

**Further education college quality systems:  
a framework of design principles for the  
development of teaching quality  
improvement processes**

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## Thesis Abstract

This research is a case study of the quality improvement process in an English further education college. It examines the way that staff involved in the design and operation of the quality system shape the process in a part of the education sector that struggles with issues of performance. The case is placed into the context of an unstable policy environment, where further education colleges have been subjected to frequent bouts of government intervention and a funding regime that is unfavourable when compared to secondary schools and universities.

The contribution to knowledge of this thesis is that it addresses an under-researched area of further education by viewing the quality process from the perspective of the governors, managers and professional staff responsible for its design and operation. As such it addresses a problem where a lot of attention has been given to teaching staff who experience the quality process or to macro studies where the focus is on outputs in the sector. However, less attention has been paid to the governors, senior staff and quality teams who assess teaching and learning in colleges.

The data for the case study were gathered over a two-year period between 2010-2012 and include interviews with college staff, senior staff from OFSTED and the Department for Business Innovation and Skills and staff from a second college, used to help verify the findings. In addition to this, documentation for the quality system was gathered including inspection documents and policy documents. The data were analysed in order to surface traits of social and organisational practice that address the problem of operating a quality system in an environment that is highly resistant to systemisation and predictability.

The findings are presented as 'fuzzy' generalisations supplemented by guidance in the form of design principles. The thesis provides an empirically grounded description of key elements of the relationships and the surrounding sociotechnical system that were found in the case. The design principles augment the case study and provide guidance on how a combination of trust relationships, resilience of processes to disruption and flexibility of application provide a background for the quality improvement process at Stretchford College, which was rated as 'Outstanding' at the time of the research.

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## Glossary of terms

|                                                      | Description                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A</b>                                             |                                                                                                                                                                                                                                                                                                                   |
| Achievement                                          | This is a measure of a course's success. It is a measure of the grades achieved compared to targets based on prior achievement. This is part of the key measure of performance for FE colleges which is 'outcomes'                                                                                                |
| <b>B</b>                                             |                                                                                                                                                                                                                                                                                                                   |
| BIS                                                  | See Department for Business Innovation and Skills                                                                                                                                                                                                                                                                 |
| <b>C</b>                                             |                                                                                                                                                                                                                                                                                                                   |
| Curriculum                                           | This term is used for slightly different purposes depending on context. It can refer to a detailed document specifying a programme of learning activity but also can refer to a general structure of teaching and learning and also as part of the ethos of a college                                             |
| <b>D</b>                                             |                                                                                                                                                                                                                                                                                                                   |
| Data                                                 | Any artefact I used to provide information about the problem under investigation – used as a singular cumulative mass noun                                                                                                                                                                                        |
| Department for Business Innovation and Skills        | The government department with main responsibility for further education policy – run jointly with the Department of Education with a parliamentary secretary of State acting as the minister – this is used to be a more senior role but was changed in May 2010 after the new government came to power          |
| Department for Children Schools and Families or DCSF | Became Department of Education in May 2010 but some older documentation still refers to DCMS                                                                                                                                                                                                                      |
| Department of Education                              | One of the government departments responsible for further education policy alongside BIS                                                                                                                                                                                                                          |
| <b>E</b>                                             |                                                                                                                                                                                                                                                                                                                   |
| Education Funding Agency                             | Replaced the YPLA which was dissolved in 2012 after 2 years. This is a team within the Department of Education and is the funding body for 16-19 education covering further education colleges alongside VI form colleges and schools                                                                             |
| <b>F</b>                                             |                                                                                                                                                                                                                                                                                                                   |
| Further Education (FE)                               | This refers to the part of the education sector taught in colleges. Students are mostly from ages 16-19 (with some 14-16 provision). FE also includes adult education and some colleges also offer higher education classes from HND, Foundation Degree to Bachelor's degrees and postgraduate teacher education. |
| <b>H</b>                                             |                                                                                                                                                                                                                                                                                                                   |
| High-performing / high performance                   | This term is used to define aspects of the quality system which have been independently assessed as 'Outstanding' by OFSTED – the criteria for this can be found in the inspectors' handbook (OFSTED 2012)                                                                                                        |

|                                    |                                                                                                                                                                                                                                                                                                                            |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| K                                  |                                                                                                                                                                                                                                                                                                                            |
| KPI                                | Key performance indicator, a measure selected to show the extent to which strategic objectives or operational performance targets are being met. This is a tool which is difficult to use when measuring qualitative aspects of performance unless a proxy for a quantitative measure is used – Likert scales for example. |
| L                                  |                                                                                                                                                                                                                                                                                                                            |
| Learning and Skills Council or LSC | Up to May 2010 this was the body that was responsible for funding and also oversight of further education. Its responsibilities were split between the SFA and the YPLA                                                                                                                                                    |
| Lecturer                           | Teaching staff in FE are usually referred to as lecturers and senior lecturers although their role is more like that of a classroom teacher in a secondary school than a lecturer in the HE sector – even where the lecturer is teaching at HE level within the FE sector                                                  |
| O                                  |                                                                                                                                                                                                                                                                                                                            |
| OAP / Operational Action Plan      | This is the plan for making improvements following a departmental/ team level inspection                                                                                                                                                                                                                                   |
| OFSTED                             | Responsible for management of external inspections – Further Education comes under the Learning and Skills department of OFSTED and is run separately to schools inspection                                                                                                                                                |
| Outcome                            | This is a performance measure where retention and achievement are combined to produce a weighted figure which can be compared against similar colleges. The tension between maintaining high retention without damaging achievement levels is a major managerial and teaching challenge faced by colleges                  |
| P                                  |                                                                                                                                                                                                                                                                                                                            |
| PIC                                | Pre-inspection commentary: a report given to teaching teams to identify areas of particular strength and weakness. It is prepared by the lead inspector of an internal inspection team                                                                                                                                     |
| PIR                                | Post-inspection report. This is the main findings document issued by internal inspection teams and provides grades and detailed commentary on the functioning of the teaching team.                                                                                                                                        |
| R                                  |                                                                                                                                                                                                                                                                                                                            |
| Retention                          | FE colleges receive a lot of their funding based on retaining students for a full academic year with ‘claw back’ of funds if students leave a programme of study. This is different to schools where funding is per pupil based on numbers at the start of the school year with no claw back arrangement                   |

|                          |                                                                                                                                                                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>S</b>                 |                                                                                                                                                                                                                                                                   |
| SAR                      | Self assessment report – a non-standardised report prepared by colleges to assess their own performance and usually based on the areas graded by OFSTED                                                                                                           |
| Self assessment report   | See SAR                                                                                                                                                                                                                                                           |
| Skills Funding Agency    | The semi-autonomous body responsible for managing the funding of adult skills and one of the main funding sources for further education colleges. The SFA also has a governance role and contracts OFSTED to carry out inspections in further education colleges. |
| <b>T</b>                 |                                                                                                                                                                                                                                                                   |
| Teacher                  | In the FE sector teaching staff are usually referred to as 'lecturers' but sometimes 'teacher' is used                                                                                                                                                            |
| Teaching Progress Review | Each teaching programme is reviewed for completion rates, attendance, observation performance and student feedback – this is a management level report to identify areas for development                                                                          |
| <b>V</b>                 |                                                                                                                                                                                                                                                                   |
| Value-added              | A metric used to assess grades above an expected achievement level. It is based on entry qualifications – it can be positive or negative                                                                                                                          |

## Chapter One: Introduction

### 1.1 Research aims and contribution

This research project was motivated by a desire to explore concerns expressed in the literature about management failure in the further education sector. These concerns are represented by the warning of Pring *et al* (2012) that the person was being lost in the drive to systematize and produce a quantized, micro-managed and 'evidence based' education system. In particular, further education colleges have been seen as being subject to a managerialist culture focused on economic outputs (see e.g. Avis 2003, Gleeson, Davies et al. 2005). The research explores the work of senior managers, governors and quality professionals involved in the running of a large further education college and examines the mechanisms by which a teaching quality process is designed and operated. The project surfaces the separation in quality reporting between empirical data such as exam results and the management culture and reporting system within which such data is collected. It does this through a case study of the quality system used to measure the performance of a large general further education college as it underwent a transition programme.

The thesis offers two main contributions. Firstly, it helps address a problem in studies of further education, where perspectives of senior managers and quality systems staff are under-researched. By focusing on the group within a college responsible for achieving the strategic objectives set by external actors, the thesis adds to work aimed at building an improved understanding of the problems experienced in balancing the interests of the wide range of stakeholders in further education. This will be useful for a wide selection of people, including policy makers, trade unions, operational level managers and teaching staff as well as professional bodies, such as the 157 Group and the Association of Colleges.

The second contribution is to provide a mechanism to support the integration of local managers and quality staff's professional knowledge with the design of instruments and policies related to quality improvement, in order to help close the gaps mentioned above, where policies on quality process design treat quantitative data as separate from,

rather than entwined with, the qualitative aspects of the sociotechnical environment in which they are gathered.

The research follows a case study approach, which takes account of the sociotechnical environment in which the quality system operates. The case is used to develop 'fuzzy' generalizations (Bassey 2008, pp51-54) in the form of design principles. These can be used by others in the further education system space when exploring similar issues in other colleges. The role of a fuzzy generalization is to provide an empirical mechanism to translate findings from individual cases to a wider population. Through this thesis an argument is made that design principles are one way in which this might be achieved, and three design principles are presented.

## 1.2 'Managerialism' described as a general problem

The systematisation of education referred to by Pring et al (2012) has largely been achieved using techniques that adopt the language and practices of manufacturing industry, in an attempt to improve the quality of education provided by the learning and skills sector (which includes further education colleges). This sector has suffered from very low morale and a poor reputation for many years (e.g. OFSTED 2012). Pring et al illustrate this with examples of the language now adopted in education policy documents, where there are "levers and drivers of change. The consumer or client replaces the learner or student...audits (based on performance indicators) measure success based on hitting [the] targets" (2012, p16).

This instrumentalism was something I had noted in my Masters' study, which laid the groundwork for this thesis. The Deputy Principal I interviewed then had remarked that the growth in centralization had led to a culture of monitoring and recording everything. He described an environment for senior managers where quantitative data was the only accepted source of information, and oversight was seen as always being a better option than autonomy and professional knowledge. My own experience as a head of department and my Master's study had identified a problem around the tension between local context and attempts at national standardisation.

The research shows that nobody contacted as part of the study thought managerialism was working well. From trainee teachers to the former head of the government's delivery unit Sir Michael Barber, it was generally agreed that communication between different stakeholder groups in further education was problematic, and that the burden of measurement far outweighed the benefits that were being delivered. However, at the same time people in the sector accepted that performance was weak in many colleges, and that for all its faults the attempt to find out what is going on by gathering and measuring performance data also had merit. This research project surfaces some of these issues from the perspective of managers, and provides an addition to the literature on understanding and developing further education practice.

### 1.3 Studying a particular case of 'managerialism'

The research identified a number of features related to the sociotechnical environment surrounding the development and management of quality processes related to teaching and learning. It offers a number of contextualised design principles that were identified during the study and shows how these can be useful for others interested in the design and operation of quality improvement processes. It uses the concept of design principles to provide a mechanism to assess empirical generalisations from an individual case study, in the way suggested by Gomm et al (2000, pp98-116). In particular the design principles are presented in such a way as to assist others in judging transferability to their own case. This extends the idea of users taking responsibility for the generalization from a case study,

*"if Context A and Context B are 'sufficiently congruent' then working hypotheses from the sending originating context **may** be applicable in the receiving context... The person who wishes to make that judgement of transferability needs information about **both** contexts to make that judgement well." (Lincoln and Guba 2000, p40)*

Gomm et al argue that Lincoln and Guba's position is too dismissive of the possibility of empirical generalization because it places the burden of case selection and transference entirely on the user of the case study. They argue for stronger evidence of the possible heterogeneity of a case and other cases. By providing detail of the "heterogeneity which is likely to have consequences for what is the focus of the research" (2000, p104)" they

argue that users of a case study can be provided with better evidence of the ways that the case might be representative. Gomm et al (*ibid*, p107) also discuss the importance of selecting a case as 'typical' as possible of the class of cases under examination. This research project took these arguments into account. This was done in order to support the trustworthiness claims of the findings and to help warrant the findings and thus the design principles that are based on them.

#### 1.4 The role of sociotechnical analysis in the research

Within the literature on systems design, and especially in that part which characterises itself as being about sociotechnical systems, there is a range of conceptual frameworks used to help understand the design of a particular system. Sometimes they are referred to as being in the sociotechnical design school (Mumford 2006) or as examples of studies applying Activity Theory in the organisation of work (Engeström 2000) or design of systems (Bentley, Hughes et al. 1992). Each of these frameworks have things in common. They all take account of the human, technical and spatial aspects of systems design and all seek to provide a mechanism for understanding how design can be improved for the benefit of participants in a system. However, this study does not place itself strictly within any of these traditions.

An approach was pursued largely based on sociotechnical systems theory but without being exclusive. In his discussion of style for historians and philosophers of science Hacking describes the use of a 'style' of reasoning as a mechanism for, "what we think of as a rather timeless canon of objectivity, a standard or model of what it is to be reasonable about this or that type of subject matter... what it is to reason rightly, to be reasonable in this or that domain" (1992 ,p188). The project was undertaken without exclusively setting it within a tightly defined conceptual model, beyond placing it within the case study approach underpinned by sociotechnical theory traditions, and staying reasonable to the domain under investigation. The analysis was carried out in an inductive style using the matrix approach to qualitative data analysis described by Miles and Huberman (1994, pp90-171). The study design retained flexibility and the pragmatic approach to analysis was seen as a core element of the design. The aim was to allow the data to speak and not constrain it through the application of a pre-determined analytical prism. However, as a case study the boundary of the case was set

and the perspective adopted was chosen (to examine the case from the standpoint of the managers and quality professionals) in order to give direction and focus to the analysis.

### 1.5 Research questions

The research project is a case study, which means it, follows a research design based on iterated analysis of data and refinement of the end research product (in this case a set of design principles). As knowledge about the end product changes then the questions to be answered also adapt. There is one over-arching question that this project sought to provide an answer to:

**RQ1: In what ways do staff responsible for managing a quality system shape it through their practice?**

This question is a general question about the ways that governors and staff understand their role in shaping a further education college quality system. The question adopts a view of a college as an open system bounded by its organisational scope and mission. The purpose of the question is to explore how viewing collections of social and practice related understandings could guide the development of the quality process at Stretchford College and support the development of systems in other further education colleges.

The answer to this question shows that case studies of senior managers and professional staff in further education are not only useful for describing a specific situation but enrich the understanding of the complex interplay of responsibilities in a sociotechnical environment, which has largely been researched from the perspective of educators or external policy makers. This main research question is further developed with a sub-question, which takes the conceptualisations produced as an input to the design of a mechanism for summarizing and sharing core findings from the study.

**RQ2: Are design principles a way to describe design features of a case?**

This question shows that the study examines the role of design principles in terms of aspects of social practice and knowledge sharing, treating them as distilled descriptions

of features in a case. The answer shows how design principles might offer an accessible way to distil a complex case study. The answer addresses a central criticism of case study research by showing that design principles can act as an access method to the deep contextualisation of the case study and therefore improve the possibility that users of the case will identify and make use of naturalistic generalisation. The design principles provide users with material to assess a case's transferability to their own context that can be augmented by a deeper study of the case data. The design principles therefore act as a filter mechanism to help in the decision to study a case in greater detail, and also to support discussion about the design of a new system in a different environment. The response to this question also shows that the design principles are supplementary to the case and highlight specific features that the data suggest are important for the case at hand, with judgements about their usefulness being made by research users for their own context. This question therefore explores the potential for design principles to support the development of generalisation by research users rather than making claims of universal generalizability for them.

## 1.6 The research design

The research was carried out as a case study (Yin 1994) and more particularly in the theory-building style discussed by Bassey (2008) and also drew from literature on design based research in education (Collins, Joseph et al. 2003) and also design thinking in computer supported collaborative work research (e.g. Clegg 2000, Baxter and Sommerville 2011). It follows an approach that adopts an iterative and incremental approach widely used in qualitative research. Data in the form of interviews, observations and documentation were gathered. The resulting collection of design principles were then validated by potential users of them, with this emic validation having a deliberate intent to enhance the potential for the design principles to be used in other colleges. This validation occurred not only within the main research site but also through the use of another further education college.

## 1.7 The research context

The research was carried out in a specific local context and the findings are based on that particular case, verified at another college. However, the context is grounded within a national picture of rapidly changing policy and financial structures.

### The national context

In general terms further education in England is an under-researched area where there has been little development of supporting tools for creating transferable approaches to quality management. Although there has been a rise in the use of data ‘dashboards’ for management information, and also collaborating on areas of common interest is an important activity between colleges, it is still the case that there is no mandated way for colleges to operate at a national level. This is despite attempts to impose standardized funding and performance metrics.

For example, the Self Assessment Review that OFSTED uses as its main source of performance reporting, is not required to be in a standardised format. There are aspects to quality reporting that are common, largely driven by the fact that core information on performance is required to be uploaded to the Data Service (the statutory body responsible for maintaining college performance data). Colleges also provide information on funding mechanisms and other management information used by bodies such as the Skills Funding Agency. Ultimately however colleges are in competition with each other, and their quality improvement system is part of the suite of operational activity that colleges use to differentiate themselves. Further education colleges are run as corporations (companies limited by guarantee) with college governors having ultimate legal responsibility. However the way that they are funded and the drivers of change in terms of the ‘offer’ (the curriculum that potential students can select courses from) come largely from externally mandated bodies. This means that the main funding and governance oversight body, the Skills Funding Agency, as well as government policy makers, impose a framework of standards which cannot be ignored but which may conflict with the strategic and operational needs of a college.

During the period of data collection for this project there were a number of large changes to the external environment for colleges, from changes to funding announced a few weeks before the beginning of term in autumn 2010, to the removal of support for one government programme ('Train to Gain') to be replaced by another that had no stable funding structure (Apprenticeships). There were also complex changes in oversight, and two radically different OFSTED inspection frameworks introduced over a two-year period. Further education is a classic example of the type of unstable institutional context of practice that prevents the development of systematic knowledge (Glazer N, paraphrased in Schön 1983, p23). This means that decontextualised quantitative data (such as average 'A' level points) are not very useful in assessing the ongoing performance of a college; a focus on one type of data can have the effect of distracting effort from other more strategically important, but unmeasured, variables such as employment outcomes.

This turbulent environment also has the effect of complicating the process of identifying and using other tools such as programme-specific 'best practice' advice for colleges nationally. The concept of 'best practice' is grounded in an assumption of a general solution which should be preferred to any other, and is extremely helpful in guiding learning design. However, it needs to be adapted to take account of specific local factors. If such adaptations are then deemed to be sub-optimal because they deviate from 'best practice' there is a risk of quality measures either missing what may in fact be high quality practice, or a change in practice that meets the quality standard and is recorded as being of high quality but which is in reality itself sub-optimal.

A process for assessing quality is required by colleges so that managers can report to the governing body on the degree of success in delivering the strategic goals they have been set, and also the level of operational competency. The strongest criticism of managerialism is not founded on a dislike of assessing the performance of teaching and administrative staff (though some may dislike the whole idea of assessment), but on the style of measurement and the selection of key performance indicators (KPIs).

In this thesis an argument is advanced that generalized support for colleges needs to take account of factors such as the sociotechnical environment, for example the organizational design, and historical-cultural factors such as the distribution of

responsibility within the organization (an outcome of its development over time). The three design principles developed as part of this study are an example of one way that this might be achieved.

### The local context

This study is of how a large college, which is both geographically and hierarchically distributed, operates its quality process in order to meet its objective to be a high quality learning institution; the quality system was examined to develop an understanding that went from strategic planning to classroom delivery. Over a one-year period I spent a total of 4 weeks at the college observing and interviewing. I also gathered documents and electronic resources used by the staff to manage the introduction of a new quality process for teaching and learning. To supplement individual interviews I also held two workshops to help develop and validate the content of the design principles, which make up the research product from this study.

There are approximately 300 further education colleges in England and Wales and this study was carried out in one of the largest in terms of student enrolments and income (referred to pseudonymously as Stretchford College). It was also a well-regarded general further education college, recognised by the Beacon College programme and in the past had achieved an 'Outstanding' rating from OFSTED. However, the college was also very typical of general further education provision, with a mix of vocational and academic programmes, difficulties in retaining and recruiting staff and financial challenges. It had also been advised by external consultants that it would be unlikely to regain the 'Outstanding' grade achieved previously. My project began at the point when a reduction in the OFSTED grade to 'Good' had led to a re-examination of the process used to assess quality.

Interviews were held with members of the governing body, the senior management team, departmental heads and also some lecturers for validation and context. As well as the senior staff I interviewed all of the members of the quality improvement team at the college as well as senior IT staff and other administrators. A college has a number of external stakeholders with an oversight duty, and in order to take account of this fact two senior representatives from the Department of Business Innovation & Skills and

OFSTED were also interviewed. As part of the iterative refinement process to help validate the data and the direction of the research, interviews were conducted in a second college (given the pseudonym Roman College) using my initial findings as a basis. The two workshops carried out as part of the research process were held in the middle and at the end of data collection.

