

# Closing the Gaps in Institutional Development of Networked Learning: How Do Policy and Strategy Inform Practice to Sustain Innovation?

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## ABSTRACT

This paper considers the extent to which the recently developed transformation model (Martin, 2002) can usefully be applied to examine the institutional implementation of networked learning. In doing so it also examines the extent to which institutional strategy is of importance in driving such change. Four HE case studies from the JISC INLEI study provide the empirical data; however, the use of the model is exploratory at this stage as data analysis is currently ongoing. Preliminary investigation suggests that whilst some institutions go through all the earlier stages outlined by the model this is not necessarily the case for all institutions. The evidence suggests that although the four institutions included here have reached the embedded stage this may only apply to certain areas within the institution. Also considered is whether the development can be considered revolutionary or whether a continued process of evolution into a merging of traditional and IT driven delivery is more appropriate.

## Keywords

Networked learning, revolutionary or evolutionary change, strategy.

## INTRODUCTION AND BACKGROUND

This paper aims to consider whether a recently developed model (Martin, Op. Cit.) can provide a useful theoretical framework for exploring institutional implementation of networked learning and to examine the role of institutional strategies in such development. Empirical evidence from a small number of case studies will be used from the JISC funded INLEI project (INLEI, 2003). At this stage the use of the model is exploratory as data analysis is still ongoing. The recently developed 'transformation model' (Martin, Op. Cit.) was intended as a tool for educational institutions to examine the extent to which the incorporation of technology in various aspects of learning has transformed the institution. It is therefore clearly linked to the issues explored in the INLEI project and is seen as potentially offering a useful framework at this stage; however, as the INLEI project takes a holistic approach to institutional development, the need for modifications to the model may have to be considered if it is to be used in our context.

The INLEI project explores the impact of networked learning on HE and FE institutions based on the experiences and perceptions of key members of staff involved in the development of networked learning. It aims to provide a web-based data bank of case studies for educational institutions involved in the development of networked learning as well as a set of guidelines for policy makers. It is a joint project shared by University of Highlands and Islands Millennium Institute (UHI), Bradford University and Scottish Further Education Unit (SFEU).

The remainder of the paper will be structured as follows:

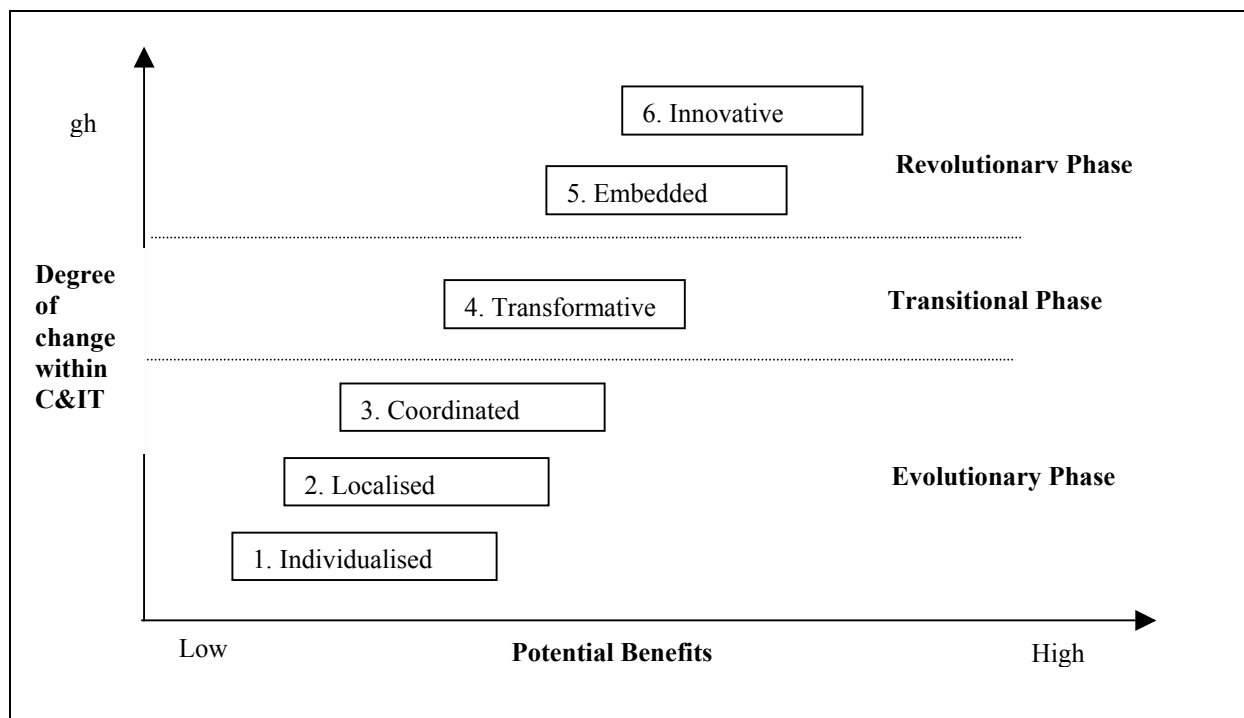
- a description of the model and a brief overview of its background;
- a brief outline of the study and its definition of networked learning;
- an examination of each of the stages of the model in relation to the both the institutional documentation and the interview/questionnaire data;
- an analysis of the extent to which institutional policies/strategies seem to inform the overall development of networked learning;

