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Using technology-enabled learning networks to achieve practical improvement outcomes: a pilot project to explore impact of student-made videos on student engagement in the IET MAODE programme at the OU

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Using technology-enabled learning networks to achieve practical improvement outcomes: a pilot project to explore impact of student-made videos on student engagement in the IET MAODE programme at the OU

Dissertation for Masters in Research Skills
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Abstract

This project investigated how technology-enabled learning networks can be used to achieve practical improvement outcomes at the OU. Koper (2009) defines a technology-enabled learning network as 'a technology supported community of people who are helping each other to better understand and handle certain events and concepts in work or life'. In a literature review of organisational learning in public service organisations in the UK, Rashman *et al.* (2009) observe that 'learning within and between organisations has been identified as central to the processes of public service improvement'. However, little is known about the mechanisms of technology-enabled organisational learning to achieve practical improvement outcomes. Existing work on technology-enabled learning networks tends to be dominated by academic or professional learning, the primary objective being the improvement of knowledge or practice residing in individuals. The aim of this research is to address that gap, using an innovative technology-enabled participatory action research approach. Action research simultaneously seeks improvement outcomes whilst reflecting on the learning taking place.

The project established a learning network, using the Masters in Online and Distance Education (MAODE) programme in the OU Institute of Educational Technology, as a case study. The practical improvement outcome sought was to increase the sense of student engagement with the MAODE learning community, by using student-made engagement videos. The project investigated the extent to which student-made videos assisted in providing the student with a sense of engagement within their learning community. It then reflected on the collaborative learning taking place in seeking the improvement.

Three conceptual frameworks from the literature were compared, applied to the learning network, and evaluated. Data from the learning network interactions was thematically analysed to determine the utility of the three identified frameworks, and whether a new framework was justified which would support the innovative technology-enabled participatory action research approach.

Despite numerous challenges, the learning network was able to proceed as far as the evaluation stage in the first cycle of an action research spiral. Some insightful and useful feedback was provided by students, and two additional videos were produced. Future project work could include establishing the ongoing operation of the learning network within IET, following through the improvement suggestions which have been made, embracing a more systemic approach, and evaluating success in achieving practical improvement outcomes.

The three applications of the identified frameworks to the learning network illustrated that they are indeed descriptive tools which can help to analyse component parts and critical success factors necessary in a learning network environment. However it appears that they are still not adequate in identifying the *mechanism* by which the learning happens.

The data analysis suggests there is some justification for a new framework, potentially combining the necessary elements of the three frameworks identified in the literature, with a narrative based series of events which represent the collaborative mechanisms by which technology-enabled organisational learning may occur. This may form the basis of further PhD research.

Contents

Chapter 1: Aims and objectives

1.1 Introduction and rationale

Since the advent of the internet and web-based communications technologies, the analysis and research of the impact of technology-enabled learning networks has been a growing inter-disciplinary endeavour (Carvalho and Goodyear, 2014). Koper (2009) defines a technology-enabled learning network as 'a technology supported community of people who are helping each other to better understand and handle certain events and concepts in work or life'. Today, online networks are used extensively across the globe to share knowledge, resources, experiences and insights about aspects of professional practice. Web portals, discussion forums, blogs, wikis and social networking tools are being combined to enable communication, interaction and learning on an unprecedented scale. A 2011 United Nations publication *Networks for Prosperity: Achieving Development Goals Through Knowledge Sharing* observes that 'networks, formal and informal, local and global, are increasingly important channels for pursuing policy goals in a globalizing world' (UNIDO, 2011).

In the UK, technology-enabled learning networks have been widely implemented in the public sector in answer to the call for self improvement, based on the voluntary sharing of good practices between and within organisations. Internationally, one example is the One Laptop Per Child (OLPC) not-for-profit foundation which provides rugged, low-cost laptops with customised software to children in developing and disadvantaged regions of the world (Carvalho and Goodyear, 2014). In OLPC Australia, a Yammer network forms part of the project, the purpose of which is to nurture exchanges amongst educators about their experiences in using the laptops and software in the classroom, with a focus on remote, rural or disadvantaged communities. The network helps to build knowledge and connections for participants who would otherwise be isolated, and helps to re-inforce the culture of the OLPC project (Carvalho and Goodyear, 2014).

Therefore technology-enabled learning networks possess the capability to engender individual, group and organisational learning, connecting people together across different contexts and boundaries to share information and learn in a collaborative fashion.

Recognising that public service organisations possess important distinctive characteristics for the study of organisational learning, Rashman *et al.* (2009) conducted a systematic literature review. They observed that 'learning within and between organisations has been identified as central to the processes of public service improvement'. They confirm that organisational learning can be thought of as a 'process of individual and shared thought and action', in contrast to organisational knowledge which is a resource or asset that can be aggregated, codified, stored and shared. Organisational learning puts knowledge into action.

Rashman *et al.* (2009) conclude that organisational learning in general is under-researched in relation to the (UK) public sector context, that 'foundational and classic works in the field rarely consider the public organisational domain', and a fragmented debate has 'centered on theoretical conceptualisations and operational features, with less emphasis on managerial implications and the means to recognise, enact and measure organisational learning'.

In addition, the mechanism of organisational and inter-organisational learning using web-based communications technologies is an emerging field. Current research and the body of expertise being established on technology-enabled learning networks tends to be dominated by academic or professional learning, the primary objective being the improvement of knowledge or practice residing in individuals. This individual learning can take the form of academic education, professional development, or freely available learning platforms such as MOOCs.

As Rashman *et al.* (2009) observe, there is, however, an 'action' element to organisational learning, which embraces the achievement of organisational outcomes in comparison to individual learning outcomes. Learning to improve on some organisational aspect involves the achievement of a practical outcome.

General examples of practical outcomes which could be contemplated include:

- changes or improvements to working practice

- acquiring shared visibility and understanding of organisational processes and associated guidelines and operating standards

- achieving more efficient / rapid project co-ordination, especially when using temporary consultants or other staff

- problem solving and learning lessons from previous problematic scenarios

- designing and implementing completely new forms of work practice.

Therefore, research is required about the mechanisms of technology-enabled organisational learning and improvement in public service, and about practical improvement outcomes that may be contemplated or achieved using technology-enabled learning networks.

1.2 What do we mean by learning to improve and the achievement of practical outcomes?

In an international example of a project with practical improvement outcomes (as opposed to academic or individual learning), Fresen and Boyd (2005) describe a web-based learning network facilitated for an e-learning design and production unit at a South African university. It was implemented in 2002 as a Quality Management System (QMS) to seek improvements in response to defined managerial problems. The system was co-created to become a vehicle for different role players to learn about the steps involved in the instructional design process, to collaboratively evaluate and refine them, and to provide an immediate and enabling view of current practice at the university to all interested stakeholders and new joiners.

The outcomes of this project were evaluated in 2006 by the instructional designers who contributed to it, and written up in a European CEN-ISSS Workshop report on Quality Development in Learning Technologies (Fresen and Boyd, 2007). The instructional designers considered the position of the online QMS on Gartner's hype cycle[1] which reflects how any innovation tends to go through progressive stages of 'peak of inflated expectations', 'trough of disillusionment', 'slope of enlightenment' and finally 'plateau of productivity', usually measured in years rather than months.

The evaluation confirmed that some immediate benefits were fairly readily agreed upon by the community, but some became apparent only in the medium term. Short term improvements included formalising existing documentation, establishing new pilot procedures, streamlining checklists and forms, and replacing certain terms in use that were considered negative or undesirable. Medium term improvements especially concerned the induction of new staff. Once the steps in the process and their associated guidelines and operating standards had been evaluated and made explicit, new joiners were able to familiarise themselves with local practice far more efficiently and independently than before. Much less management time was consumed in induction. Staff on remote campus sites had equal visibility of the process to those on the main campus. Shared understanding and ownership of the process, its outputs and standards of operation were established amongst stakeholders. A senior instructional designer confirmed a consensus that 'I think the QMS ....is now on the slope of enlightenment because the project has been in existence for a few years now' (Fresen and Boyd, 2007).

Therefore, it is important to recognise the temporal elements involved in realising practical improvement outcomes, and how long these can take to become apparent. Projects need to pass along an evolution process in which individual and organisational learning gradually

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[1] http://www.gartner.com/technology/research/methodologies/hype-cycle.jsp

unfolds, and improvements or benefits may only be recognised by stakeholders after a period of years.

1.3 Overall aim of the research

The overall aim of the research is to investigate the achievement of practical improvement outcomes arising from technology-enabled learning networks in public service.

This MRes project forms a pilot for further PhD study, based within the Open University, as an appropriate case study within the not-for-profit sector of public service. Current discourses within the OU indicate an imperative to become an agile, networked learning organisation , . The pilot project will address the first of the general examples above 'changes or improvements to working practice'.

The pilot project will establish a technology-enabled learning network, using the Institute of Educational Technology MAODE (Masters in Online and Distance Education) programme as a case study. The purpose of the network will be to learn how to increase the sense of student enagagement with the MAODE learning community, by using student-made engagement videos. Six individual 'Hear from our MA students' videos have already been commissioned in a separate project, which are available on the IET promotional web pages and can be found here.

Several conceptual frameworks are evident in the literature, which have been applied to technology-enabled learning networks. This project will evaluate these frameworks with regard to the pilot learning network, and assess whether an additional framework is justified.

The project will embrace theoretical, methodological, and practical considerations and in doing so will explore a possible internal mechanism and framework for organisational learning and improvement within the OU.

Chapter 2: Literature review

A variety of theoretical approaches and frameworks have been applied to the research of technology-enabled learning networks. Two of these include foundational and classical works which were established in their own right prior to the mass adoption of technology and the internet, namely an evaluation approach derived from communities of practice (CoP), and cultural historical activity theory (CHAT). A third approach has been developed specifically for the field of technology-enabled learning networks, which is an 'activity centred analytic framework' by Carvalho and Goodyear (2014). This chapter will consider these three frameworks, and then compare and contrast them pluralistically.

2.1 Communities of Practice: Value creation in communities and networks

As a globally recognised thought leader in the field of learning as social participation and in his own social theory of learning, Etienne Wenger (with Jean Lave) was responsible for the salient notions embedded within the *communities of practice (CoP)* and *situated learning* frameworks (Illeris *et al.,* 2009). Wenger asserts that both learning and communities of practice are an integral part of our daily lives. Learning is part of participation in communities and organisations.

Wenger *et al.* (2011) went on to offer a conceptual framework for promoting and assessing the value of learning enabled by community involvement and networks. They identify five cycles of value creation, which are depicted in Figure 1 below. They comment that:

> *The first four cycles in this framework are an adaptation of the four-level model of Donald Kirkpatrick (1976, 1994), which has become a standard in the training and program evaluation literature. In Kirkpatrick's work, these four levels are called Reaction, Learning, Behaviour, and Results. Even though these terms do not apply very well to community and network evaluation, the categories can be adapted to address issues of value creation in communities and networks. This is what we have done here (see also Wenger et al., 2002).*

The fifth cycle is an addition we have made specifically for the work of communities and networks'.

They then suggest key reflective questions and performance indicators to assess improvement in each cycle. The final three cycles offer a means to assess 'applied value' (changes in practice), 'realized value' (performance improvement), and 'reframing value' (can we redefine what we mean by success?).

Wenger *et al.* (2011) also emphasise the importance of 'stories', or narratives, their view being that value and learning can be identified by collecting and interpreting the narratives of the participants in the network:

It is in the context of these narratives that one can appreciate what learning is taking place (or not) and what value is created (or not).
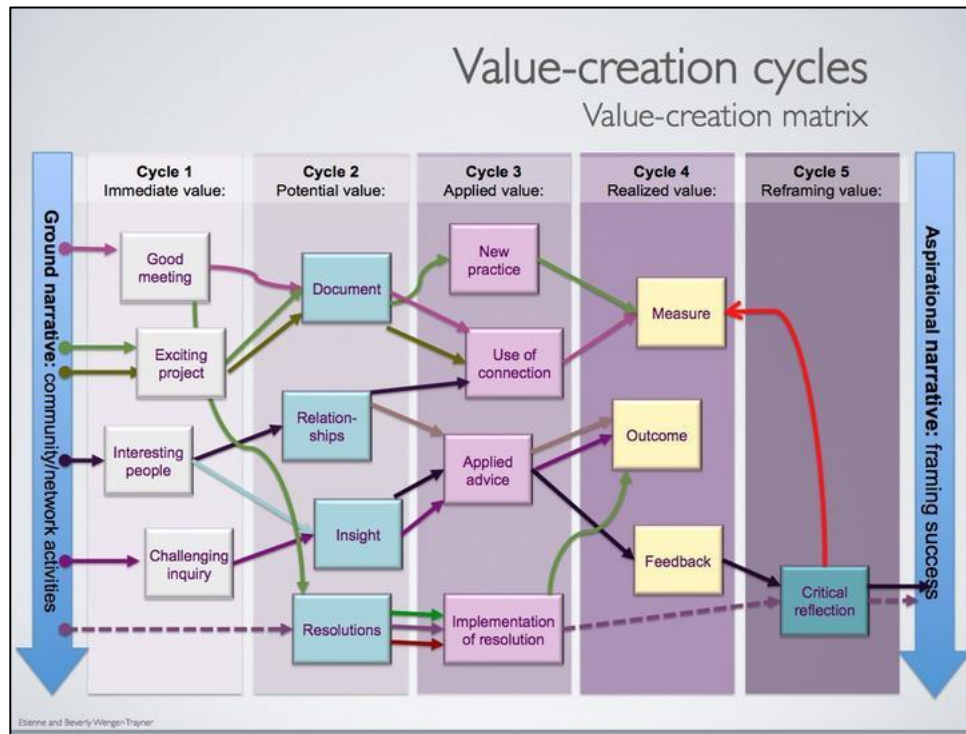
Figure 1. Value creation matrix. Source: Wenger *et al.* (2011).

Wenger-Trayner (2014) has since developed this matrix substantially in a report on a learning partnership programme regarding financial governance in southern and eastern Africa. The five cycles are still fundamental to the model but several other concepts have been introduced. The first concept is *learning loops*, which are feedback loops about how things work in practice, or not. Wenger-Trayner (2014) asserts that these are a key element of learning. They take place across the cycles, as illustrated in Figure 2. The second concept is that of using the framework prospectively for visioning and planning of network activities. Within each cycle, two questions are applied. These concern identifying the aspirations for each value cycle, that is what network members and stakeholders would like to see happening, and then the conditions that would need to be in place. The third addition to the framework is that of 'strategic value' and 'enabling value'. These two values take account of the strategic context of the network and the resources for it provided by stakeholders. Wenger-Trayner (2014) comments that the latter is important, as it is a sign of sustainable activities and results for the network.