The unit of analysis was the college quality system. I used the findings from the research to create a set of design principles, which are descriptions of how the managers and other quality system participants understood both the system itself, the culture within which it operates and their own role in the operation and shaping of the sociotechnical environment. These design principles express features surfaced by the research that can provide useful empirical generalisations, which can inform other actors in the further education sector. Although design principles from other problem domains were looked at and used to help guide the development process, all three of the design principles are drawn from the case study data.

### A problem at Stretchford College

As described above, Stretchford is responsible for the education of many thousands of students. This means that the quality system to assess teaching and learning needs to be flexible enough to cope with a wide range of types of student. For example, a lesson observation plan predicated on classroom practice is not appropriate when assessing teaching in a work location such as a beauty salon. Student types extend from Entry-level students with significant learning support needs to undergraduates studying for a Bachelor's degree. It also needs to be rigorous enough to satisfy the reporting requirements of senior management in terms of the quantitative evidence that has to be reported to the Data Service, but supportive enough to help staff develop their skills and improve outcomes for students. There are also features of the institutional environment that provide an additional layer of complexity. These include; the geographically dispersed nature of the college, with the senior management team spread over a wide area of a large city, the high degree of autonomy that faculties and schools (cross-faculty teaching teams) enjoy and a challenging funding environment. This can cause problems such as mistrust of senior management intentions with regard to the quality process, or

an overreliance by managers on specific performance indicators at the expense of the insight offered by qualitative data.

When scoping the system for investigation I found that the interconnectivity between each of these issues was a major factor that favoured a design-oriented approach for examining the system as a whole. This is because although an individual aspect of the quality process could be problematised, this would not provide an opportunity to develop an understanding of the whole system. To achieve this top-level view of the system at Stretchford I started by taking each of the issues outlined above and creating a concept map of the existing quality system. This was used to help identify the areas to focus on in the study. This development of a conceptual framework drawn from the environment (Miles and Huberman 1994, p18, Daley 2004) gave me an overview of the 'as-is' system, which was used to begin the analytical phase of the project.

The changes being made to the quality system came about as a response to a drop in the OFSTED grade for the college from 'Outstanding' to 'Good'. Following the inspection that led to this downgrading the governors instituted a review of why this had happened, and what could be done to ensure that teaching and learning standards were improving. One issue they identified was that the quality assurance function was not engaging with teaching and support staff, but focusing on the completeness of documentation such as course records and reporting of results.

They found that the previous attention to developing teaching and learning practice had been replaced by a 'desk research' culture with communication being both formal and in writing, with little interaction or cooperation between staff and the quality team. A decision was made to return to a more engaged approach and a new quality assurance manager was taken on. He changed the name of the team to the quality improvement team, and instigated a process of reshaping the quality system. His task was described to me as being to ensure that the college had a culture of research-led improvement. The college principal at the time was a strong believer in the benefits of practitioner research, and the college itself operated a bursary scheme for such research. The college also held an annual research conference for staff to disseminate findings and share experiences. It was noted in the review of quality that this activity and the quality function were treated separately. This meant information gathered by practitioner

researchers was not being taken into account as part of the quality process. It was at this point that my research began. The thesis is structured in accordance with the following chapter descriptions, following a case study reporting structure (Bassey 2008, p84)

## **1.8 Chapter descriptions**

### **2 Literature review:**

The research is based on theories of knowledge co-construction, organizational learning and the influence of infrastructure on knowledge transmission within a large education establishment. As the data is analysed through the lens of socio-technical systems theory there is attention to theories of professional knowledge development and the role of the practitioner. This chapter is focused on literature related to organisational design, knowledge transformation and the use of qualitative methods, such as design ethnography, and theory-building case studies in education. This chapter also provides a rationale for the creation of design principles as research products and the role of qualitative data in this process. In this research there is an acceptance of theories of distributed cognition where cognitive activity is stretched across people and tools and this is also discussed in this chapter to the extent that it provides an argument for the continuing role of design principles as tools for representing the cognitive output of a group, which can then guide and support others without the need to work continuously from basic principles in each separate case. This study also draws on a range of theories of design, especially socio-technical systems analysis and design-based research. These theories are operationalised in the project through the use of ethnographic methods. This chapter discusses the literature on qualitative methods and connects it to that on sociotechnical systems to provide a framework for the research design. This chapter also discusses why other approaches such as applying activity theory were not used.

### **3 Methodology: Examining a quality system**

This chapter explicates the study design and the rationale for selecting the theory-building case study approach.

#### **4 Data Collection: Gathering materials and participants**

This chapter includes a description of site selection, participant selection, materials collected, interviews carried out and explanations for the inclusion and exclusion of material. The ethics section describes the steps taken to maintain compliance with both university and site requirements.

There is then a narrative description of how the data gathering took place and discussion of how the range of methods used were applied in the field. This chapter also examines the constraints and issues that arose whilst in the field and how these were handled.

#### **5 Analysis: Identifying features of the case**

This chapter provides detail about how material was analysed using the educational case study approach described by Bassey (2008). It provides details of the tools used to assist the analysis process and shows how initial themes were refined and the data interpreted according to methods drawn from Miles and Huberman (1994, pp90-171). This chapter includes details of how findings were interpretively generated according to the research's motivational direction.

#### **6 Findings: Accessing a case through design principles**

This chapter uses the analysis to outline aspects of management activity and culture that were surfaced by the data, which are theorized as mechanisms for describing the design of, and transition to, the new system. It includes a discussion of the potential criticisms of the approach. Comparison is made with potential alternative approaches such as large-scale survey work (wide but shallow). The warrants for the findings will also include outputs from a confirmation process, including the presentation of findings to another senior management team and a group interview with the deputy principal, head of quality and head of finance at a different college. This chapter also includes discussion of how the research questions have been answered and challenges to these answers. As a piece of interpretive research this discussion focuses on the trustworthiness of the particular way that the argument has been made.

## **7 Conclusions and recommendations:**

In this chapter there is a reflective account of the research process and what the results mean for future research in the area. There is a description of the contribution to knowledge of the research and why it is a useful addition to the literature on further education quality improvement.

This chapter also suggests practical next steps for the research, including a wider study to extend the design principles collection. This takes the form of using a technology augmented creation/evaluation process especially the development of large-scale design experiments both within domains (e.g. within types of educational environment) and potentially across domains (e.g. quality assurance processes in other professions). It also argues for the standardisation of design principles terminology and notation, building on previous work in the area of pattern languages for social aspects of systems design.

## Chapter Two: Literature Review

### 2.1 Introduction

This review of the literature sets out the theoretical and methodological frameworks that were used for the project. The first part of the chapter describes the theories of knowledge and the chapter then goes on to describe the work that contributed to the study design. The two parts of the chapter are complementary, with the theoretical element being used to inform and guide the methodological choices. The literature review provides the rationale and explanation for the study design and shows that the research contributes to the literature on case studies of further education quality systems.

The selection of literature presented also helps develop the argument that a range of physical and conceptual technologies, the nexus of collaborative activity, technology and work design were all considered important in this study of the quality system at Stretchford. This is because the case study was intentionally broad in its treatment of the factors at play in the construction and design of the quality process to help achieve the aim of a holistic understanding of the design.

### 2.2 Reflective practice and collaborative knowledge construction

When he wrote *The Reflective Practitioner* (1983) Donald Schön felt that the design practicum approach offered an alternative way of understanding and developing practice for those working in environments that are often treated as technical functions. He describes how professional practice is often examined in terms of a positivist worldview, where the measurement and study of good practice can be achieved through a process modeled on, “instrumental problem solving made rigorous by the application of scientific theory and technique” (Schön 1983, p21). He contrasts this with the reflective approach seen in other spheres such as art, music and architecture. His argument is that the multiplicity of potential inputs, and the context of the particular situation, make reflection a powerful tool for adjusting and improving individual professional practice in many areas outside the traditional creative studio. This

improvement, and increase in tacit knowledge, then plays out in the form of large scale effects across the whole profession, as this 'know-how' is shared and discussed in a community of practice (Lave and Wenger 1991).

In particular, Schön wanted practitioners to be much more aware of their in-action reflection and how this is used to develop the tacit knowledge that he identifies as being so important to skillful practice. This type of knowledge is developed through a process of overcoming disturbances as they arise, when traditional and previously successful interventions in a situation don't work and new approaches must be attempted. This design practicum idea, supported by active reflection both on and in action, has found widespread support in teacher education and the medical profession with both teacher training and medical courses including the concept as part of professional development. A key aim of this project was to examine a college from a systems perspective and explore the potential for capturing the professional reflection that Schön writes about. As part of the study design activity there was a review of the core texts within the education research literature on group cognitive activity and eventually, in order to see how these ideas might be reified into practice, to the literature on sociotechnical theory and design.

For example, when Roy Pea was developing his ideas on how distributed intelligence can be both developed and analysed through a heuristic framework, he made particular reference to Schön's work in relation to the adaptation and development of new affordances of a technology (Pea 2004). Pea discusses the role of reflective activity in the cycle of continuous improvement in the sharing of intelligence across groups where positive change is a desired outcome. It is this synthesis of reflective practice and the distribution of intelligence across people and systems that was retained for this study. By showing how these aspects of human cognitive effort are causally connected to the functioning of a sociotechnical system the research provides evidence to support an argument that the design principles constructed, which prefer professional autonomy and authority within a collaborative environment over quantized data stripped of its socio-technical context, suggest a role for a design practicum aspect to quality systems processes. This idea of group cognition reflexively shaping a work system through the meaning-making interactions of group participants is discussed by Gerry Stahl as part of his series of experiments aimed at improving the design of groupware technologies for

learning. Stahl identifies patterns of group interaction which can be best understood at the group level, rather than as individual cognitive activities, “the unit of meaning is the interaction itself, and this is a group phenomenon not an individual one” (Stahl 2006, p171). Stahl’s view here is complementary to Schön’s view of ‘knowledge-in-action’ and the Vygotskian concepts of ‘scaffolded’ knowledge and the zone of proximal development, which are discussed below.

This attention to the importance of viewing design through the lens of collaborative knowledge co-construction has also been examined in terms of organisational performance and design (e.g. Argyris 2004, Carlile 2004). For Carlile and Argyris the organisation as an entity needs to deliberately structure itself as a knowledge management system if it is to perform at an optimal level. This research has adopted this general approach, with design principles being knowledge artefacts, which invite users to apply their own professional interpretation for use.

### 2.3 Distributed cognition

The role of cognitive science in understanding an individual actor’s knowledge production process has been extended into understanding cognition as a more broadly drawn concept than the traditional intra-psychical mechanism for building understandings (Clark 2008). For the individual this has been used as a means of describing their relationship to a world understood through processes of symbol manipulation and external representation. For some this has taken cognition beyond the brain and placed it in the world, where the intentional agent uses tools, which form part of the cognitive process rather than just influencing it. These tools extend from language and mathematical symbols to cockpit navigation instruments and maps (e.g. Hutchins 1995)

For others however the use of examples, such as a blind man’s cane becoming part of his cognitive make up when walking, but ceasing to be so when he sits down and puts it to one side, are unconvincing and lack the essential ‘mark of the cognitive’ (e.g. Adams and Aizawa 2008). This special feature of cognitive activity is grounded in the creation by humans and other cognisors of underived content. An example of such content however is hard to specify, Adams and Aizawa give the example of the first fish to have a thought;

it cannot be derived from any other source than the fish's own mind and is not based on other thoughts. This is a nativist position that ends up being caught in the arguments over innate and constructed properties of things. This argument for the 'mark of the cognitive' is essentially a restatement of the traditional psychological view of what constitutes cognition and is similar to Salomon's idea of 'cognitive residue' (Salomon 1993, p135). I would argue that the claims of those who reject the concept of distributed cognition are based on an unsustainable definition of the term 'cognitive'. This definition relies on a Fodorian attitude to the physical states of non-brain artefacts, that is to say they have no capacity to represent underived content (Fodor 2001). If true it means it is impossible for such artefacts to be part of the material used by the physical individual human mind and therefore they should not have the word 'cognitive' attached to them or any claim as to their function as part of a wider cognitive system made about them.

I find this strong nativist position rather unconvincing, because it reserves to the mind a unique characteristic, which ignores the fact of cumulative cognitive activity. A written process related to lesson observations, for example, allows multiple cognisors to work within a bounded system of lesson assessment and they use the cognitive effort of the process developer to reduce their own cognitive load. This is a constrained view of distributed cognitive effort and is not a claim of a universal consciousness. Just because one college governor can have their cognition augmented by digital technologies (e.g. an email system that provides them with detailed performance data broken down by subject area and department and the ability to ask questions of the creator of that data) that does not automatically translate into all governors and all the technology available to them being part of a single extended cognitive system. Perry's description of how systems can be viewed as cognitive is closer to this project's interpretation of the term. When he describes collaborative work problems Perry explains how they can be treated as cognitive in nature, "the system exhibits 'intelligent' purposeful behaviours in problem solving and information processing but differs in that these are mediated through the expression of features arising through non-neurological mechanisms" (2003, p195).

Perry's treatment of distributed cognition in the field of HCI design also helps to neutralise the claim that distributed cognitionists view any information processing

device as 'cognitive' and that all the elements of a cognitive system have equal weight within it. I would argue that this broadly drawn theory of cognition in groups supports Sharifian's ideas on emergent cultural cognition whereby cognition is treated as "resulting from the interactions between the members of a cultural group across time and space", and that such cognitions are heterogeneously distributed (2008, p4). Sharifian's ideas on group behaviour do not mean that all members of the group provide an equal amount of cognitive activity. Sharifian also makes the point that when participating in a cognitive system it is not necessary for mediating tools to be equal partners, but to enable other actors to participate in the overall cognitive activity independent of time and space (which I found a more convincing argument than the equality of agency ascribed to technologies by actor-network theory). It is this heterogeneous distribution that allows individuals and technologies to all work as part of an overall cognitive system, with the activity not being restricted to any individual participant and the resulting cognitive artefacts being qualitatively different to any of the individual's cognitions.

As discussed previously another way I could have approached the project as a sociotechnical one is to focus on the motivations and desires of the participants by making this the main topic of study, as in Activity Theory (Cole and Engeström 1993). As cognition is traditionally seen as a product of individual human effort, possibly supported by other people and objects it is well defined and argued for in both traditional psychology and by others who, like distributed cognitionists, see the merit of a unit of analysis that extends beyond the individual (Weick and Roberts 1993, pp357-381). Even where consideration of a wide range of environmental affordances and constraints are taken into account there is awareness that distributed cognition is a description which, "does not prescribe how cognitive activity occurs; rather, it describes the way we can explain action, through computational processes" (Spinelli, Perry et al. 2005, p113).

However, there are differences between distributed cognition theorists, which can best be illustrated by the disagreement between Salomon and Pea on the role of the individual in understanding activity. For Salomon, without individual cognition there can be no meaningful distribution. The idea here is that although the product of individual mental processes (including the artefacts produced as part of reflective

activity) might be jointly developed, and may well not exist without that joint construction, the cognitive residue that is left within the individual mind, once the rest of the cognitive system is taken away, is the important thing. The relationship between the individual, other individuals and the tools that might be used is fundamental for the construction of new knowledge, but for Salomon the individual's mental process always takes precedence. Where cognition is distributed across both people and technology the cognitive residue is left partially as a result of the effects "of" technology and Salomon argues this is more useful than the effects "with" technology that he suggests is the implication of Roy Pea's theory of distributed intelligence (Salomon 1993). Pea says that cognition happens in the mind but intelligence is held not only by individuals but within objects and across the whole cognitive system being analysed (e.g Pea 2004). For Pea then, the cognitivist claim made by Salomon that scaffolding is removed and the cognitive residue left behind is the most valuable area to study is rejected. Pea says this on the grounds that the scaffolding is not removed. Rather, it is used as the basis for building further knowledge, and is an essential part of the mechanism by which distributed cognition enables people to operate within zones of proximal development (ZPD). The concept of a ZPD is widely discussed in education literature (e.g. Vygotsky 1978, Wertsch 1984, Salomon 1998) and is described by Vygotsky as, "functions that have not yet matured but are in the process of maturation...the 'buds' of development rather than the 'fruits' of development" (1978, p86).

This distributed cognition/sociotechnical theory approach was something I developed from the idea of 'person-plus' described by Perkins (1993, p90) who saw cognitive systems in terms of four access characteristics. These traits of Knowledge, Representation, Retrieval and Construction are all things that an individual can do but they can also be used to analyse group behaviour in a scalable fashion where the person-solo is part of a larger system encompassing technology artefacts as well as other people. This possibility of connecting the individual activity of members of a work subsystem and the behaviour of a group both within and across their own subsystem, using the thread of distributed cognitive activity is hinted at by Knorr-Cetina in her study of scientists at the CERN laboratory in Switzerland (1999). She refers to the 'experiment' as the epistemic subject rather than any individual and seems to have identified a role for distributed cognition in her analysis, but unfortunately doesn't elaborate on it, something discussed by Giere (2002, p11).

If a large scale study of individual scientists in action such as Knorr-Cetina's can identify a role for distributed cognition as an explanatory tool then it is only necessary to see if a more generalised study of networks of collaborating agents can also draw on distributed cognition to demonstrate that it can genuinely act as a connecting tool within studies of professional practice and the design of sociotechnical environments. Such an approach would allow for a clear connection between case histories and more broadly drawn studies. Within the sphere of education research it appears little if any such literature exists on the activity of education professionals. However, there are such studies where the subject under investigation is a group of learners. A particularly useful study for this purpose is Gureckis and Goldstone's (2007) as it deals with networks rather than individual cases but there are many others (Resnick, Levine et al. 1991, Pea 1994, Stahl 2006).

In their study Gureckis and Goldstone begin by describing the essential elements of a distributed system, which leads them to define a distributed cognitive system as one where a person's functioning as an independent information processing unit diminishes in correlation to the extent on which they need to use mediating tools, including other people. Their study shows how, "groups of people interacting in real time can self-organize into adaptive problem-solving units" (2007, p99). Using lab-based experiments they base their study on the idea that cognitive behaviour at the individual level of analysis can cause qualitatively different behaviour at higher levels. Using three studies they looked at the way group paths are constructed and how knowledge is constructed based on the choices and behaviours of predecessors. This fits nicely with Hacking's description of how new knowledge is often dependent on funding sources or other external determinants (1999, p163), which set the priorities and decide which questions should be studied. Hacking uses the example of the defence industry and Gureckis and Goldstone use paths in a virtual jungle, but it is clear that epistemic privilege is granted to better trodden paths. This however raises the question of innovation. If simply treading pre-existing paths is the easiest thing to do what is the incentive to build new ones? Partially the answer relates to optimal solutions; a well-trodden path might not be the optimal one. Innovators can therefore stray into an unknown hinterland to explore and potentially be richly rewarded. Gureckis and Goldstone therefore looked at the behaviour of learning agents when they were

working on a problem and were given access to the answers of those they were directly connected to in a network. Counter-intuitively they found information processing within a 'small world' network was more effective than in a 'fully connected network'. This adds weight to Sharifian's views on the heterogeneous nature of distribution. In the fully connected network there is the potential for the most exchange of information but this leads to a reduction in specialisation and an increase in the average path length for information flow. The flow of information, and its use by individuals and groups, is then treated by Gureckis and Goldstone as a type of foraging, or search behaviour. They showed in this part of the study that there is evidence of 'bandwagon' jumping; with higher group cognitive activity in areas of greater population density.

The conclusions of the study are that the environment in which people work is largely shaped by the actions, including the cognitive activity, of others and this extends over time and space, so it doesn't just apply to the people who happen to be physically present. They also showed that networks could self-organise to take advantage of their distributed nature and produce optimal problem solving behaviour, but that it was necessary to organise the group into an effective 'small world' network. If this organisational issue was not handled well then more information could lead to a lower level of effectiveness.

Gureckis and Goldstone conclude their study by saying that, "understanding how these two levels of description mutually reinforce each other is an important step toward richer theories of many natural phenomena" (Gureckis and Goldstone 2007, p114). By this they are referring to understanding the lower level of complex systems behaviour, the individuals self-organising into a unit exhibiting systematic behaviour and the higher level of the group behaviour seen between such self-organised systems. I would argue that this is transferable to the idea of analysing individual quality systems designs that are built up from individual people and associated technologies and are loosely coupled into a larger system. The literature on distributed cognition has provided a framework within which it is possible to understand the nexus between people, technology and the environment, and also their role in spreading cognitive activity across a system, and the ways in which self-organising behaviour can be 'nudged' towards a designed end state. The design principles constructed as part of this research are expressions of how this nudging behaviour occurred at Stretchford college.

Counter intuitively then I would argue that the types of network behaviour identified as being most effective (where change is instigated from the bottom up) can be supported by a construct which is developed from the top down because, unlike other externally mandated solutions to problems (such as national policy standards), design principles allow those working within the network to shape the outcome in a locally optimal way. This situated aspect of how distributed cognitions analysis within a knowledge work environment that is explored through the ideas of a design practicum and reflective practice is explored in the next section.