- an exploration of the extent to which the model provides a useful framework for examining the implementation of networked learning within institutions.

### The Transformation Model

The Transformation model was based on models developed by the MIT90s project at the Massachusetts Institute for Technology (Scott Morton, 1991). One of these models, Venkatraman's model, was later adapted to explore the development of (Communications and Information Technology (C&IT) skills at educational institutions in two UK projects: Citscapes and TALENT (Derbyshire, 1999, and Martin, 2002). Venkatraman's model, whilst occasionally referred to as the MIT90 model, became more widely known as the 'Transformation Model', as it described the transformation from traditional to ICT (Information and Communication Technology) led institutions.

**Figure 1. Transformational model based on the MIT90 model and amended by Martin (2002)**



The original Venkatraman model consisted of five stages with only the evolutionary and revolutionary phases. Derbyshire (1999) introduced the transitional phase and Martin added a first stage by distinguishing between the individualised and the local level.

It should be noted that Martin's model initially focused on exploring the development of students' IT literacy skill within the institution. As such it provided an opportunity to explore the relationship between the development of IT literacy in students and the development of the overall learning environment. To this was added an exploration of learning activities and support facilities. Our aim here is to explore the use of this model in relation to institutional development of networked learning. Networked learning encompasses these aspects; however, it also includes the interactions between learners that are not shown in the Citscapes model. It could therefore possibly be argued that the model needs to be extended to incorporate these aspects. A definition of networked learning and our own project will be outlined before an exploring the case study data in relation to the strategies and the model. As data analysis is not completed yet this paper is an exploratory study that will draw on four of the HE case studies. The final report will include an analysis of twenty case studies from both the FE and HE sector.

### Networked Learning and INLEI Case Studies

Twenty case studies – ten from HE and ten from FE – provide the core data for the research. The case study institutions were selected to provide as indicative a sample as possible with such a small number: FE Colleges included urban and rural colleges of different sizes in England, Scotland, Wales and Northern Ireland, and universities from the same spread of geographical and educational areas with both research-led and modern institutions represented. Only institutions that used a Virtual Learning Environment (VLE) were included in the project. Each case study collected data from three main sources:

- Interview data,
- Questionnaire data,
- Secondary data from institutional documents.

Within each institution staff involved with some aspect of the development of networked learning were asked to complete questionnaires and to take part in an interview. The main categories of staff involved were:

- Senior management with responsibility for networked learning,
- Technical staff with responsibility for infrastructure support for networked learning,
- Registry staff,
- Quality assurance / quality enhancement staff,
- Academic staff implementing networked learning,
- Support staff providing a range of services for academic staff and students engaged in networked learning.

Interview and some questionnaire data were analysed qualitatively, some of the questionnaire data provided quantitative material with documentary evidence providing a third source of information and hence some degree of triangulation. Our project identified six main research questions on which to focus the investigation: overall institutional development, infrastructure and support services, staff, collaboration and communication, teaching and learning, quality monitoring and evaluation and access. Within institutional development drivers for change were examined.