All of these new refinements to the Value Creation Matrix are illustrated in Figure 2. It can be seen that the new framework has been developed quite substantially from the previous one. Although losing some of the illustrative detail within each cycle, the new framework has become more focused on how to plan prospectively for new network activities in order to grow or evolve value for stakeholders, as well as retrospectively analysing how that value has arisen. Potential mechanisms and feedback loops for collaborative learning have been identified.
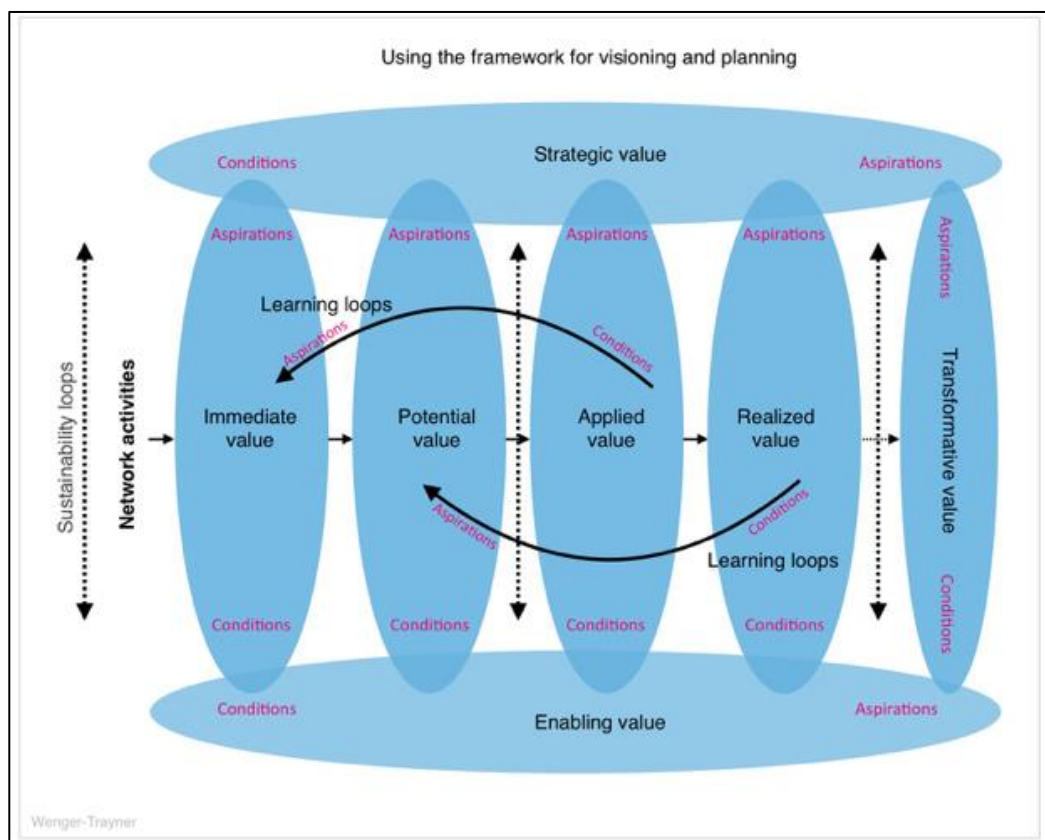
Figure 2. Value creation framework. Source: Wenger-Trayner (2014).

Wenger-Trayner *et al.* (2015) went on to refer to 'landscapes of practice', and to call for the 'systems' view necessary to analyse the learning and problem solving capability of an entire system, which may consist of multiple interconnected communities or networks within a complex landscape. Such a metaphor would appear to apply readily to most complex organisations such as the OU itself, in which improvements must be considered across different *boundaries* in the landscape.

2.2 Cultural Historical Activity Theory

Cultural Historical Activity Theory (CHAT), as described in Yrjo Engeström's theory of expansive learning (Engeström, 2001), provides another promising conceptual research framework, which could be applied to learning networks. As a leading international learning theorist (Illeris *et al.,* 2009), Engeström explains that human activity systems are communities of multiple points of view, traditions and interests. Collective activities are carried out by subjects on objects to produce outcomes, with the support of tools or *mediating artefacts,* in the context of a wider community with its associated rules and divisions of labour, as illustrated in Figure 3. CHAT thus provides a systems framework within which to analyse culturally situated activity and learning. CHAT has already been productively applied to describe and design technology-enhanced learning activities within formal education (Conole, 2008).

The CHAT framework does not embrace the temporal aspects of a series of progressive value-adding stages such as the Value Creation framework, but it does provide an aide-memoire to assess the interactions between technology tools and the community, in pursuit of some purpose.
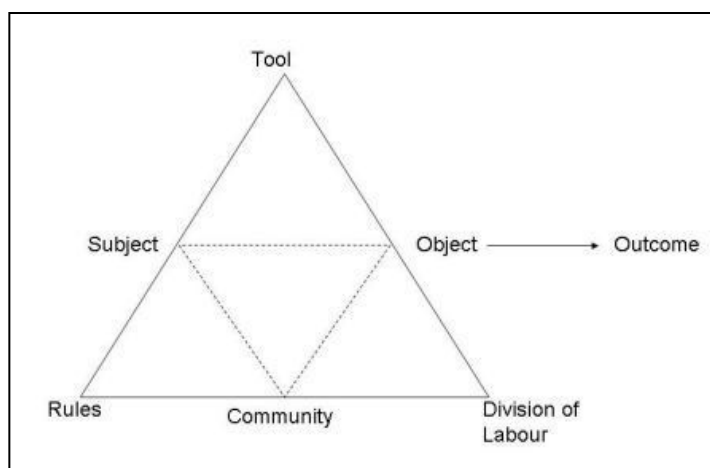
Figure 3. CHAT framework. Source: Engeström (2001)

2.3 Activity-centred analytic framework

Carvalho and Goodyear (2014) propose an 'activity-centred analytic framework', which has been formulated specifically for learning networks. In the framework, tasks (suggestions of things to do), lead to *emergent activity* in pursuit of outcomes, as illustrated in Figure 4. Carvalho and Goodyear (2014) comment that human activity and experience are key to understanding learning. They provide an extensive account of some of the current and historical literature and ideas on learning networks, but interestingly do not refer to Engeström, activity theory, or the theory of expansive learning.
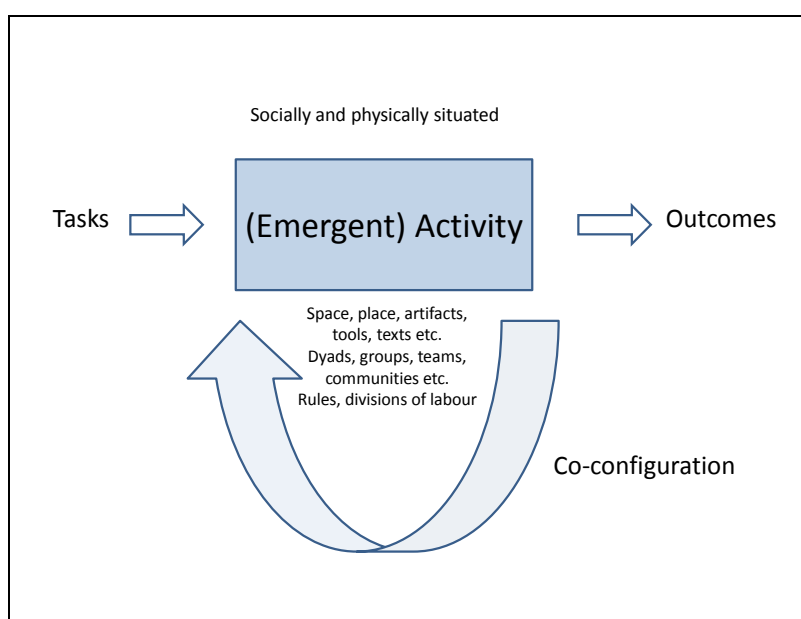
Figure 4. Activity-centred analytic framework. Source: Carvalho and Goodyear (2014)

Although not explicit in their framework, Carvalho and Goodyear (2014) distinguish between three different aspects of design for learning networks. These are the *epistemic,* the *set* and the *social*. Sloep (2016) concludes that this distinction, provided by Carvalho and Goodyear, should guide learning network design activities. A theatrical metaphor is used, in which 'epistemic' relates to the script of the play - tasks or suggestions of things to do. 'Set' relates to the theatre set, or design of the interaction space, and 'social' relates to the actors and their interchanges. Carvalho and Goodyear (2014) provide a fundamental observation that 'learning networks cannot be designed, only designed *for* (emphasis in original).

This framework has also been expanded recently, by Sloep (2016), in a book chapter entitled *Design for Networked Learning.*

The expanded model embraces the epistemic, set and social aspects that were not explicit in the original, and is illustrated in Figure 5.
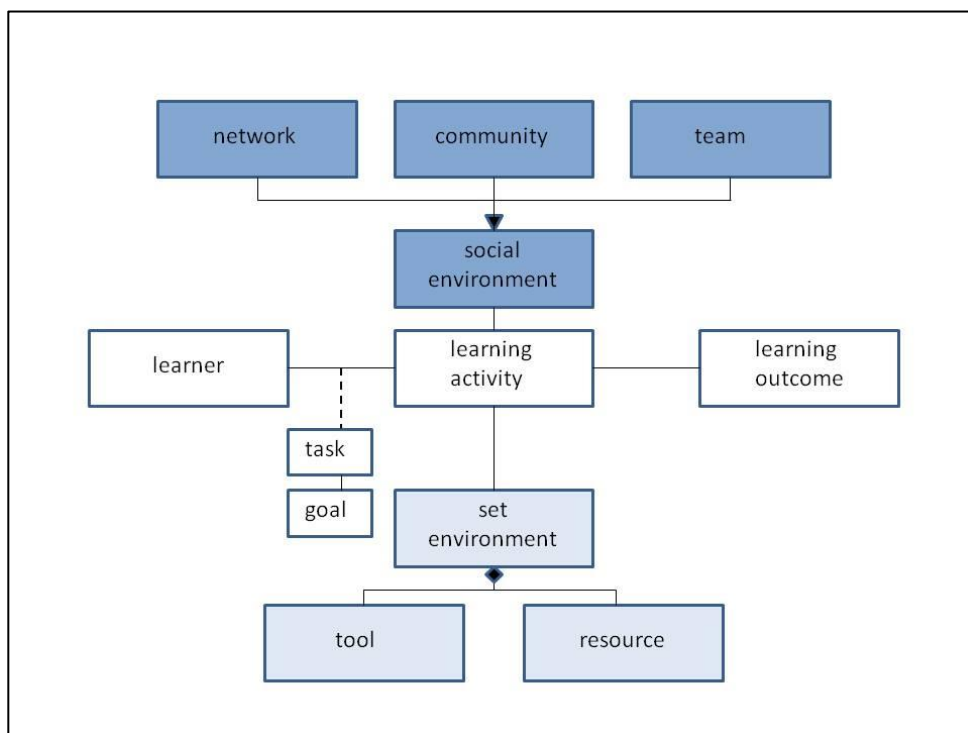
Figure 5. Model expanded by Sloep (2016) from Carvalho and Goodyear (2014)

The darker-shaded upper layer of the model deals with the social aspects, indicating three different possible types of social environment. The lighter-shaded lower layer depicts the set environment , consisting of tools and resources. Finally the epistemic aspects are shown in the central un-shaded layer. In the expanded model, these epistemic aspects appear to be limited to task driven learning activity undertaken by learners in order to achieve some known outcome; which is in contrast to the emergent and co-configured activity depicted in the earlier framework. This means that this model has been formalised from Carvalho and Goodyear (2014) for an environment *primarily* concerned with learning, as opposed to the original activity based model in Figure 4, where the outcome is not known in advance, and is co-configured by the participants. The model above would need to be expanded to illustrate co-configuration.

2.4 Comparison of the three frameworks

Nicolini *et al.* (2012) highlight that consideration and comparison of multiple theoretical perspectives in a pluralist approach may yield novel insights and conclusions. Table 1 therefore provides a comparison of the three original identified frameworks.

All of the frameworks are explicitly based on *activity*; that is the practical actions jointly undertaken by participants. In this sense they are *learning* frameworks as opposed to *knowledge management* frameworks, as distinguished in Chapter 1 by Rashman *et al.* (2009), who observe that organisational learning can be thought of as a 'process of individual and shared thought and action'. All of the frameworks explicitly depict *collaborative* activity, although they each have different approaches to modelling the web of social relationships involved in that activity. All of the frameworks explicitly set out the *situated* nature of the activity; that it is embedded in its physical, social and technological context.

	Value Creation Matrix (VCM) Wenger *et al.* (2011)	Cultural Historical Activity Theory (CHAT) Engeström (2001)	Activity centred analytic framework (ACAF) Carvalho and Goodyear (2014)
Object (in the sense of purpose; what is being aimed for)	Not explicit; implicit in 'resolution' as 'potential value' and 'implementation of resolution' as 'applied value'.	Object foregrounded as mutual aim of the activity, and motivation for joint effort to achieve an outcome.	Task driven, as a set of suggestions of things to do.
Social relationships	Identified in Cycles 1& 2 as 'immediate value' and 'potential value'	Explicit; identified via rules, community and division of labour	Explicit; identified as dyads, groups, teams, communities, roles and division of labour

Table 1. Comparison of the three frameworks

	Value Creation Matrix (VCM) Wenger *et al.* (2011)	Cultural Historical Activity Theory (CHAT) Engeström (2001)	Activity centred analytic framework (ACAF) Carvalho and Goodyear (2014)
Role of artefacts	Identified in Cycle 2 as 'potential value'	Explicit; identified as tools or mediating artefacts	Explicit; identified as artefacts, tools or texts
Identification of improvement	Explicit; identified in Cycle 3 as 'applied value'	Not explicit; identified in narrative after application of model	Not explicit; identified in narrative after application of model
Outcome	Achieved in Cycle 4 as 'realised value'	Explicit; what is achieved as a result of activity to pursue the object	Explicit; tasks lead to emergent activity which produces outcome
Unit of analysis	Community or network	The activity system, or multiple interrelating activity systems	The network, as 'not all its qualities can be defined as aggregates of the actions or preferences of individuals'.

Table 1. Comparison of the three frameworks (continued)

2.5 Pilot project research questions and objectives

The comparison of the three frameworks identified in the literature review illustrates their different approaches to modelling situated collaborative activity which is in pursuit of some purpose, in order to achieve some outcome. There appears to be no such comparison evident in the literature, to date.

The purpose of this project is to establish a pilot technology-enabled learning network, and investigate the utility of these frameworks when applied to the network.

Therefore the research questions for the MRes pilot project can be formulated as:

1. *What practical outcomes can be achieved from a technology-enabled learning network?*

2. *To what extent do the three identified frameworks assist in describing and evaluating a technology-enabled learning network? Is another framework justified?*

The research objectives are:

1. To investigate aspects of value creation and the achievement of practical outcomes arising from the network, by utilising and comparing the three conceptual frameworks illustrated in the literature review.

2. To synthesise a composite picture on *how* any practical outcomes were achieved.

3. To draw conclusions on which aspects enabled or constrained the achievement of practical improvement outcomes. These factors may be applied to the establishment and sustainable operation of other technology-enabled learning networks.

Chapter 3: Research methodology & methods of data collection

3.1 Introduction

This chapter sets out the justification for choosing an action research strategy, and describes the methodology, practical methods and ethical considerations which were followed.