## 2.4 Boundary objects and infrastructure

Having considered the role of cognitive activity and professional knowledge construction attention is now turned to the how the people involved in a system operate as collaborative agents. The issue of how different interest groups within an organisation collaborate to achieve objectives has been examined from a number of different directions, for example Orr's work on ethnography in technical work (2006) and Bechky's extension of this into the intersectional relationships between interest groups (2006). Susan Leigh Star's work on the ecology of infrastructure and the role of boundary objects in distributed knowledge work was used to inform the approach taken in this study, as was Carlile's work on the way knowledge is translated and transformed within organisations (e.g. Carlile 2002, Carlile and Rebertus 2003, Carlile 2004). In the paper where she first describes the meaning and purpose of boundary objects Star and Griesemer describe them as, "an analytic concept of those scientific objects which both inhabit several intersecting social worlds... and satisfy the informational needs of all of them" (1989, p393). As pointed out in the paper, a boundary object may be abstract or concrete but to constitute a boundary object it should meet the requirement of being interpretively flexible and be, "both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites" (ibid, p393). In the paper there are four types of boundary object described. The three types which were identified in the research as forming part of the quality system are described in figure 2.1 below.

| Type of boundary Object   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Repository</b>         | <p>These are ordered ‘piles’ intended to deal with ‘problems of heterogeneity caused by differences in unit of analysis’ (ibid, p410)</p> <p>In my research an example of this type of object is the OFSTED Handbook for Inspections in the Learning and Skills sector; it addresses the needs of different audiences without them having to negotiate around their different objectives. Teaching staff for example can use it to identify the format and intentions of the process, while the senior management team can focus on the format of the data they need to collect and the quality improvement team can use it to guide the development of the internal inspection system.</p>                                                                                                                                                    |
| <b>Ideal</b>              | <p>This is a general form of object that sits outside any particular domain. It acts as a map or diagram through which people can navigate and describe a particular situation. An example of this would be the organisation chart of a further education college. This is a general form of representation that can be applied in different situations but can be understood and used by all interest groups; they are a template rather than a constructed object.</p>                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Standardised forms</b> | <p>The standardised form is the level of object which has the status of an ‘immutable mobile’ (Latour cited in ibid, p411). It allows for communication of information according to a predefined standard, which is not subject to geo-temporal change. A good example of this from my data is an individual lesson observation. These are carried out on a standardised form but over time the interpretation of them and even the contents can be adjusted. This can happen for example where a particular focus is intended in the observation activity but later when analysed by the quality improvement team is reappraised in the light of changed priorities such as a move from a focus on differentiation to one on formative assessment – this can lead to changes to the record and to the overall grade recorded on the form.</p> |

Figure 2.1 Star and Griesemer’s types of boundary object

Star reflected on how this description of boundary objects had been taken up and used by others, and made some points about what she felt properly constituted a boundary object (Star 2010). Star discusses a well-formed boundary object in terms of scale, where a boundary object is useful at the organisational level, and scope, where the item is studied in terms of communication across and within a specific set of interest groups. In order to clarify the role of boundary objects in describing the processes of cooperation in the practices of distributed work, Star outlines some traits that describe infrastructure and places boundary objects within a class of tools through which infrastructure is developed and changed (ibid, p614). This is a connection of infrastructure problems and boundary objects as tools for achieving cooperative activity but not consensus. As Star puts it, “they are the sort of arrangement that allow different groups to work together without consensus... organic infrastructures that have arisen due to... [different groups] ‘information needs’ ” (ibid, p602). Design principles themselves are therefore boundary objects, and are built from knowledge of how other boundary objects are designed and used.

As boundary objects, design principles of the type developed as a result of the research have a particular focus on the role of people in shaping the environment in which the quality process operates. The research aims include improving the understanding of the perspective of managers and other staff responsible for the quality system’s operation. It was decided that in view of the attention to social sensitivity in terms of the design and operation of the quality process, an analytical approach with an explicit attention to systems where the people involved are central to the design should be adopted and this is discussed in the next section.

## 2.5 Sociotechnical design

In her exploration of the role and affect on systems design of sociotechnical theory Mumford makes the connection to action research, as a way of introducing humanist principles into organizational research rather than just as a method for practitioners to study their own work (e.g. Mumford 2006, p320). She is referring to the intent to implement change on the basis of an active intervention into practice that improves the meaningfulness of work. Her attention to the importance of humanistic principles is in the tradition of critical action research from the time that Lewin developed the

approach (1946, pp34-46) . Mumford connects it to the importance of design science as a way of achieving a system that succeeds in making effective use of the range of resources needed for it to function and takes account of the social processes that govern practice in natural environments, something she describes as the management of ‘social risk’ (2006, p324 ). Enid Mumford worked on a wide range of system design projects and discusses the failure of sociotechnical principles to become the normative approach to organisational operation following their popularity in the 1970s. Her conclusion that the development of the global economy has driven large companies to focus more on costs than development of staff suggests that the quest for agility and cost control makes the strategic development of staff a less attractive option than automation and the close management of an increasingly constrained workforce. This argument is reflected in the approach to education management that I have both experienced and observed during my own career and this doctoral research project. However, Mumford also argues that the rise of network organisational structures, the continuing success of economies such as Denmark’s, where sociotechnical principles are the foundation layer of employment practices, and the growing interest among technology companies for high performing cultures of design means there is hope to extend the ideas into other aspects of work, not just a few high level employees. As a theoretical platform for improved design of further education quality systems sociotechnical theory was appropriate and the failure of existing Taylorian structures to produce a learning and skills sector that is viewed as effective and of high quality suggests that the adoption of the ‘wired world’ approach (where technology allows employees to be treated as consumable resources) should be replaced by a ‘built to last’ , one where colleges ‘prosper through the collection of knowledge’ (ibid, p336). This means that the following discussions of action research, design research and sociotechnical theory combine to produce a framework where the intention is to provide tools for colleges, and eventually organisations in other problem domains, to introduce a value system that reflects the aim of this study that “although technological and organisational structures may change the rights and needs of the employee must be given as much weight as the non-human parts of the system” (ibid, p338). In the next part of the chapter I show how I designed the study to fit in with this value framework, and to show to end users of the design principles that it also meets the needs for effective management and development of the quality function.

## 2.6 Sociotechnical analysis and design research

The previous sections discussed how a systems view of further education colleges could be useful. This has suggested how a project focused on identifying the traits needed in a quality system, and their representation as design principles can be grounded in theories of collaborative work practice and the development of social ecology. This section develops the literature review by connecting this developmental process of identifying and exploring theories that provide insight into the ways in which a quality process in a college can be understood to the literature on the analytical style adopted, which is drawn from socio-technical systems analysis and influenced by ideas from design based research.

The study design was intended to be flexible, with a pragmatic attitude being seen as essential to the chances of achieving the core aim of the project, identifying how staff involved in designing a quality system work together to create the institutional culture that shapes the design. Therefore, there is also a discussion of the literature concerning the use of qualitative case study methods in the study of sociotechnical systems and the role which it is suggested they can play in warranting the construction of particular design principles. The focus of this part of the chapter is on literature that explores the relationship between quality assurance and quality improvement, especially in respect of the chief inspector's report into the learning and skills sector and the changes to the inspection framework from 2012.

The literature that underpins the design of this research explores the ways in which a case study of an organizational function can be treated as a descriptive account of a complex system, and can be studied in terms of the construction and functioning of that system. This analytical framework was selected because of its appropriateness for a project which aims to surface both social and practical aspects of knowledge work.

## 2.7 The development of sociotechnical theory and analysis

In his examination of the development of sociotechnical systems theory Eric Trist writes of the original case he and his colleagues at the Tavistock Institute had studied when the ideas first started being thought of as a coherent whole. They looked at a change in working practices in an English coal mine following nationalisation in 1947, where a

large unionised workforce was in a struggle for control of work practices with a management culture developed during the period of Britain operating a centrally controlled 'war economy'.

*"Cooperation between task groups was everywhere in evidence, personal commitment obvious, absenteeism low... they had evolved a form of work organisation based on practices common in unmechanised days when small groups who took responsibility for the entire cycle had worked autonomously. These practices had disappeared as the pits became progressively more mechanized... This had enlarged the scale of operations... while coordination and control had been externalised in supervision, which had become coercive. Now they had found a way at a higher level of mechanisation of recovering the group cohesion and self-regulation they had lost and of advancing their power to participate in decisions concerning their work arrangements."*

*(Trist 1981, p8)*

The identification of work practices as not being scientifically perfectable was central to Trist and Bamforth's original conceptualization of sociotechnical systems theory as a tool for work design (1951). Rather, they saw an alternative to the somewhat mechanistic Taylorian model. In Trist and Bamforth's approach optimization would be achieved by considering all parts of a work system, including its people, rather than the approach of seeking task decomposition and uniformity in work based on factory production-line models.

| Principle                                  | Description                                                                                                                                                              |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Work System                              | This principle reflects the idea that sociotechnical studies examine the work system rather than individual tasks within it                                              |
| 2 Work Group                               | This principle concerns the need to look at groups as a whole rather than focusing on individual roles within any work grouping                                          |
| 3 Internal Regulation                      | This is a requirement for studies to examine the ways internal control is organised rather than suggesting external supervision                                          |
| 4 Redundancy of functions                  | This promotes the idea of studying the role of deepening employees skills so that any team has multiple options for completing tasks                                     |
| 5 Privilege Discretionary aspects of roles | This principle is based on the concept of giving more attention to the discretionary aspects of roles than the prescribed ones                                           |
| 6 Complementarity                          | This principle states that it is important to ensure that human actors are treated as complementary and not just as extensions to technological components of a system   |
| 7 Variety increasing not decreasing        | The output of research should point to opportunities for increasing task variety rather than reducing it in an attempt to achieve efficiency through task specialisation |

**Figure 2.2 List of seven principles for sociotechnical systems studies, (based on Trist 1981)**

Sociotechnical systems theory is a mechanism to introduce social sensitivity into work design and Trist (1981, p31) suggests seven principles that underpin the research that he, Bamforth and later Emery undertook in their work at the Tavistock Institute (Emery and Trist 1964).

These principles, shown in figure 2.2, show that sociotechnical systems theory is practically focused and intended to provide a basis for applied research where new designs for work can be created based on a full understanding of the social ecology. This

approach can be compared to other technically rational work design theories, such as those drawn from Weberian sociology (2009, p196-244), where the construction of bureaucracies capable of coping with the management of large scale complex systems prevalent in industrialised societies is posited as an essential requirement for reducing favouritism (deliberately impersonal), maintaining control and maximizing the efficient use of resources. The sociotechnical approach is not in conflict with ideas of well-defined processes and their efficient management. However, what is missing from such approaches is discussed by Herbert Simon in his work *Administrative Behaviour* (Simon 1976), where he developed the concept of 'satisficing' behaviour to describe the failure of economic models based on assumptions of rational economic actors giving rise to optimum solutions.

Sociotechnical analysis fits well with theories of human members of a work system operating in ways that are pragmatic and not capable of being reflected in the deterministic manner suggested by linear models of work. Simon illustrates this idea by providing a description of 'bounded rationality', where individual actors will behave in a way which meets their own needs and is rational within the constraints of the resources available to them (their own cognitive abilities, physical resources and time available for a decision to be made). Such decisions might not be optimal but they will be good enough for the situation at that moment in time. This concept of humans adopting pragmatic, satisficing approaches, constrained by their access to resources is a useful way of thinking about how a sociotechnical system operates. An awareness of it is essential if design principles are to be flexible enough to support the development of different context-aware solutions to commonly experienced problems.

The original description of sociotechnical systems has developed over time and there have been a number of studies of the development of specific IT systems based on sociotechnical analysis (e.g. Mumford 2000, Baxter and Sommerville 2011). This could be seen as a response to the failure of a large number of IT projects due to a failure to connect the engineering and architecture of the new system to the work practices and social ecology of the organisation it was being developed for.

Although not directly related to this project, the creation of specifically social software design methodologies, such as participatory design and soft systems methodology,

provided important background theory when selecting design principles to include in the study. These approaches place the users at the centre of the design process and attempt to build a rich understanding of their work and how they interact with a system. These approaches are helpful but have also been criticised for privileging the users' views of the system when users may lack the skills and information necessary to build a robust model of the new system. The rise of such approaches in Scandinavia can be seen as part of a critical discourse about work and the role of the people who perform it. The ideas have been very influential and widely adopted in diluted form stripped of the overt critical stance (e.g. Bødker, Kensing et al. 2004) and user involvement in software design is now common.

Many IT projects however still fail, and although it has been criticised (e.g. Glass 2006), the annual Standish report (e.g. Standish Group 2012) does provide an insight in to the continued failure of systems designers to fully take account of the potentially disruptive effect on their design of the spaces, culture and practices of the users. Sociotechnical analysis has been used to address this issue (e.g. Jones, Maiden et al. 2007) and in his review of the evolution of sociotechnical analysis Trist (1981) provides some guidance about the different levels of analysis which the process operates at. This multilayer approach provides insight in to why sociotechnical analysis is helpful to the development of systems of work which have an improved chance of aligning all the components to achieve their objectives (1981).

In this discussion Trist identifies three levels of analysis that can arise from the study of sociotechnical systems. Firstly the primary work system, using sociotechnical analysis to inform the design of specific task-oriented systems within an organisation. It is this level of analysis that has become common in the research into the design of IT systems, and to some extent has become associated with research into HCIs and user interactions. Clegg provides an overview into the principles of sociotechnical design work in IT systems (2000), building on the work of Cherns who started to identify principles for sociotechnical analysis to show that the aim of sociotechnical design is to deal with organisational systems as they inherently are; Cherns (1976) makes the point that even the term 'sociotechnical' is a tautology, but a necessary one if technical rationality is not to be privileged over social sensitivity. The second level of analysis discussed by Trist is at the organisational level and the role of sociotechnical analysis in

the change management process. It is this level of analysis that this thesis is based on and Trist's description of the use of sociotechnical analysis as part of a change management process was influential in this work and so is discussed in some detail here. The third level of analysis is at the macro social level, and focuses on ideas of democratisation, the role of ICTs in the future structure of society and the expansion of sociotechnical analysis into policy development; especially in terms of educating and developing a workforce to make positive use of the disruptive potential of new types of information system.

This section of Trist's report does not describe in detail how macro social studies could be carried out but accurately describes what some effects of the 'microprocessor revolution' might be, though he adopts a pessimistic stance, perhaps understandable in the context of the economic climate when the paper was written. Trist argues that sociotechnical analysis has the potential to help societies manage the 'turbulent field' of increased competition, improved communications and an increase in exogenous disruption to established environments. There are elements of Trist's analysis which I would argue are weaknesses ; he adopts a reductionist approach to patterns of employment, despite stressing that sociotechnical systems rely on collaborative knowledge construction, abstract reasoning and higher order skills of perceptual and conceptual reasoning (1981 p20). His ideas for investigating the sociological impact of new technologies is weighted toward coping with their potentially devastating consequences. Trist's argument that macro social studies are imperative if new ways of structuring society that increase the benefits accruing from economic development more widely still resonate, and although this research is not at that scale it does provide the basis for examining how the interdependent structures of further education can be understood in a way that is different to the current models, which retain their hierarchical closely managed structure, something alluded to in the Chief Inspector's report (OFSTED 2012).

The most compelling part of Trist's reflections for this research is where he discusses why understanding organisations as a whole offers the sociotechnical analyst a fresh perspective, where it is possible to start describing generalisable design theories. Pointing to Emery's description of organisational design principles, Trist identifies the mechanistic nature of Weberian technical bureaucracies where functional

decomposition and task simplification is the imperative. He describes an alternative approach where system redundancy (and therefore the capacity to adapt to changing circumstances) is achieved not by reducing the level of skill required to perform tasks so that staff are, “cheap to replace and...take[s] little time to train” (1981, p38) but at the functional level. This means that the organisation has an organic capacity to adapt, changing what it does and how it does it because the sociotechnical system has flexibility and operates as a complex adaptive system where changes can be accommodated. Trist makes a strong claim for this type of structure,

*“Only organisations based on the redundancy of functions have the flexibility and innovative potential to give the possibility of adaption to a rapid change rate, increasing complexity and environmental uncertainty” (ibid, p38)*

This description of what is necessary for an organisation to effectively operate within a turbulent field of changing requirements, increasing competition and increasing resource constraints fits the further education sector very closely. This self-identification of operating in a rapidly changing and uncertain environment was something raised in every one of the interviews I carried out with senior managers, both at Stretchford College and Roman College. This aspect of Trist’s thinking, that organisation design predicated on Taylorian principles does not align the interests of its human and technology components well, and hinders the achievement of organisation aims, played an important role on influencing the decision to examine a core function of Stretchford College but to draw design principles which indicate that generalization to other functions within the college is feasible (within the framework of ‘fuzzy’ generalisability, where users can make decisions on transferability).

Developing his ideas into a description of the background to why organisations are facing increasing levels of external disturbance on their internal functioning Trist explains the four organisational environments he developed with Emery (e.g. Emery and Trist 1964). If it is kept in mind that any complex system will seek to attain a steady state of minimal disruption, these four states can be seen as the most likely to achieve that aim at different points in history. The two that are relevant for my study are:

- 1) The 'disturbed-reactive' where large organisations achieve an advantage through centralizing expertise and mobilising resources on a large scale. This is managed via a technical-rationalist bureaucracy. Complexity is managed by imposing systems of control and oversight and reducing autonomy to ensure regularity and objectivity of action and decision-making.
- 2) The turbulent field, where 1) breaks down in the face of increased and more complex interdependent relationships between organisations and wider society and an uncertain operating environment resulting from increased global connectedness and economic liberalization. This surpasses the limits of the technocratic approach, which Trist puts this down to a mechanistic and authoritarian bias in such structures. The bureaucracy's efforts to control outputs swamp innovative and adaptive efforts to reshape them, and make the attainment of a steady state impossible as misalignments between the system components are externalised.

Trist argues that if organisations are operating within a turbulent field then a steady state will either be achieved by the organisation failing and being removed or adapting to the increased uncertainty and competitive pressures and external oversights by developing well aligned social and technical structures.

Further education colleges can be argued as having moved from a placid state to one that can be characterised as a turbulent field, following their incorporation as private companies in 1993. The attempts to operate as technocratic bureaucracies has been discussed in terms of managerialism and instrumentalist policies for some time (e.g. Gleeson, Davies et al. 2005) and the report of the Chief Inspector (OFSTED 2012) shows that this has not succeeded in overcoming low morale and poor performance.

When Adapting Trist's ideas to the design of this study it was important to provide results in the form of design principles that could be useful in two specific situations. Firstly, the development of new quality systems where the existing approach to assessing and improving quality has failed. Colleges where a gap analysis identifies their capability on the lower part of the capability maturity model discussed later would need to design and implement a new system from the ground up. Other environments

however may have significant investment in, and support for, parts of their current system, such as the lesson observation process. The design principles therefore needed to allow for being part of a change process not just the design of new environments on a 'greenfield' site. The difficulties of applying sociotechnical design in change projects is examined by Trist as one of the most complex problems faced by analysts in the field. However, he discusses the two possibilities, new site or change in an existing one as separate. This might miss the point that problems he identifies as applying most commonly in existing environments, the 'accumulated practices of the past...an array of vested interests' are also present when implementing a completely new system. His argument is that a new site allows a fresh beginning but I contest the idea that people completely set aside their accumulated practices and ways of being when arriving in a new environment. For this study I have treated the two types of situation that the design principles are expected to work within as essentially the same. This is because new further education colleges are rarely created and also the design principles are intended to have implementable validity. As a case study the information for users is provided so that they can make a decision on the applicability of a particular principle, with the site selected being described in terms of its typicality to allow for a well-informed judgement to be made.

Where Trist's thinking in respect of working with existing structures did influence me was in the decision I made to adopt a top-down research process in contrast to a lot of education research where innovation and change are tried on a bottom-up basis, beginning at the individual classroom level. Trist describes a three-stage 'appreciation-planning-implementation' process. This resonated with me because it requires the whole system to be part of the investigative process and aims to increase the stickiness of any transformation so that the new design becomes embedded at the system level rather than in individual subsystems or gets dropped altogether after the research programme ends. By starting at the governance level Trist argues that the issues of 'values and philosophy' are given due weight and this was an important aim of the project. The other aspect of Trist's change process that was adopted was his inclusion of Emery's 'deep slice' approach for achieving organisational change by taking a narrow but deep approach to the system components that make up the project scope (referenced in Trist 1981 ,p46). In this study this influenced the sampling strategy by showing that an awareness of the interests of a wide range of college participants in the

teaching quality system was necessary. As part of my initial proposal to the research site I had ensured that they were aware of, and comfortable with, me working with people from each part of the process. This meant that my study could include governors, senior management, middle management, teaching staff and support staff as well as the quality improvement team.