The term networked learning rather than e-learning or online learning was used in this project. It was based on that of Goodyear (2002) and was defined as *“..learning in which C & IT is used to promote connections: between one learner and other learners; between learners and tutors; between a learning community and its learning resources.”* This definition could be considered controversial as it makes assumptions about the range of activities that are required for a module or a course to be considered fully as ‘networked learning’. This then has implications in terms of interpreting the stage that an institution has reached in terms of its development and, as suggested above, there may be a need to extend the model to incorporate these issues.

## **THE RELATIONSHIP BETWEEN INSTITUTIONAL DEVELOPMENT AND INSTITUTIONAL DOCUMENTATION USING THE TRANSFORMATION MODEL**

The model identified three main phases with sub-stages within two of these phases. These stages will now be examined using the case study data to identify the stages that the institutions are seen as having progressed through and the current stage they are perceived to have achieved. Institutional strategy and policies will then be examined in relation to each of the institutions followed by a reflection on value of the model in examining institutional development.

It is worth noting that since 1999 all universities funded by HEFCE were required to produce a Learning, Teaching and Assessment Strategy (Thorpe & Freewood, 2001). The four HE institutions that form part of this exploratory study consist of one established, research led (H1) and three post 1992 universities (H2, H3 and H4). Three of the institutions are HEFCE funded; the fourth is not. All stated that they had such a policy but one institution explained that it was currently being redeveloped and that this process was not complete. Two also have strategies for networked learning.

### **Evolutionary Phase – Stage 1 and 2: Individualised or Localised**

Stage 1 of the model suggests that development depends on individual initiatives independent of institutional policy input. The second stage focuses on activities moving from being dependent on individual enthusiasts working mainly on their own to the development being supported at departmental, school or faculty level. The evidence from interview data does not indicate that the development necessarily started with purely individual initiatives. The questionnaire data supports this view and also suggests that for at least one of the institutions the development of networked learning started at Stage 3 of the model.

<b>Institution</b>	<b>Evidence – based on interview</b>	<b>Evidence based on questionnaire data</b>
H1 No of interviews: 6 No of questionnaire returns: 4	<i>“Well I think we are not different from others in that it probably started off very much as individuals with an interest in working on developing online learning opportunities...”</i>	All four respondents stated that the introduction of networked learning had come from individual initiative; one added it was also by small number of initiatives with another adding it was also institutionally driven.
H2 No of interviews: 5 No of questionnaire returns: 5	<i>“It started through my contracts with the ... School and they were interested in putting resources online ...”</i>	Four out of the five stated that it was whole institution driven; one stated that it was based on individual initiative.
H3 No of interviews: 6 No of questionnaire returns: 5	<i>“basically it has been driven from the ground up so it has been evangelised by anyone – it maybe has been evangelised but it has not been forced upon anyway ...”</i>	Four out of the five stated that it started within a specific unit; the fifth stated it was whole institution driven.
H4 No of interviews: 6 No of questionnaire returns: 5	<i>“I understand that it was done through our [dept]... certainly the initiative was steered by a committee with, I would call, a significant enthusiast from each of the schools who worked for a proportion of their time developing [VLE].”</i>	All five respondents stated that it was whole institution driven; two additionally stated that it was dependent on a small number of schools, one stated that it was also dependent on individuals; one stated that it was also dependent on faculty initiative.

This data suggests some variability in relation to the initial stages of networked learning. Institution H1 offers the clearest evidence of individual initiative driving the process; the other institutions all suggest that whilst there has been some individual initiative, whole institution initiatives and specific units within the institution are seen as responsible for development. It is interesting to note that the strongest evidence for individual initiative driven development is from the research led institution. H2 could potentially be interpreted as individually driven; however, there is also a suggestion this was dependent on collaboration between one school and an individual and could thus be best interpreted as a local initiative.

### **Evolutionary Phase – Stage 3: Coordinated**

This stage is characterised by individual and local activities becoming supported centrally by the institution. The data clearly suggests that networked learning as an activity is becoming coordinated. All of the institutions had a unit that was concerned with the development of teaching and learning and networked learning featured strongly within these. Within each of the institutions there had been a range of initiatives to encourage the development of networked learning. It was also noted by all that the infrastructure was now sufficiently robust to support networked learning and also that staff technical support and training was available. However, there was variability in terms of the extent to which the infrastructure was seen as sufficient to support further development.