The 'research onion' is adapted from the model provided by Saunders *et al.* (2008) in their 2012 version of their handbook *Doing Research in Business and Management*. It provides an informative representation of choices that need to be made at each different 'layer of the onion', and can be found at https://onion.derby.ac.uk. It is also illustrated in Figure 6 below.
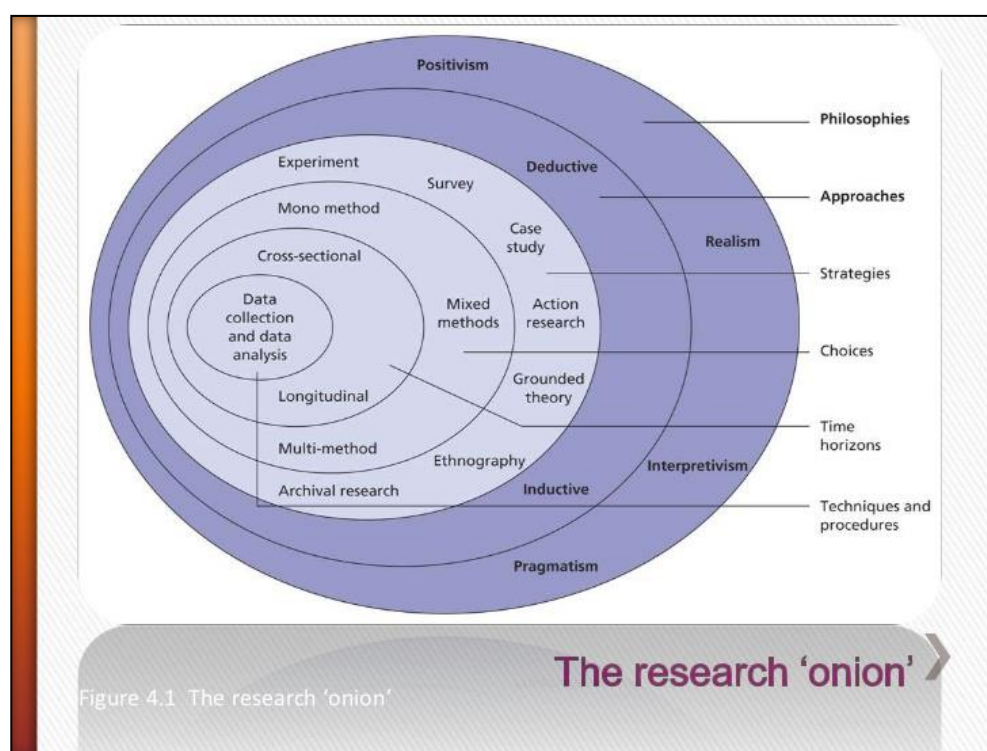

Figure 6. The research onion. Source: Saunders *et al.* (2012)

This research onion guides an expression for the personal preference of an action research strategy within a pragmatic research philosophy. The reasons for this choice are explained in the following section.

3.2 Why action research?

In Section 1.1, Introduction and rationale, the argument was made that research is required about the *mechanisms* of technology-enabled organisational learning and improvement in public service, and about practical improvement outcomes that may be contemplated or achieved.

The literature review of organisational learning and knowledge in UK public service organisations by Rashman *et al.* (2009) was quoted as a fragmented debate with little emphasis placed on 'the means to recognise, enact and measure organisational learning'.

This means that the challenge is a practical one; not based on 'theoretical conceptualisations or operational features' that Rashman *et al.* (2009) refer to, but an exploration of *how* technology-enabled learning takes place in organisations. What mechanisms are involved? Are there a set of 'critical success factors' which must be in place before technology-enabled organisational learning can occur? Are there steps or stages through which it must travel before learning can be recognised as having taken place?

The three frameworks identified in the literature, and the comparison provided in Table 1, already go some way towards answering these questions, and attempting to model aspects of the environment in which organisational learning may take place. As the literature review concludes, all of the frameworks are explicitly based on collaborative activity; this being defined as the practical actions jointly undertaken by the participants. So the three frameworks are inherently practical in nature. It would be possible to test the utility of each framework using a conventional social research approach and method, such as observation, interviewing or focus groups conducted during or after the activity has taken place. In the conventional approach the researcher would be researching 'on' the situation, and the stakeholders would be subjects of the research, sources of data and samples for testing conclusions (see Table 2 below).

However, due to the practical nature of organisational learning as previously described, as 'a process of individual and shared thought and action' (Rashman *et al.,* 2009), and the practical nature of the identified frameworks, it seems justified to select a practical research approach. This is in contrast to undertaking conventional social research in which the situation is described and understood, when practical improvement action based on the research findings may be a far-removed aspiration.

Finally, the temporal aspects of organisational learning as described in Chapter 1 mean that organisational learning projects frequently take several years to unfold. Whilst some short-term or immediate outcomes may become quickly apparent, there could be other medium or long term outcomes which may only become apparent after several months or years. For this reason, and within the confines of an MRes project which is intending to serve as a pilot for a 3 year PhD programme, it would be more rewarding to follow a research approach which is more likely to produce some measurable outcomes within the research period.

Therefore, the chosen research strategy is to pilot an innovative *technology-enabled participatory action research*, in which both researcher and participants collaboratively learn together how to address a particular organisational problem and achieve organisational change or improvement, using a learning network. Such a network connects together participants separated across different contexts and boundaries, for example organisational, geographical or disciplinary boundaries. The aim of the approach is to carry out an authentic technology-enabled organisational learning exercise, to *seek* the achievement of an actual practical improvement outcome, whilst simultaneously reflecting on the collaborative organisational learning taking place in seeking that outcome. The intention is that the resultant improvement outcomes are owned and recognised as such by the project participants.

In their *Handbook of Action Research,* Reason and Bradbury (2008) position action research as 'an orientation to inquiry that seeks to create participative communities of inquiry in which qualities of engagement, curiosity and question posing are brought to bear on significant practical issues'. Both researcher and participants collaboratively learn together. The researcher does not occupy a privileged position and the participants are not considered as *objects* of study (Saunders and Lewis, 2012). As Table 2 illustrates, the purpose is 'to understand and improve'. This can be contrasted to *applied research or consultancy* where the purpose is 'to improve', or *conventional social research* where the purpose is 'to understand'.

The three identified frameworks in the literature review are inherently practical and designed to be applied to practical situations; it would not be sufficient to simply *describe.*

	Action research	Applied research & consultancy	Conventional research
Purpose	To understand and improve	To improve	To understand
Basic (power) orientation	Researching 'with'	Researching 'for'	Researching 'on'
Researcher	Embedded within the collaborative research. Problem co-definer & research co-designer	Invited expert who knows what good outcomes should look like and helps move situation towards them	External to the context. Problem definer and research designer
Stakeholders	Problem co-definers & research co-designers	Clients of the research and sources of data	Subjects of the research, sources of data and samples for testing conclusions

Table 2. Comparison of Action research with applied and conventional research

Source: Bradbury, H. (ed) (2015)

3.3 The process of action research

As illustrated in Figure 7, Saunders *et al*. (2012) provide a good illustration of an action research spiral, in which stages of diagnosing or constructing issues, planning, taking action and evaluating are applied for a particular context and with a particular purpose. This idea of an interactive progressive approach is further developed by Coghlan and Brannick (2014), in their book *Doing Action Research in Your Own Organisation.*
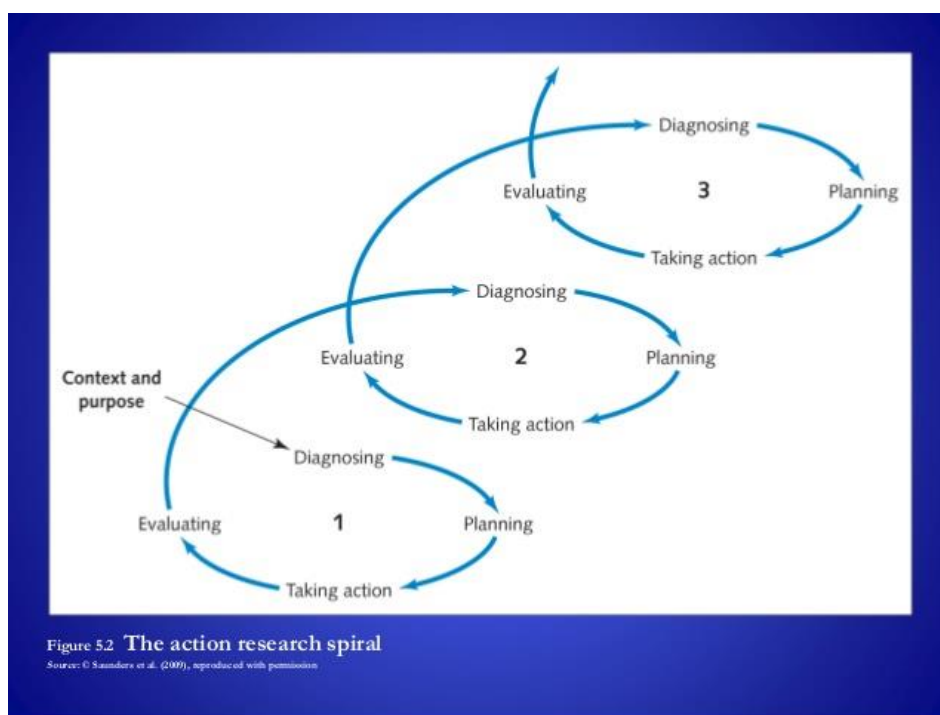
Figure 7. The action research spiral. Source: Saunders *et al*. (2012).

Referring to cycles instead of spirals, Coghlan and Brannick (2014) explain that in any action research project, there are two cycles operating in parallel. The first cycle is in relation to the project aims. The second cycle relates to reflecting on how the project is going, and what is being learned. This is learning about the learning which is taking place, called 'meta-learning', as illustrated in Figure 8. Inquiry is undertaken into both the content and the unfolding learning process of the project, as well as examining premises or underlying assumptions and perspectives.
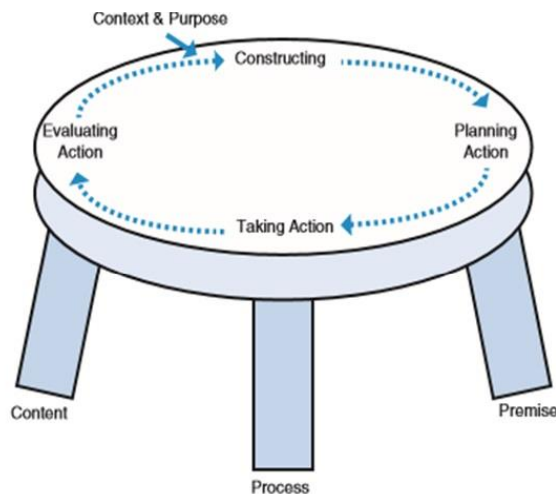
Figure 8. The meta-cycle of action research. Source: Coghlan and Brannick (2014).

3.4 Identification and development of the case study project

Several attempts were made at locating a suitable case study for the MRes project, from December 2015 onwards. Two OU projects were considered but eventually rejected as not being appropriate for the scope or timescales involved in an MRes project. The reasons for these rejections included organisational change and disruption especially in the OU regions, political sensitivities, and project financing timescales.

Identification and rejection of case study project A

The first of these projects was discussed during December and January, and concerned 'closing the feedback loop' between OU Associate Lecturers (ALs) and the campus-based module teams. This is an organisational learning aspect which has been traditionally very challenging for the OU. The ALs comprise the teaching staff, in direct contact with students. They are employed on a contract basis, and most have other full time jobs as well. They hold a significant amount of insight regarding the experience of students with module learning materials, and what different types of feedback might be provided to module teams. However there is a need for more systematic procedures for gathering this feedback, evaluating it, planning possible interventions or taking action on it. Possible interventions might include adjustments to the module learning materials or recommendations for best

practice in tutorials. A previous project designed to gather systematic feedback from ALs concluded that it was not cost beneficial to introduce further IT systems, despite much visible work being carried out on the project and expectations being raised for both the project team and the ALs themselves. The funding for the previous project was withdrawn in the months preceding December 2015. Along with other sensitive ongoing issues regarding re-negotiation of the employment conditions of ALs, and impact on ALs of the OU closure programme of regional offices, this project was therefore judged by the supervisory team as not achievable at the time, and was rejected.

Identification and rejection of case study project B

The second project was discussed during January, February and March. The idea arose from a workshop which was conducted by Learning and Teaching Solutions (LTS) in January, and co-ordinated by the Product Development Manager in the Learning Innovations Team from LTS. This day-long workshop involved the innovative invitation of a number of OU students to the Walton Hall campus, to work directly with central academics in joint student-academic collaborative teams. The purpose was to brainstorm new product ideas for the OU to consider, based on challenges to study that students identified. The workshop was run as a competitive team-based event, and the winning team proposed a mobile 'app' named 'OU-CONNECT'. This app was designed to alleviate the issues associated with the most frequently identified student challenge of the day – that of isolation and loneliness in distance studies. The concept of the MRes project in this case was to investigate the learning required between students and campus-based OU staff, including the OU IT department, in order to engage in an innovative product design and development process. The winning project was put forward for finance approval from a Strategic Development Fund (SDF). However, during the course of February and March, it became clear that the funding would not be released for this project in time for the MRes timescales. So although recognised as a worthy project for a case study, it had to be rejected due to the financing constraint.

Identification and adoption of the final case study project – plan C

A final decision was therefore made to explore a dedicated project within the Institute of Educational Technology as an achievable experimental test-bed. It represented an opportunity to drive a self-contained project, to minimise risks and to maximise control over organisational change variables.

The final case study arose from a personal project undertaken on a consultancy basis during February and March 2016. The background to this project is provided in Box 1. It involved the commissioning of six videos made by completed students in the IET MAODE programme. There were two parts to the aim of obtaining the six videos from completed students, as explained by the MAODE Programme Director:

'The videos were created by asking individual students if they would kindly record themselves and allow us to edit and publish the result. This they did. Our purpose was to obtain/create material that...

- ...we could use to publicise the programme;
- ...would engage current students - helping to maintain their morale if they hit a difficult patch in their own study, and giving them a greater sense of community'.

There was, therefore, a dual intention of both using the videos for promotional purposes to new students, and hoping to appeal to current students, to motivate and provide encouragement that there was a positive end in sight in their studies.

The six videos were placed on the promotional webpage as indicated in Box 1. Current students were alerted to them via a News item on their module VLE homepages, and by cascading the information through the tutor group forums. However there was no systematic way of evaluating the impact of the videos on either current or prospective students.

The pilot research project was therefore conceived, to investigate the extent that the student-made videos assisted in providing the student with a sense of engagement with their learning community, and whether students would like to see any other type of video. This led on from a desire to evaluate the original consultancy project, and explore the potential of other types of video, as discussed with various MAODE stakeholders in the preceding months. There was an opportunity for collaborative learning and genuine practical improvement outcomes both for students and the MAODE programme. It also provided the chance to pilot, and share with MAODE students, a collaborative practice-based research project, inspired in part by that taught in the MAODE programme itself.

In a personal email to the supervisory team in early March, the following conclusion was made regarding the suitability of this project:

> 'Yes, it would be a project that IET is 'doing for itself', but as [MAODE Programme Director] says in the comments I forwarded earlier, 'Overall I think it's an excellent idea with many benefits. One such is that you could start right now – in fact, you have already started in a sense. It's very interesting within the OU context, the IET context, the MAODE context'. It does stand to be applicable across the whole OU, and yet we would be 'experimenting' within our safe and known environment of IET, in a project in which I am already established'.