In his discussion of implementing sociotechnical design projects Trist identifies the features that such an approach helps ensure, and contrasts them with the features of the hierarchical approach. I used this table (reproduced in figure 2.3 in an adapted format) when scoping my project and considering the type of design for the quality system I was aiming towards. This bounding of the design activity within a particular discourse (improving transparency and collaboration) was part of going through the process Simon describes when transforming an ill-structured problem into what can be treated as a well-structured one (1974).

| Technocratic Bureaucracy                              | Agile Learning Organisation                   |
|-------------------------------------------------------|-----------------------------------------------|
| Technological determinism                             | Joint optimization of work practices          |
| Employees as an extension of 'the machine'            | Employees as complement to 'the machine'      |
| Employees as expendable 'spare parts'                 | Employee development and engagement           |
| Functional decomposition – narrow skill set in a role | Task grouping and multiple skills             |
| Extensive external oversight and monitoring           | Autonomy and authority devolved               |
| 'Tall' organisation chart                             | Flat organisation chart                       |
| Internal competition, stack-ranking staff appraisal   | Collaboration as an organisational imperative |
| Organisation's purposes only                          | Wider social responsibility                   |
| Alienation – employees distinct from organisation     | Commitment – employees ARE the organisation   |
| Low-risk, maintenance of status quo rewarded          | Innovation and agility rewarded               |

Figure 2.3 Table of organisational models based on Trist (1981 , p42)

This shows that the study design might be criticised for adopting a particular set of assumptions about the benefits to a college following the application of design principles. I would argue however that any design carries within it the designer's 'worldview', which is subject to critical appraisal. I would also stress that the product of this research, a small collection of design principles, is both mutable and extensible. A researcher wishing to describe an alternative design can still use the approach and provided that they make their study design transparent in the same way it is open to users to select the collection that meets their own design intentions. This is a core

feature of a naturalistic generalization, as it places the needs of users of research at the centre of decision-making about the usefulness and transferability of a finding. No claim is made that the approach can ultimately lead to a perfected set of design principles but that any collection of them needs to show where its assumptions are drawn from and why the particular design principles constructed from the data meet the design goals.

The original development of sociotechnical analysis has evolved and been adapted to take better account of critiques such as Jirotko et al's observation that there is a risk of a false dichotomy between the technical and the social, that in fact they are entirely interwoven and should not be viewed as separate (1992 ,p100). In fact they suggest that this difference itself is indicative of a constructed social reality, and merits sociological enquiry in the same way that Latour and Woolgar showed laboratory science to be of a particular kind of social construction and which Knorr-Cetina (1999) went on to develop into a description of epistemic cultures. The difference is referred to by Trist, who stresses the importance of joint optimization because of the closely coupled relationship between the social and the technical,

*"a work system depends on the social and technical components becoming directly co-related to achieve a given goal state...else their contradictions will intrude and their complementarities be unrealized" (1981 p24)*

Jirotko et al develop Cherns' view that 'sociotechnical' is a tautology, but a necessary one to describe a reality, a type of 'theory in use' (Argyris and Schön 1974), and turn it into a discussion on what format a study into the necessity for such a tautology might take. It also implies a role for distributed cognition in the construction of the work system as an inherent part of how humans and technologies develop, share and use knowledge.

In the next sections an argument is made for how this study is grounded in the conception of sociotechnical studies as placing members of a work system within the design scope of the processes and practices while taking account of a number of developments of the ideas. In particular the study design is intended to enable the discovery and systematised representation of boundary objects and communication

practices across boundaries between system components complementing the work of Susan Leigh Star (e.g. Star 1999, Star 2010), although the theoretical stance is pragmatic rather than critical.

## 2.8 Design ethnography and the evolution of sociotechnical systems analysis

Within the CSCW literature there is a discussion about ethnography that can inform system design. This is often predicated on such ethnography being employed as part of the design effort for a particular computer system. This approach is grounded in the design ethnography work that led to the creation of participative design and soft systems methodologies, but extends the role of observation and in-depth understanding of practice, rather than privileging the views of current system users. This style of 'directed' ethnography is differentiated from classical ethnography, or 'scenic fieldwork' (Button 2000) because of its attention to the way knowledge is used and shared rather than there being a purely descriptive account. Button writes,

*"fieldwork that merely describes what relevant persons do in the workplace – may well be missing out on the constitutive practices of how they do what they do, the 'interactional what'... what people have to know in order to do work and how that knowledge is deployed in the ordering and organisation of work"* (2000 , p319).

A slightly different use of the idea of design ethnography can be found in Barab *et al*'s combination of anthropological examination and instructional design in a computer laboratory project in which they describe a 'critical design ethnography', which brings to design ethnography critical action research ideas of empowerment. In this approach the researchers are viewed as 'change agents', constructing a better system to extend and support the transformation of members of a community from hidden and unheard voices to empowered and active participants. In this project Barab et al helped design a computer system while simultaneously seeking to extend the life of their anthropological insights about the social infrastructure and its development from that case to other cases and other contexts, something they describe as, "naïve and possibly arrogant" (2004 ,p255). This concern about imposing a 'hegemonic influence' is interesting to them as they are interested in the role of their intervention in empowering the participants as constructors of their own environment and influential

in shaping the future. This critical stance was of less use to this research as it is examining the system not just at the role of the participants in it or their place in society. More importantly for this project is their description of design ethnography in education contexts, because it shows how the field of education research can benefit from attention to design thinking when examining cases. They describe the central tenet of design as being dependent on users' engagement with the artefact as a 'tool of the system' requiring transacting with the work at hand, the relationships both between members of a stakeholder group and between different stakeholder groups and the reinterpretation of design within their own environment (ibid, p257). This fits well with the research aims of this study.

The attention to space, transactional relationships within an organisation and systems design have all therefore been considered within educational research and similar ideas have been explored in the discourse related to workplace studies and organisation design. A common thread in all this literature is that the research design is to some extent participatory and naturalistic. It is also qualitative in nature and this supports the selection of a purely qualitative approach for this project that also had an applied foundation, the construction of a set of naturalistically generalisable design principles. Within education research there has been a growth of design based research approaches. In the next section this design based research approach can be combined with Bassey's framework for constructing case study research in educational contexts.

## **2.9 Design based research and capturing design knowledge**

A particular design-based approach has developed within education technology research, usually referred to in the literature as design based research (e.g. Barab and Squire 2004) and this has often been associated with the work of distributed cognition analysis (e.g. Pea 1993, Pea 2004). The use of design experiments in education research and the development of education technology research in a style in sympathy with the work being done in the CSCW field showed me that my conceptualization of my own project as encompassing a systems study, assuming a role for distributed cognition in the work practices of technology driven processes and grounded in theories of a design science were not unique per se. However many previous studies in education had largely focused on classroom learning. This study is more about institutional designs in

education and to also provides a design thinking approach for helping to identify the key features of quality systems and to support the sharing of designs with people working on similar problems of structure, governance and practice within the further education sector.

In her seminal paper on design experiments in education, Ann Brown highlights how useful ethnographic methods are in understanding how and why her cognitive experiments have provided evidence of positive change. In the summing up of problems faced by design based researchers she clearly sets out what sounds like a manifesto for the creation of design principles drawn from ethnographic studies, "The question becomes, what are the absolutely essential features that must be in place to cause change under conditions that one can reasonable hope to exist in normal school settings?.... I need to use ethnographic methodologies...to know the conditions for acceptance...to study the sociology of dissemination..." (Brown 1992). Some twenty years later it seems that this insight is still not fully accepted by many but, even where it is, there is a lack of the research evidence that would provide the data store from which such principles could be drawn. Andriesson's paper on integrating cycles of theory building and action research into design research (2006) provides a useful guide in terms of the structure of the research process.

One education research project that used the idea of design principles for cumulative knowledge building as its focus and was grounded in sociotechnical analysis was Kali's work on the Design Principles Database (2006). The strength of Kali's approach is her understanding of how to engage stakeholders with the design process and structuring design principles to meet her project's aim; that they should serve to "coalesce and synthesize emerging design knowledge about the use of technologies for education" (*ibid*, p188) However, because the study does not address the idea of design principles from the position of persistency of innovation the principles themselves relate only to the classroom and technological aspects of the research. As with most studies of this type therefore, despite identifying the importance of design thinking and developing a promising approach to practitioner input (where the term includes students, teachers and other actors) it is not clear how this database could be taken up on a larger scale, as the principles themselves are so local in nature and lack the necessary data for others to use them as 'fuzzy' generalizations.

## 2.10 Computer supported collaborative work and sociotechnical analysis

In the next chapter there is a description of the methods used in the study and their selection is warranted by reference to the literature on the development of a variety of types of sociotechnical system and the design of theory-building education case studies. In this section I focus on a review of some core texts that helped guide the design of the study and explain why they were considered to be important. There is a large body of literature related to ecological considerations, such as use of spaces and the mediating role of technology in supporting collaboration. In discussing this work no claim is made that it is an exhaustive treatment. However, it does show that there is literature in a number of fields that is helpful to those interested in researching a topic like design principles, where no one subject area has privileged ownership of the knowledge. The issues that arise when people need to work together are many and varied and a helpful discussion of them is presented by Haythornthwaite et al (2006). The need to understand cultures of practice and problems associated with distance, subject specialisation and negotiating epistemic cultures can be addressed from a variety of perspectives. In this study Haythornthwaite and her colleagues designed a study that would use ethnographic methods to examine the ways in which teams made up of people from different disciplines accomplish their work. While this study was not analogous to the study of a college function as a sociotechnical system, the focus on 'how teams accomplish their work' was useful and it showed that the idea of using qualitative methods to understand how things were done and then use that to construct aspects of how that happens, which are similar to my own thinking about how to make the findings from research usable by others. This study outlines four challenges and these entered into the planning of the study. The challenges are grouped under four headings:

- 1) Bridging practices, which is an examination about how people from different interest groups reconcile their domain knowledge and succeed in communicating effectively
- 2) Seeing and crossing boundaries, where the practices of entering and leaving a group or aligning the interests of different groups is discussed

- 3) Managing External relations, where the myriad external interests the affect a collaborative work group is considered
- 4) Working with and through technologies, which is explored in terms of the ways that in can both augment and constrain distributed collaboration.

These four challenges felt sensible as a starting point for looking at systems that would improve the ability of people to connect and achieve mutual goals. However I did think that the separating out of the role of technology was understandable but not something I particularly wanted to do. This study is more concerned with the idea of technology in a broader sense than IT, but also in my own study design technology is viewed from the perspective of its participation in enacting infrastructures, both social and concrete.

In terms of technology and collaboration I drew on literature from a number of fields but Orlikowski's work on groupware (collaborative software for performing a variety of typical project tasks) was particularly important. As a body of research Orlikowski's work is a good example of how structuration theory can inform research into social practices involving technology, but I did not want to develop my research in the structuralist style because I wanted it to be a piece of design research where concrete outcomes were delivered. However, Orlikowski's essay on adopting a 'practice lens' (2000) to show how practices shape how a technology is adopted and used was helpful in showing me that for this study it would be necessary to understand the practices of people performing a particular process, and see how that impacted on the types and uses of technology in the quality process.

Other work that was particularly important in helping to shape the study design was Julian Orr's use of ethnography in describing technical work (e.g. Orr 2006). By using ethnographic techniques to not only provide thick description and in-depth study of a particular organisation, but to also think about that in terms of the enactment of the organisation, the idea that it arises according to the interests of different groups within it and to contest the idea of there being one organisation at all but many, with competing interests and goals. As a case study of one aspect of an organisation this project benefited from Orr's work in terms of understanding how the case might be presented to others, perhaps with interests very different from the managers, governors and administrators under examination.

This helped me think about how I would make a case for designing a study about people that discussed things in systems terms. I found that really it was because my study was different in character to anthropological work by people such as Orr or Bechky (2006) because they were focused on understanding people's relationship to work, whereas I was focusing on understanding the traits of a system. Bechky alludes to the idea of studying occupational communities and how they communicate in an organisation as offering insights into how organisations function. I realised that this idea was important and it is for this reason that I made the study of boundary objects and the workings of boundary spanning communication an important aim of the project. I saw this idea as being analogous to Etienne Wenger's studies of social learning systems and in particular the research on navigating identities across the boundaries between interest groups in an organisation (2000, Wenger, McDermott et al. 2002).

The study design was intended to ensure that the research would be able to provide a description of principles that were surfaced for the construction and communication of knowledge, the mechanisms for designing systems to promote successful boundary spanning communication and an understanding of good design of boundary objects. The literature discussed so far had a direct influence on the way I decided to structure the study and the type of fieldwork I wanted to do, and it also led me to select a purely qualitative approach. In the next section I discuss the literature specifically related to quality assurance and quality improvement to connect the design from a methodological standpoint to a particular case.

### **2.11 Quality systems in further education colleges**

The study of colleges through a sociotechnical lens meant that the research needed to take account of the literature on what constitutes 'quality' within the further education discourse and also whether there was evidence of other study designs related to the quality assurance and quality improvement functions which could inform this research. I wanted to see what existing research could tell me about the ways that quality processes were examined, and to what extent the alignment of social and technical factors were considerations.

A search of the literature indicated that the process of designing a quality process for teaching and learning in further education is underexplored in the literature. There has been significant attention paid to the higher education sector with studies such as Newton's (2000) describing the effects of external oversight on academics work through detailed measurement and reporting. The literature on quality in further education is largely concerned with the adoption of particular frameworks or the application of a specific model. A lot of the literature reflects the approach taken by McAdam and Welsh (2000) in their study of Northern Ireland further education. This takes the Business Excellence Model (BEM) devised as a European initiative for the promotion of Total Quality Management and explores how it might help improve the operation of Northern Ireland's seventeen further education colleges. The BEM was intended to shape the operations of production based industries and like many such initiatives was later imported to both service industries and then into the public sector. Building on the wide range of designs and drawing on the assessment processes for quality awards such as the Deming Award this approach retains the rationalist model of input, process, output all of which are capable of continuous refinement towards a state of 'perfection'.

Such designs as have been discussed are often hard to apply in the type of situation where human actors are a dominant aspect of the organisational objectives and are only useful to the extent that they provide tools for checking progress in certain parts of the system. Other literature related to further education seeks to identify and compare different models for creating external assurance policies and successful methods of teaching and learning. This literature was not directly informative in terms of producing a sociotechnical analysis, which could be used to design specific context-aware systems of quality improvement (and quality improvement is the intention of the process, with quality assurance being a subset of it).

For this study therefore I turned to the official governance documentation, the OFSTED and HM Inspector reports as well as documents such as the proposed quality assurance framework for governance issued by the Department of Business Innovation and Skills. Also guidance from papers issued by the 157 Group of large high performing colleges and the Association of Colleges was used. The recent (2013) appointment of a Commissioner for further education demonstrates that any of the existing research and

literature has failed to overcome a systemic problem in the sector of underperformance and a failure to improve. The reasons for this are alluded to in the report commissioned after the election of a new government in 2010 (Wolf 2011) and the study takes account of this in terms of identifying a core function of a college to look at but also it supported the initial hypothesis that the perspective of designers of the individual systems in colleges were not well understood. This provided evidence that the contribution to knowledge of the study, providing an improved understanding of management perspectives about their work in managing quality in their institution, would be useful for a wide range of users.

## 2.12 Conclusion

The theoretical framework within which the research was conducted is centred on approaches to understanding how humans can organise work to take best advantage of the benefits of technology-as-tool, while retaining their status as autonomous individuals. The work done in some areas of engineering such as within the machine learning community is interesting in describing the potential of technology to perform tasks autonomously in an efficient, safe and well-ordered manner. This, as technology research always has, offers huge potential to create new types of system and new roles for people in the workplace. In some ways this techno-centric drive to develop order, control and predictability in practices traditionally carried out by humans in a seemingly chaotic, messy fashion is a familiar technical-rationalist response to improving efficiency. People are the resource that consistently ensures a system is not Pareto optimal in situations where traditional measures from normative economic theory are used to judge performance. In a recent blog post for example a machine learning researcher describes the process of capturing domain knowledge (Bousquet 2013). His description of the process that might be followed is entirely driven by capturing 'knowledge' about a process; this is similar to trying to describe 'best practice' and suffers from the same problem, a lack of context, the situated cognition that enables professionals to operate in unstable environments.

Unlike a manufacturing environment the outputs of a further education college are people, mostly young people, and not the qualifications they achieve (which are used as a proxy for the quality of delivery in order to sustain the industrial analogy). The focus

on measuring and checking performance in F.E. colleges in order to understand the difference that is being made to students' performance is ultimately driven by a need to demonstrate that qualifications are being achieved (financial structures are based on a reward/punishment model for the achievement of 'outcomes'). The college quality process as a system therefore is governed by constraints that are part of the reality of sociopolitical structures, and the internal structure has to work within these. The approach for this thesis has been to seek out those parts of the literature which are pragmatic, and support the project's goal of providing guidance for keeping people and practices well aligned.

I have argued that the theories of learning organisations and reflective practice discussed by Schön and Argyris can be combined with theories of knowledge co-construction and distributed cognitions analysis to build understandings of how a human-centred system might be examined. By using a sociotechnical approach grounded in Trist's design principles I argue it is possible to use ethnographically informed research design to create implementable artefacts. The theoretical and analytical frameworks used, which were drawn from literature discussed here as well as broader reading in the area have led me to argue that there is an important facet of design thinking in education research that has potential to be transferred into other problem domains in future. This is a focus on the use of directed ethnographic activity to improve systems design and that this is capable of generalization in a way that I would argue suggests that one attitude to ethnography, that it is only suitable for developing descriptive accounts and local theory (e.g. Hammersley 1992) is contestable. I would argue that the literature shows that from a design perspective there is a possibility for 'fuzzy' generalization of the findings of this style of ethnographically-informed research, both within a problem domain but also more broadly, and that sociotechnical analysis can continue to offer a way to help ensure technology augmented systems keep all their elements well-aligned. The literature reviewed here is some of the core writing that has inspired this study. However, it can only represent a part of the work done on trying to build understandings of the ways in which people operate within a work system. The chapter has shown that studies of complex systems need to be artificially constrained because of the connectivity problem. It is possible to argue, and true to say, that the interplay of interest groups and issues of boundary crossing and communication are potentially too complex to model accurately. However,

in order to understand 'messes' it is possible to adopt a standpoint from which to observe them and I chose to apply Herbert Simon's approach by understanding open systems as collections of bounded subsystems and to concentrate then on the interface between those.

These interfaces (reified as boundary objects) are where Etienne Wenger said 'all the interesting stuff happens' (Wenger 2010), and in reviewing the literature I have intended to show that it is possible to connect tacit knowledge, distributed cognition and ideas of socially sensitive systems design with a qualitative approach to understanding generalised design problems, and that further education quality systems could benefit from a design based approach which draws on methods inspired by ethnographic case study approaches, especially where they take account of the range of locations, including digital locations where data resides.

As an example of developmental research the project was grounded in a range of literature that helped me answer questions about how to understand the situation being examined and also that part of the literature that discusses approaches to analysis that could be generalised beyond an individual case and had the implementable validity that would allow them to be used in real-world environments. This chapter has therefore provided the framework within which the methods selected and the design of the fieldwork and analysis phases was carried out. In the next chapter I discuss the methods in more detail and connect them to the research questions posed. I then describe how the data were gathered.

## Chapter Three: Methodology

### 3.1 Introduction

This chapter describes the methodological framework within which the research was conducted and places it within the literature on case studies in education settings. It then moves on to describe the data collection process, including details of interviews held, observations made and documents collected. As an example of developmental research organized as a case study the collection of data and its analysis were not separate activities. Data collection and analysis took place in a continuous process where collected data were analysed, which helped direct further data collection. This method, described as 'constant comparison' by Glaser and Strauss (1968) is well suited to the research design, as it allows for an iterative approach to be taken when examining data where no *apriori* hypothesis is being used.

This chapter focuses on the structure of the study and the gathering of data. The part of the chapter regarding data collection is divided into two parts. Firstly a breakdown of the data collected and a rationale for its inclusion and second, a narrative account of the process providing a detailed description of how the study was conducted.

As the study adopts a sociotechnical perspective on the examination of a quality system the literature on 'Ethnography of infrastructure' is also discussed in this chapter. Within further education college research this approach is not widespread or well understood. This section therefore provides a rationale for why understanding infrastructure was important for the purposes of this project.

The description of how validity and reliability were treated focuses on the development of a trustworthy account in qualitative research, though the terms 'validity and reliability' are retained. This is notwithstanding some claims that they should be discarded for qualitative studies (Lincoln and Guba 1985, pp275-289). The chapter also includes an explanation of implementable validity (Argyris 2004), which is the potential for findings to be used in existing real world environments without administrative or

technological changes to be implemented that are beyond the scope of the local institution to enact.

### 3.2 Selection of methods

The methods selected for the study allow for the examination of three specific traits of the case, trust within the organisation in respect to the assessment of quality of teaching; the resilience and reliability of both formal and informal systems and the flexibility/adaptability of the processes which ensure the college's strategic objectives are maintained and developed. Each of these facets of quality improvement were considered when analyzing the data and suggesting the design principles which the case suggests underpins the quality process at Stretchford , and which might be naturalistically generalisable.

