

## **CAMEL: Taking the Technology Enhanced Learning journey without reinventing the wheel**

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**Abstract.** Projects involving technology are notoriously dogged with difficulties and a number of lessons can be learned. Rather than detail examples from particular TEL projects, the author offers an approach based on the empirical study of such projects over a number of years. The key factor in holding back technological developments in the HE sector is the lack of a robust, mature and positive approach to assessing and managing risk. The Sliding Planning window approach provides a more flexible framework in which to respond to the unexpected. The sector and beyond is on the brink of a major shift in the nature of TEL projects brought about by the so-called Web 2.0 phenomenon - a new project paradigm is therefore needed. The CAMEL model is explored as a way of harnessing the culture of reflective practice in the FE/HE sectors through sharing ideas in communities of practice.

**Keywords:** Risk, Collaboration, Project Management, Planning, Web 2.0, Community of Practice, Technology, Learning

### **1 Introduction**

Projects involving technology have an unenviably bad press often for very good reasons. NASA is a classic example with the failure of its Mars Space Probe project. You may be aware of one of the major issues whereby one team was working in metric measurements and another was working in imperial. This was the subject of a delightful article in the TES where a teacher was discussing the NASA example in a class and a particularly troublesome 11 year old put his hand up and said 'But Sir surely they should have got that right – it's not exactly rocket science'. Indeed the issue was nothing to do with rocket science but communication, assumptions and cultural differences. If any of those issues sound familiar to you then you may well have been involved in a TEL project in the HE sector.

The workshop theme also put me in mind of a presentation some years ago by a supplier of one of the major VLEs about a formative evaluation tool that a university customer had developed to link to the VLE. The tool was widely used from its launch but the institution was somewhat alarmed to see that after promising results initially student achievement, in terms of correct responses, was declining. Further research showed what was actually happening was that students were finding the feedback

within the tool so useful that they were deliberately entering incorrect answers to see the further information this elicited.

There ought to be a message there for us. This is not to suggest that we ought to implement flawed research or project designs simply in order to benefit from the experience but the old adage that 'We learn by our mistakes' is something of a platitude and, in a sector that is keen to encourage critical reflection and problem based learning in its students, we are noticeably reluctant to explore the value of this approach in our intra- and inter-institutional communities.

The JISC infoNet service exists to identify and disseminate good practice and lessons learned with regard to the use of ILT in the post compulsory education sector. As Director of the service I am acutely aware of the difficulties inherent in identifying the root causes why projects fail to meet their objectives given the complex organisations and personalities involved. I am equally aware of the sensitivities in trying to disseminate information about lessons learned in particular trying to provide sufficient information for others to understand the context without being seen to harm individual or institutional reputations. Having studied hundreds of TEL projects over many years I remain confident that there are a core of lessons learned that can be applied in any project. I do however feel we are on the brink of a paradigm shift in terms of how TEL projects are conceived and managed and while we are still grappling with the lessons of what might be termed the VLE era we need to be preparing ourselves for the lessons of the web 2.0 or social software era.

This paper seeks to:

- set out some possible ways forward in terms of modifying our conceptual approaches to TEL projects and
- discuss a model (CAMEL) that may be helpful in terms of learning from others within a community of practice

## **2 Risk management in education**

The workshop outline states that 'Risky behaviour implies that sometimes, some things will go wrong'. This is true but it is nonetheless somewhat demoralising to realise that the enhancement of learning and teaching practice (i.e. doing just about anything differently) immediately counts as risky behaviour in our innately conservative environment.

The concept of risk is essentially a modern one. In ancient and mediaeval societies the idea of risk management would never have arisen and fortune was attributed to luck, fate or 'acts of God'. [Giddens](#) [1] has demonstrated that the concept of risk is now central to our society and he defines risk as being different to danger or hazard in that it is related to our impact on our environment and stems directly from the consequences of our actions on the world. The term risk was introduced by Portuguese explorers who identified uncharted areas of sea as 'risky'. The term has

thus gone from having a spatial meaning to its current temporal meaning whereby risk relates to future events. Such a concept could only have arisen in a society bent on controlling the future. Giddens also stresses that the notion of risk is positive as well as negative and cites the example that the whole rationale behind western capitalism is based on the calculation of future risk. His [Reith lecture on the subject of risk](#) [2] is informative reading for anyone interested in exploring the background to the subject.