This project was then agreed by the supervisory team to be the best way forward in terms of controlling organisational risk factors and change variables, and providing an achievable case study.
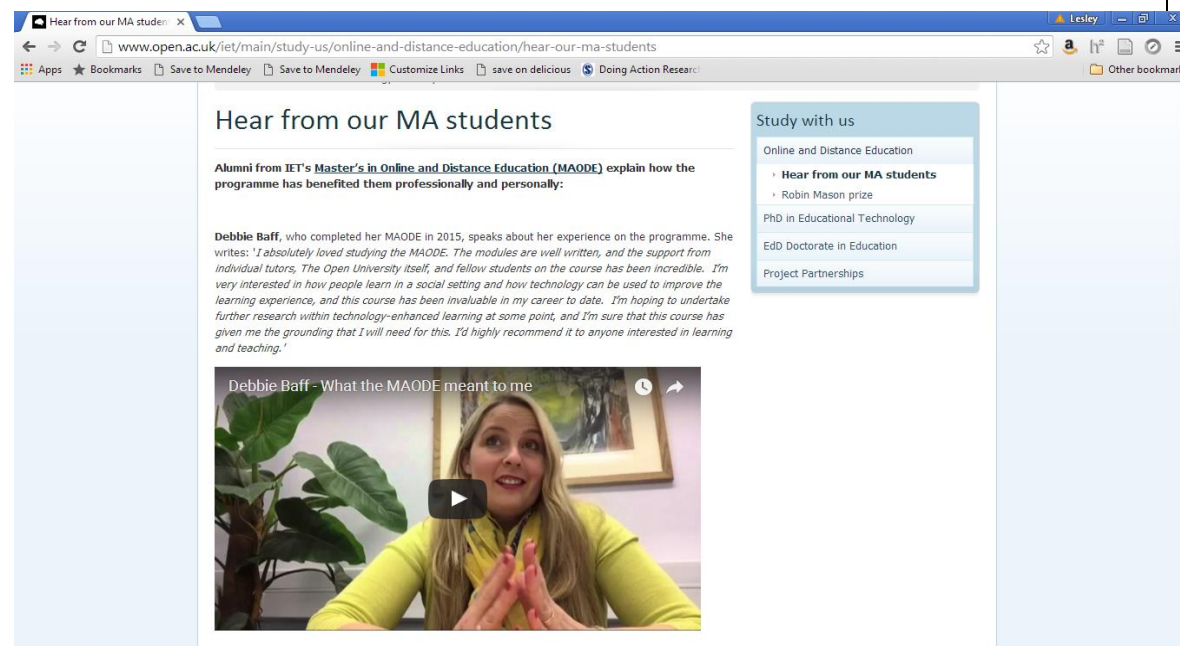
Background to the OU MAODE student engagement video project

The MA in Online and Distance Education has been offered by the Institute of Educational Technology (IET) at the Open University since 1997. It has been a very successful programme and provides students with the opportunity to study the theory and practice of online, distance and open education, by experiencing online learning at first hand. Learning materials are developed by IET's academics, and delivered using the OU's standard Virtual Learning Environment (VLE). The student online learning experience is supported by tutors allocated to small groups of students. Tutors are responsible for leading and facilitating the learning within discussion forums, tutor-led sessions within the OU video-conferencing system (OU Live), and by marking and providing feedback on Tutor Marked Assignments.

There are five modules in the programme, which can be combined within various different pathways to achieve a postgraduate certificate, diploma or masters qualification in online and distance education. There are approximately 155 students in the three modules which are currently presenting, beginning in February 2016.

I personally completed the Technology Enhanced Learning: Practices and Debates (H800) module in 2009, whilst living in Johannesburg, South Africa. It was the first presentation of this module, which has since become the 'foundation' module for the programme. I have now joined IET as an MRes and PhD student, based on the application of technology-enhanced learning to my professional practice area of collaborative quality improvement.

In October 2015, when I joined IET, I was asked by the MAODE Programme Director if I would produce a self-made 'video story', explaining to both current and prospective students what my qualification meant to me, and the benefits in my career and life that it has provided. I was then asked to help provide a series of videos from graduating students explaining their own stories about MAODE. 6 videos were obtained in total. Each student was also asked to provide a summary paragraph of their video, and they were all loaded onto an MAODE promotional web page, called 'Hear from our MA Students', which can be found here. A screen copy of the page is also provided below.

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Box 1. Background to the OU MAODE Student Engagement Video project

3.5 What do we mean by student engagement?

Chapter B5 in the *UK Quality Code for Higher Education* deals with Student Engagement (Quality Assurance Agency, 2012). This chapter points out that the definition of student engagement adopted by each higher education provider is likely to differ. The QAA articulate their expectation as such:

> Higher education providers take deliberate steps to engage all students, individually and collectively, as partners in the assurance and enhancement of their educational experience.

The Code then goes on to provide a series of indicators of sound practice. Indicator 2 is of relevance to this project:

> Higher education providers create and maintain an environment within which students and staff engage in discussions that aim to bring about demonstrable enhancement of the student experience.

The further explanation of this indicator clarifies that 'students appreciate engagement opportunities timed so that they experience a direct benefit as a result of their input'. Therefore HE providers should provide a framework 'that is timely, not onerous, and of demonstrable direct benefit to the students providing the feedback'.

This project is an attempt to provide an innovative framework for such discussion and dialogue with students, providing a direct benefit to the contributing students in the process.

In the *Student Engagement Literature Review* for the Higher Education Academy, Trowler (2010) identifies three 'dimensions' of engagement. These are behavioural, emotional, and cognitive. This project is addressing the emotional or affective engagement of students, especially their sense of interest in, and belonging to, their learning community. It is therefore recognised that student engagement is a complex multi-faceted phenomenon. It

might initially be envisaged that this affective engagement could have at least five components:

- engagement with the learning materials

- engagement with the teaching staff, including tutors and the module team

- engagement with other students, completed or current

- engagement with the physical environment of the OU campus

- engagement with the wider learning community beyond the formal course; for example in a personal learning environment (PLE).

As a dedicated distance learning university, the OU recognises that engagement with the physical environment can be a concern. Most OU students have little conception of the OU campus in Milton Keynes, and do all of their learning in the virtual environment. They are usually not aware of the social and physical space within which their modules and learning are managed. A student video 'bringing to life' the OU campus may have benefits for students. This aspect has been recognised and discussed recently in the 'More Students Qualifying' strand of the OU Students First strategy, and depicted in a mural which has been displayed on campus, as shown in Figure 9. Both 'take the campus to the students', and 'let them feel like they belong somewhere!' sentiments are evident.

Figure 9. Photo of part of the 'More Students Qualifying' mural displayed on the OU campus (August 2016).

The intention therefore was to establish a pilot online learning network comprising an agreed group of stakeholders who could make a contribution to the identified improvement objective. It would have the potential of connecting together stakeholders who may be geographically separated across the multiplicity of different contexts and boundaries of the OU. The network participants would be guided through a series of action research spirals in which cycles of diagnosing or constructing issues, planning, taking action and evaluating are applied to the improvement area, as illustrated in Figures 7 and 8.

There are many stakeholders in the OU who might have a viewpoint and contribution towards collaborative learning regarding improving practice in student engagement videos. In IET, these include students themselves, the MAODE Programme Director, Module Chairs, tutors, the IET promotional web page designer, the video editor, the Curriculum Manager and the IET management team.

3.6 Capturing the student feedback data

Several discussions were undertaken with the MAODE Programme Director regarding capturing the student feedback data. He expressed the view that students may feel inhibited about providing feedback if they were in a virtual environment where OU staff, either tutors or members of module teams were evident.

Therefore a decision was made to use the OU Form Processing System, which allows a dedicated web form to be designed, including a data input facility. Student feedback could be captured and the system configured to email this feedback anonymously to the originator of the form. It was also felt important that the students should be able to express their views freely, by being completely anonymous throughout the entire process.

The work was undertaken on the design and testing of the feedback form in the Form Processing System. The final form is attached in Appendix A.

3.7 Identifying a technical platform for the learning network

The next stage of the project was to identify a suitable technical platform or tool that could host the learning network. Several options were considered. These options fell into three categories:

1. A freely available social networking tool such as Facebook , Slack, or blogging site

2. A closed social networking tool, available only to staff who are logged in with a normal OU sign in, such as a Yammer group

3. A closed and dedicated site which was purpose built for the project.

Although option 3 appeared to be the most challenging and resource-intensive option, it was the most desirable because it offered the most flexibility and potential to provide a tailored solution. Previous consultancy experience has underscored the need for *training* and preparation of stakeholders before any change management or quality improvement initiative is launched, so that they can be fully prepared for the part they need to play, and for what may unfold. A closed and dedicated site would offer the most potential for this to happen, given that the idea was to pilot a solution which could be utilised across the different organisational boundaries of the OU in the future.

The original concept was that the same collaborative technology-enhanced learning that the OU provides, as the fabric of its day to day operations for academic learning and professional development, could be applied to the learning required in problem solving and quality improvement or enhancement. Stakeholders involved in a problem scenario need to *learn* how to navigate their way through it and come up with solutions. Most of the time, this learning needs to be *collaborative*, because problems and challenges in today's organisations tend to be multi-faceted, complex and spread across organisational and geographical boundaries, just as the business-as-usual processes and operations are.

In addition, as discussed in Chapter 1, this collaborative organisational learning and problem-solving activity has a significant *temporal* aspect, which has to unfold over time. It takes time for individuals to learn how to engage in a problem, time for them to come together and learn how to problem-solve collaboratively, time for any proposed solutions to be implemented, and time for them to be evaluated. This also means that it would be preferable to use a purpose-built site for the learning network, as it could be

a)   tailored to embrace the specific learning requirement,

b)   organised to provide training materials and mediating artefacts to support the learning process,

c)   maintained confidentially and securely as it may hold confidential information on OU internal processes, problems and improvement requirements, and

d)   used to store the unfolding 'story' of the organisational learning process.

This is in contrast to a social networking platform which is used to hold an ongoing 'stream' of discussion, and which may have more limited options for security and confidentiality. Social networking platforms tend to perform a specific function as their name implies – which is to support unstructured and opportunistic discussion, sometimes around artefacts. There are more limited options for organisation of online resources in support of a structured and rigorous research methodology.

Taking all of the above into consideration, the conception was to use a standard OU VLE course 'shell' as a vehicle for the learning network. In discussion with the OU Learning and Teaching Solutions unit (LTS), it emerged that this could be provided very simply at no cost. A VLE course environment is completely familiar to all staff in the OU, as the standard vehicle for delivering online education to students. It is stable and secure, accessible only by those using normal OU log in procedures. The research data would be stored on site using standard OU security protocols and not on a social networking server in an unidentified location.

All the VLE capabilities and tools associated with normal academic learning design would be available to support the research methodology and the organisational learning process. Finally, it would be readily available to stakeholders across the different organisational and geographical OU boundaries, whilst retaining confidentiality and security.

For these reasons, it was decided to trial a VLE course shell to support the learning network. It was then a case of learning and experimenting to design it, and uploading the various artefacts in support of the action research methodology.

Figure 10 illustrates a screen shot of the original course shell as provided by LTS.
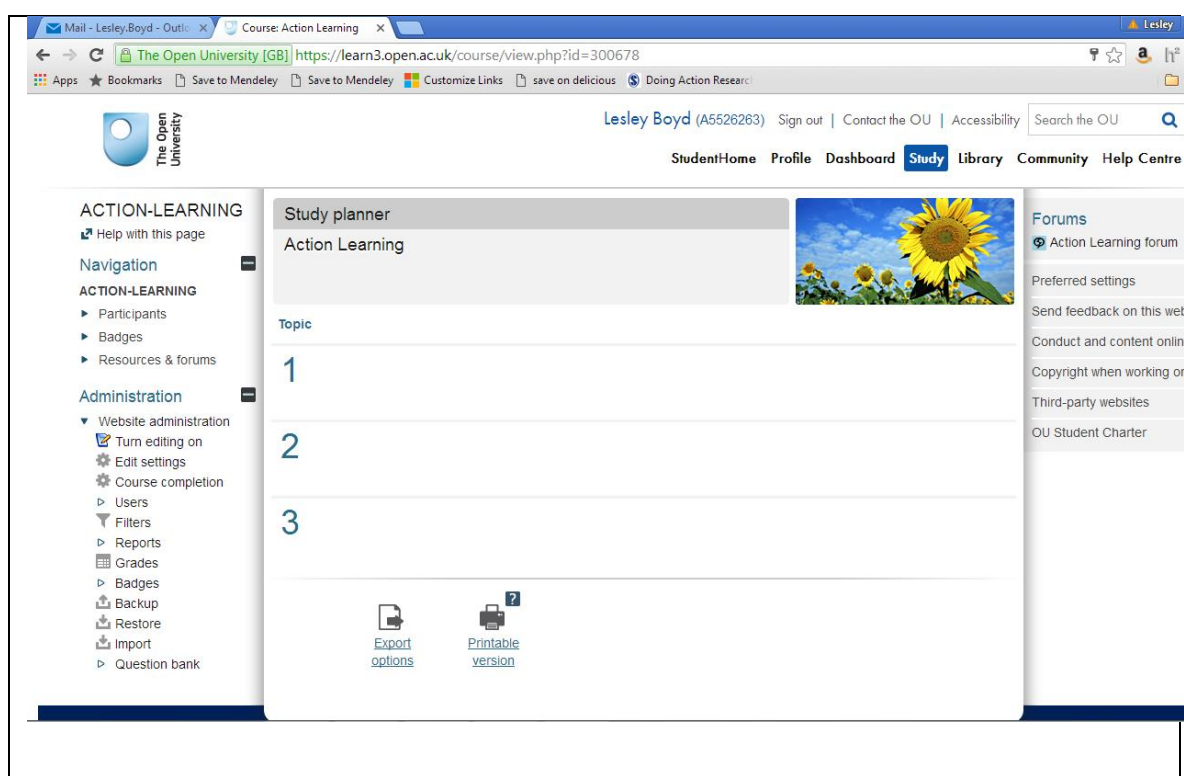
Figure 10. The original learning network site as provided by OU LTS.

The intention was to use the site to provide the learning and training necessary to support the pilot action research methodology. The interface was designed as simply as possible, to facilitate ready navigation by time-pressed participants. A discussion forum was included, which would form the backbone of the primary research data. This discussion forum was divided into threads to accommodate each stage of the action research cycle: diagnosing or constructing issues, planning, taking action and evaluating.

On the home page, a brief welcome and introduction paragraph for the project were provided. Two further sections called 'spaces' were included, in recognition of the fact that these are places where participants need the 'space' to think about problems under consideration. The first section, named 'Action Research space' provides background materials to the project, including a brief explanation of the background to action research, a copy of a presentation delivered to the Computers and Learning Research Group (CALRG) conference in June 2016, and a note of the methodology that the project would follow, as approved by HREC and SRPP. The second section, named the 'Quality Enhancement space', is designed to hold data, or links to data, about a problem area under consideration, such as student feedback, survey results, survey free comments, analytics etc. For the pilot project, this space would hold the feedback data from students regarding the student engagement videos. The simple design provides participants with all the essential information that they need to consider a problem area, understand the project methodology and make a contribution, whilst also being adaptable for future projects.