The first research question (see p12) is concerned with exploring how an in-depth understanding of the sociotechnical environment within which the research is conducted can be used as a mechanism for producing generalised design principles within the problem domain of quality improvement in the further education sector. The scope of the question is broad in that a sociotechnical system can be viewed in different ways. However, for the purposes of this study sociotechnical system is taken to mean the set of human interactions, written documents and connecting technologies which Stretchford College uses in order to measure and improve the quality of provision it offers. These elements include but are not restricted to, college strategy documents, organisational structures and work descriptions, self-assessment report templates and processes and technologies that support the development and propagation of information. It also encompasses the organisation of physical spaces and of work practices within the college. For example, the senior management team of the college is distributed across a number of sites in a major urban centre. This has a clear impact on the way communication is organised and also the styles of communication activity that are used. It also has more subtle and hard to explicate affects on relationships between staff and also the knowledge that is both created and disseminated in respect of teaching quality.

In chapter two the development of sociotechnical systems theory was discussed and in developing the research question this term was considered alongside an alternative, 'institutional context'. The use of 'sociotechnical system' however was retained, as it fitted better with the literature being used for theory development. Using sociotechnical analysis involves taking account of four facets of a work system; technical, organisational, social and economic. These facets were used to break down the question and frame the analysis and were the basis for the examination of the full range of data collected.

The second research question is more concrete, in that it seeks to uncover which sociotechnical features of an existing quality process might have transferability into other colleges. The second research question involved a process of moving between desk research, supported by interviews with experts in the field of inspection and quality assessment, and application of findings from that to the situation under examination at Stretchford College. This was a complex process, and the answer drawn up in response represents the outcome of a series of idea generating and testing cycles which involved a mixture of activities, including one to one discussions with external actors and group interviews involving college staff from both Stretchford College and Roman College.

The responses to the two questions suggest that design principles can provide a basis for people to extend their understanding of how a successful quality process was managed in a large college and have access to data to support their own analysis and transference of the findings. These design principles are intended to support an integrated system for exploring the quality of teaching and learning that augments current data-driven processes with richer qualitative information. Traditionally a design principle has its background context stripped away, so that it can guide the development of a range of systems. However, there is an apparent contradiction between this type of universal generalisation and the more context-driven style of design principles developed here as part of a case study. The research design is therefore guided by an awareness that, though they are not 'facts' in the scientific sense, the construction of design principles has a lot in common with the construction of facts

within other domains (Latour and Woolgar 1986) because they are developed within the social world, are evidence based but are mutable. They are not facts because they are not intended to be universally true, but they are falsifiable and they are based on evidence. The adoption of Bassey's term 'fuzzy' generalisation conveys these features and allows users to make an informed decision as to their use.

One aspect of answering the second research question is to try and identify the extent to which the research design assists in drawing out widely usable professional knowledge (which in this case means knowledge that is usable in other contexts than Stretchford College itself). It is a long held part of the literature on professional development that knowledge-in-action serves to reinforce the capacity of an individual to construct new solutions to problems as they arise in the course of their work. The writing of Donald Schön (1985) was the main theoretical foundation used when developing this question. Developing a response to this question however is not straightforward, as it is not possible to definitively measure the extent to which the process of researching these issues explicates tacit knowledge. To overcome this significant barrier it was decided to base the response on feedback from participants as to the extent to which the design principles created capture the socially sensitive aspects of work, and provides mechanisms for this to be shared. This will not represent an attempt to taxonomise or directly quantify the extent to which tacit knowledge can be drawn out by the process that was undertaken, but rather provides emic validation and assists other users to make a judgement about the findings.

The development of quality systems which take account of the design suggested by the principles can help inform the design of processes and documentation which supports a human-centred approach to development of processes and documentation; whether that happens or not is still down to the personalities involved and their interpretation of the local context at the time. However, the design principles provides a distilled account of a successful design. This is also not to ignore what Wenger and McDermott say regarding boundary conflicts and the role of creative tension between different interest groups (2002). The role of the case study and the associated design principles is to provide a basis for understanding how the connectivity between different technical

aspects of a system can be organised. Without such a tool many possibilities for the dispute and resolution process which characterises quality improvement can be missed simply because people are unaware of 'the other', whether that be a process a technology tool or, in a large and distributed environment such as Stretchford College, other people, departments and workstreams. The difficulty of meeting the objective of making a judgment about the extent to which tacit knowledge can be made more accessible using design principles is highlighted by Sonnenwald and Pierce's discussion of interwoven situational awareness (2000) and Orlikowski's seminal article on change processes and groupware (1992).

However, each design principle is underpinned by a minimum of five examples of data which match the codes from which an individual design principle has been drawn. It was felt that this was enough data to be confident that there is a pattern of activity and behaviour which represents something other than a chance single event and which can be used by others as an indicator of an approach that might be useful to them.

### **3.3 The role of researcher**

My role as researcher within the project was principally as observer and there was little need to engage as a participant in the study. However, there were a few occasions when my role was more participatory, and it is to those that this section is addressed. As well as this element of my role it is also important to highlight the various types of actor with which I engaged and place my role within the context of individual encounters. This is important because I was not dealing with a group of people working in similar capacities, where the aim is to carry out a comparative analysis or formulate a general view as to their role. The nearest I came to this was in encounters with lecturers and course team leaders, who broadly had the same working environment and similar job descriptions. However, even here there are significant differences between those teaching in traditional classroom subjects such as English Literature and those teaching in other more vocational areas such as social care. Mostly however I was working with people in specific senior roles; these roles included leading the Quality Improvement team the College Principal and the Deputy Principal in charge of teaching and learning and the head of e-learning development. The following brief outline of roles performed

is intended to show that the flexible design selected for this study succeeded in facilitating the data collection process according to the 'facts on the ground'.

Outside of Stretchford College my role was as interviewer in a collection of interviews with senior managers. When analyzing the documents provided to me I needed to adopt a number of different roles. Many documents were already in the public domain, for example the governors of Stretchford College make all of their meeting minutes available online as part of their commitment to transparency of information. This cultural trait of the College could also be seen in some other areas, such as links to OFSTED reports but was lacking in some other parts. For example, the self-assessment reports were not easily available and some aspects of the work of the executive board (the operational decisions) were thought too sensitive for me to be allowed to see, something discussed later in this chapter. As a researcher I tried to take an objective view of these issues and asked myself questions such as "is the presence of links on the website to the OFSTED reports driven by legislation or by a management decision in support of the college's mission".

Needing to adapt to the different power relationships and mediating my passage through the complex work ecology was something that the study design assumed as likely. By focusing on the research questions and maintaining a sense of perspective about what was and wasn't possible with the time and resources was an important aid to maintaining the momentum of the project. The original study design was informed by many texts on fieldwork and the separation of different types of observation material (Neumann 2000, p364) A reflective journal, separate from, my field notes, allowed for memos and opinions to be managed alongside formal observation activity. This meant the two documents were readily comparable but had a distinctiveness about them.

### **3.4 The methodological approach**

#### **Case study methods and a sociotechnical system**

It was felt the most trustworthy method for this research was ethnographically informed case study, as other methods did not appear so useful for drawing out the lived experience of college life. This is because it is through a use of ethnography that

professional knowledge-in-action can be observed and a deep understanding of the competing interest groups and the configuring of identities within them drawn out. The benefit of a case study was that it allowed for a deep investigation of a singular case but allowed for more general findings to be drawn. While other research styles might offer other benefits, such as better quantitative evidence of patterns of behaviour, I was struck by the wide use of ethnographic methods in other fields of knowledge which examine work from a systems standpoint; this includes economics (Ostrom 2000), library and information science (Crabtree, Nichols et al. 2000) , and architecture (Memmott, Hyde et al. 2009). Here ethnography is being used as a key component in the development of new knowledge in the form of design principles. Recent work in the field of health sciences research has also recognised the need to move beyond purely positivist approaches and to explore the potential for ethnography and the development of sociotechnical systems theories to healthcare studies (Greenhalgh and Swinglehurst 2011)

Keeping in mind that an ethnographic case study requires a sound justification if it is to avoid the problem of being an interesting but untransferable method (Walford 2001) I made site selection and access a priority. This is because it was important to ensure that the case being examined was not only intrinsically interesting but that it said something important about the state of education, and carried wider implications than an interesting narrative. The reason for this is that for design principles to be useful they must be able to transfer to different environments within the problem domain; in this case such transfer being based on the assessment of users of the principles.

A large college was selected because theory-building case studies are of most use to research effort that is distributed over both time and space and for examining larger scale environments where complexity is inherent to the design. The research was also intended to be scalable and the experience of carrying out this study is evidence that the design should be capable of translation into other projects; for example, involving a number of colleges and different quality systems to examine whether there are general traits that can be identified in further education quality systems that could be described using design principles.

However, accepting ethnographic approaches as a research method carries a lot of risks for an institution because not only do they do not know exactly what the outcome of the research might be, they have little control of the choices made by the researcher about what is being studied. Allowing a case study to be carried out on their operations requires a college's senior staff to permit a researcher into their daily work, which carries a potential for negative judgments to be made. The building of rapport takes time and requires constant care and attention. It was decided to adopt a top-down approach to the research, which runs counter to a lot of the literature in the learning sciences, which suggests that bottom-up change has a greater chance of being accepted within institutions. It was decided that although bottom-up change is often a feature of educational case studies, it was not appropriate for this study where the aim is to surface the perspective of the senior management team and others with a direct role in shaping the quality system. The data collection process is described in detail following a brief summary of the main techniques that were used.

## Interviews

Interviews played a central role in this study and took different forms. There were semi structured interviews and group interviews aimed at uncovering the ways in which staff members interact with the quality improvement system at Stretchford College. In addition to this were interviews with the senior management team, governors and senior figures from external agencies who are stakeholders in the quality improvement system. These were designed to draw out the strategic issues faced by those responsible for the creation and maintenance of the quality improvement process.

The individual interviews carried out with staff were built on the work done in two workshops, which were recorded. The first workshop in July 2011 was held to introduce staff attending the college's annual research conference to the idea of design principles and how they can be applied in teacher research and quality improvement activity. The event was attended by ten staff, provided a useful and very informative mechanism for gathering staff members' concerns about how they are judged as teachers, their perceptions of what managers are seeking from them and their attitude

to change and the external influences on the design of college structures and the curriculum.

The second group interview was held a year later and explored the experiences arising as a result of the changes being implemented to the quality improvement process and the preparations for the introduction of the new 2012 OFSTED Common Inspection Framework (which applied from September 2012). Individual interviews were then carried out which explored general issues arising from the workshop environment in more detail and also providing a confidential environment for opinions to be shared. This meant that for the interview I wanted to get to understand particular issues associated with the teaching specialism of the member of staff, and also to get their perspective on what 'good quality teaching and learning' looks like and how quality in the classroom can be improved.

For the interviews with senior managers and governors it was possible to interview them either in their office at the site where they were based or, in the case of Governors, the office of the Clerk to the Governors was used. These interviews differed in terms of both structure and intent. I wanted to get an understanding of the 'as is' system of quality improvement, the type of data collected and the ways in which it was used from the different standpoints of a range of senior figures. Externally to the college these ranged from senior civil servants at the Department for Business Innovation and Skills in Sheffield, the head of research at the Institute for Learning and also the lead inspector from OFSTED responsible for developing the Common Inspection Framework for use in the learning and skills sector. Within the college it included a range of senior managers and also support staff, teaching staff and departmental managers.

## Observations

I was given permission to observe behaviour in outside public spaces, use of IT equipment in the learning resources centres and to observe interactions in both informal learning spaces/ social spaces, such as the café in the main sixth form centre and one of the restaurants in the largest of the skills centres. In addition to this I attended committee meetings attended by both governors and senior managers and

spent a day shadowing the head of the quality improvement team and ultimately followed an internal inspection week. I also spoke more informally to a number of other senior figures, particularly from the e-learning team. For these latter discussions I relied on contemporaneous notes as the opportunity arose in the course of my observation activity and I have not included them as formal interviews for data analysis purposes but as part of the field notes I maintained.

### Document analysis

Organisational documents, both internally and externally generated were an important part of the data collected for the study. They break down into two classes, publicly available documents and internal process and policy documents. The public documents include such things as the government's policy document on quality management, reporting and division of responsibility following a review carried out after the change of government in May 2010; the various reports into FE teaching structures and quality improvement especially the Wolf report (2011) and the government's response to it; more general reports on quality in teaching such as McKinsey's current version of their international study and the Reform think tank's "Every Teacher Matters" report (2010); legislative material published by the Department for Business Innovation and skills on their website as well as OFSTED's inspection framework for the FE sector and individual OFSTED reports on the college as well the college's response to them. Internal documents considered appropriate for inclusion centred on those describing the quality improvement process and the recording documents such as departmental, faculty and college-wide Self Assessment Reports. In addition to this were policy documents relating to the professional development and e-learning plans, the annual teaching survey and I was given access on an anonymised basis to the systems for recording and monitoring teaching quality and teaching observations.

### 3.5 Role of ethnographic methods when applied to infrastructure

Having described the methods that were used in the study it is also important to place them into the context of how the hidden environment of physical and procedural infrastructure shapes the sociotechnical environment. The theoretical foundation for

the observation of infrastructure is grounded in the work of Susan Leigh Star (e.g. Star 1999). What Star's work emphasizes is the foregrounding of the mundane and seeing it in terms of its relational role in connecting organised practice, rather than seeing infrastructural elements as 'things stripped of their use' (*ibid* p380). In my study this meant taking account of decisions such as a major change to the email system, the placement of CCTV in certain parts of college buildings, the design of templates for teacher observations and the Self-Assessment Report and the physical environment of the designed spaces where architecture and planning regulations impacted on the functionality and role of certain parts of the college.

### 3.6 Design based research and sociotechnical analysis

As sociotechnical studies are concerned with the design of technology artefacts it might be expected that design based research approaches would fit easily into the field. However, potentially there are problems with design based research studies and the sociotechnical approach. This is because many design based research studies place their emphasis on the artefact itself. Improving a physical design through an iterative process does not automatically mean that a fully context-driven approach is adopted or that any research based on narrative accounts is deemed trustworthy. For example, Shavelson et al reject any notion of design in education research which cannot be warranted according to a strict interpretation of scientific warrants (Shavelson, Phillips et al. 2003). This can lead design based research in a technologically deterministic direction where narrative accounts of practice are set aside in favour of a focus on the effects of the technology in an artificial environment, and ignoring its role within the infrastructure of a larger system. However, there is a body of work in design based research studies which seeks to take account of user experience and social infrastructure in order that design can better reflect the environment into which a system might really be placed (e.g. Turvey 2009).

This project adopts some of the elements of design based research studies; it is concerned with the social context and perspective of a specific group in relation to a designed artefact (a quality system) rather than the study of a purely social situation; it involves collaborative design practices and an iterative approach to the development of

the artefact. Although not a design based research study in the sense of being about cognition and learning, this study does adopt some of the core reasoning behind the design based approach. Brown's comment that "The question becomes, what are the absolutely essential features that must be in place to cause change under conditions that one can reasonably hope to exist in normal school settings?.... I need to use ethnographic methodologies...to know the conditions for acceptance...to study the sociology of dissemination..." (1992) was influential in the shaping of this study.

### 3.7 Design iterations

One of the defining features of design-based research is that it refines the artefact being researched. This formative aspect contrasts with a lot of traditional approaches in education research, which are more explanatory in nature. Within this study the design of principles for understanding how a particular case of a quality system was created and implemented from the perspective of senior managers is the end goal. This is different to a typical design research study, where an initial artefact design might be iteratively tested and then refined, with this cycle being used to continually develop both the artefact itself and the theory being generated by the research.

This is often done using something similar to the two 'streams' described by Andrieesson (2006) where action research informs theory and vice versa. Although this approach was taken as a starting point, the answering of the research questions required a more flexible treatment than this more experiment-based design would allow. There were a number of reasons for this but principally it was because I was drawing evidence from a wide range of sources such as documents, observations and interviews. The participants also being widely dispersed in terms of geography and position in the college hierarchy (and some of them being external actors), it made little sense to try and adopt an approach designed for classroom-based studies.

The study involved internal actors with very different job descriptions and it was important to draw together the input from a number of people before developing a design principle that encapsulates some aspect of all of their input. One of the main aims of using design principles is that they reify hidden knowledge into a flexible and non-

directive format that can help tackle issues arising in a problem domain from a number of viewpoints or contexts.

An example would be the #KeyLink principle which was one of the first findings developed during the course of this study. This describes the importance to a college's teaching quality of a well understood and transparent system for communicating the college's mission from the Governors to the Executive and the equally important role of the Executive's communication of their planning and their process design activity back to the Governing body. The Governors have different motivations and interests to the Executive, and negotiating through some of the potential miscommunications and diverging interests is not straightforward.

The #KeyLink principle provides a way for Stretchford College to focus on achieving a smooth feedback cycle between these interest groups and ensuring there is congruence between the stated mission and the teaching and learning policies and their supporting processes. However, as each element affected by this principle has a different interest it cannot be tested in a traditional iterative process. Instead I adapted the idea of iterating a design so that it encompassed individual discussion with interested parties and adjustments were made according to that discussion. This meant adjustments were made without rechecking every element with every interested party. This is similar to reaching 'code saturation' where enough evidence from different sources has been collected to merit the code being warranted and used for theory generation. All of the principles included as findings were required to be verified through appearing in a minimum of five examples.

### 3.8 Collaborative design

This project was not a study about the ways in which people work together, the cognitive effects of collaborative knowledge building or a test of a particular tool for fostering such collaboration. However all of those elements of what collaboration means within a research project were important. This is because in order to fully understand what was leading to the generation of one expression of a design principle over another interpretation I needed to step outside of the activity of carrying out the research and

view my own research process in terms of what Scardamalia refers to as 'collective cognitive responsibility' (2002). The theoretical basis for seeing the research as part of a collaborative process is discussed in chapter two and I was influenced by a lot of the writing concerning the role of reflective practice in such activity (e.g. Carr and Kemmis 1986) but also by the work which dealt with the collaborative construction, management and dissemination of knowledge in organisations including education organisations (e.g. Gasson 2005, Carmichael 2007). When planning the data collection and the refinement of the research product (the design principles and associated findings) I adopted many elements of what Gasson refers to as a soft systems approach but is also written about as participatory design. The role of reflective practice within the work and theories of distributed cognitive activity meant I had a complex position within the project. As I was leading the design process I was to that extent a participant in the process and needed to plan how I was going to make my role clear within the findings. However the design principles themselves emerged from the collaborative process of feeding back findings and responding to input from the other actors. It was decided therefore that the best approach to take was to keep close records of both the data collecting activity and also the development cycle of each design principle alongside the field notes of my own part in the research process. It is not desirable in a project of this nature to claim that the findings can be entirely separated from the context of their development. However as Latour and Woolgar demonstrate in their seminal work on the construction of scientific facts (1986) this does not detract from the objective nature of the findings themselves. The process adopted was to carry out the research and then work with the quality improvement team at the college to disseminate the findings and refine them. In addition to this I took note of observations made by other staff members in the workshop sessions.

### 3.9 Action research as part of a design cycle

As part of the work involves an iterated process of designing, building and refining design principles it was necessary to consider the role of action research in the project. The study itself is not an action research project but is influenced by ideas attached to it. Although the term can be seen as controversial I decided that developmental research borrows a lot from action research writing, and was particularly struck by Andriesson's

idea of complementary streams of theory development and action research (Andriessen 2006).

In order to operationalise this idea I decided to present my findings in the group interviews, but also to work with the quality improvement team to trial the ideas by taking the design principles and using them to help in a piece of quality improvement work. After discussion this turned into using design principles to help in the creation of a new design for the lesson observation system and the associated lesson observation form. This is discussed in more detail in later chapters.

### **3.10 Overview of the study and its methodological context**

This section provides a brief overview of the study site and the fieldwork issues that I needed to be prepared for. It situates the methodological decisions within the social space being studied.

#### **Access**

Problems of access are a standard feature of ethnographically inspired studies and was a feature of this research. The first college I approached felt that my work would simply be too big a distraction, and that any benefits would not be measurable in the terms they required. I used the feedback from this to develop a more detailed description of the ways such research could directly inform the Self Assessment Report that is the basis of all colleges annual quality performance monitoring. The second college I approached had a clear process for evaluating external research and I was successful in being accepted as an external researcher. The access process however was still complex, in that I was required to produce rationales and proposals for various groups within the college, and the decision making process took some time. The process took considerably longer than I had planned and although I started the process in August 2010 I was not able to begin my fieldwork until March 2011.