The questionnaire data quoted in the previous section also supports the notion that these institutions have reached the coordinated stage. In addition, all institutions cited funding being provided for a number of aspects of networked learning such as staff development, hardware and staff time. However, not all institutions funded all of these areas. The questionnaire responses in this section come from only one respondent as only senior management were asked to indicate available funding.

<b>Institution</b>	<b>Evidence based on interview data</b>	<b>Evidence based on questionnaire data</b>
H1 No of interviews: 6 No of questionnaire returns: 4:	<i>“I think the catalyst that exists, there is the teaching award, there is also a fund in the University for teaching innovation or teaching developments and a lot of proposals that come forward are e-learning or networked learning based... ”</i>  <i>“ ...we are trying to encourage them through giving them</i>	Funding for staff development and software.

	<i>Teaching Fellowships .. another way in which the can get money is through the University Teaching Manual Boards ..available for Faculties to bid for .. and actually works very well..."</i>	
H2 No of interviews: 5 No of questionnaire returns: 5	<i>"...we buy 0.5 of their time, half their time to work on education development issues in their particular school and across a range of issues. Networked Learning being one important one, but certainly not the only one so they might .. it very much depends on what else are the priorities within their school."</i>	Funding for staff development, staff time, hardware and software.
H3 No of interviews: 6 No of questionnaire returns: 5	<i>"It has been driven probably from two places. We used to have a distance learning unit set up and that was the first place really where e-learning was brought in .. then our Centre for Learning and Teaching started bringing [VLE]q."</i>	Funding for staff time and software.
H4 No of interviews: 6 No of questionnaire returns: 5	<i>"I understand that it was done through our [dept] unit .. certainly the initiative was steered by a committee with, I would call, a significant enthusiast from each of the schools who worked for a proportion of their time developing[VLE]."</i>	Funding for staff development.

### Transitional Phase – Stage 4: Transforming

This stage is characterised by the institution adopting these new developments as part of the core business. The evidence shown here, from both interviews and questionnaires, indicates that networked learning is recognised as core. However, the name of the stage indicates that this should act to transform core practice and the data suggests that whilst some change has occurred this is not fully achieved yet.

<b>Institution</b>	<b>Evidence based on interview data</b>	<b>Evidence based on questionnaire data</b>
H1 No of interviews: 6 No of questionnaire returns: 4:	<p>"...it is clear that the University is taking much more of an interest now; it has an education strategy which is being redeveloped at the moment and within that there is an e-learning strategy so I think it is recognised at senior level."</p> <p>"Well the education strategy itself will be a major driver, that will be the major driver I guess in the sense of putting forward institutional support behind the initiatives."</p>	<p>All four respondents stated that networked learning was recognised at senior level as part of core business. One of these qualified the response by stating that this recognition was 'recent'.</p> <p>Two out of the four respondents felt that core business had changed; two stated that it had not changed, with one of these suggesting that it might change.</p>
H2 No of interviews: 5 No of questionnaire returns: 5	"Primarily through our use of [VLE] which, as far as I am aware, it is based around the campus so that you have a system up and running on the web at module and course level which the students can interact with and the staff can interact with."	<p>All five respondents stated that networked learning was recognised at senior level as part of core business.</p> <p>Three out of the five state that the focus of the institution has changed; one states it has, with one respondent undecided.</p>
H3 No of interviews: 6 No of questionnaire returns: 5	"Yes.... Our online learning community is based upon the use of the [VLE] learning system."	Four out of the five respondents stated that it was recognised at senior level as core business; the fifth stated it was not as there was a reluctance to make institutional decisions.
H4 No of interviews: 6 No of questionnaire returns: 5	".. in March this year the university academic board, the Vice-Chancellor decided that every module would be on the VLE by this September."	<p>All five respondents stated that networked learning was recognised at senior level as part of core business.</p> <p>Three out of the five stated that core business had not changed (one suggesting it might); two stated it had changed.</p>

### Revolutionary Phase – Stage 5: Embedded

This stage sees the developments as having been embedded into the institution and adopted by all courses. Each institution has adopted a VLE on an institution wide basis to support the development of networked learning. This could perhaps be taken to indicate that networked learning is embedded within the institution. However, the name of the phase ‘revolutionary’ suggests that there has been a complete change from what was happening in the past to what is happening now. The evidence does not necessarily suggest that this is the case across the whole institution.