The discussion forum was included high up on the home page, underneath the Welcome paragraph, for speediest access by participants, so that no scrolling was required. Figure 11 illustrates two screen shots of the site when these design activities had been completed.
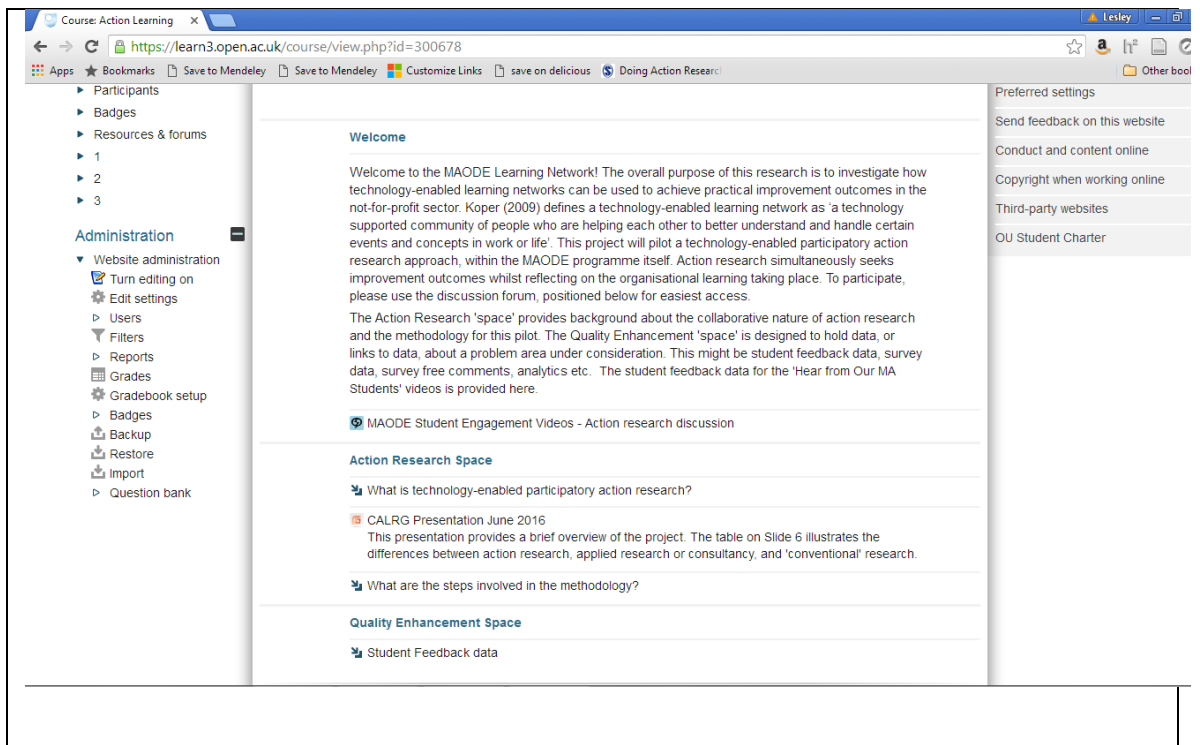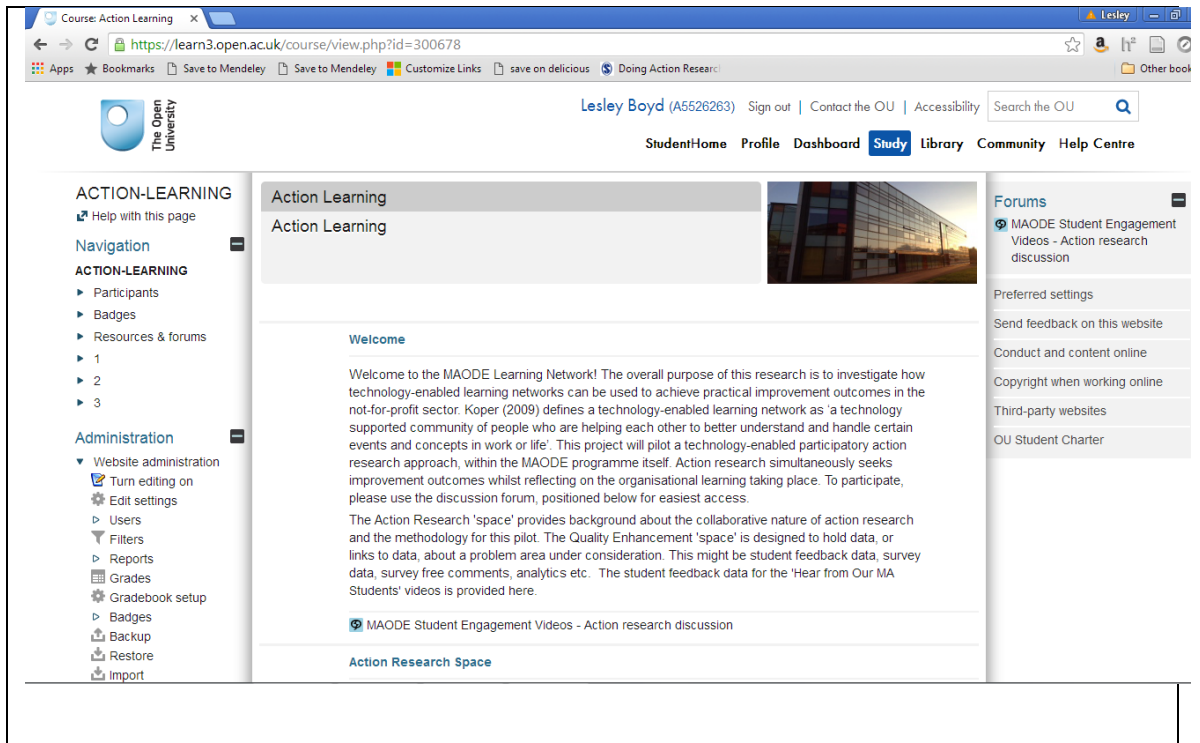
Figure 11. Screen copies of the learning network home page once designed and developed.

The site was then ready for the student feedback data to be included, and for the discussion to begin.

3.8 Project Methodology

The following sub-sections indicate the methodology and methods as submitted to the OU Human Research Ethics Committee (HREC) on 22 April 2016. The project received full Ethics approval on 18 May 2016, with no questions or issues being raised (reference number HREC/2016/2284/Boyd). The only proviso was to ensure that the appropriate ethics applications were made to the OU Student Research Project Panel (SRPP) and Staff Survey Project Panel (SSPP) if necessary. Part of the ethical conduct of the project was that it would conform to the BERA Ethical Guidelines for Educational Research, 2011. The project abstract, as approved by HREC, can be found in Appendix B.

Establish a learning network for staff

The online learning network will be established, comprising an agreed group of IET staff stakeholders who have an interest in the engagement of students in the MAODE learning community. These may include the MAODE Programme Director, Module Chairs, Module Tutors, the Curriculum Manager, the MAODE promotional web page administrator, and the IET video editor. It will also include myself as principal investigator. The network will be established within a VLE course 'shell' entitled 'action learning', which has been provided by Learning and Teaching solutions (LTS). Network participants will be guided through a series of action research cycles, when stages of diagnosing or constructing issues, planning, taking action and evaluating will be applied to the particular improvement outcome being sought; in this case increasing the sense of student engagement with the MAODE learning community by using student-made engagement videos. The VLE space will be used to facilitate a learning process using resources and mediating artefacts which are organised and structured, with discussion or narrative around them, just as in the normal academic course environment. This is in contrast to a social networking platform with an ongoing 'stream' of discussion and artefacts, such as Yammer, Facebook or Slack.

The advantages of using a VLE learning space are that it is very familiar to OU staff, is part of the normal way of working and can be provided at no additional cost. It also provides a secure and confidential environment for discussing matters relating to the improvement of OU internal practice. It may be generalisable to other future improvement projects, with the capacity to connect together stakeholders who may be geographically separated across the multiplicity of different contexts and boundaries of the OU.

Seek student feedback on the engagement videos

Student views on the contribution of the videos towards their engagement and sense of community will be sought via the OU Form Processing System. This system allows an individual feedback form to be completed and emailed anonymously to myself as principal investigator. The approved form, accessible only by students who are aware of the URL, can be accessed for viewing here http://www3.open.ac.uk/forms/maodestudentvideos.

One additional video may be produced by myself, which will 'walk the student around' the IET offices, to give a sense of engagement with the physical space of the Jennie Lee Building and the environment of MAODE. One or more short interview discussions will be sought for this video with the Programme Director, a Module Chair and/or tutors to further the sense of engagement. Views and suggestions for this possibility will be sought from students.

Analyse student feedback and reflect on further action within the learning network

The student responses will be collected together and analysed to identify common themes. Depending on the volume of data, initial results will be fed back for collaborative consideration and analysis by stakeholders in the 'action learning' VLE space. The intention is to carry out at least one further cycle of planning, action and evaluation. That is, that the action research team will be able to plan further actions as a result of the feedback (for example producing a further video incorporating student requests).

Reflect on collaborative learning within the network

The collaborative learning of the network regarding the impact of student engagement videos and how to improve this practice will be analysed. Themes and categories will be identified in the discussion forum data, which may be based on the categories identified for comparison of the frameworks illustrated in Table 1, or may be on separate categories. The analysis will therefore test the utility of the three frameworks illustrated in the literature review.

3.9 Justification for data analysis method

Figure 8 illustrates how both *content* and *process* data require consideration and analysis. The content data is that data relating to the aims of the project; and the process data is that relating to the learning taking place in pursuit of the aims.

The content data comprised the student feedback provided in the Form Processing System. The process data will comprised the staff discussion forums in the VLE space. Both sets of data were analysed using thematic analysis. Braun and Clarke (2006) provide a useful outline of the theory and application of thematic analysis, with a 6-phase guide to doing thematic analysis, examples, potential pitfalls to avoid, and a '15-point checklist of criteria for good thematic analysis'.

Braun and Clarke (2006) highlight the flexibility of thematic analysis as one of its key advantages. They also point out that unlike grounded theory, and narrative, discourse or conversation analysis, thematic analysis 'is not wed to any pre-existing theoretical framework, and so it can be used within different theoretical frameworks (although not all), and can be used to do different things within them'. As the literature review in Chapter 2 has described, there are already three existing conceptual frameworks under consideration in this project. Therefore the topic area is not under-theorised and does not yet justify a grounded theory approach, in which the specific intention is to build up theory based on the data alone (Cohen *et al.* 2011).

There were two distinct data sets; and both required analysis into key themes. The student feedback data required an initial analysis so that it could be uploaded for consideration by stakeholders in the learning network. This needed to be very straightforward for ready consideration by time-pressed participants. The data from the learning network discussion forum required analysis based on the categories identified for comparison of the conceptual frameworks illustrated in Table 1, or on other categories which might be identified in the data.

Therefore thematic analysis was the most appropriate, flexible and pragmatic tool for the pilot MRes project. In addition as Braun and Clarke (2006) identify, it can be conducted in two primary ways. The first is an inductive or 'bottom up' way, when the identified themes are strongly linked to the data themselves, without trying to fit into a pre-existing coding frame. The second is in a deductive or 'theoretical' manner, where there may be some analytical pre-conceptions, based on the researchers' knowledge of the literature, and of appropriate pre-existing theories or frameworks. Braun and Clarke (2006) provide the distinction that a theoretical, or deductive, approach is more suitable for a quite specific research question. On the other hand, 'the specific research question can evolve via the coding process', which then becomes an inductive approach.

In this pilot project, both approaches were required. The student feedback data required inductive analysis, using themes emerging from the data. The learning network data required a theoretical approach. The analysis needed to test the utility of the three frameworks illustrated in the literature review. Pragmatism suggested that this combination was more than sufficient to provide a meaningful level of analysis to address the research questions, which could be achieved in the MRes timescales available.

The student videos themselves formed secondary (pre-existing) data, which was actually recorded for another purpose, that of promoting MAODE and helping to engage current and prospective students. The videos were *mediating artefacts* to be learnt from, rather than primary data sources to be analysed.

3.10 Ensuring ethical conduct throughout duration of the project

The students were voluntary participants from the currently running presentations of three MAODE modules (H800, H809, H817) which began in February 2016. Student participants were approached via a notice posted by the MAODE Programme Director on the module VLE News spaces, and in the Tutors Forums, for tutors to disseminate. The notice made it clear that participation was entirely voluntary, and contained the URL to the feedback form in the Form Processing System, as planned.

Students were assured in the feedback form that their responses would never become part of their student records or be used to influence any part of their module mark. The form clarified that their participation in this research is entirely voluntary, and by providing feedback, they are deemed to have provided their consent. This method of providing informed consent was preferable to the use of a specific check box that the student would click to indicate consent. The reason for this is because the responses are provided anonymously, and it would be impracticable to follow through a response which has been provided with an unchecked check box. It is not possible to make the check box mandatory within the Form Processing System.

Students were also advised that if they submitted some feedback and later decide that they wish to withdraw it, they could do so by submitting a further form by a particular agreed date, and providing sufficient information to identify their original response. The response would then be removed from the data.

Staff consent was sought via a standard consent form as shown in Appendix C. Staff were informed of the details of the research approach in a staff information sheet as shown in Appendix D.

The project was registered with the OU Data Protection Co-ordinator, as the staff discussion forum data held in the 'action learning' VLE will be identifiable to individuals. The student data was designed to be anonymous at all times. No recompense was offered for participation, no deception was planned and no risk of harm was foreseen.

Staff participants were planned to be active contributors within the learning network and therefore fully informed at all stages. Student respondents (and all other interested current MAODE students) would receive feedback, action and evaluation points via occasional notices placed in the MAODE Module News spaces, by and in agreement with the MAODE Programme Director and/or Module Chairs. The intention was to provide rewarding and timely feedback to them as they became involved in a live OU research project which was underpinned and inspired by the collaborative learning taught within their MAODE modules

3.11 Managing project risks

 The following project-related risks were identified, along with the actions planned to mitigate these risks.

1. **Confidentiality and security**. Since the project concerned improvement outcomes relating to OU internal practice, it was appropriate for the technology platform to be confidential and secure. Using a VLE working space, with the normal OU log in procedure, was the most secure option, as opposed to an external, 'open' or social networking platform. Student contributions were anonymous at all times.

2. **Coercion.** Students could feel coerced or obliged to contribute to the research within their available study time, thus compromising their study. For this reason, student feedback was not sought within the module websites themselves, but via a notice which posted by the MAODE Programme Director in the News space for each module. The notice contained the URL for the student feedback form as previously described. The form made it clear that participation was entirely voluntary.

3. **Inhibition**. Students could have felt inhibited about providing feedback if they were in a virtual environment where OU staff were evident. For this reason the student feedback was collected separately in the Form Processing System.

4. **Uncontrolled discussion by students about matters other than the research**
   If a separate discussion space (for example a social networking discussion forum or group) was allocated to students so that they could interact and discuss their feedback regarding videos, this may be appropriated by students to discuss other topics apart from the research project. Although likely to be low, this could have represented a risk to the OU and also to the researcher in trying to acknowledge and deal with other discussions. For this additional reason, the student feedback was sought via the Form Processing System.

5. **Lack of student response or little engagement with the learning network**
   Although this was recognised as a risk, there was little scope for specific activity in the time available to pursue mitigating plans. In the event this was quite a significant issue, but some useful results were achieved nonetheless.

3.12 Approval from the Student Research Project Panel for an innovative project

Since the pilot project involved a direct approach to, and gathering data from, current OU students, the internal SRPP website (http://intranet6.open.ac.uk/mgt-info/iet-stats/srpp), and the current version of the SRPP Guidelines, were consulted. The vast majority of projects that SRPP assess are survey-based, in which students are approached via email using a traditional survey methodology. Students are able to set email preference flags to indicate whether they give permission to be approached for research purposes or not. The IET Statistics and Survey Team (SST) then run reports to indicate the number of students that are 'available' in a particular module presentation, based on their mail preference flags and whether or not they have already been involved in research in the last 6 months.

However this pilot project involved a different type of approach to students, via a notice which was to be placed in the News spaces of each live module presentation by the MAODE Programme Director, or the individual module Chairs. Thus students would be 'approached' whether or not they had their mail preference flags set, and regardless of how many times they had previously been involved in research. This aspect was discussed at length with the MAODE Programme Director who agreed that the approach was appropriate ethically. Students have their own agency, and would have three separate opportunities to decide whether to participate. They could decide whether or not to read the News notice, they could decide whether or not to click through to the Form Processing System, and they could decide whether to read the feedback form and submit their feedback.