#### **Defining terms: Elites and experts**

The idea of separating interviewees into particular classes is part of the processes of obtaining a better understanding of the context in which interviews occur and thus strengthen the validity of claims made about them (Kvale 2006). My research uses the

term expert and elite synonymously although this is not always the case and I was always concerned that the term 'elite' was not useful for this type of study, and restricted references to it; however when interviewing senior managers and leading actors in the external environment I found that for my study the people concerned were both experts and formed part of the elite who controlled the further education sector. I developed protocols for undertaking these interviews in line with a lot of work done in political science (Goldstein 2002). I also use the term 'expert' quite broadly and was keen to ensure that the idea of the 'expert' related to the specific work being done and could include people at all levels of the hierarchy and also those with a different facet of expertise about a particular topic. I was influenced in my understanding of the term expert by the idea of work and what counts as work (Star and Strauss 1999) because expertise can be hidden as well.

### Site selection and sampling

The sampling strategy was pragmatic and based on achieving access to the type of site I wished to study, a typical large general further education college. I first identified examples of sites that I would need access to if my research was to be useful and this aspect of the sampling was the most complex. Bassey (2008) describes the types of case study and their role within education research but he doesn't provide a mechanism for selecting a site, an activity he leaves to the researcher. Gomm, Hammersley et al's argument (2000) that the most useful way to support generalization from case study research is to focus on heterogeneity. Providing detail about the typicality or otherwise of an environment favours the selection of a 'typical' college for study. This is because it is the environment that has the most potential for people to find data that they can draw on and use in understanding and developing their own quality system.

Within the college itself the sample was self-identifying. I needed to speak with the senior management team and found that once I had negotiated the access arrangements the senior managers were supportive of my research and all made time to be interviewed and responded in a timely fashion to emailed requests for further information. For the group interviews the participants were those who found my work

to be of interest and signed up as part of the elective process at the college's research conference. Although this meant they were all favourably disposed to the idea of the research, it was felt that this would still yield valuable data about perceptions of managers and the process itself.

The main role of teachers in the research process was to share their opinions about the role of quality improvement practices and uses of technology to support it. I had representatives from a range of departments and at different levels of responsibility, from newly qualified lecturers to heads of faculty and would argue that, within the constraints of the project, this was the course of action most likely to succeed in terms of being able to gather necessary data in time.

### External agents

As part of the research process, and in accordance with my desire to demonstrate strong implementable validity for the project, I interviewed a number of senior stakeholders from outside the college. These included professional body representatives, senior civil servants and OFSTED managers. This strengthened the implementable validity of my research as it showed me what the expectations and requirements were on colleges from a policy level. This was an important part of the design by helping to ensure I did not generate findings that contradicted what colleges are being asked to do. By verifying some of the findings from the college based study I would argue that the warrants for the case study's design principles are strengthened by showing them to be well grounded within the sector both internally to colleges and also with external stakeholders.

### 3.11 Validity and reliability

While researchers differ on the applicability of the terms 'validity' and reliability in respect to qualitative studies I have used them and planned my research in order to minimise threats to its validity. The reason for this is suggested by Robson when he discusses efforts to 'rename and disclaim traditional terms' (2008, p170); to do so implicitly accepts the argument that qualitative research is not valid and therefore not

to be trusted. This is a strong claim and open to discussion, but it was felt it would be beneficial for users of the study if it were straightforward in terms of how it is assessed. The terms validity and reliability are widely known and used, and the study would not benefit by adopting other language.

The research project has a developmental aspect and could be assessed using the framework developed by Furlong and Oancea for judging applied and practice based research (2005). Their framework reflects the complexity of assessing research quality where the research aim is not only theory generation but has an applied element. This multi-dimensional approach influenced the decision to seek 'implementable validity' (Argyris 2004) in the research work, as part of the evidence in support of its quality.

Reliability for my research was a difficult area. Like other field-based research it is not possible to replicate the context in which it occurred, and the dynamic nature of the further education sector's policy environment meant that I needed to be prepared for changes. For example, even during the period of fieldwork, significant alterations to funding were made that had a significant impact on the daily work of the college.

To support the ability of others to carry out similar case studies the data collection process needed to be made as transparent as possible. Whilst laboratory reliability could not be achieved a pragmatic reliability, suited to the generation of evidence-based but mutable design principles could be. The thinking on this part of the design was driven by the assessment of reliability as trustworthiness in the consistency of approach to the problem domain. Whilst the study itself could not be replicated exactly the methods adopted, and the process for constructing design principles could be. This is similar to software engineering design, where the situation is never identical but reliability can be assessed through the adoption of consistent and credible methods.

The study had strong external validity because of its naturalistic style, as the problem is being studied in its real setting rather than a facsimile. However there were important issues to consider in terms of internal validity. My role as researcher would clearly have an effect on the participants and I was spending time building rapport and

understanding for many of them, putting my own objectivity at risk. Part of the access agreement for the research was to provide a copy of the findings and this was something I was aware of during the fieldwork and needed to ensure my own feelings about this didn't affect my judgment. One of the major issues for the design was knowing how to handle issues of validity in relation to interviews. As a data gathering technique interviews with senior staff are extremely powerful, but as has already been discussed they can throw up significant validity issues (e.g. Berry 2002). By adopting a protocol of maintaining flexibility within interviews whilst adopting a systematic approach to probing, using 'bridges' to bring participants back on track, and keeping notes on my own feelings and impressions, I addressed the risks to the extent it was possible to do.

The third type of validity I built into my design was the concept of implementable validity. There are many classes of validity in qualitative research, but for studies of educational settings I found the concept of implementable validity compelling, as it provides a way of judging whether the case study has produced fuzzy generalizations that are applicable in a real-world environment. By keeping the research design focused on what could be achieved and applied in the particular setting I was working with, large FE Colleges with an on-going research interest, I was able to build in checks of how possible it would be to make use of the research product (the design principles and all the case study data) as part of the research process.

### **3.12 Ethics**

The ethical framework for this project was defined by the requirements of the CUREC (Central University Research Ethics Committee). This was taken account of when planning the project, with approval being obtained prior to any work being carried out. Although the work was mainly carried out in an educational setting no students were involved and therefore the participants were all adult volunteers. There were three types of practice which gave rise to ethical dilemmas; observations of activity, interviews and documentary analysis. I developed a protocol that dealt with each of these in turn.

When designing the study though I had one overriding ethical consideration. The need to balance research activity as, “the organized pursuit of curiosity” (Stenhouse 1981, p103) with the need to follow the principle of least privilege, only gathering data necessary for my research and maintaining the confidentiality and anonymity of participants. As discussed by Pring (1984) I needed to know the extent of my right to explore, and even more importantly the ways in which that exploration of the essentially private world of college socio-political culture and external policy formulation could be made public. This was a complex process of balancing the needs of different actors and maintaining good records of what I had done so that my judgments within the domain of ethical behaviour could be reported on and support the transparency that is essential in undertaking good quality naturalistic research.

All participants were aware of and, agreed to, interviews being audio-recorded, and where relevant the workshops in which they participated also being audio- recorded. This aspect of the ethics protocol design was uncontroversial and in accordance with the CUREC requirement and good ethical practice as detailed in the BERA (British Educational Research Association) 2004 Revised Ethical Guidelines. This did not mean I thought the research would lack the typical but difficult ethical problems faced by field researchers, especially with the concept of ‘informed consent’. However it was decided that research involving people in a naturalistic setting would never be free of the need to make decisions regarding the extent of what could be explicated, and it would be necessary to make such decisions. Therefore, ethics was treated as a central part of the research design because it was such a key element of ensuring trustworthiness in the research results.

## Chapter Four: Data Collection

### 4.1 Introduction

This chapter is a description of how data gathering took place and discusses how the methods were applied in the field. It discusses the collection of data between September 2010 and June 2012 both at Stretchford College and also the external interviews that were undertaken, including the interviews carried out at Roman College, to assess and verify the findings made at Stretchford. The research activity took place in two parts, a discovery and landscape mapping stage and a case study investigation as shown below in figure 4.1.

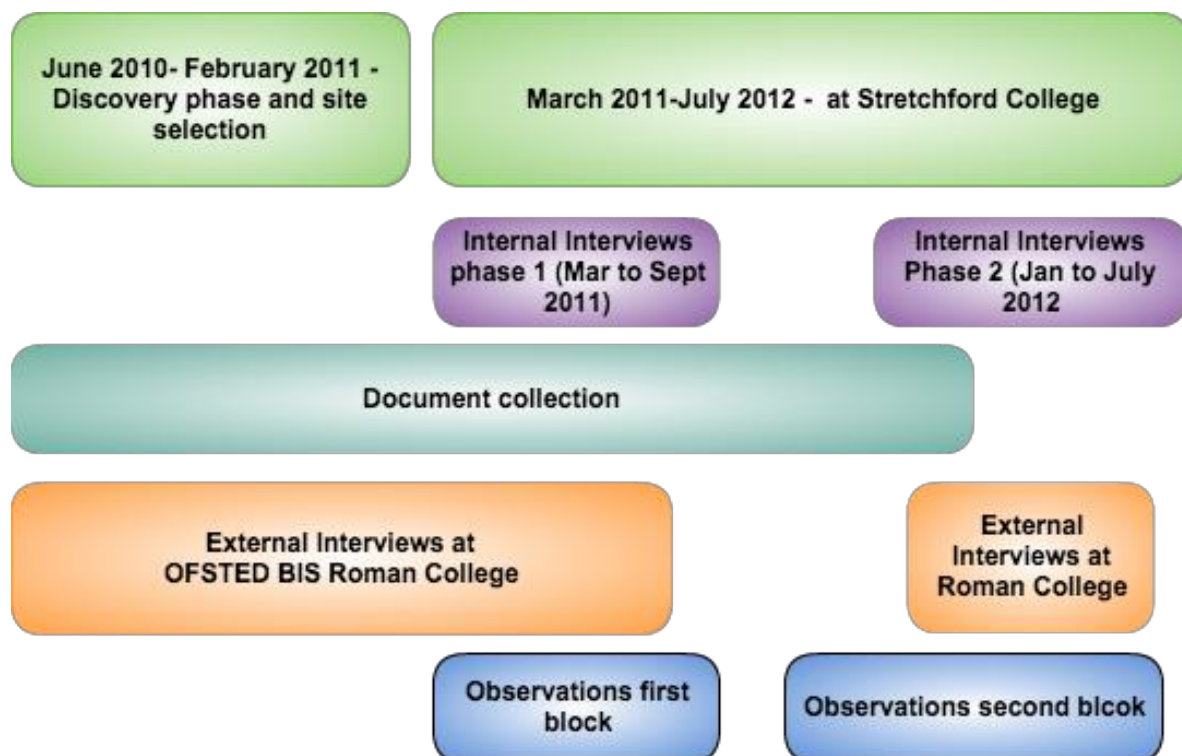


Figure 4.1 Map of data collection activity over time

The chapter also describes the constraints and issues that arose and how these were dealt with. The chapter begins with a description of the process and the data collected. The second part provides a more detailed narrative account of the data collection. It will be argued in this section that a willingness to adopt a flexible approach to input from the participants on the terms of reference for the research and the scope of access can

help mitigate problems and build rapport, without compromising either objectivity or the core research aims.

A 'bottom up' research approach, where the researcher operates outside of the normal work processes and closely examines the world of one or more practitioners is often used in education studies. There is a variety of reasons why this is the case. Often it is because researchers need willing cooperation from participants and an enthusiastic teacher is a valuable research resource. Also, the aim of a lot of classroom based research is to look at the efficacy of a particular intervention or the ways in which a new technology or technique is applied. A lot of projects carried out in the design-based research style have focused on the impact on learning or outcomes for students, with studies often including a psychological focus related to cognitive processes associated with learning (e.g. Pea, Lindgren et al. 2008) or a sociological one, such as examining the impact of technology on the construction and meaning of social practices in education (e.g. Selwyn 2009).

However this study is an exploration of the way a quality system is designed and shaped and most of this work is conducted in a 'top-down' style. The data collection process followed this approach and helps contribute to an understanding of senior managers' perspectives, something that would have been hard to achieve with a 'bottom-up' data collection process for what is an under-researched area in further education.

## **4.2 Data collection activity**

The data gathering process occurred between January 2010 and July 2012. The following sections shows the type of data collected. All names used as elsewhere in the thesis, are pseudonyms.

### **Interviews:**

Interviews detailed in figure 4.2 were recorded and reflective notes were also taken immediately afterwards. All interviews were approximately 1 hour long.

| Interviewee Name | Interviewee Role                                 | Description                                                                                                                                                                                                                                                                                         |
|------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frank            | Chair of Governors                               | This interview was focused on what the governors wanted the college to achieve and how they saw the future of the college within the local economy                                                                                                                                                  |
| Manjit           | Clerk to the Governors                           | This interview was an opportunity to pick up on an issue raised in other interviews on the flow of information and the role of mediating tools in connecting strategic aims and operational priorities - with the clerk and the email system identified as central elements.                        |
| Pamela           | Deputy Principal                                 | This interview centred on the translation of external demands into operational activities that fitted both the strategic aims of the college and the constraints on resources                                                                                                                       |
| Alfred           | Chair of Quality Committee – Stretchford College | This interview allowed for a discussion of the practical implementation of the current and proposed quality system, and the ways in which governors wanted to be able to get richer information without intruding on daily practice- the role of technology was seen as a core area for development |
| Bill             | Head of Quality Improvement– Stretchford College | There were a number of interviews with the head of the quality improvement team which explored his plan for change and the impact he was trying to achieve                                                                                                                                          |

| Interviewee Name | Interviewee Role                                                                      | Description                                                                                                                                                                                                                                                                |
|------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Joe              | Contracts Manager in quality improvement team – Stretchford College                   | This interview provided a detailed account of the process by which strategy was enacted in the negotiation of contracts for services, which were then turned into deliverables (courses, equipment, etc.)                                                                  |
| June             | Quality Improvement Team - Teaching and Learning Manager – Stretchford College        | This was a discussion about the experiences of a lecturer who had retrained into a role in quality management and her understanding of how quality has been reinterpreted over a long period, including her assessment of the future of quality improvement in the college |
| Stewart          | OFSTED Principal Officer - FE Colleges                                                | This interview explored the development of a new version of the Common Inspection Framework and also how OFSTED sees its role developing. It also provided important insights into how OFSTED is viewed by the stakeholders within an FE college                           |
| Jennifer         | Department of Business Innovation and Skills (BIS) further education policy team head | This interview was based around the governance model being developed at that time and the policy direction being pursued by the new government in late 2010 where significant changes to funding structures were being made                                                |

| Interviewee Name | Interviewee Role                          | Description                                                                                                                                                                                                                                                                                                              |
|------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mike             | BIS - FE policy team – quality assessment | This interview highlighted how up until that point quality systems policy was developed without civil servants spending any time in colleges and how this issue was being addressed                                                                                                                                      |
| Norman           | Head of Quality - Roman College           | This interview explored issues of management and governor trust and areas of disagreement and also the development of quality systems and ideas for the future of quality assessment                                                                                                                                     |
| Lisa             | Deputy Principal - Roman College          | This interview focused on the nature of OFSTED Inspections and how the design principles could guide preparations for an inspection including using them as a basis for developing pre-inspection report guidelines and other support mechanisms                                                                         |
| L5               | Head of Department Roman College          | This interview was a discussion of difficulties as experienced by middle level managers in ensuring communication between layers in the hierarchy and more particularly in navigating their role as both manager/implementer of quality strategy and teacher subject to performance reviews based on quantitative models |
| L6               | Head of Faculty Roman College             | This interview was focused on how faculties communicate around the issue of operating and managing a quality process – including problems associated with assessing teaching across faculties                                                                                                                            |

| Interviewee Name | Interviewee Role                                 | Description                                                                                                                                                                                                                                                                                                                            |
|------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Olga             | Institute for Learning (IfL) head of research    | The IfL research team were responsible for the largest surveys of FE teacher attitudes and this interview related responses to the most recent survey to issues of trust and communication between managers and teaching staff                                                                                                         |
| Carl             | e-learning manager Stretchford College           | This interview was about technology and the role of trust in promoting adoption and application of technology-augmented teaching. In particular the role of technology failures on the assessment of quality in inspections where technology use forms part of the assessment                                                          |
| L1               | Lecturer English and Drama - Stretchford College | This lecturer was working in an independent company wholly owned by the college but which had to win internal contracts for teaching. The lecturer discusses what this meant to her in terms of quality assessment and also the problems she felt that arose because of not having access to central services such as IT support       |
| L2               | Lecturer in maths – Stretchford College          | In this interview the lecturer described her relationship to the quality process as reluctant adherence to a process she felt was carried out in a way that was more about ‘weighing the pig’ than really measuring the quality of teaching and learning                                                                               |
| L3               | Lecturer performing arts – Stretchford College   | This interview focused on the operation of the department which operates a commercial arm and functions using the studio model rather than a business office model – The lecturer explains in the interview the issues for him and his team in translating their way of working into the language of internal and external inspections |

| Interviewee Name | Interviewee Role                                | Description                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| L4               | Senior lecturer sociology – Stretchford College | In this interview the lecturer described the change over time since he had begun at one of the colleges taken over by Stretchford – he felt that often teaching staff had been told to do things but given no information about why or what the benefits were – he said he thought things were improving                                                                             |
| L5               | Lecturer ICT and computing – Roman College      | In this interview the lecturer describes his career and how he moved into FE – this highlighted the importance of the vocational aspect of teaching in a college (where working conditions are poorer than in schools) and the failure of quality regimes to contextualise practice and the lack of perceived support from senior managers for developing better feedback mechanisms |

Figure 4.2 – list of interviewees at Stretchford and Roman Colleges

### Observations:

Observations were carried out at 3 sites that formed part of Stretchford College, and also 2 periods of observation activity were carried out at Roman College. The observations were a mix of highly directed ones, such as attending a governor meeting and more anthropological ones such as observing the movement of people in public spaces at Stretchford College. These observations also included notes of conversations.

The field notes collected during these observations were written up with the following features used as a framework to guide their writing:

- \* Information about the specific context, this included such basic information as date and location but also the nature of the environment or event being observed

- \* Information about participants in the observation, particularly where conversations were held as part of the activity

\* Critical incidents that occurred during the period of observation. This included any activity that was judged to be outside the expected use case of the activity or environment. For example any conflict between participants or changes to a standard procedure such as interrupting a lesson during a learning walk.

\* The application of any particular methods or use of instruments as part of an observation, such as the use of a pre-inspection report to discuss the results of a departmental inspection.

Observations were conducted on a number of sites and involved a range of participants as detailed below in figure 4.3.

| Location                                                          | Participant(s)                                                            |
|-------------------------------------------------------------------|---------------------------------------------------------------------------|
| Stretchford College central campus                                | Teaching staff, students and support staff                                |
| Stretchford College engineering centre                            | Students, outside visitors and support staff                              |
| Stretchford College business skills Centre                        | Library staff, teaching staff, support staff                              |
| Stretchford College quality improvement team office               | Quality team, two senior managers, facilities manager, deputy principal   |
| Learning walks (3)                                                | Students, teaching staff, line managers                                   |
| Lesson observations (5)                                           | Lesson observation team, teaching staff, academic support staff, students |
| Roman College main site                                           | Students, Head of business faculty (tour of facilities)                   |
| Roman College ICT department and classrooms                       | Teaching staff, students, line manager                                    |
| Roman College whole staff meeting re governance                   | Academic staff – meeting closed to support staff                          |
| Stretchford College Quality and Curriculum committee meetings (2) | Quality team staff, SMT members, governors, HR manager                    |

Figure 4.3 Observation sites and associated participants

## Documentation

A wide variety of documents were gathered for the research. The following table (figure 4.4) classifies them in to a number of types and provides information about the main stakeholders who used it and a rationale for why it was deemed appropriate to include it as part of the data, and not just as background. For example, the college's own report for parents on its strategic mission was considered to be useful background data but did not directly form part of the material used to understand the quality process or develop an answer to the main research question.

| Document type                                                          | Main stakeholders                                  |
|------------------------------------------------------------------------|----------------------------------------------------|
| Organisational diagrams                                                | SMT, governors                                     |
| Meeting Minutes                                                        | Governors, SMT, head of QIU                        |
| Policy documents (internal Stretchford and Roman College)              | SMT, QIU                                           |
| Policy Documents (external)                                            | QIU, SMT                                           |
| Strategy documents                                                     | Governors                                          |
| Government strategy on governance structures                           | SMT, Governors on Quality and Curriculum committee |
| Funding documents                                                      | SMT, governors                                     |
| Inspection reports (internal)                                          | QIU, SMT                                           |
| Inspection reports (external)                                          | QIU, SMT, governors                                |
| Inspection report summary data                                         | Governors, SMT, QIU                                |
| Lesson observation forms (Stretchford)                                 | Teaching staff, QIU, SMT                           |
| Lesson observation forms (Roman College)                               | Teaching staff, QIU, SMT                           |
| Lesson observation process documents and standards (internal)          | QIU, SMT, teaching staff                           |
| SAR documents (Stretchford and Roman College)                          | SMT, Teaching staff, QIU, governors                |
| OFSTED correspondence with Stretchford College                         | QIU, SMT                                           |
| Pre-inspection commentaries for departmental inspections (Stretchford) | QIU, teaching staff, SMT                           |
| Post-inspection reports for departmental inspections                   | QIU, SMT, teaching staff                           |

Figure 4.4 Document types collected

### 4.3 Collecting the data

The following description provides a chronologically ordered account of how data collection occurred. The chronological account is important, as it highlights the way that the college itself underwent significant change during the course of the research. The inherently unstable nature of the environment in which the quality system operates is revealed by viewing how the research process itself adapted and responded to external events.

