care Practice is conducted, helping learners to acquire:

- job-specific skills and competencies;
- wider knowledge of the complexity of psychosocial and environmental issues, to help with decision-making;
- personal attributes such as interpersonal skills, to encourage teamwork and taking responsibility.

The focus is on personal experience and development: people access learning opportunities that can help them to become adaptable, creative problem solvers.

A key concern in the module ‘Risk and Public Health’ is cardiac health and the need to promote awareness that we are highly sensitive to particular dimensions of the social and work environments. Central is the contrast between mutually supportive collaborative relationships versus stressful relationships of social dominance (Pratto *et al.*, 1997; Sidanius & Pratto, 1999; Poch & Roberts, 2003)—in the workplace and at home. These social ordeals are not only stressful in themselves, they can exacerbate the effect of other negative influences, such as environmental pressures and risks (noise, pollution, disruptions). In short, we interact with and

are influenced by not only other individuals but also spatial landscape and other environmental factors at work and home, or in the community at large.

### **The problem**

Helping the individual learner to identify and work collaboratively with the complexities of the psychosocial issues is difficult in a classroom environment, not least because sensitivities are uncomfortably involved where such issues are personally experienced. Although an interactive e-learning environment can offer a 'safe' environment to explore sensitive issues, both independently, and in collaboration with other learners, it can be argued that it is inappropriate to remove learners entirely from the discomfort of personal experience of psychosocial issues. After all, these are exactly the issues that the students are going to have to address when they qualify. Moreover, in our experience a traditional e-learning environment is inadequate to 'bring home' the psychosocial risk factors for poor health, even where video footage is used to illustrate concepts. This is equally limiting whether footage is authentic (real people are filmed) or semi-authentic (actors are used). We felt therefore that for those opting for the e-learning route, a new illustrative model was needed to provide a vivid experience that would effectively engage the learner in identifying and relating to the salient issues on a personal level, engage them in reflection and debate and in sharing findings, and thereby help to empower them for dealing with such issues in real life.

### **The 'Change of heart!' model**

The model is intended to appeal to HCP student practitioners. Mindful of Cantor's (1992) findings that adults' motivations for learning lie typically in:

- furthering social relationships;
- meeting professional expectations;
- enhancing performance;
- professional advancement;
- pure interest and enjoyment;

we sought entertaining and relevant ways of catering for all of these aspects.

Our proposed model draws on the ULL work undertaken by Ultralab for AngliaCampus (AC) to support language learning (Millwood & Mitchell, 1999, 2001). The AC field research found the combination of narrative and technology in a holistic solution that 'dramatises' key aspects of curriculum to be highly successful in engaging and captivating the learners. Features of the AC software that would be incorporated into the ULL prototype include:

- Movies with sophisticated interactivity, merged with a compelling storyline that is relevant to the complexities of the subject and tailored to learning objectives.
- Visuals providing contextual clues and helping to indicate which of the characters is speaking at any one time.
- Ongoing engagement of the learner from that first intensive experience, promoting a holistic approach to subject.

- ‘Scenarios’ that provide the learner with responsibility and a clear goal within a relevant context.
- A brief for each learning task, spelling out clearly what learning is involved. Planning tools to help people to organise their learning.
- Annotation providing subject clues, cultural briefings and language support for speakers of different languages (scripts in learner’s native language).
- Many of the materials can be downloaded for learning offline.
- A web site, driven by the movies, affording opportunities for discussion and for contribution to a dynamic collection of learner-generated resources and exploration of existing, traditional learning resources, which represent an important investment.

Like the AC predecessor, the ULL prototype design hinges on 10 movie episodes, presented in the style of a TV ‘soap’—hence the title (Figures 1 and 2).

Our ‘Change of heart!’ movie serves to engage learners via a vivid experience. Yet we think that because it uses a ‘soap opera’ approach to depict characters and scenarios, it nevertheless permits the necessary distance for observation, analysis and assessment. We chose to tell the story using a ‘comic strip’ with flat graphics rather than video for a number of important reasons that were borne out by the AC field research (Figure 3):

- The ‘comic strip’ was much cheaper to produce than video footage—moreover this approach allowed us to use a wide range of contexts and characters, and yet still produce quality movies at minimal cost, always an issue in prototype design.
- People enjoy comics—the simplicity of the graphics lets people use their imaginations in relating to the characters.
- The graphics do not intrude on the material being studied as much as videos. Videos are engaging but this very fact can make them distracting.