A first approach had been made to the Chair of the SRPP before both HREC and SRPP applications were considered, to discuss the particular case. A discussion had also been undertaken to appraise the SRPP team of the planned method of approach and rationale for the project methodology. However at the subsequent SRPP assessment panel meeting, the project was approved, but on the assumption of a normal survey approach in which the contact details of the available students would be released in a survey 'sample'. A second approach was required to the Chair to run the project as per the described methodology. It was pointed out that if the project reverted to a traditional survey approach to seek student feedback data, it would be a material change from the methodology approved by HREC, and would require a re-application. The SRPP Chair then supported and approved the application on 14th June 2016.

3.13 Summary of methodology and approach

This chapter has illustrated the reasons why the action research approach was chosen over conventional social research approaches, and described the practical methods which were taken to set up the case study project. Ethical conduct and protection of participants was an essential consideration, and despite having to navigate the approval process very carefully when an innovative, unusual approach was being made, all steps were taken to achieve this aim.

Chapter 4: Collecting and analysing the data

4.1 Collecting the student feedback data

The project went live on 1st July 2016, via a notice which was placed in the News area of the live H800 module website, by the MAODE Programme Director, as described in Section 3.10.

Further notices were placed in the News areas of the H809 and H817 module websites on 4th July 2016, by the MAODE Programme Director, and in agreement with the module Chairs.

As planned the News notice contained a link to the student feedback form on the OU Form Processing System. A deadline was given of 11th July, and a further reminder notice was posted in all three module sites on 8th July.

By 11th July, three responses had been received. There were 115 students registered on the three live modules, although by the time full approval had been achieved, H809 (13 students) had just finished its presentation. It was agreed with the module co-Chairs not to approach these students whilst they were completing their End of Module Assessments (EMAs).

Although quite a low response rate, each response provided insightful and useful feedback.

4.2 Analysis of the student feedback data

An initial thematic analysis was performed on the feedback data, and it was loaded into the Quality Enhancement space in the learning network. This initial analysis, along with anonymous quotes from the students, is provided in Box 2. Quotes are provided with the further omission of any contextual data which may enable identification of the student. This is because it is necessary to operate a process whereby it is impossible for any member of a module team to know, or guess the identity of, a particular student.

The initial themes identified in the student feedback data were:

A. a desire to see a video from their tutors or members of their module team
B. a need to give them, as distance learners, visual access to the physical OU campus
C. that the current videos from completed students are useful to some extent, but a little long.

Theme A: a desire to see a video from their tutor or members of their module team, to feel a closer connection to them.

S2: 'It would be nice to also have short videos from tutors and members of the module team'.

S1: 'One of the feedback prompts asks if I would like videos of 'an interview with an academic'. I think that would be tricky. If it were a lecture, or an interview about academia, or one of the top people in the department listing off the benefits of an MAODE, I don't think it would be terribly interesting. I would likely not watch it. But, if it were a tutor, coffee in hand, sitting in his kitchen with a dog running through and a kid yelling in the background, talking about what happens after we turn in a TMA and how s/he feels while grading and seeing our progress? That would be encouraging and I would watch it with interest because there's always that necessary distance between tutor and student, and so also there's a curiosity'.

S3: 'Probably some SHORT reflections on specific questions from the teachers on the course (course authors, and especially my tutor, would be good to feel more connected to her) would be interesting to put faces to names'.

Theme B: a need to give them visual access to the physical OU campus

S1: 'In particular, I enjoyed your (Lesley) video because it showed the campus. [.....], and although I do travel quite a bit, it's possible that I will never make it to see my alma mater! So how else can I experience that carved tree of knowledge unless you show it to me in your video? The art and architecture on university campuses are important, so how can that be extended to the distance learner? Videos like yours do this. A virtual tour of the place would be AMAZING for someone like me, but I'm aware that I'm a bit different [.....]'.

Box 2. Initial thematic analysis of the student feedback data.

Theme C: that the current videos from completed students are useful to some extent, but a little long

S1: 'I've very much enjoyed these videos. I think they serve to meet some sort of emotional need that's part of motivation. Studying online can be isolating, even though we have tutor groups and OU Live sessions. And, it can seem arduous at times, especially when plodding through a TMA and checking your word count against the number of minutes left until the deadline!.

S1: 'Sometimes when working on a TMA, I find myself googling an author, study, or idea and I'll come upon a former MAODE student's blog. I bookmark them! It's nice to see this trail, this evidence, of others who have gone before me. Sometimes they share their insecurities or excitement, and I flip to the end of the book, so to speak, and am comforted to see that their story has a happy ending. They did it, and so I know I can, too! I think these videos are doing the same thing, meeting the same need'.

S1: 'These work, in my opinion, because they are relatable. Watching these videos is encouraging in the same way that the blog posts from former students is. They fortify, and I think that's important for success in general and in learning. We were first pointed to these videos by our tutor maybe the day before TMA 01 was due. Really smart timing!.

S2: 'In general I thought the videos were very good and would encourage potential students to study for a MAODE. It was nice to have students from a variety of backgrounds. The summaries of each videos are very useful. I thought the videos were a little bit too long'.

S3: 'Honestly at this stage in the module I don't find them particularly engaging - probably I'd have found them more interesting when I was deciding what course to take (ie whether to study MAODE with the OU). But at this stage I'm more interested in connecting with my fellow students on my module, or learning more about the teachers'.

S3: 'They are a bit long in any case - 5-6 minutes is a long time to sit through the video, as it's hard to sift through to see what would be interesting to me. So I just watched about 30 seconds of each, and closed each one before getting anything really interesting out of them. Maybe a series of questions and short answers would be more interesting, as I could choose to listen to the answers to the questions that were most relevant or interesting to me personally? Then I could skip the bits where they talk about their lives, and e.g. go straight to where they talk about how it has enhanced their career. Or whatever I thought was most interesting'.

Box 2. Initial thematic analysis of the student feedback data (continued).

Three themes were identified in the student feedback data. The first was that they would also like to see a video from their tutor, in order to feel a closer personal connection to them. This was requested by every student. The second theme confirmed and strengthened the earlier observations about students wishing to engage with the physical campus. The third theme identified that the students found the videos from completed students useful to some extent, but a little too long. They expressed the view that they would be more useful and encouraging for *potential* students.

4.3 Collecting the discussion forum data

The initial thematic analysis was performed in order to provide some basis for time-pressed stakeholders to intersect with. A first appraisal of the data did provide some easily identifiable themes, and it would seem unhelpful not to have provided these as a starting point. However the intention was that, as at all stages of the cycles in action research, that themes would be scrutinised, explored, co-constructed and agreed by all key stakeholders. Box 3 shows the first question, that was posted by myself, in the 'Constructing Issues' thread of the discussion forum, on 19th July 2016.

The student feedback data for the 'Hear from Our MA Students' videos is provided in the Quality Enhancement space on the homepage, and here for easy reference.

An initial thematic analysis has been carried out.

What are the issues involved in using video for student engagement?

Are there additional issues that can we identify in the themes for the student feedback data?

Box 3. Question posed to the 'Constructing Issues' thread of the discussion forum.

At the time of writing, there were two responses posted to the question in Box 3. One from the MAODE Programme Director illustrated the dual purpose of creating the original set of 6 videos, and also posed a question about whether the fact that two of the six students have done or are doing PhDs, and if this might be intimidating to those who are 'anxious about their academic ability', or doubting themselves in their studies. The reply posted by myself

was to directly suggest to the MAODE Programme Director that we might make a further video as a response to this issue, before he retired at the end of that week. There was therefore an important time constraint to try to capitalise on the contribution of a vital stakeholder before his departure.

As discussed in Section 3.6, the initial thematic analysis was carried out in an inductive manner, using themes emerging from the data itself. Braun and Clarke (2006) remind readers that other specific research questions could then arise from the data, providing further opportunities for investigation into, for example, the impact of videos made by tutors on student engagement, or how the distance learner's conception of their physical campus is affected by video virtual tours.

Discussion then unfolded in the discussion forum from 19th July onwards. As previously mentioned, the forum was divided into Constructing Issues, Planning and Taking Action threads, to map directly onto the stages involved in each action research cycle.

4.4 Challenges in data collection

The main challenge concerning data collection was in securing stakeholder participation in the network in the available data collection period. Several emails were sent to identified stakeholders to introduce the project, along with face to face discussions in the preceding months. However the delays in achieving Ethics approval, particularly in the light of the extended application for the SRPP, meant that the project was delayed by several weeks after the timely HREC approval of 18th May 2016. This then led into the summer annual leave season, and the project became significantly behind what could be comfortably accommodated in normal MRes timescales.

The combination of summer leave periods, and stakeholders with high workload issues, was further complicated by the sudden and unexpected retirement announcement of the MAODE

Programme Director who then officially departed on 29 July 2016. His contribution, unfailing support and interest in the project have been pivotal to its progression and success.

 An approach was also made to the seven tutors of H800 to see if they would be interested in participating. One reply was received from a tutor expressing interest but unfortunately without sufficient time to contribute. Until 31 August, 2016, there have been four participants in the discussion forums. These were the MAODE Programme Director, the Senior Curriculum Assistant, the IET media specialist and video editor, and myself. However some notable action has arisen from these discussions.

There have been 26 discussion forum posts within the four threads as shown in Table 3:

Thread name	Number of posts
Constructing issues	3
Planning	8
Taking action	15
Evaluating	0

Table 3. Learning network discussion forum posts

4.5 Analysis of the discussion forum data

The discussion forum data was analysed using theoretical (deductive) thematic analysis. The categories defined in the comparison of the three frameworks in Table 1, were used as an initial coding frame in order to attempt to test the utility of the three frameworks. These categories, which were identified as being common across the three frameworks, became the codes:

- object (in the sense of purpose, or what is being aimed for)
- social relationships
- artefacts
- identification of improvement
- outcome

It quickly became apparent when attempting this analysis that while many of the entries in the discussion forum data did fit with the pre-defined codes, additional codes were also required, as not all the data fitted.

In getting to know the data, it became apparent that the discussion forum was playing out the social *mechanisms* required to learn collaboratively from each other in pursuit of an improvement objective, in an unfolding *narrative.* More codes were required to analyse this narrative. A further pass through all the data revealed that it was possible to comprehensively allocate codes to the data by capturing components of the discussion as follows:

- ask an initial question – code Q

- make a suggestion – code S

- explore or build on the suggestion – code E

- agree a way forward – code A

Table 4 illustrates some extracts from the data and both the pre-defined and new codes that were allocated:

Thread name	Extract	Codes(s) allocated
Constructing issues	P2: What are the issues involved in using video for student engagement? Are there additional issues that can we identify in the themes for the student feedback data?	Q – question object
	P1: Our purpose was to obtain/create material that... • ...we could use to publicise the programme; • ...would engage current students - helping to maintain their morale if they hit a difficult patch in their own study, and giving them a greater sense of community.	E – explore object
	P1: Two of the students are doing or have done PhDs. I wonder if this intimidates those students who are anxious about their academic ability. At some point, it would be useful to do more work on that.	E – explore S – suggest social relationships
Planning	P2: What actions could we plan as a result of the student feedback data?	Q – question object
	P1: We could commission some video interviews with tutors, or tutors speaking to camera. Keep them short - 5 minutes, giving a flavour of The Life Of A Tutor. A Day In The Life?	S – suggest object, identification of improvement
	P1: We have a great campus. I made this point at an OU workshop earlier this year - give students a flavour of it, a sense of physical place. One of the students is asking for this - prompted by Lesley's video where she visits several parts of campus. We could do more of it.	S –suggest object, identification of improvement

Table 4. Pre-defined and new codes applied to extracts of discussion forum data

Thread name	Extract	Codes(s) allocated
	P2: I am so motivated by this piece of feedback from Student 1: 'So how else can I experience that carved tree of knowledge unless you show it to me in your video? The art and architecture on university campuses are important, so how can that be extended to the distance learner? Videos like yours do this. A virtual tour of the place would be AMAZING for someone like me'.	E –explore
	P2: I would like to offer to make another video of inspiring bits of the campus and JLB this week, using my iPad. There aren't many people around, but there are loads of summer flowers, art, architecture and atmosphere that I can capture.	S – suggest identification of improvement
	P1: Yes, nice idea. It's beautiful at the moment. Can you get respondents to feed back on what you've produced?	E – explore A- agree
	P1: One further line of inquiry could be: what does a tutor video add that an OU Live experience does not?	E – explore
	P2: Also I'm sure all your tutors have really interesting careers in their own right, and would it be interesting for students to learn about that in the 'mycorrhizae' style that we learn about in H800? All the different types of fungus (students, tutors, academics) are symbiotically nourishing the roots of the module itself, and bringing their own experiences in to enrich their work as tutors.	E - explore

Table 4. Pre-defined and new codes applied to extracts of discussion forum data (continued)

Thread name	Extract	Codes(s) allocated
	P2: Could we try a pilot tutor-made video? They make it themselves, if we could find one interested AL who might be up for the experiment, or interested in the participatory research? There is one AL I am thinking of, who very kindly wrote to me about the learning network.	S –suggest identification of improvement
Taking action	P2: As a result of discussions between [....] in the Constructing Issues section, [....] we agreed to go ahead and make a further video together, before [....] retires on Friday. It's about surviving critical moments. It's also based on the positive student feedback for relatable, and fortifying, video support.	A – agree artefact
	P2: As a result of the student feedback and our joint discussions earlier in the year, I have had a go at making a SHORT video to give students a better visual sense of the campus and of JLB. [....] What is your feedback? Do you think we can share this with students?	S –suggest artefact
	P1: Should we use the videos in the MAODE? [....] Both videos are responses to the feedback that students gave her recently. **Valuable for the MAODE? What do you think?**	A –agree artefact identification of improvement
	P2: [....] thinks it's a good idea and that they could be used to promote the MAODE. She has suggested that we put them in the MAODE blog, that I write a blog entry to go with them, and that the blog post could then be promoted via Twitter.	A –agree artefact identification of improvement
	P4: I think that both of these videos should be used, they are very good. How about running a short series of 'feature' videos of the different areas of Walton Hall Campus? These are a great idea, I've always thought we've needed to do something like this. [....] Can we add a link to them on the ODE Qualification website?	A – agree S –suggest artefact identification of improvement

Table 4. Pre-defined and new codes applied to extracts of discussion forum data (continued)

The codes in Table 4 indicate that all the pre-defined codes were used, with the exception of 'outcome'. 'Identification of improvement' was often used to code a 'suggestion' of a possible route forward, which then led to the secondary coding frame.

Table 4 also indicates that during the discussion, several suggestions were made as a result of the student feedback data. These were as follows:

1. Commission some video interviews with tutors

2. To pilot a tutor-made video / Life Of A Tutor

3. Make a video of inspiring parts of the campus and a virtual tour of Jennie Lee Building

4. To do some more work on whether students feeling anxious about their academic ability feel intimidated by videos of students who are studying or who have PhDs.

5. To run a short series of 'feature' videos of the different areas of Walton Hall Campus

6. To add a link to the new videos on the ODE Qualification website.

Explorations were made as follows:

1. To investigate what a tutor video adds that an OU Live experience does not

2. To get students to feed back on a new campus / virtual tour video if it was produced

3. For students to learn more about the careers of their tutors.

Several agreements were made:

1. To make a video about surviving critical moments

2. To go ahead with a campus / virtual tour video

3. To use both the videos to help promote the MAODE to potential students

4. To use both the videos to feed back and support students on the current modules.

The data also indicates that the learning network was able to progress to the 'Taking Action' stage of the first action research cycle, in the timescales available for the MRes project. Two outputs were produced in the form of the two additional videos. These were released to current students via a News item on their module websites on 26th August 2016, by the module Chairs of H800 and H817. The next stage in the project could be to seek student feedback on the two new videos, or to follow through with some of the other suggestions to make alternative videos. It would then be necessary to go through an 'Evaluating' stage to identify whether a practical improvement outcome has been achieved, which is recognised and agreed by the stakeholders. It is not possible to identify such an improvement outcome without an evaluation stage.