The above may seem something of a digression but the notion of our desire to control has been central to how we have approached many TEL projects and, particularly in the web 2.0 world of social and collaborative technologies, we may need to reconsider how and where we attempt to exert control.

In most project management methodologies risk tends to be viewed in a very negative sense. It is generally defined in terms of something that might occur to adversely affect you achieving your goals. Accepting Giddens' view that risk may not always have an adverse impact it may be more accurate to say that risk is not necessarily something going wrong - it is simply something turning out differently to how you expected or planned for. Indeed risk and uncertainty go hand in hand. This view allows the possibility that risks can be turned into opportunities if managed effectively. Risk management is therefore fundamentally about taking better decisions.

Most education institutions tend to be inherently risk averse and view risk as something to be avoided at all cost whereas leading edge and entrepreneurial companies see the opportunities to be found in a high risk environment. The risk averse mind set often results in the expectation from senior management that a Project Manager's role is to remove risk. Of course managing risk is most definitely not the same as removing it and risk management is undoubtedly easier in the right type of supporting culture.

The following management attitudes that are frequently encountered in the sector run counter to effective risk management and do themselves introduce risk to a project.

Attitude	Impact
Extreme Risk Aversion	Procrastination in decision-making. This often means that some possible options/opportunities are no longer feasible. Setting risk threshold of acceptable activities so low that the institution is incapable of change.
Pass the buck	Related to the above. Inability to reach closure on difficult decisions. Issues discussed regularly by a range of committees without progress. Decisions not documented and followed through.

No news is good news	The belief that a project manager causes a risk or an issue simply by reporting it. Encourages people to report only good news. Often risks/issues aren't noted until it is too late to deal with them effectively.
Knee-jerk reaction	Tendency to deal with symptoms rather than causes and to deal with the immediate and specific rather than the systemic.
My mind is made up	Inability to review or reverse past decisions in the light of changing circumstances.
Shoot the messenger	The 'Don't bring me problems' approach. Inability to cope with the identification of risks that don't have an obvious solution.
Make it so	'Don't be so negative'. The belief that a poorly conceived or inadequately resourced project can be made to succeed by sheer force of will.

Adopting a formal risk management approach as part of a structured project management methodology and starting a dialogue about risk is one way to start moving towards a more risk mature organisation. It will take time to change attitudes but making it clear to colleagues that you have identified that certain risks exist and that you have considered what you will do if each risk materialises will build confidence in your ability at handling projects.

Further guidance on this topic can be found in the JISC infoNet [Risk Management infoKit](#) [3]

### 3 Planning a TEL project

Equally central to running a TEL project is the concept of the '[Sliding Planning Window](#)' [4]. This means only planning ahead so far as is feasible and sensible at the time. It is also known as Rolling Wave planning. At the start of the project there will be much that you don't yet know. There are some people who try to plan a project in minute detail from beginning to end hoping to eliminate uncertainty and hence risk. This isn't possible. A detailed plan takes a lot of time and effort to develop and maintain. A plan that is too detailed too far ahead will simply consume resources and become inflexible. You must view the plan as a flexible framework and be ready to adapt and change it as the project progresses. It is no good sticking rigidly to a plan that isn't working and ploughing ahead in the wrong direction. An example of how you might think about planning is to imagine you are captaining a yacht that needs to get from A to B. You know where your objective (B) is but the optimum route to get there may vary from hour to hour as wind and weather conditions alter.

A major problem with this is the desire of senior managers to see a detailed plan at the start of a project and to 'freeze' that plan at too early a stage. This advice is not intended to provide any kind of justification for poorly planned projects where scope creeps and timescales drift; it is simply stating that, in the real world, even the best planned and managed projects will have to cope with uncertainties and changes.