The optional annotation (subject clues and language support for those who need it) is intended to help learners to evaluate critically the total environment (locality profiling data), looking at the contexts in which people live and work—the different kinds of landscapes, physical, financial and mental—in order to understand the increasing risks to public health. As learners engage via

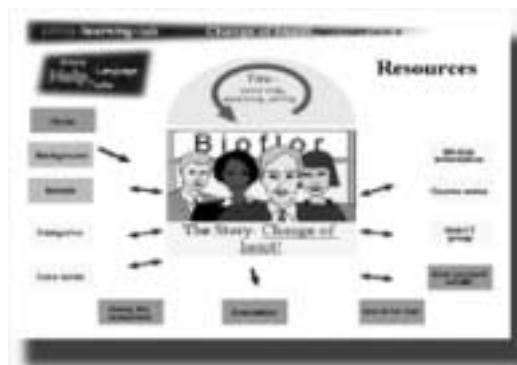


Figure 1. Overview of the movie-driven model



Figure 2. Title page

the movie in the interplay of different factors associated with public health risk, they are encouraged to focus on the interaction between perception, behaviour and external risk factors. There are opportunities to identify the potential for quantifying and qualifying the risk factors of specific cases, in order to develop capabilities in working with, and managing, risk communication.

Managing the learning experience to blend with other elements of learning programmes is again supported via the annotated movie, which introduces concepts from psychology, sociology and physiology.

The movie is the key component of an interactive web site, in combination they offer the proposed model solution:

- The intuitive interface and the narrative-based movie with its visual, audio and text clues is designed to be easy to use and accessible to different types of learner: the movie engages the learner in a holistic experience. Crucially, it offers a way of communicating without telling, with the onus on the student to learn and extrapolate—this is enquiry-based learning that is built upon the principles of storytelling, a medium through which we can communicate meaningfully with each other. Stories allow us to bypass the linear and access intuitive knowing and whole-brain learning (Lozanov, 1979). Whole-brain learning enables the processing of information in ‘wholes’ and parts simultaneously in a multidimensional manner. Effective learning takes place when both sides of the brain are engaged and learning is relevant and meaningful.
- The entire movie-driven e-learning environment is intended as a stimulus to individual and group enquiry in real-life scenarios: learners are reminded that there is a real world out there.



Figure 3. Screen examples

They are encouraged to relate the story to their own experiences and to work with these: there is specific advice on how to use and enhance their newly acquired knowledge in actual situations, on conducting their own case studies and on sharing the findings with their peers and mentors, thereby promoting the formation of intellectual relationships. The individual case studies help learners to broaden the concepts out to a wider community profile. Further, there is advice with portfolio building and working towards assessment.

### **Generic Graduate Learning Outcomes**

The model is acceptable from a quality perspective as the four main task areas: 'Observe', 'Analyse', 'Assess', 'Act', afford opportunities for working towards APU's Generic Graduate Learning Outcomes. The tasks operate in conjunction with each movie episode to generate different types of learning experience and activity:

- cognitive and affective;
- individual and social;
- reactive and proactive;
- investigative and reflective.

This is important as we seek to cater for different types of learner (Kolb, 1984; Honey & Mumford, 1992) and to facilitate multiple activities. It is natural and comfortable for learners to intersperse activities and to switch to the learning strategy or technique with which they feel comfortable at the moment. The software is therefore designed to facilitate a range of learner experience that includes:

- 'eavesdropping' on conversations that are based on typical office situations;
- analysing body language and dialogue;
- selecting from a range of other kinds of learning materials;
- organising their learning, to include real-world experiences;
- problem-solving;
- sharing their learning with their peers.

### **Cultural aspects of learning**

The cultural aspects of learning are extremely important and we think these are well catered for with this model, which provides scope for the introduction to set the story in the broader context, for example in respect of the cultural, geographical and industrial aspects of a country, region or organisation, providing hyperlinks to resources appropriate to subject. The narrower story framework can then be introduced: for example, people learn about a fictional company, its business, location and the people who work there.

### **A multi-faceted model, suitable for many kinds of projects**

The flexibility and dynamism of the movie-driven model means that it can be used to 'dramatise' the curriculum in many subject areas that utilise real-life scenarios. An example context is a

series of scenarios that we are constructing for General Practitioners of Medicine, who will each be provided with a scenario or case profile for exploration and discussion via the Internet. They will be invited to present their choice of management of the contextual issues and treatment regimes. Users will link to a discussion forum, look at the different responses, and go on to identify and list the key issues. Another example context is customer care, where the model can help people to:

- learn about an organisation, its culture, language and ethos;
- hone their subject specialist skills and their socio-cultural-linguistic skills before taking up appointments/joining courses;
- subsequently support and document their learning and working within the organisation.

Moreover, we consider that the model fits well into the bigger picture in catering for the vocational learner (Figure 4).