Chapter 5: Interpreting the data

5.1 Initial interpretation

The secondary coding exercise led to the observation that there was an alternative way of interpreting the discussion forum data than the catgeories covered by the three conceptual frameworks. This interpretation concerned the unfolding *narrative* involved in the different stages of the action research cycle. The Value Creation Matrix (VCM) comes closest to identifying an unfolding, temporal series of activities, and the inclusion of narrative within the framework. As discussed in Section 2.1, the later Value Creation Framework (VCF) develops further in supporting or planning the narrative, or 'value creation story'. This is achieved by identifying aspirations, in what network members and stakeholders would like to see happening for each value cycle, and then the conditions that would need to be in place.

The three frameworks are all analytical tools which can be used to *describe* or model aspects of a learning network. As described in Section 3.8, the purpose of the analysis was to test the utility of the three frameworks illustrated in the literature review. As a first stage in clarifying and testing alternative interpretations of the data, and establishing a clearer understanding of the application of each framework in practice, each was used to model the MAODE learning network as at 31 August 2016. These diagrammatic representations are shown in the next three figures.
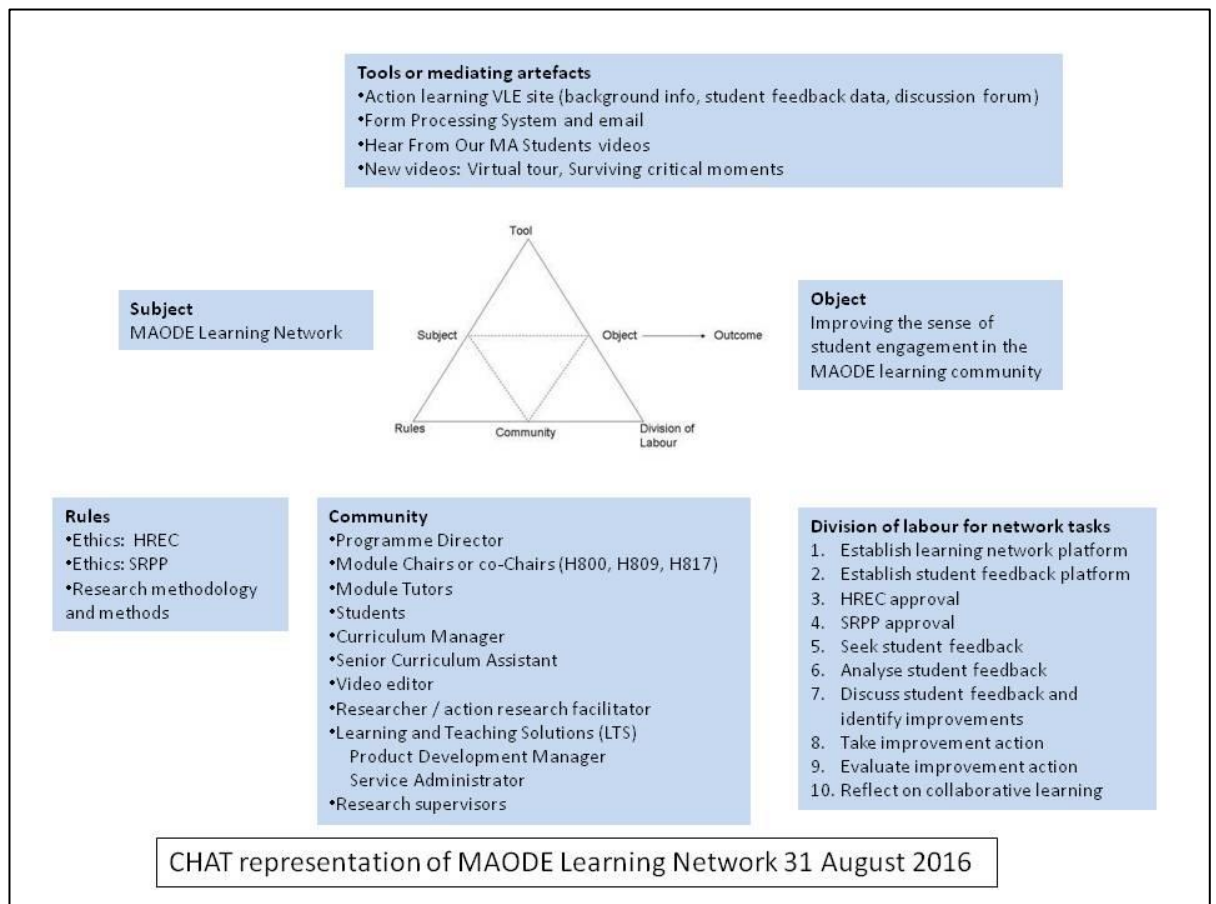
Tools or mediating artefacts
•Action learning VLE site (background info, student feedback data, discussion forum)
•Form Processing System and email
•Hear From Our MA Students videos
•New videos: Virtual tour, Surviving critical moments

Tool

Subject
MAODE Learning Network

Subject → Object → Outcome

Object
Improving the sense of
student engagement in the
MAODE learning community

Rules   Community   Division of
Labour

Rules
•Ethics: HREC
•Ethics: SRPP
•Research methodology
and methods

Community
•Programme Director
•Module Chairs or co-Chairs (H800, H809, H817)
•Module Tutors
•Students
•Curriculum Manager
•Senior Curriculum Assistant
•Video editor
•Researcher / action research facilitator
•Learning and Teaching Solutions (LTS)
    Product Development Manager
    Service Administrator
•Research supervisors

Division of labour for network tasks
1. Establish learning network platform
2. Establish student feedback platform
3. HREC approval
4. SRPP approval
5. Seek student feedback
6. Analyse student feedback
7. Discuss student feedback and
   identify improvements
8. Take improvement action
9. Evaluate improvement action
10. Reflect on collaborative learning

CHAT representation of MAODE Learning Network 31 August 2016

Figure 12. CHAT representation of learning network

The first of these, in Figure 12, is the CHAT representation. It is apparent that modelling the MAODE learning network using this framework reveals a rich but succinct diagrammatic summary, able to encapsulate the complexity of the project that has been carried out.

The CHAT representation could be usefully deployed to explain what a learning network consists of, to both participants themselves as they reflect on their participation, and to other potential OU stakeholders or participants. The diagram may be very helpful for communicating the approach and possibilities for the *generalisability* of the idea further across the OU.

Multiple activity system diagrams could be productively used to illustrate tensions or contradictions between other OU activity systems during the project, such as the ethics approval process for projects involving students (Engeström, 2001).

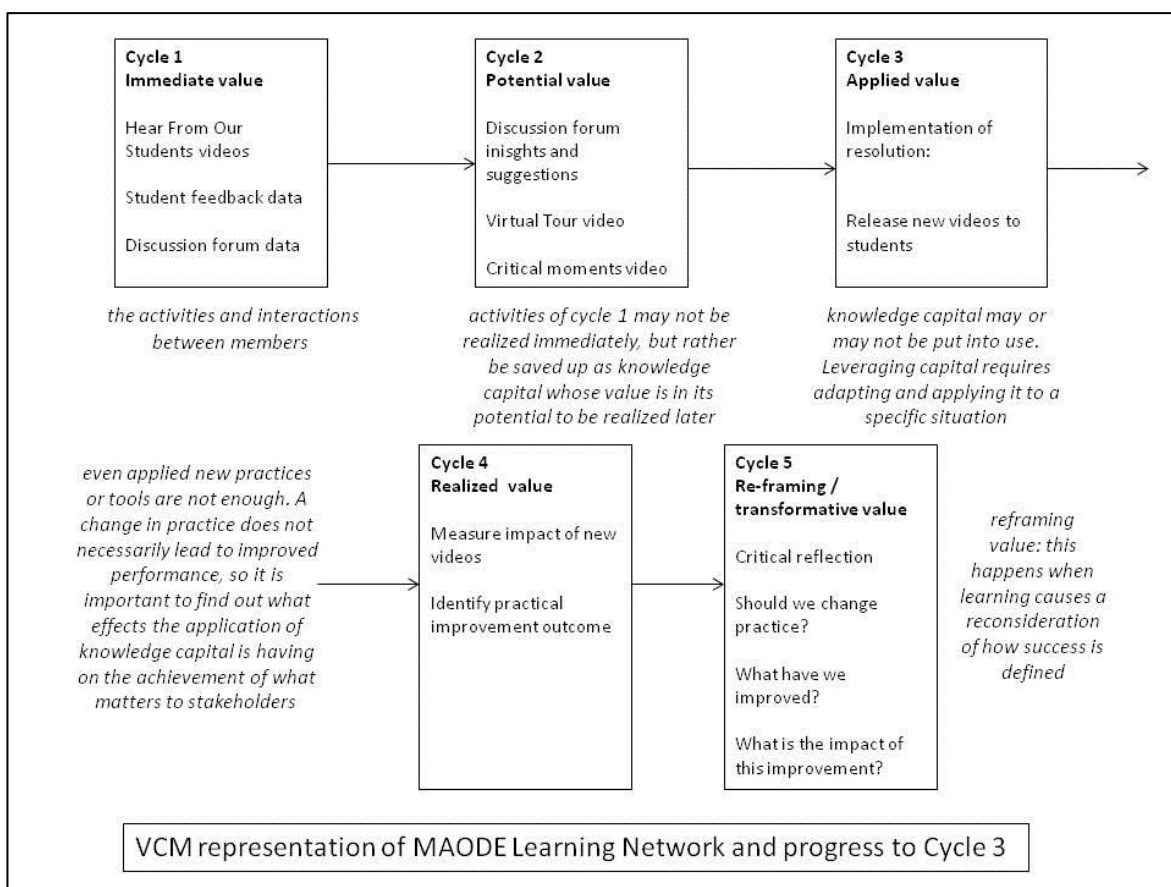The second representation is the Value Creation Matrix, as shown in Figure 13.

Figure 13.

Wenger *et al.* (2011) Value Creation Matrix representation of learning network

The VCM representation also appears to be useful as a diagrammatic summary and

communication tool, with a different focus compared to CHAT. It is of interest to note, for

both wider stakeholders and network participants, that the learning network discussion

forum data is now stored as 'knowledge capital', whose value can be realised later. This was

of particular use for capturing the insights of the Programme Director, with his many years of

experience on the MAODE programme, before his departure. Other participants who may

have missed the initial opportunity to join in due to workload or other pressures, can also

consult the discussion forum at their convenience, and make a contribution if appropriate.

It can be seen that the value creation activities in the learning network have progressed to Cycle 3. The diagram shows that the further work required is that of evaluating feedback and any impact of the new videos. Then it would be necessary to reflect on the re-framing, or transformative, value of student-made engagement videos, if any other types of video might be useful, and whether practice should be changed. This is a useful model to communicate how value is built up and the further network activities which are required.

The third representation is the Activity Centered Analytic Framework (ACAF) which was further developed by Sloep (2016). This is shown in Figure 14.
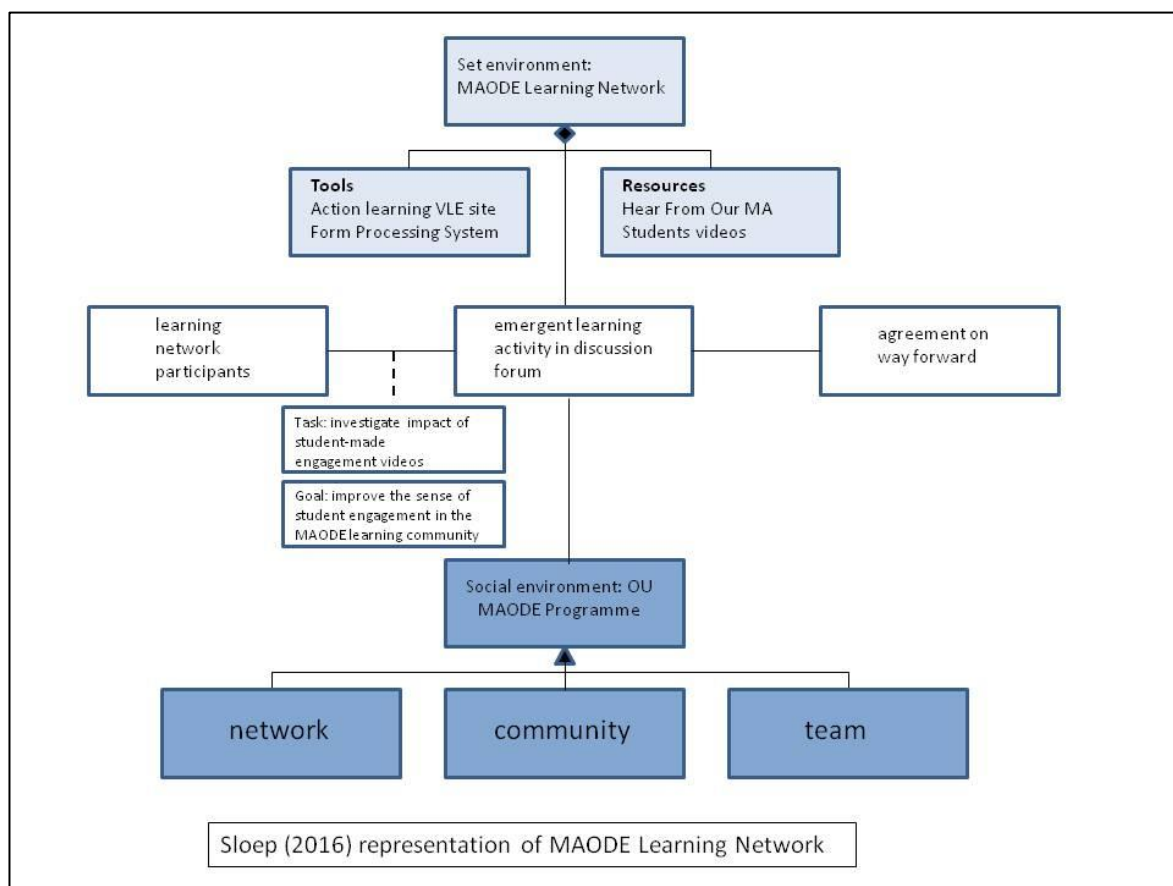

Figure 14. Sloep (2016) representation of learning network

Both the original ACAF and the Sloep (2016) adaptation appear to be of less overall utility for describing the learning network. Both of these frameworks could be used to guide a narrative write-up of this project, using 'epistemic', 'set' and 'social' headings, as has been carried out for the series of case studies by Carvalho and Goodyear (2014). In Figure 14, an attempt has been made to adapt the *learner – learning activity – outcome* epistemic middle layer to embrace emergent learning activity as described in the original ACAF (shown in Figure 4). The 'learning outcome' has been characterised as a co-configured 'agreement on the way forward', which was not known in advance. However it is apparent that this representation is not sufficiently sophisticated to describe the unfolding series of events inherent in organisational learning.