#### Site selection and access

The original attempt at finding a site was based on a purposive sampling approach, using the snowball technique of asking an existing member of the community (college Principals). It was felt that although this might have worked it was not very well thought through and lacked rigour in terms of finding a site that would meet necessary conditions for my study to produce persuasive and trustworthy data. In particular I had approached a college that did not meet an essential requirement, being independently assessed as being rated 'Outstanding' or 'Good' in its previous quality inspection. The importance of finding a site and negotiating access for non-trivial reasons is discussed by Walford (2001). Walford criticises the use of sites based purely on a researcher's own knowledge and contacts, and argues that the practice is something that detracts from the standing of case studies as a research method. He also argues that as a sampling technique it is too often used unthinkingly and results in research which can only ever be classified as an intrinsic study (Stake 1995) but generalizations are often made from such studies.

I began to carry out a more systematic and well-defined search for a site, using a number of search tools including websites such as "FE Choices" (previously the Framework for Excellence site) to track down and identify potential colleges. Financial constraints reduced the geographic area to which I could realistically travel. It was also decided to exclude specialist colleges such as sixth form colleges, as the focus was on general FE colleges. This was because I wanted to explore an environment where there

was a mixture of course types (skills-based and academic) and student profiles (for example full time traditional 14-19, apprentices, adult apprentices and higher education, part time professional course attendees) allied to a student population in the thousands, and a complex multi-site infrastructure with a distributed management team. The complexity of management associated with larger, distributed environments was where I found a gap existed in the research, as many studies of senior teams focus on leadership and other aspects not intrinsically connected to scale.

One factor I took account of when preparing a redesigned proposal was a candidate institutions' policy on research, both their own and the presence of external researchers. This had been a weakness of the previous approach, where research activity was something that was only supported by the college concerned if it required no active collaboration from staff.

Stretchford College was identified via the 157 Group, which exists to support and promote a group of large high-performing general further education colleges that are viewed as regionally significant. The group is modelled on the 'Russell' group of leading universities and aims to promote these colleges' views on a range of issues.

I therefore decided to write to the research manager and attach a copy of my proposal. In addition, I amended the introduction of my proposal to provide specific information about why the study would benefit Stretchford and also why I thought the college would be a good site for my study. At the meeting at Stretchford College on 6<sup>th</sup> December 2009 there was a discussion about the aims of my research and also how I thought it might support the work of the college. I agreed at this point to put together a more specific proposal as the final sign-off for access would need to come from the college's directorate. As data this demonstrated to me that the college was equipped to support research activity and maintained a structured approach to what research might happen there and what access might be given. This process also raised initial questions about the structure of the college's management systems and also about the forces governing the inevitable tension between central and faculty/departmental level decision making.

Final approval for the research came in February 2011, after some specific concerns they had were addressed. These concerns were based on an assumption that I would want to use output from their own IT systems, have access to confidential data and that I would report negatively about the college. This raised issues of staff privacy and the protection of the interests of students, but also about professional autonomy and the trust relationship between the senior management team and other staff. It also suggested that, despite a willingness to participate in research, there was also some effort to manage the research process and retain control over it.

A delay caused by a succession of handovers of my 'case' from one person to another during the approval process also indicated that internal processes might not be clear to all parties, and suggested to me one aspect of the college's communication mechanisms I should explore in more detail. The issues surrounding access took some months to resolve, and this meant that fieldwork and interviewing started later than intended. However this proved to be beneficial to the project because the new system for quality improvement management was also being approved at that time, ready for a change of internal inspection processes in September 2011. My fieldwork therefore would now coincide with the introduction of a new approach by the college, and my research work would run alongside it. This meant from the college's perspective I was researching the question of 'what does quality in teaching and learning mean?' at a time when the issue was at the forefront of management thinking and activity.

Despite having successfully gained access to the site and been given a wide remit to study things of interest to me there were still issues surrounding data collection that I had to find a way of working with. One example was the concept of 'commercial confidentiality'. In one particular instance I was denied permission to attend a management meeting because the financial information being discussed was deemed too confidential to risk being shared with anybody outside of the directorate.

This type of incident did not happen frequently but there was documentation that members of the college were unwilling to share and questions they were reluctant to answer or avoided answering. However, the two biggest problems for me in terms of

understanding the environment and reflecting it back to the participants were a lack of some types of data that would be common in the industries I have worked in previously, and also the difficulty of obtaining interviews or responses to requests for information. Examples of the first issue include detailed process maps of various aspects of systems work. An example of the second is the struggle I had to get a broad spectrum of teaching practitioners to provide input.

These types of problem could have had a serious negative impact on the study if I had not adopted a flexible research design that allowed freedom to build up an evidence base from a wide variety of sources, and also to not be afraid to discuss where these problems arose. I therefore decided that building relationships where trust in my performance as an objective observer, and also as a person who would maintain confidentiality, was essential if I were to gain the deep understanding of the environment that I was seeking. A note was made where access was constrained, but such constraints were deemed an inevitable feature of such research and not fatal to the integrity of the project.

Allowing the participants a voice in constructing the scope and remit was an empathic method in developing the staff's confidence in me. The intention was that it would provide me with better access to their own beliefs and understandings and staff would have more confidence in the aims and intentions of the research as being 'fair'. The importance of this was made clear to me on my first site visit, prior to having the proposal accepted, where a teacher I knew from my own PGCE course commented that she thought some of her colleagues would think I was doing a 'time and motion' study and have a negative reaction to the research if I didn't involve everyone in a discussion about the research aims. I decided therefore that as well as adapting the data collection process with respect to the needs of senior managers I would also ensure I was open and clear with teaching staff and allow them to help guide the process, especially by involving myself in the research conferences held by the college and ensuring people were aware of who I was and what I was doing. This again led to questions for me about trust, both in management actions but also in respect to answers given to me at

interview. The importance of sourcing data and creating a rule base for considering data as forming part of a generalisation were partly a response to this.

### The emergence of questions within a flexible research design

Upon beginning fieldwork a judgment was made that an early version of the main research question was focused on the wrong unit of analysis. In my field notes I wrote that,

*"I need to rethink my research away from being about teachers and technology. I don't think I've got the right idea if I'm going to get hold of what's really happening, because teachers don't seem to be very influential."*

This followed some exploratory discussions with June, the quality improvement team member responsible for teaching and learning practice. These discussions were intended to be a way of building rapport and helping to identify potential areas of the college's provision for inclusion in the study and also staff who might be supportive of the research. This approach of being guided by the data and not being constrained by an *apriori* decision about the problem space is part of a flexible design, and was an early indicator that an iterated approach that was responsive to the data would be an essential feature of the project.

The thing that was most interesting at this stage of the project was the description of the previous quality assurance system, its functioning and the weaknesses that had begun to be recognized by both the governing body and the senior management team. This annual cycle of quality assurance activity was proving unsatisfactory in helping to raise standards. June explained that the governors had expressed dissatisfaction with the data they were provided with, because it seemed at odds with the feedback they were getting from their informal conversations with staff.

The senior management team had noticed discrepancies between the data recorded from teachers' reporting and that being fed back from lesson observations and their own informal observation activity.

In addition to this there had also been a problem with the quality of the information systems data itself. Session registers for example were not always stored correctly and teaching staff were sometimes being asked to re-key data from previous weeks. This meant there had been difficulties related to producing attendance and retention data, with subsequent problems around funding as a result. Other impacts of this type of infrastructure failure were related to low levels of trust in systems, evidenced by staff surveys.

She described the current quality processes as being driven by reporting deadlines for specific types of data, such as student retention, but not in terms of why that data would be useful or in what ways it would inform improvement in teaching and learning. As the problem of communication effectiveness and the identities assumed by managers in the roles they adopted had been viewed as a barrier to progress a decision was taken that the research should focus on the overarching framework of decision making mechanisms, both physical and social prior to lower level practice-oriented concerns. The first pass at data analysis indicated that any classroom research by teachers would not fit into college quality systems as currently designed because the evidence such research generates was not well aligned with the process for developing formal quality documents such as the annual Self-assessment Report (SAR).

This lack of formal input from practitioners was something I knew both from my own experience as a college lecturer and head of department as well as from my previous study in further education (Albury 2009), and other evidence including the Chief Inspector's reports (2011 and later the 2012 report) or the literature on the performative culture in further education. Page, for example, discusses how "panopticism is embedded within the 'quality' paradigm' and how control and audit of teaching practice have become central to the way colleges are structured and run (2010 p127).

At this point there was weak evidence of all these problems around trust in technology, discrepancies between written processes and actual practice and a lack of coherent design effort in the structuring of the quality function. However the discussions with

June, and also external bodies such as the Department for Business Innovation and Skills, helped me to reflect on what was emerging. It was decided that there was enough early evidence to suggest it would be productive to conceptualise the problem as being about the system of quality management within the college, the technologies that supported this (both ICTs and non-digital technologies such as policies and strategic plans) and the ways in which staff involved in the operation of the quality process engaged with and shaped the system. This early fieldwork provided the framework necessary to produce a study which helps to understand colleges as complex systems, where design thinking could help create environments that are context-sensitive and grounded in theories of bounded rationality (constrained information availability) and the concept of satisficing (Simon 1976) rather than optimising. Having developed this framework I then continued with the data collection.

It was at this point that it became possible to scope the size of the system under investigation so that the project would remain focused, and also to review the methods selected for the data analysis stage. Understanding the data collection process in terms of its contribution to theory was therefore an essential element of developing the research findings. This is because the project is not only concerned with the development of naturalistic generalisations and their validation but is also an example of design research that is formative in nature; with the research design itself and the data collection process all helping to shape the design principles. These design principles provide a mechanism for others to access the case and use the knowledge gained to inform their own design decisions.

The research questions guided the selection of methods. A core part of the data collection would involve interviewing senior managers and senior figures externally as well as teaching staff and therefore specific types of interview were planned to match interviewees with an interview style. Specifically I wanted to be prepared to get the most from interviews that have been characterised as 'elite' interviews (e.g. Goldstein 2002, Harvey 2011). I took the view that the term 'elite' was not helpful and did not refer to them as such with participants or when writing this thesis. However I did think

about the power dynamic and how to approach the interviews from the standpoint of meeting somebody who is used to conveying particular messages and being deferred to.

### Selecting participants

There were two classes of participant for the study, internal and external. The internal participants were also divided into two types, academic and non-academic staff. The sampling strategy was purposive, as might be expected in a study of this type and the selection shown in figure 4.1 above was based on answering the questions about sampling strategies suggested by Miles and Huberman (1994, p34).

The participants' roles in the research varied. External participants were part of the work being carried out to understand the external constraints on the system and to develop an understanding both of the external view of college quality systems and also their opinion about how this is itself understood by college staff, both academic and non-academic. Internally there were a variety of cases that I wanted to study to build a detailed view of the system.

Academic staff were treated as coming from two levels of responsibility, those with line management functions and those who taught and did not have a management role. As discussed below, I found that treating these as a homogeneous case was most sensible in this particular study despite the differing roles. However I did keep in mind that the workshops I ran may have been different if these groups were not mixed but the role of the workshops was not to question anybody's authority or role in the structure of the organisation but to openly discuss an element of work which these staff all experienced in a similar way. Quality management was often talked about in individual interviews by academic staff from different departments and levels as being 'done' to them rather than involving them.

Non-academic staff were treated according to their role in the organisation and included critical cases such as the quality improvement team and the senior management team, as well as typical cases drawn from the governing body. The quality improvement team were the base on which the interview schedules for other parts of

the system were developed because this team are at the centre of all other quality activity. At Stretchford College the quality improvement team have input to a wide range of processes, from the preparation of supplier contracts to the development of teaching and learning practice and the handling of student complaints. This gives them a high degree of oversight and allows them to coordinate activity and ensure that the management team's operational priorities are being looked at from a quality assurance and quality improvement perspective.

#### **4.4 Knowledge building and creating system descriptions**

##### **Externalities and the affordances and constraints offered by external forces**

In this section I will discuss in more detail the range of interviews and document gathering that I carried out with external participants, by which I mean those with a direct impact on the operation of the system. I will then explain in what ways this part of the data collecting fed into the evolving research process within the college.

##### **Selection process for external participants**

In order to ensure a clear focus to the choice of stakeholders to be included there was also a process of reviewing and, if necessary, excluding possible external participants. The selection was made based on which stakeholders had the most direct influence on the processes and cultural environment inherent to the teaching and learning quality system. The following is a brief description and rationale for excluding certain potential external forces that might be included in other studies.

##### **Rationale for excluding potential participants**

###### ***Parents and employers (including local government input)***

These two groups play an important role in determining the way a college functions and have an informal role in the quality process. This is because the decisions made by these groups influences the 'offer' of colleges (for example the range of courses and the delivery programme type). Both groups are influential through different styles of contact, such as parents evenings, employer engagement events (such as Higher

`education recruitment fairs and apprenticeship programmes) as well as other formal relationship such as membership of the governing body or an initiative such as the UK Career Academies programme of mentoring and employer input to the curriculum (UK Career Academies 2013). However, from an operational standpoint these groups do not have a formal role in assessing quality or mandating change. Therefore for this study I set this group aside, though in future studies there is a need for richer information about the impact of these two groups on the structure of teaching and learning programmes and the affect of these relationships on strategic planning.

### *External reporting agencies*

Further education colleges report performance and other data to the Data Service (formerly the FE Data Service) and this is done with the support of the Information Authority, which helps develop standards for data quality and architecture. These bodies do not help develop or influence teaching and learning processes and act as a central data store for national data, which can then be used by providers, agencies and others wishing to develop models of performance in the sector. I decided that although the information architecture was interesting because it helps uncover the biases and current trends in what is thought of as constituting useful quality data, a revealing aspect of infrastructure decisions (e.g. Star 1999), these bodies did not represent an area of system activity that was closely related to this project.

### *Skills Funding Agency (SFA) and other funding bodies*

The Skills Funding agency has become the main conduit for funding adult further education in colleges and the lead oversight agency for governance following a series of rapid changes after the election of a new government in 2010.

The creation and swift abolition of bodies such as the Young People's Learning Agency (YPLA), which now sits within the department of education as the Education Funding Agency and maintains responsibility for most 16-19 funding, gives an idea of the complex regime in operation for colleges. Funds are drawn down on the basis of a range of formulas from different bodies and these are adjusted on a regular basis, often at very

short notice. This issue of difficulty in understanding funding in further education is well described in the Wolf report, “the system is complex and completely opaque to the vast majority of those working within the system” (2011, p120) and simplifying it features in a number of the report’s recommendations . It would appear therefore that the funding bodies might be included in the study, because they clearly have a formal role in the design of the college’s structures and approve funding based on specific performance criteria.

However, it was decided not to pursue this course of action as would needlessly stretch the scope of the study into the area of finance and move it away from a close focus on quality in teaching and learning. In addition to this the governance function of the SFA is partly fulfilled by the contracting of OFSTED to carry out inspections according to the common inspection framework. The focus of external input to the quality regime was from OFSTED at the operational level and the Department of Business Innovations and Skills/ Department of Education at the strategic policy level.

#### **The data collection process for external participants**

The role of external participants was to add context and provide an overview of the policy environment within which a college’s quality system operates. The intention of involving these participants was to develop an understanding of the relationship between colleges and key governance bodies, as seen from the external stakeholder’s perspective. This was important in the development of well-formed problem descriptions and building an understanding of the congruency between the internal processes of the college and the external assessment and reporting of those processes. By involving BIS it was possible to uncover the view of further education, and especially the teaching and learning that takes place in colleges, from the perspective of both political actors and policy advisors.

This was important because there was a relatively new government with a set of policies for the sector, which potentially were going to have a major impact on how colleges measured performance and reported on it. This new policy direction meant a different focus for oversight, especially with regard to apprenticeships and the creation

of new structures to deliver vocational education. This new policy also placed an increased emphasis on teaching and learning rather than records management. In addition to this new wave of political policy implementation there was also value in talking to senior civil servants to uncover what they knew about further education practice, not just the funding and management reporting but what occurs in colleges and how it is done. This proved to be one of the most useful outcomes of the interviews at BIS.

The head of policy development for further education quality assurance and inspection was interviewed and also one of her team with responsibility for liaising with colleges and improving the department's understanding of the different cultures in FE colleges. This team is based in Sheffield and not at the main departmental site in Westminster. Although some policy work is done outside of the main departmental sites it is indicative of the status of skills and further education that it has been based at the Sheffield location. Policy development for schools for example is still largely based in the Department of Education in Westminster, providing physical proximity and potential for 'face time' with the minister. The status of further education as a 'Cinderella' sector of education is long noted in the literature (e.g. Norton 2012) and this dislocation between the responsible minister and the civil service support is, I would argue, a reflection of the disconnect between ministerial statements about skills and further education and the reality of where policy sits in the priorities of ministers.

A surprising aspect of these interviews was the explanation of two changes in the way the team operated and which had occurred since the election of the coalition government in May 2010. One was the move to place civil servants in colleges as observers and to develop direct relationships with local colleges to see how they work. This was not something I had realised would be seen as radical by the civil servants themselves, but Mike, explained that he had worked in FE policy for seven years but he had never spent time in colleges, and particularly with FE lecturers. He felt this had given him a much greater understanding of how FE works and the ways in which it is different to how schools operate. In terms of what this means for teaching practice and how quality is assessed and improvement activity developed off the back of it, Mike felt

that the FE lecturers he had seen were far more committed to helping individual students than school teachers. Although this is not treatable as a finding but as anecdote he stressed that his colleagues had all come to the conclusion, that the further education sector was very strong in the delivery of pastoral care for students and that the then current version of the Common Inspection Framework did not cover this aspect of the work done sufficiently.

This was something I was later able to pick up in my interview with OFSTED. The head of policy development expressed a view that further education was not well understood in the department with ministers in particular not having any depth of understanding of how further education and school education differed. Jennifer did however say that the new government was extremely keen to develop a strong skills base, and to not lose sight of the potential for technical apprenticeships and improved structures for achieving high quality vocational education. The subsequent acceptance of the vast majority of the Wolf report's recommendations is evidence that BIS and the Department of Education are prepared to strengthen their knowledge of the sector, and make significant changes which they feel will improve outcomes for students.

This early piece of data collection also included gathering some internal publications that I was permitted to take away and this included a draft version of a new governance and quality assurance framework. From the interviews it was possible to build an understanding of where some of the miscommunication and differing interests might lie between colleges and government policy. This was supported by the documents I collected which signaled an increase in government interest. However this was confounded by the demotion of the ministerial position dedicated to further education (to the most junior level of ministerial appointment) and the continued confusion over the funding of programmes which in 2011 led to a major difficulty for colleges, with changes announced in August for application in September, leaving both colleges and students with significant problems related to the continuation of courses and the provision of teaching resources. This disjointed approach is something that my interviews had suggested was likely to continue.

After interviewing civil servants at BIS I also wanted to briefly explore the issue from a more overtly political standpoint and interviewed the Director of Education research at a leading centre-right think tank, which had been founded by members of the coalition government while they were in opposition and whose education research was also supported by members of the Labour party such as Lord Adonis. This interview was not intended to become part of the data as the interviewee did not fit into the scope of the project, but it was a good way to assess and check the information provided by BIS on the political picture with regard to further education. I found support for the contention that politicians were aware of, and keen to address, problems in the learning and skills sector but were coming from a low level of knowledge about it. The drive to focus policy efforts on quality improvement and improved data collection was something that the think tank had found was common ground across parties in their discussions with senior politicians (Bassett, Haldenby et al. 2011)

This information informed the interview structure used with the next external participant, the Principal Officer for further education at OFSTED, who had overall responsibility for developing the Common Inspection Framework. Taking account of what had been learned at BIS I was able to focus this interview on the strategic challenges that OFSTED would address with the new inspection framework then being developed, and also the ways in which OFSTED viewed the future development of the inspection regime in the learning and skills sector. These two aspects of OFSTED's work closely connect to the processes and the measurement tools used by colleges and also provide insight into the ways in which quality assessment and improvement might change over the next five to ten years.

This interview focused on how OFSTED operates as the agent of the SFA and also what the drivers had been for developing a new inspection framework less than two years after the introduction of the previous one. This interview provided a good overview of the rationale for changes and also identified the misunderstandings that most commonly occur between OFSTED inspectors and college managers (including the people responsible for quality assurance and improvement). A key outcome from this was evidence that OFSTED recognised problems arising from a focus on a quality-

assurance centred approach which had led to an emphasis in colleges on process. This in turn had meant a lack of attention to understanding why certain activities were carried out and a failure to make effective use of data within colleges.

This data was used to develop themes to be explored in internal interviews and they helped ensure the research remained sensitive to the external environment.