This is where effective risk management and project management can help us run projects in the 'real' world. Too often plans are formulated on the basis of an ideal situation where everything goes according to plan. This may be a result of naivety, optimism or what I often term 'Macho Management'. By this I mean a push for what a senior manager sees as the ideal without taking account of the risks involved. This manifests itself in pressure to prepare and 'freeze' plans too quickly and pressure to deliver too early. This usually means skimping on the analysis and planning phases of the project. As learning organisations we are notoriously reluctant to fund thinking and planning time.

#### **4 A new project paradigm?**

The Sliding Planning Window and regular and open dialogue about risk have long been the cornerstones of successful management of technology related projects. We are however, I believe, on the brink of a major shift in the type and nature of the kind of projects that go on across the IT industry as a whole. This is manifest at the IT architecture level in approaches such as service-oriented architectures and the [e-Framework](#). To learning and teaching practitioners it has its most visible manifestation in the Web 2.0 phenomenon and the explosion of [social and collaborative technologies](#) in use across the sector.

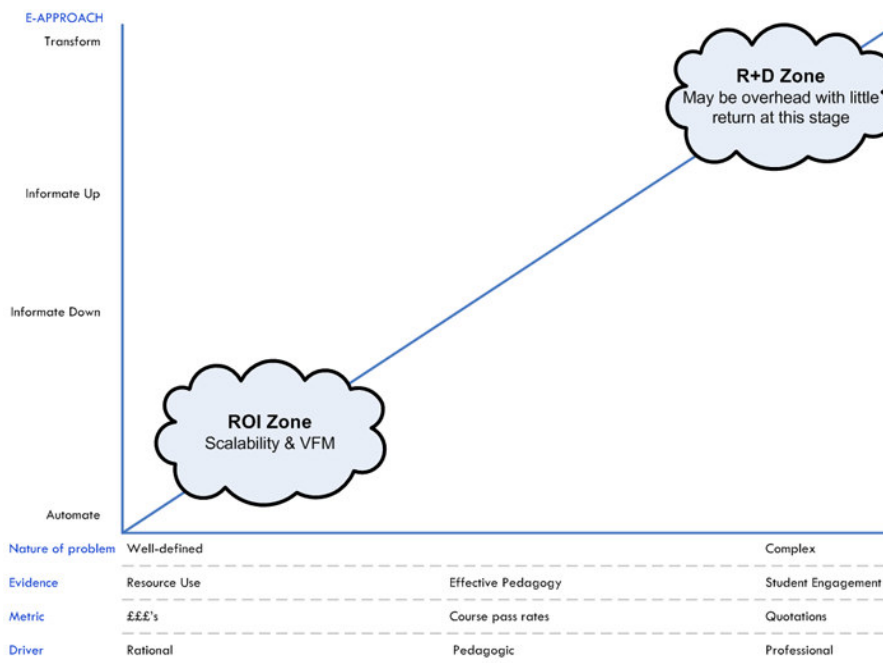
The use of such technologies and approaches is seeming to signal the death of the 'traditional' IT project based around the standard systems lifecycle approach. These approaches were based around lengthy projects often where the whole process from requirements definition through development and implementation was carried out in-house. We have already seen a shift whereby implementation of third party software has become more common than in-house development in the sector. The current trend is towards use of social software, often supplied under open source agreements, to enhance learning. In many cases the technologies being explored are already more familiar to the learners than to the institution.

All of this has important implications for our future TEL projects. As a sector we are still grappling with how to learn the lessons of our VLE implementations yet with Stiles [5] and others prophesising the 'Death of the VLE' we need to keep an eye to the future. The Gartner Group (copyright information from ITXPO 2007) has suggested that there is currently a void in project management as a discipline as existing methodologies have not yet adapted to the new types of projects that are being undertaken.