It is also worthy of note that if the layers of the Sloep (2016) model are inverted, as represented in Figure 14, there is significant structural similarity with the CHAT model. Tools or mediating artefacts are positioned at the apex of the CHAT framework, which corresponds to the Set environment in the upper layer of Figure 14. The *learner – learning activity – outcome* epistemic middle layer has much similarity to the *subject – object – outcome* middle layer of the CHAT framework. Finally the lower layer, that of the Social environment, corresponds very closely with *rules – community – division of labour* at the base of the CHAT framework. This similarity is striking given the various attempts in the field to depict the collaborative activity of groups of individuals coming together to work towards some purpose.

Chapter 6: Findings

6.1 Assessment of findings

The research questions as set out in Section 2.5 were:

1. *What practical outcomes were achieved from the pilot technology-enabled learning network, if any?*

2. *To what extent do the three identified frameworks assist in describing and evaluating a technology-enabled learning network? Is another framework justified?*

Referring to the meta-cycle of action research depicted in Figure 8, the first of these questions relates to the 'content', or project aims. The second of these questions relates to the process, or what is being learned. How have the three frameworks assisted in reflecting on the unfolding learning process of the project?

The learning network was able to achieve some practical outputs in the form of two additional videos. Whilst these videos have achieved much informal approval from stakeholders, they cannot be identified as improvement outcomes until they have been evaluated and student feedback has been sought. However, one spontaneous piece of feedback was received from a student who used the previous link to the Form Processing System to send a message:

'I just now saw your follow-up videos (posted to H800 on 26 August). I wanted to let you know that both were meaningful to me, and I thank you for creating and sharing them!'

Further cycles of the action research process should be undertaken in order to continue to plan, test out outstanding suggestions from the project and evaluate their contribution towards the improvement outcome being sought, which is that of improving the sense of student engagement with the MAODE learning community.

The three applications of the identified frameworks to the learning network illustrate that they are indeed descriptive tools which can help to analyse component parts and critical success factors necessary in a learning network environment. However it appears that they are still not adequate in identifying the *mechanism* by which the learning happens. The development of the Value Creation Matrix into the Value Creation Framework comes closest to this. It depicts a temporal series of events and some questions which could be posed at each cycle, concerning the aspirations that stakeholders would like to achieve, and the conditions which must be met.

The data analysis revealed that the discussion was (perhaps unsurprisingly) based on a conversational pattern well understood in normal life, when a group of people are tasked with solving some problem. After an initial question, someone makes a suggestion – 'how about if we do it like this?', followed by a clarification, questioning or exploration of that suggestion by others. Eventually it becomes necessary for all members of the group (or the majority) to agree on a course of action, carry it out and evaluate it.

Therefore from the data analysis it appears that there is some justification for a new framework, potentially combining the necessary elements of the three frameworks identified in the literature, as identified in Table 1, with a narrative based series of events which represent the collaborative mechanisms by which technology-enabled organisational learning may occur.

6.2 Limitations of study

The project was restricted by several limitations. Timescale issues as previously discussed meant that one or more full cycles in the action research spiral could not be completed. However given the short time available, from a live date of 1st July 2016, a significant amount was achieved. A key challenge in the project was securing participation from stakeholders, due to high workload and annual leave constraints. At three responses, there was quite a low response rate to the request for student feedback, although each response received was useful and insightful. The two data sets, including the 26 discussion forum posts, are therefore very limited. Due to the timescale constraints, the thematic analysis was limited to an initial pass through for the student feedback data, and two passes with the secondary coding exercise for the discussion forum data. All of these limitations could be addressed given extra time for the project to unfold, and for stakeholders and participants to traverse the essential learning process inherent in the action research approach. This point should be the beginning of a process, rather than a concluded one.

The temporal aspects indicate a key limitation in the technology-enabled participatory action research methodology itself. As discussed previously, organisational learning can take several years to occur. The project participants, including the action research facilitator, need to be sufficiently available for the life of the project. The action research facilitator needs to have a wide variety of skills and previous experience to navigate participants through collaborative learning in the uncharted waters.

6.3 Future work

The project was able to progress as far as the evaluation stage in the first action research cycle. The following list encapsulates the future work that should be considered.

- Much more needs to be done to secure additional participation, to train participants and other stakeholders in what to expect, and to secure the ongoing operation of the network. It may then bring real benefits to the MAODE programme and act as a pilot learning network operated by IET, for the OU to consider.

- Additional practical work should be done to follow through suggestions already made in the discussion forum, and feed back to students, especially regarding the tutor-made videos that they requested.

- Additional work should investigate the utility of a four-stage cycle that encapsulates the unfolding social exploration process, as suggested by the secondary coding exercise of the discussion forum data.

- More needs to be more to strengthen the validity of the claim that there is some justification for a new framework, using a less limited data set.

- There should be a greater incorporation of systems thinking and consideration of 'systemic action research' in the work, see Ison (2008) and the note below.

- Consideration should be given to involving students in direct interactive discussions as opposed to using the Form Processing System.

- The project reports should be completed for HREC and SRPP and further briefing and dissemination undertaken in IET and across the OU as appropriate.

The suggested four-stage cycle has features in common with that proposed by Ray Ison in his book chapter *Systems Thinking and Practice for Action Research,* which appears in the Sage Handbook of Action Research (2008). In this chapter, Ison introduces some of the traditions within systems thinking, to explore how engaging with these traditions may be useful for action researchers, to enable them to consider 'systemic action research' as part of their practice.

Sloep (2016) comments that the process of concept formation in the field of learning networks and networked learning is still in an immature state, therefore acknowledging that there is much more work to be done.

The intention is that the project will be disseminated via OU internal mechanisms such as the IET Quality Enhancement Lunchtime Seminar (QELS) series. A completion report will be provided to HREC and SRPP. It may be of interest to the OU eLC (eLearning Community) who ran an event on student engagement and The Student Voice earlier this year. eLC are due to run a follow up event in late 2016.

6.4 Personal reflection

This has been an exciting and rewarding project. Despite the numerous challenges in setting up an innovative project and a different way of doing things in the OU, an initial start has been made with some very interesting and potentially useful results. My previous consultancy experience, especially the South African project described in Section 1.2 and in Fresen and Boyd (2005), has driven me to achieve practical results and then to underpin these with rigorous research methodology, in order to strengthen the overall approach. I am driven by the emerging understandings in the field of technology-enabled organisational learning and very much wish to contribute towards it.

Although an embryonic project, it has been particularly rewarding to make this initial attempt and experiment with using a VLE course shell in the OU as a pilot technology-enabled participatory action research environment. The VLE is an intrinsic part of OU operations, familiar to all and available at no cost. It represents a very interesting opportunity to connect together stakeholders across the multiplicity of OU boundaries and contexts, and to work collaboratively on problem solving, achieving improvement , or organisational learning.

It was also particularly rewarding, although not without challenges, to work on an 'insider project', within the MAODE programme itself, of which I am a graduate and whose stakeholders are part of my day-to-day working life. The historical nature of my involvement in MAODE and experience as an international student on H800 played a particular role in 'being part of the community' and understanding its practice. This was of great assistance in conceiving and establishing the project, as my insider status means I know 'the way things are done around here', and am not perceived as an external consultant. It was also a low risk environment within which to experiment. It was interesting to provide videos which may be of use to current students, to increase their sense of engagement with their learning community and with the physical OU campus, and even possibly assist with surviving 'critical moments'.

The nature of action research is that the participants and the researcher work hand-in-hand together on the project, without the researcher being in a privileged position. I conduct my consultancy assignments so that the participants are empowered to find the answers to the problem at hand for themselves, owning the solutions they have jointly worked upon, and recognising them as realistic and significant improvements, as opposed to looking to the external consultant to provide the answer. This is one reason why I have piloted the technology-enabled participatory action research approach, to provide a structured methodology which empowers all stakeholders to contribute and to bring the insights from their personal practice to bear on the problem at hand. It is inspired by my own experiences and by the collaborative learning and practice-based research that is taught within the MAODE programme.

I have learned a great deal during this project, especially about the steps required to put research ideas and plans into action, and about proper ethical procedures and the safeguarding of participants. I am keen that the pilot project might develop further, to continue with the evaluation stage and with further action research cycles. I need to strengthen my experience in rigorous and comprehensive thematic analysis, so that I am more equipped to carry it out according to the good practice criteria set out by Braun and Clarke (2006).

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Appendices

Appendix A. MAODE Student Engagement Videos - Action Research Pilot - Copy of Student Feedback Form

Would you like to participate on a live research project with IET?

Dear MAODE 2016 Students

Welcome to the Student Engagement Video Project! This is an Action Research pilot study being facilitated by me, Lesley Boyd. I'm a graduate of H800, and am now undertaking MRes and PhD research at the Institute of Educational Technology. The research is inspired by the technology-enhanced collaborative learning in the MAODE programme.

What is action research?
Action research, as you probably know, is a collaborative research approach that simultaneously seeks improvement outcomes whilst also reflecting on the organisational learning taking place. It usually progresses through a series of 'spirals', in which cycles of diagnosing issues, planning, taking action and evaluating are applied to the particular improvement outcome being sought.

What are we trying to achieve?
'Engagement' is an important aspect of students' learning. This project will investigate the extent to which student-made videos assist in providing you with a sense of engagement with your learning community. The research, and your contributions to it, will also benefit the MAODE programme. In developing the design of the research, I have of course worked with my supervisors, and also with the programme director, John Pettit. As you may have seen, six videos have already been published on the experiences of completed students. You can see them here, including one from me:

[Hear from Our Students](#)

What do you need to do?
Please provide your feedback in the box below on these student-made videos, in your own words, by [date to be inserted]. Some questions to consider may include the following. Do you find them useful and, if so, how? Do you think they are too long or too short? Would you be interested in any other type of video such as a 'student's eye' virtual tour of IET, or an interview with an academic? Would you like to see videos from other students part-way through their MAODE studies?

My feedback

What will happen next?

Your responses are emailed anonymously to me by the system. I will collect together and analyse them to identify common themes. The analysis will be fed back into further cycles of planning, action and evaluation, within a collaborative action research team in IET. You will be kept informed of the outcome of this process in the News spaces for each module.

Your protection and informed consent

Please be assured that your responses can never become part of your student record or be used to influence any part of your module mark. Your participation in this research is entirely voluntary. If you submit some feedback and later decide that you wish to withdraw it, you may do so by submitting a further form by [date to be inserted], giving us sufficient information to identify your initial response. This will then be removed from the data. You may like to keep a copy of your initial response. If I quote your feedback in reports or research publications, this will be anonymous. By providing feedback, you are deemed to have provided your consent.

If you have any further queries, you may contact my lead supervisor Doug Clow at doug.clow@open.ac.uk.

Many thanks for your interest, ideas and contributions! I look forward to sharing the results with you.

With best wishes

Lesley

Appendix B.

Project abstract as approved by HREC on 18th May 2016

The purpose of the research is to investigate how technology-enabled learning networks can be used to achieve practical improvement outcomes in the not-for-profit sector. Koper (2009) defines a technology-enabled learning network as 'a technology supported community of people who are helping each other to better understand and handle certain events and concepts in work or life'. In a literature review of organisational learning in public service organisations in the UK, Rashman *et al.* (2009) observe that 'learning within and between organisations has been identified as central to the processes of public service improvement'. However little is known about the mechanisms of technology-enabled organisational learning to achieve practical improvement outcomes. The aim of the research is to address that gap, using an innovative technology-enabled participatory action research approach, within the OU itself. Action research simultaneously seeks improvement outcomes whilst reflecting on the learning taking place. This pilot project will establish a learning network, using the Institute of Educational Technology MAODE (Masters in Online and Distance Education) programme as a case study. The practical improvement outcome being sought is increasing the sense of student engagement with the MAODE learning community, by using student-made engagement videos. The project will investigate the extent that student-made videos assist in providing the student with a sense of engagement with their learning community, and reflect on the collaborative learning taking place in seeking the improvement.

Appendix C. Staff Consent Form.

INSTITUTE OF EDUCATIONAL TECHNOLOGY

Consent form for persons participating in a research project

Using technology-enabled learning networks to achieve practical improvement outcomes: impact of student-made engagement videos

Name of participant:

Name of principal investigator(s): Lesley Boyd

1.   I consent to participate in this project, the details of which have been explained to me, and I have been provided with a written statement in plain language to keep.

2.   I understand that my participation will involve **technology-enabled participatory action research** and that the stages involved in this approach have been explained to me.

3.   I acknowledge that:

   a.   the possible effects of participating in this research have been explained to my satisfaction;

   b.   I have been informed that I am free to withdraw from the project without explanation or prejudice and to request the destruction of any data that have been gathered from me until it is anonymized at the point of transcription point on 31 July 2016. After this point data will have been processed and it will not be possible to withdraw any unprocessed data I have provided;

   c.   the project is for the purpose of research;

   d.   I have been informed that the confidentiality of the information I provide will be safeguarded subject to any legal requirements;

   e.   I have been informed that with my consent the data generated will be stored in the 'actionlearning' VLE workspace.

   f.   If necessary any data from me will be referred to by a pseudonym in any publications arising from the research;

   g.   I have been informed that a summary copy of the research findings will be forwarded to me, should I request this.

I wish to receive a copy of the summary project report on research findings   □ **yes**   □ **no**
(please tick)

Participant signature: Date:

Appendix D.

MAODE Student Engagement Videos - Action Research Pilot

Staff Information Sheet

Thank you for expressing your interest in participating in this research project for IET. The purpose of this information sheet is to explain the reason for the research, its proposed methodology and what participants can expect.

The research is being carried out by me, Lesley Boyd. As you probably know, I'm one of the MRes students, and a graduate of H800. The methodology is inspired by the technology-enhanced collaborative learning that is taught as the core of the MAODE programme, and my professional consultancy experience in facilitating collaborative improvements.

The overall purpose of my research is to investigate how technology-enabled learning networks can be used to achieve practical improvement outcomes in the not-for-profit sector. Koper (2009) defines a technology-enabled learning network as 'a technology supported community of people who are helping each other to better understand and handle certain events and concepts in work or life'. In a literature review of organisational learning in public service organisations in the UK, Rashman *et al.* (2009) observe that 'learning within and between organisations has been identified as central to the processes of public service improvement'.

However little is known about the mechanisms of technology-enabled organisational learning to achieve practical improvement outcomes. The aim of my research is to address that gap, using an innovative technology-enabled participatory action research approach, within the OU itself. Action research simultaneously seeks improvement outcomes whilst reflecting on the learning taking place.

This pilot project will investigate the extent that student-made MAODE videos assist in providing current students with a sense of engagement with their learning community, and reflect on the collaborative learning taking place in seeking an improvement in this regard.

As you probably know, six individual videos have already been published on the experiences of completed students, which are available [here]. Views of current students on the contribution of these videos towards their engagement and sense of community will be sought. I will collect together and analyse the responses to identify common themes.

The learning network will be established within a VLE course 'shell' which has been provided by LTS, entitled 'action learning'. I will lead staff participants through a series of action research spirals in which we follow cycles of diagnosing issues, planning, taking action and evaluating, triggered by the first set of student responses. This should yield the practical benefit for IET in learning about how to best increase the sense of student engagement within the MAODE learning community.

As part of the research, the collaborative learning of the network will be analysed, testing the utility, and advantages and disadvantages, of three learning frameworks that I have illustrated in my literature review. An outcome of the pilot research may be that the need for a new framework is identified to effectively support organisational learning for improvement. The pilot project may also establish an internal mechanism and framework for organisational learning within the OU.

The project will be written up in my MRes dissertation, which will be submitted by 7 Sept 2016.