### Field trials and the next stage of development

The ULL model will be trialled by HCP students at APU during 2005. Findings will inform the next round of development, where we would like to take forward the following modifications.



Figure 4. 'The vocational learner'. Source: Alice Mitchell, 2002

### *Cultural-linguistic support*

A 'translation' text track will provide very basic language support for learners whose first language is not English. This text track will be enhanced by optional access to translations of the entire interface. Further language support will be provided by links to web pages that help the learner with word lists, phrase books and tips on grammar, pronunciation and not least cultural aspects.

### *Flexible access via mobile technologies*

The increasing use of multimedia mobile technologies on the educational scene is evidenced by pan-European projects such as m-Learning (online) and MOBIlearn (online). We now have the opportunity to develop delivery models that offer access to learning opportunities via a choice of platforms, including via mobile technologies. Our model can be designed as a 'hybrid' that combines use of mobile technologies with more traditional e-learning delivery modes, thereby maximising opportunities for learning as part of people's ordinary social and working lives, not just in special sessions at designated times (Figure 5).

### *Automate the movie-making process*

An important next stage is to write software that will automate the movie-making process, thereby putting tools in the hands of teachers and learners who will be able to create their own learning materials using the ULL model.

## **Discussion**

It is argued here that the ULL model, the entire movie-driven e-learning environment as exemplified in 'Change of heart!', offers opportunities for independent and shared learning experiences that might otherwise be difficult or impossible to achieve when learning about complex psychosocial issues in the classroom, or at a distance via other means. We propose that



Figure 5. Mobile version



this model represents a new direction for e-learning, that the ULL ‘soap opera’ type of interactive movie—a powerful combination of flat image, sound, metaphor and concepts—better helps learners to grasp the emotional, environmental and socio-cultural-linguistic complexities of the issues and to relate them to their own experiences and research than more conventional types of delivery, such as using authentic or semi-authentic video footage. The ‘comic strip’ presentation with its ‘flat’ graphics handles emotive issues from a safe distance, yet still ‘brings them to life’, making them real. It is true that comics often present stereotyped images. However, this very feature does permit discussion concerning stereotypes, as to where these might be useful or pernicious.

Importantly, the movie and clues present a multi-faceted approach to the complex subject matter. The focus is not only on words that are actually said, but also on those implied (whether intentionally or inadvertently) by tone of voice or body language. Furthermore, with this interactive model, context clues highlighting aspects of work environments and specific situations can facilitate deep learning by prompting learners into thinking about all the different aspects of issues. The ‘prism’ metaphor is helpful here: reflective practice can be like using a kaleidoscope—turn it slightly and you get a different view—usage brings constant change and re-emergence of patterns. We would argue that our model helps learners transcend surface-level learning to achieve a deepening awareness of both the socio-cultural reality that shapes our lives and the potential to transform that reality through their own or others’ action upon it (Mezirow, 1990, 1991).

Catalysts for transformative learning are ‘disorientating dilemmas’, such as those presented in the drama ‘Change of heart’. Working through these dilemmas (e.g. the post-action reflection in Episode 10), learners are encouraged to move out of their comfortable space to examine the assumptions that underpin their beliefs, feelings and actions, and to assess the consequences of these assumptions. The dilemma is an integral component of the holistic solution: it acts as a catalyst to engage at a crucial level of the affective domain and at a deeper level of learning (Argyris & Schön, 1974, 1978; Schön, 1995) in order to attain mastery—the ability to handle the complexities of issues in a masterful way. Exhilarated is how we want learners to feel as they work through the module and are motivated towards increased powerfulness. Learned powerfulness emerges from psychological processes (Maslow, 1968; Kolb, 1984), combining cognitive, emotional and spiritual intelligence, and leading to a sense of personal powerfulness, where the key elements are focus, resilience and authenticity. Only when all these three elements are in place will a person have the passion and power to contribute fully to learning, to work and in life itself (Beggs & Williams, 2003).

Lastly, in presenting our model as a holistic solution for e-learning, we argue that artistic formats such as soap operas and music—the music of the mind—can be used to tap into people’s minds and get them thinking about different things. We are saying that narrative-based learning presented in this way can be more effective in bringing real life into the learning context than more traditional forms of e-learning that use multi-media.

### **Notes on contributors**

Dawn Hillier is an academic entrepreneur, manager, teacher and researcher with an exemplary record in higher education and the National Health Service with an international track

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Richard Millwood is the Director of Ultralab and, in this role, offers leadership in initiating research and development projects as well as conceptualising, strategising and advising on the scientific and practical issues faced by the lab's multidisciplinary and geographically dispersed team. Richard makes regular contributions to international conferences in the field of educational computing and is frequently in demand as a speaker and consultant to a number of educational and computing organisations.

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