Projects using Web 2.0 technologies and social and collaborative tools undergo a different type of development lifecycle. The traditional stages of Analysis, Planning, Implementation and Review are still valid but now form a series of iterative loops rather than one lengthy lifecycle. Flexibility, adaptability and responsiveness are the key words of a new type of project management. Projects will tend to be broken down into much smaller chunks and forward planning will depend on the outcomes of much shorter review stages. Gartner identifies key success factors as being ‘The willingness to be wrong – to pilot, experiment and revisit’ (copyright information from ITXPO 2007). In many ways these characteristics are more likely to find favour in an academic community than more rigid project frameworks. They are nonetheless a challenge to risk averse organisations with an immature approach to project and risk management and we must find ways of dealing with this.

## 5 The TEL Spectrum

In understanding how to plan for, and manage expectations of, TEL projects it may be helpful to consider where the particular project sits on the spectrum of TEL activities. A recent JISC project using the CAMEL model (see below) undertook a series of 37 case studies attempting to define the tangible benefits of TEL [6]. In trying to make sense of a vast diversity of activity we found it helpful to plot the case studies on a graph similar to that shown below:



### ***X Axis – Nature of issue***

The x axis of the graph shows the type of problem the institution is trying to solve, the rationale for doing so and the metrics that can be used to measure success. What we find here is that a well-defined problem such as how to assess large cohorts of students within a tight time-frame can be measured against a very specific and readily quantifiable set of metrics and that it is relatively easy to put accurate figures on time and cost savings. The rationale for undertaking this kind of change is entirely rational and to some extent self-evident.

Towards the middle of the scale we find activities where the intended benefit is to improve learners' understanding of a particular subject – in other words a pedagogically driven change where the tangible benefits can be measured in terms of course or module pass rates or other direct measures of achievement.

At the far end of the scale we encounter approaches intended to address far 'softer' and more complex issues of student engagement. The rationale behind such activities is often no more than the vocational commitment of the academic concerned in the first instance and evidence of success may be entirely anecdotal for some time.

### ***Y Axis – e-Approach***

The y axis shows how the 'e-approaches' differ in nature from those that seek to automate existing practices through those that add increased value by the application of information to those that ultimately seek to transform the learning process.

The term 'informate' is taken from Zuboff [7] who describes the change from the early days of 'computerisation' aimed at process-automation to the late 80s where the provision and analysis of the information, made available from earlier computerisation, begins to have a transformative effect on the management, strategy and structure of organisations. Schein [8] makes the further distinction between 'informing down' whereby control type information is passed downwards and 'informing up' whereby those closest to the issues pass information up the chain (in our case upwards from the student to the lecturer).

It can thus be seen that the approaches clustered in the bottom left quadrant are those that represent the clearest return on investment (ROI) and it is easily possible to assess their scalability and the value for money represented by further investment. E-assessment tends to fall into this category. Those in the top right quadrant however are more research and development (R&D) in nature and in their present form may represent overheads without any immediately obvious return. Work on gaming technologies and immersive environments tends to fall here. This is the kind of risk taking that is necessary to keep the sector moving forward and we can anticipate that these activities will move down towards the bottom left as they become more established. We need a balance of activities in all of these quadrants if we are to see real progress. For example we may already be able to assess students quickly and cheaply using technology (e-assessment tending towards the bottom left quadrant) but if we assess them and find they are failing, we need projects further up the R&D scale in order to address that.

In planning a TEL project it may pay to think about the project in these terms and tailor your approach accordingly in order to manage stakeholder expectations. It follows almost without saying that projects in the top left quadrant are inherently 'riskier' and require a greater degree of cultural change. They will also require a more flexible approach to planning and a greater number of iterative review stages. Such an approach can also be useful from a management angle in that a School or Faculty should consider having a balanced portfolio of projects - as one or two 'automate/informate down' projects may be used to free-up resources for one or two transformational projects. Projects in the middle area will, if successful, provide some resource savings whilst simultaneously improving pedagogy. A balanced portfolio will also provide a wider range of examples for other staff to draw on in developing their own practice.

None of the above means that you won't make mistakes and get things wrong but approaching TEL projects within a conceptual framework where we are prepared to talk about risk and culture change and to accept an iterative planning cycle may help us avoid some failings common to such projects in the past. Another means of capacity building in the sector is of course to create communities of practice where people can explore new ideas in a safe environment and learn from the experiences of others and the remainder of this paper looks at a model for doing this.