Two questions in the questionnaire asked if networked learning had added value to teaching learning and research and whether it had changed the learning experiences. All respondents were asked these questions.

Institution	Evidence based on interview data	Evidence based on questionnaire data
H1 No of interviews: 6 No of questionnaire returns: 4	<i>“if we take [VLE] as an example, mostly people have tried to transfer traditional teaching online so they are not doing a lot incredibly different”</i>	All four respondents felt that networked learning had added value to the teaching and learning and also that the student learning experience had been enhanced.
H2 No of interviews: 5 No of questionnaire returns: 5	<i>“I mean my vision is of a blended learning environment which almost becomes transparent in that sense in that it helps students to work with their colleagues, with their tutors, with resources ... you know we don’t at ... have a vision of being an entirely online university.”</i>	Only two out of the five respondents responded suggesting that networked learning added value but complemented traditional methods. The other three did not feel able to comment.
H3 No of interviews: 6 No of questionnaire returns: 5	<i>“Our VLE is still at the stage where some staff is using it as a repository where they are putting material and dumping it and that isn’t making the best use of it but then that is back down to this department or other individuals to explain the advantages of using it.”</i>  <i>“We have [VLE] which we use as a virtual learning environment but it tends to be used along with traditional teaching methods so I don’t think it is large scale, although we do have network materials, ancillary materials to something like 80% of our student population.”</i>	Three out of the five respondents responded to the two questions and all three argued that it had changed the student learning experience and added value to teaching, learning and research. A fourth felt that it had changed the student learning experience. Access to resources was quoted by two as adding value, whilst a third suggested that online learning enhanced student performance overall.
H4 No of interviews: 6 No of questionnaire returns: 5	<i>“.. in March this year the university academic board, the Vice-Chancellor decided that every module would be on the VLE by this September.”</i>  <i>“In theory yes ... Well in theory all students are using [VLE] .... I suspect that the use of it is very patchy”</i>  <i>“I have never believed it is the total way teaching and learning is going. I think it can enhance teaching and learning ..it is a useful communication method ..”</i>	Four out of the five respondents felt that networked learning allowed for flexible access to resources and potentially for easier communication. One respondent did not feel able to comment.

It could be suggested from this data that the institutions have reached the embedded stage; however, the extent to which this is revolutionary rather than evolutionary is open to debate. One respondent suggested that students’ learning was improved in terms of overall achievement and that students acted differently when engaged in networked learning. However, the students were post-graduates who were enrolled on a specific, work-related course that had been developed at considerable expense. The institution which had developed it recognised that this particular programme was different from the mainstream. It had been developed with external business funding and did not use the university adopted VLE. Interestingly in two of the institutions the term ‘organic’ development was used and it was argued that academics should be allowed to make use of the VLE as they wished and if this meant simply using it for course notes that was acceptable. In another institution a minimum of web resources had to be included in all modules; however, this minimum was limited to the module handbook and a few basic links.

### Revolutionary Phase – Stage 6: Innovative stage

This phase assumes that the new development is instrumental in changing and reconceptualising the learning process. The questionnaire data in the previous section also relates to this section.