## **6 The CAMEL Project**

The CAMEL project explored the sensitive issue of learning from one another's mistakes in relation to TEL. The name CAMEL was originally short for Collaborative Approaches to the Management of E-Learning and was a project funded by the HEFCE Leadership, Governance and Management programme. It set out to explore how institutions who were making good use of e-learning and who were collaborating in regional lifelong learning partnerships might be able to learn from each other in a Community of Practice based around study visits to each of the partners' institutions.[9]

Strange as it may seem CAMEL has its origins in a self-help group formed many years ago by a number of small farmers in Uruguay. The credit for the idea of applying a Uruguayan farming model to the UK education sector goes to Seb Schmoller of the Association for Learning Technology (ALT) whose uncle was a member of the group. Seb visited Uruguay back in 1985 and his uncle showed him a folder of documentation from what he described as a farmers' self-help club. This stuck in Seb's mind and caused him to reflect on the parallels between education and agriculture. The technology and the process may be different but to be successful at either requires an enormous amount of tacit knowledge, and understanding about how to make things work in a co-ordinated way, and the success has a long time frame.

Farmers from 8 small farms used to meet monthly taking turns to visit one another's establishments. Participants were provided with prior information including plans and stock lists. On the day of the visit they toured the farm then had a discussion (led by an expert facilitator) about key issues arising and gave views on topics on which the



host sought the group's advice. There was an evaluation session at the end of the day and the outcomes were documented.

Key features of the group that we sought to emulate in the CAMEL model are that the visits were:

- Planned collaboratively
- Documented before and after
- Focused on things which matter
- Expertly facilitated
- Formally evaluated and had a
- Strong emphasis on tacit knowledge and making this explicit

We were fortunate enough to receive some reflections on the workings of the group via an email from Seb's uncle in Uruguay and this mentioned another critical feature: the meetings had to be '*calzon quita*' which translates as '*with underpants removed*'. He describes this as meaning you have to put all your cards on the table and hide nothing and he goes on to say '*sometimes there emerged some truths or criticisms which were very painful, and this is what I think helped many to come to terms with reality.*'

The CAMEL project took the Uruguayan model and adapted it for use with a range of FE and HE institutions. We issued an open invitation to HEFCE funded institutions to participate and we selected four of the many applicants.

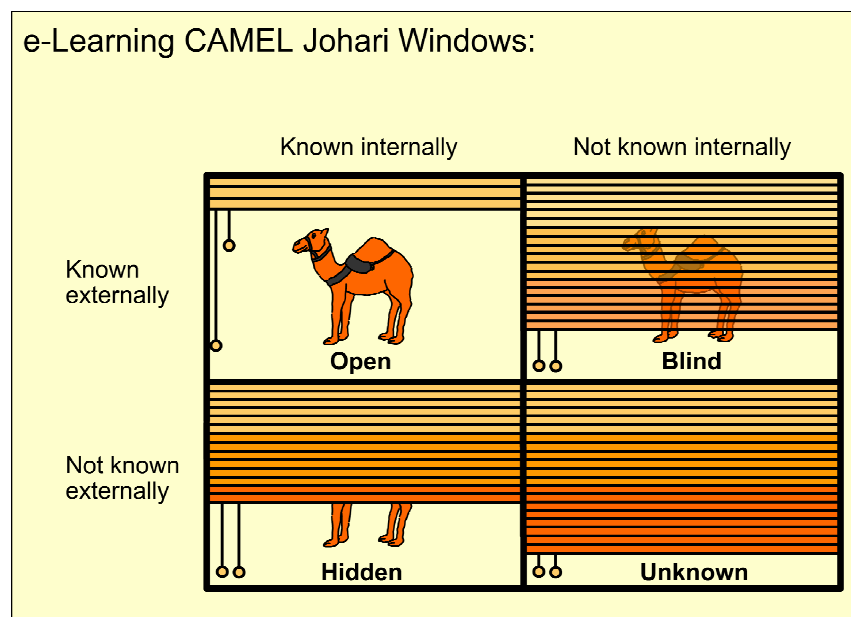
The project then went through the following stages:

- A start-up meeting to get to know each other and agree key topics of interest and the schedule of visits
- Development of a Project Initiation Document (PID) which included roles and responsibilities and agreed 'ground rules' for the project
- Appointment of an external evaluator
- Four study visits with each agenda agreed in advance and an evaluation session at the end of the visit
- Some online interactions using various collaboration tools
- A summative evaluation by the external evaluator

As with the Uruguayan farmers, we found that, although the informality of the network was one of its strengths, it was important to operate within a structured framework and to set some 'ground rules'. The sharing of practice is a difficult area as there is often considerable pressure to show your institution in the best possible light and to gloss over the issues representing the 'warts and all' that is required for

institutions to learn from each other and further develop practice. The group has to find a way of addressing the issues, and meeting the objective of disseminating something useful to the outside world, whilst respecting institutional sensitivities.

The Johari Window (Luft & Ingham 1955), named after the first names of its inventors, Joseph Luft and Harry Ingham, is a useful model describing the process of human interaction and is commonly used by self-help groups. A four paned 'window' divides awareness into four different types, as represented by the quadrants: open, hidden, blind, and unknown. The lines dividing the four panes are like window blinds, which can open or close as the interaction progresses.



- The OPEN quadrant represents knowledge that is known to all. This can be purely factual but can also include elements of Mission/Vision. At the start of your project the opening of this first quadrant will not be very large, since there has been little time to exchange information. As the process of getting to know one another continues, the window blind opens placing more information into the open window
- The BLIND quadrant represents knowledge that is overt to outsiders but hidden from internal people in the same way one remains oblivious to a smut on one's cheek whilst it is plainly obvious to an observer. A challenge for your group is to get this information into the open in an acceptable way so that outsiders can act as 'critical friends'
- The HIDDEN quadrant represents things that are overt to insiders but hidden to externals such as issues relating to internal politics. As trust between the

parties grows they will feel more comfortable with the kind of self-disclosure that opens this blind

- The UNKNOWN quadrant represents things that are known to neither insiders nor outsiders. Being placed in new situations often reveals new information not previously known to self or others. In the CAMEL pilot the process of describing existing practice to others gave people some surprising insights about themselves and their institutions. We hope that this will happen in your project

The underlying philosophy of the CAMEL model is based on trying to draw back the shutters so that more information is in the OPEN quadrant. This does not necessarily mean it is in the public domain rather that it is available in a way that is useful to the participants. Trust is central to the sharing of real experiences and practices and so at the start-up meeting it was agreed that The Chatham House Rule would apply. The Chatham House Rule reads as follows:

*'When a meeting, or part thereof, is held under The Chatham House rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant may be revealed' .*

A report on the key themes addressed during the study visits and a DIY guide to applying the CAMEL model are available free of charge from the [CAMEL project page](#) [10] on the JISC infoNet website. The following quotes from participants illustrate the transferable value of a network of this type. The external evaluation report on the project noted *'Considering the short time-frame ... it was surprising the extent to which an ethos of open and trusting relationships had developed within the community'*.

A few quotes from CAMEL participants:

*'You can learn from people who aren't your most obvious peer group that very different institutions all exhibit good practice'*

*'You don't just share everything that's good and that you are proud of but you are also prepared to share your problems and issues and perhaps find ways of solving those together'.*

*'It is really important to sit around a table and eat and tell stories and get to know people, on a social or semi-social level, in a way in which you can't just by turning up and sitting in a room and listening to something.'*

*'It's about practice, warts and all – and the warts are more interesting than the practice sometimes.'*

*'Hosting a study visit meant we spotted gaps in the pedagogy of what we were doing.'*

*'You start to really understand where it works, how it works, in what conditions and contexts it works.'*

*'When you actually talk to a teacher delivering something using those technologies you get a more honest assessment of how effective those teaching practices are.'*

*'There are challenges which can benefit from a reflexive approach in which critical practices develop with people from the outside.'*

*'Simply by presenting your activities for others to scrutinise you are forced to think about them so that's already a catalyst for change.'*

The CAMEL approach is now being used and adapted by a range of other projects including the Higher Education Academy Pathfinder projects, the JISC Design for Learning eLIDA CAMEL project, the JISC Tangible Benefits of e-Learning Project and various projects within single institutions instigated by people who have participated in other CAMELs.

## **7 Summary and Conclusions**

Although this paper represents a somewhat theoretical approach to TEL, rather than detailing lessons learned from particular projects, the approach is based on the empirical study of many such projects over a number of years. If I were to single out one failing that dogs new developments across the sector (and this goes more broadly than TEL projects) it would be that our organisations lack a mature and robust approach to assessing and managing risk. If we are not prepared to talk about what *could* go wrong we are unlikely to be well prepared when things do go wrong. I would even go so far as to say a more risk robust mindset would go a long way towards effecting the kind of cultural change necessary to support an enterprising and innovative approach to learning and teaching.

What is heartening about us as a sector is that we are, as a whole, reflective practitioners and given the opportunity people will evaluate their experiences honestly and share them with others. We need to ensure that this quality is adequately valued and used to build capacity across the sector (I include both further and higher education here as sharing across this 'divide' is essential if lifelong learning is to be a meaningful concept). The CAMEL model is gaining a lot of momentum at the moment. To return to where we started it is certainly not 'rocket science' but if formalising and 'branding' the concept of learning from others in this way lends it an added credibility then this can only be a good thing.

**Acknowledgments.** The author is grateful to the participants in the CAMEL project for providing the basis of this paper and to Steve Probert of the Higher Education Academy Business, Management and Accounting Subject Centre for the idea behind the TEL spectrum graph.

## References

1. Giddens, A. Runaway World: How Globalization is Reshaping Our Lives. London: Profile.(1999)
2. Giddens, A. Reith Lecture on risk. (1999)  
[http://news.bbc.co.uk/1/hi/english/static/events/reith\\_99/week2/week2.htm](http://news.bbc.co.uk/1/hi/english/static/events/reith_99/week2/week2.htm)
3. JISC infoNet Risk Management infoKit,  
<http://www.jiscinfonet.ac.uk/InfoKits/risk-management>
4. JISC infoNet Project Management infoKit,  
<http://www.jiscinfonet.ac.uk/InfoKits/project-management>
5. Stiles, M.J.:Death of the VLE – a challenge to a new orthodoxy, Serials, Vol 20, No 1, 2007, pp 31-36.Available from:  
<http://serials.uksg.org/openurl.asp?genre=article&issn=0953>
6. Ferrell, G, Kelly, J, McMahon, C, Probert, S, Quentin-Baxter, M & Riachi, R: Tangible Benefits of e-Learning. (Forthcoming).
7. Zuboff, S. In the Age of the Smart Machine. Basic books, New York. (1988)
8. Schein, E. H. The Role of the CEO in the Management of Change: The Case of Information Technology. MIT Press, Cambridge, Mass. (1989)
9. Jameson, J, Ferrell, G, Kelly, J, Walker, S and Ryan, M: Building trust and shared knowledge in communities of e-learning practice: collaborative leadership in the JISC eLISA and CAMEL lifelong learning projects. British Journal of Educational Technology Vol 37 No 6 949–967(2006)
10. The CAMEL Project: Collaborative Approaches to the Management of E-Learning <http://www.jiscinfonet.ac.uk/camel>  
Using the CAMEL Model to Build a Community of Practice  
<http://www.jiscinfonet.ac.uk/camel>

## Other Recommended Reading

Stiles, M. Introducing the Reuse and Repurposing of Content as part of the embedding of eLearning. A guide to good practice and problem areas in cultural, educational and organisational change. Staffordshire University . (2005)  
<http://www.jiscinfonet.ac.uk/infokits/change-management/reuse-and-repurposing>

JISC infoNet Resources:

Change Management infoKit <http://www.jiscinfonet.ac.uk/infokits/change-management>

Social Software <http://www.jiscinfonet.ac.uk/infokits/social-software>