Institution	Evidence based on interview data
H1 No of interviews: 6 No of questionnaire returns: 4	<p>“We do have a few people doing things quite differently where their role will have perceptively changed, tutor and students ... but really I am not quite sure how much because obviously we have different kinds of teaching and learning going on in the university anyway, related to subject or related to innovation.”</p> <p>“if we take [VLE] as an example, mostly people have tried to transfer traditional teaching online so they are not doing a lot incredibly different”</p>
H2 No of interviews: 5 No of questionnaire returns: 5	<p>“..some tutors seem to revert to a more kind of teaching environment online .. others tend to take a more levelled kind of participatory approach and we don’t quite know yet what the effects of that may be. Some students also comment on the whole .. implying a kind of fluidity of the environment ... the way they represent themselves, the way that they behave online, students often report it is rather different than they would in a face to face setting.”</p> <p>“My personal opinion is that it is a useful tool alongside traditional methods rather than replacing anything.”</p>
H3 No of interviews: 6 No of questionnaire returns: 5	<p>“There are benefits and there are drawbacks. I think it should never be looked at as a replacement, it should always be looked at as something to enhance the way that the learning is delivered.”</p> <p>“I think that it’s going to be a blended model, I don’t, this is my view and it could be very different in the schools because it is going to be academics that come forward and develop this, but at the moment I don’t see us doing a great deal that will be wholly e-learning.”</p>
H4 No of interviews: 6 No of questionnaire returns: 5	<p>“I have never believed it is the total way teaching and learning is going. I think it can enhance teaching and learning ... useful communication mechanism but probably due to my background which is very much people focuses ... I still see a need for students to interact with people ...”</p>

The data in this section then suggests that there may be some changes that could be seen as reconceptualising the learning process as the second quote from H2 suggests. However, the majority of the responses suggests development that builds on what is there and also that the subject matter may have an impact on how networked learning will develop.

## THE RELATIONSHIP BETWEEN STRATEGY AND THE DEVELOPMENT OF NETWORKED LEARNING

All the institutions have a strategy for learning, teaching and assessment and two also have a policy for networked learning. At this stage it could be argued that the implementation of networked learning has focused on getting the infrastructure in place and in adopting a specific VLE to support networked learning. However, the strategies, whilst some were accompanied by specific action plans tend to state what is intended in general terms. All of the strategies stressed the need to make creative use of the new technologies, to provide flexible, student-centred approaches to learning which were appropriate to an increasingly diverse student population. One of the institutions also noted the need to reduce the administrative burden on academic staff and another noted that networked learning is not a replacement for traditional methods as blended learning is identified as the preferred option.

It is clear that a strategy that identifies the need for technology to be incorporated into the learning process has had an impact in institutional development; however, the extent to which all areas within an institution are developing networked learning in the sense of our definition is less clear. There is variation between different schools and faculties representing different subject areas. Differences in attitudes within schools are also in evidence.

## THE TRANSFORMATIONAL MODEL AND INSTITUTIONAL DEVELOPMENT

The model has provided a framework for exploring our data. However, at this stage the data does not fully support that institutions go through all the stages or that the revolutionary phase is necessarily the most

appropriate label for the final phase. In terms of the earlier stages there is some suggestion that the first, individualised stage is not necessarily in evidence for all of the institutions. Interestingly it could be that as networked learning becomes more fully developed across the sector those that are not yet engaged in it will enter it at the local or even coordinated level. There is a suggestion that this was the case for institution H4 as the following quote suggests: “... *We said OK we need to work out what kind of VLE we need ... we got evaluations from X, we have got good links with them ...came up with [VLE]. We sold the idea to the executive ... and the executive said yes.*”

In relation to the final phase, the revolutionary phase, the data at this stage suggests that there may be more of an evolution with an increasing number of resources being made available online. However, development of this is patchy across subject areas and also within faculties with some members of staff not wishing to make use of technology. The picture is unclear and staff attitudes have not been included in this analysis due to limited space. It is also worth noting that whilst some innovative examples demonstrating considerable change were in evidence our interviews were with people engaged in networked learning and therefore they are likely to have been enthusiastic and be aware of innovative examples. However, there were also frequent comments about colleagues who did not wish to engage with these developments. In addition, the pressure to engage in research was cited, particularly in one institution, as hampering developments of networked learning.

## CONCLUSION

This analysis has only made partial use of the data from this project. Further analysis is required and this needs to be considered in relation to other studies such as Banks & Powell (2002) and Cornford & Pollock (2003). In relation to the role of strategy in influencing the development of networked learning it could be argued that it is essential in terms of the commitment to development but that it does not necessarily lead to innovative development of networked learning, which makes use of the full potential of the technology. The initial analysis also suggests that the model has provided a useful framework for exploration but that it may need revision; however, that a revision of the label of the later stages may be worthwhile considering.

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