### **The data collection process for internal participants**

The process of gathering data from Stretchford College started with interviewing members of the governing body. The approach was to work down the organisational hierarchy so as to work from the outside of the system inwards. Education research is often predicated on a bottom-up view, where change is suggested as being driven by the actions of practitioners and then disseminated across the environment until it eventually becomes an institutional norm. This can be connected to views of teaching where social justice and the hidden voice of those outside the power elite is a consideration, or where an intervention is being trialed which requires practitioner expertise and involvement. However, this study is at a system level with teachers playing an active but not central role in the process. The study's findings are intended for use mainly by those responsible for developing and managing quality systems or carrying out change programmes and benchmarking activities, and so it was decided to adopt a top-down approach.

After interviewing the chair of governors and the chair of the quality committee it seemed that the clerk to the governors was performing an important function as a network leader, bringing together interest groups and being trusted by both the governing body and the executive managers. This role of trusted link was highly valued by the initial interviewees. I adapted the schedule to include the clerk as an interviewee and also added this relationship to the interview schedule for senior managers. I then worked with the quality improvement team to identify key documentation, including observation schedules, self assessment reports and internal policies which provided a comprehensive overview of the formal process for assessing and improving teaching and learning.

The process of collecting data ran from September 2010 to July 2012 and allowed me to observe the way that a new approach to quality assessment and improvement was being introduced. During the data collection phase I undertook follow up interviews with some participants to check on information that I had gathered in other interviews and also to monitor their understanding of the changes being introduced. Interviews at Stretchford College were carried out at a number of sites across the city so that I could gather field notes on the ecological aspects (physical spaces, technical infrastructure, curriculum area) as well as wanting to meet people in their own environment. I was given the opportunity to work with staff in two workshops, one to help suggest design principles that they felt were present and the other for me to check back with them at the end of my time there to discuss the collection I had come up with and review them. As part of the data collection process I also participated in internal inspection activity and learning walks.

#### **Refining and clarifying the analytical themes:**

After the external interviews I began preparing a thematic coding scheme for this type of interview. One issue that occurred when doing this was that I was not gathering data across a number of similar cases where I might seek evidence of common understandings in a group of people. I was interviewing people in specific roles and using that data to uncover areas of interest and to provide a macro understanding of the system's architects and principal members. I adopted the concept of the 'elite' interview as discussed in political science (e.g. Berry 2002). It is argued that it is preferable to characterise these as senior leader interviews. This is because of the negative connotations that the word 'elite' can draw when discussing work environments where expert voices can be found at different levels of the organisational hierarchy.

Using these initial umbrella themes I added ones with more of an internal focus (for example, 'trust in technology') and began the process of working through the interview transcripts and the documentation in a cycle of identification of an idea, prioritization and drafting of potential design principles. I describe this process in more detail later, but the basic workflow was to go through the data and look for common pieces of

information that suggested something interesting about the quality process, from interview statements about the policy landscape to complaints about the lack of consistency in access to information (for example the electronic register system, where technical problems had serious knock on effects for reporting to the Information Authority). The codes I developed here were intentionally broad.

I found the process of collection, whether it was of documents, my own observations, interviews or photos (used as memory prompts rather than detailed analysis) followed a pattern where my collection of data either suggested new questions, which meant more data collection or added weight to an existing idea. One thing I had expected to happen and which didn't was contradictory ideas about the same subject arising. This is not to suggest there weren't different points of view and misaligned interests between governors, managers and teaching practitioners in terms of what quality looked like and how it was best assessed, but there was no evidence to suggest disagreement about the core issues facing participants within the system.

This theme of congruency about core issues was a surprise and as Miles and Huberman suggest (1994, pp270-271) this type of challenge to *apriori* hypotheses offers a powerful analytical tool for reviewing and revising theory. I checked this particular data by adding it as a theme to the senior leader interviews at Roman College. These were held with the deputy principal and the director of quality at Roman College. This college had been highly rated in external inspections but had a different quality system in place to Stretchford. The purpose of these interviews was to check whether the design principles developed as a result of the research stood up to scrutiny. I wanted to see whether the ideas resonated with people not connected to the research and whether they could see a potential for making use of the idea of design principles drawn from case studies informing developments in their own system. A core intention of naturalistic generalisation is that other people working in the problem domain can make use of the case study. The intention therefore with this activity was not to get the design principles themselves approved as 'correct', because a design principle is mutable and a design based on it needs to be situated within a particular context. Rather, it was gathering feedback on the case study generalizations in the form of

design principles as a mechanism, which they could see both as empirically grounded and also useful when developing their own quality system.

From the discussion above it can be seen that there is a need to draw together the various methods into a structured approach for exploring issues of quality management in a complex organisation. This task is made easier by the focus of the research on generating context-specific knowledge about managers' and staff enacting a quality improvement system. The development of theory is therefore in the well-bounded problem domain of understanding a specific group of workers as part of a particular work system.

Alternative approaches might have been selected and in the following section there is a discussion of the rationale for why this was not the case. It is important to note that this is not a criticism of the methods but a choice that was made to keep the project on track. Both would add valuable extra data to future studies in this vein.

An initial question regarding the methods adopted is the lack of any quantitative data, except for the basic information relating to participant selection and study design. It would have been possible to make use of survey techniques to examine the self-understanding of participants in phase 2 of the research for example. It was decided however that the benefit of using such an approach was lower than the benefit of using a workshop to model approaches to improving information flows. In view of the time and resource constrained nature of the project I selected to pursue the more qualitative route. The main rationale for this was that a lot of my data collection was focused on extracting tacit knowledge and explicating it through generalisation via design-based approaches. Although a survey instrument may have added extra ballast to the findings in terms of people's experiences of quality improvement it would require a much larger sample of respondents than I had access to.

Another question that arises is why the study is described as being broadly within the field of sociotechnical design when I have not designed or implemented a specific piece of information technology. The project could instead have focused on understanding work practices through the lens of Activity Theory, which would have examined people

in a system achieving an objective through their actions. I could have elected to view this research as a purely ethnographic description of the functioning of a quality improvement system within a large college, and discussed it as a paradigmatic case of further education existing in a highly unstable political environment, where strategic planning is undermined by rapid changes in government policy; using Apprenticeships as the example of how adaptive quality improvement processes need to be.

As one of the project aims was to provide a transferable outcome to the research, the idea of a purely intrinsic case study account seemed too vulnerable to Martyn Hammersley's criticism that such studies cannot generate theory because they, "represent objects and events in particular space-time locations; whereas theories are about types of phenomena, wherever their instances occur" (1992, p27). An Activity Theory based study also did not seem to meet the requirements for a methodological approach that went beyond the explanatory, and its emphasis on understanding individual cognitive development was not what was desired for this project.

For similar reasons Actor Network Theory was considered, but I was not persuaded by the argument that technologies and people can be treated synonymously when describing a system. Therefore, even though I have not developed a specific piece of information technology my work does fit within the field of sociotechnical design. It is about the interplay between the social and technical worlds in the design of a system.

The process of gathering methods into a coherent body of data collecting tools was therefore driven by the development of the research questions within a specific field of enquiry, using an analytical approach that was sympathetic to the goals of the research. The qualitative methodology adopted is capable of providing warranted but not immutable claims. The study design was refined during the process of carrying out the fieldwork but the selection of methods and the attention to the research questions when designing the tools used, such as interview schedules, proved robust.

The data collection gave rise to two considerations that users and other researchers can take into account. Firstly, for other researchers, there should be a clear understanding of the difference between potential end users of the research and participants. The

potential participants are a subset of the potential end users, which might include different types of provider and or providers outside of general further education colleges. I would therefore recommend the adoption of a capability maturity model, similar to that proposed by McKinsey and Co for their examination of global education systems (McKinsey and Co 2010 p24). This allows for an assessment of where an institution sits in relation to the execution of its quality assurance and quality improvement activities and a pathway to progressing through the stages of the maturity model to a state of innovation and continuous improvement.

A prototypical model would involve 5 stages of 'maturity' (see figure 4.5); with organisations moving through them as their abilities and sociotechnical infrastructure develops. The ultimate aim would be to have every college assessed as a level 5 organisation, able to design systems for teaching and learning quality that assists the development and reporting of high quality learning episodes. Beyond this, such colleges would develop an ability to maintain high standards within a culture of collaborative knowledge sharing and open reporting, without losing the uniqueness of the institution and its heritage.

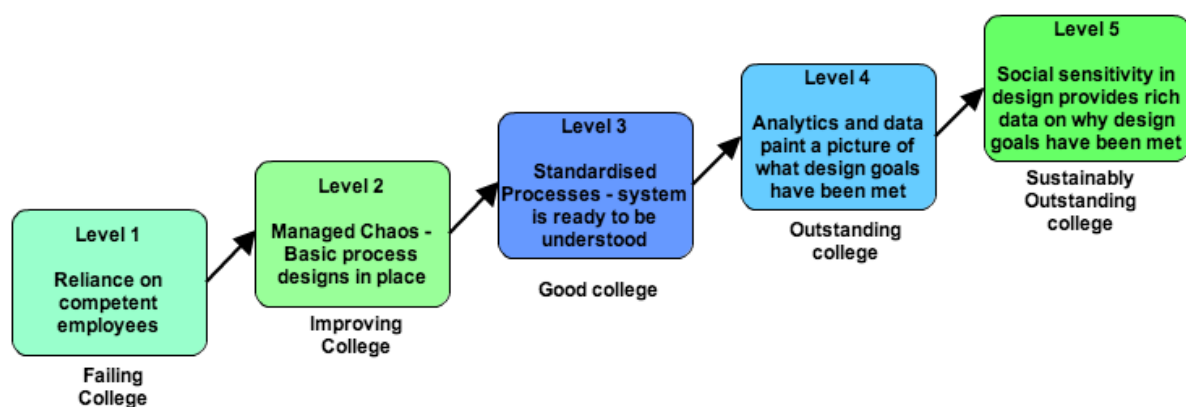


Figure 4.5 – A capability maturity model for colleges

This model would be used to help identify the level a college is currently operating at and to help it question whether it is institutionally necessary to move to another level.

Depending on the nature of the initial internal investigation this might be at any of the stages suggested by the maturity model. When looking at the case study this would enable users to make decisions about the transferability or usefulness of a design principle in their own context. For researchers it would be a useful guide to focusing on aspects of the case which are useful for sharing as potential fuzzy generalisations. This type of maturity model has been criticized for failing to take account of environments where the model doesn't fit the outcomes. For example, a college could be ranked 'Outstanding' by OFSTED despite being at level 1 on the model and relying on highly competent employees to ensure it retains its status. This criticism is well founded to the extent that such cases are possible. However, it is argued in this research that this is atypical and cannot be relied upon over the longer term. However, by providing design principles drawn from a case to act as guides, it is open to colleges to decide against applying any design based approach to achieving their aims. Such a decision would be made in a deliberate fashion for specific and stated reasons. The case study and associated fuzzy generalizations are useful as a testing and benchmarking tool that encourages externalization of internal cultural states. A capability maturity model would act as an indicator of the extent to which a quality improvement process has helped move a college towards reliably and sustainably operating as a learning organisation able to produce consistently good outcomes by having a structured but flexible approach to quality improvement.

A second consideration is that researchers wanting to apply the case study approach could learn from the experience gathered in this project and make sure there is a clear business case to present to potential participants, with clear information about the practical benefits that could be provided by carrying out a case study of this type. Initially in this study the communication with managers derived from a theory standpoint, wanting to help people understand the nature of their quality system from a sociotechnical perspective. It had been assumed that the benefits of this, in terms of seeing how formal and informal processes, physical and social infrastructure, normative behaviour and external forces combine to produce the organisation, which is, "the totality of negotiations between the designed organisation and the practice organisation" (Wenger 1998 p232) would be clear. Instead, a much more grounded

view is necessary as managers wanted to understand what the research would offer them in terms of implementable changes to the current system and academic staff wanted to understand why they would support close examination of what they did and how they did it.

By adopting a flexible design and moving constantly between analysis and collection of data it was possible to adapt the approach without missing the information I needed to address the research questions; including the necessary aspects of data collection described by Miles and Huberman (Miles and Huberman 1994, pp278-280) as strengthening the trustworthiness of the account and the strength of the conclusions drawn from it in the form of the three design principles. In the next chapter the detailed analysis process is discussed to show how data collection moved from exploration, to collation and reduction and then ultimately the findings and the design principles.

## Chapter Five: Analysis of data

### 5.1 Introduction

This chapter shows how an inductive, iterative analysis process connected the data, its interpretation and the claims made for it to the development of the case study's findings and the design principles. The chapter provides details of how the data were treated and the ways in which the trustworthiness of claims is increased by

- Transparency in description.
  - Emic validation.
  - Exploration of alternative explanations.

Although the study draws for its theoretical framework on a range of traditions; co-operative work design from a sociotechnical standpoint (Trist and Bamforth 1951); design studio professional practice (Schön 1983), boundary objects (Star 2010) and the role of distributed cognition in augmenting the activity of participants in practice (e.g. Pea 2004) it was never the intention to constrain the data by adopting, *a priori*, a fixed framework. This approach was congruent with the extended period of data collection, as it encouraged interaction between the data collection, the analysis and the pragmatic research design, something called for by Hammersley and Atkinson (2007). The analysis work took place at least informally throughout the project, with a major period of formal analysis in the period between the release of the new lesson observation form discussed later and the final visit to Roman College (which was the first time the design principles in their final form were shown to people outside of Stretchford College).

The chapter begins with a description of the Computer Aided Qualitative Data Analysis Software (CAQDAS) used in the project and examples of the analytical process. This is then supplemented by a description of the wider analytical process that was undertaken to move from findings presented descriptively to the more concentrated form of a design principle. These findings are supportive of an argument about the importance of trust as an aid to the design and operation of a quality improvement process.

The design principles use this over-arching finding as a basis for a design description that encapsulates the core message that arose from the analysis of the case, but allows potential users of the case study data a more accessible entry point to the findings than reading the whole case in detail. It is argued that ease of access to the main findings of the case provides a filtering mechanism from which users can explore more detail as necessary, but does not require them to commit to studying the case in depth before they have a chance to identify the aspects of it which they may find informative and transferable to their own context. As such, a design principle can help lower the barriers to entry for case study data and promote wider dissemination of case studies as part of overall college quality improvement activity.

## **5.2 The use of Technology to augment qualitative data analysis**

Data were entered into the software (see figure 5.1) used to support this project. NVivo v10 allows an analyst to connect themes and identify relationships and provides a range of tools to support the coding, reduction and pattern finding activity necessary for drawing out the themes, which in this research ultimately led to the three design principles described later.

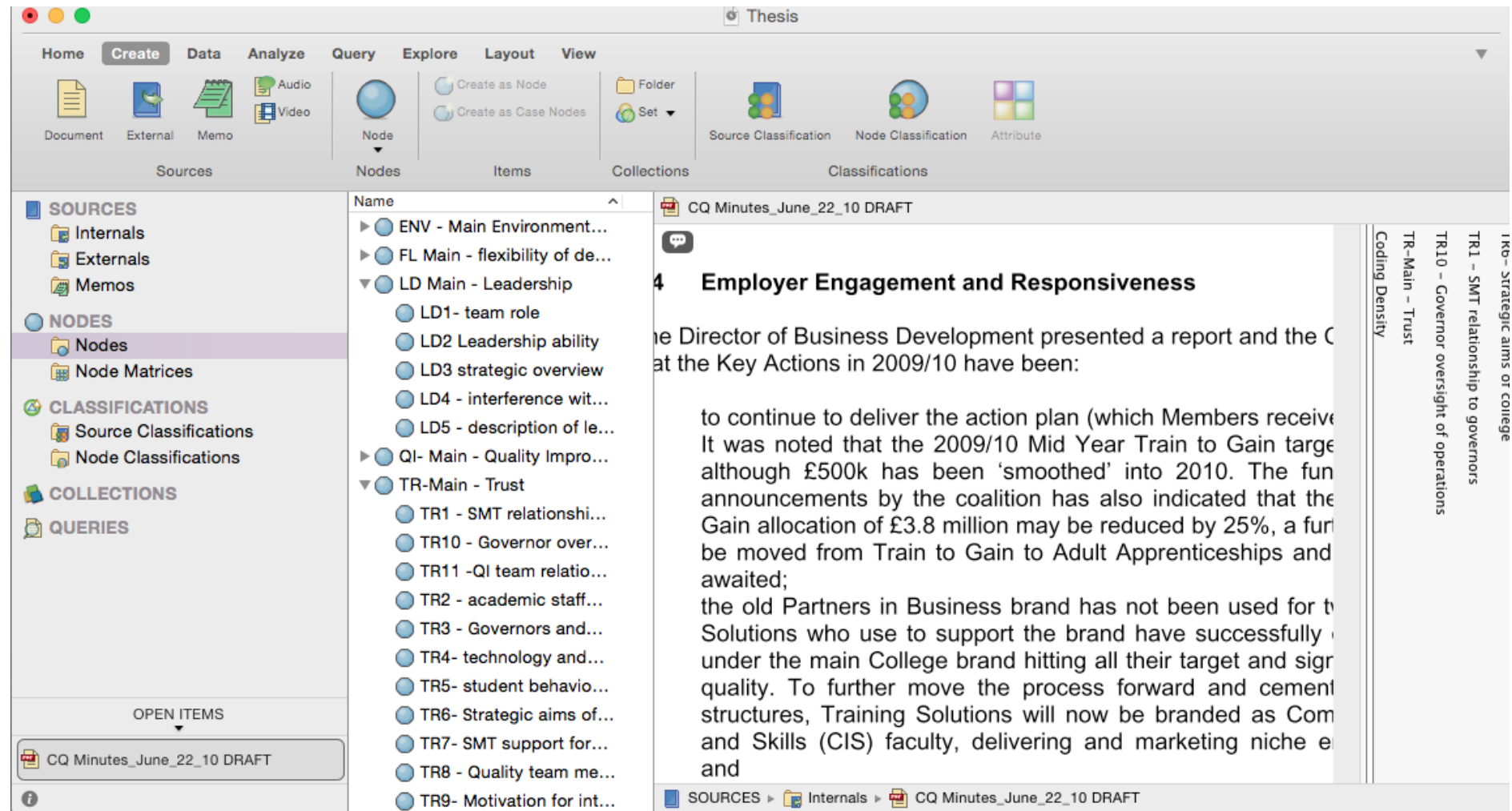


Figure 5.1 the NVivo software was used to create thematic codes

A lot of the documentation collected for the project was in hard copy format. For example internal inspection reports and also OFSTED letters, organizational charts and other internal documentation (see appendix I for examples). A decision was taken to combine software-based analysis with annotations and memos kept by hand and to manage the process using a Microsoft Excel spreadsheet. Field notes were also mostly hand written (with some voice memos) and a decision was taken not to transcribe all of the notes directly into the software. Instead of this interview transcripts were used for initial coding (referred to in NVivo as 'nodes') during the period of data collection. In this way 48 codes were created which were reduced to 14 (see figure 5.2) after the grouping and indexing phase of the analysis. These were then used to drive further iterations of analysis involving the complex set of data that had been collected, including the documents and field notes. The approach to coding was developed at this point, to ensure a structured and coherent process was adopted.

I worked with a set of four rules, which were developed to help secure the trustworthiness of the results and help ensure the analysis would answer the research questions.

The rules I applied were:

- Endogenously generated – the source of the codes was the data itself and not an external imposition; but seen through the lens of the theoretical models I was exploring and the research questions. Only codes that arose from the data became candidates for development of a design principle. For example the theme of 'trust' arose from data rather than a search for evidence to support the idea of 'trust' being important as a result of *apriori* theory suggesting it is.
- Easily Understood – the codes are intended to be used to provide usable knowledge that practitioners can work with to apply the findings. The codes therefore are straightforwardly worded and describe easily recognizable phenomena; also language recognised by practitioners was used. For example the use of terms within the codes such as 'Capacity to improve' drew directly on language related to quality systems familiar to college staff.

- Well delineated – the codes describe specific aspects of practice and process with a clearly specified role. The same piece of data was only coded with more than one code where the codes focused on different aspect of the data. For example items such as the lesson observation form were coded for both the ‘resilience and reliability’ theme because it touched on consistency of activity and robustness of the process but also it spoke to the theme of trust between managers and the governors in terms of properly reflecting the standards monitored by governors but designed and implemented by the quality improvement team.
- Purposeful – the codes needed to both encapsulate the data’s meaning as well as facilitate the development of findings and answering of the research questions. The codes therefore encapsulate as many aspects of understanding the quality process in terms of what it means for those involved in its design and operation rather than, for example, the affect on teaching staff or students of operating the system.

This exercise in the initial examination of data as it was being gathered helped guide the process of preparing it for further analysis. This also allowed me to identify three main themes arising from the data.

The three themes identified were:

- Trust – between stakeholders and in the technologies used
- Resilience & Reliability – of systems and processes
- Flexibility – of activity, responses to problems

These constitute the themes of the case around which further analysis occurred and the three design principles address one of those findings in turn. The findings are presented in the following chapter as descriptions, which provide a contextualised example of how data were used to build the picture that is then presented.

The use of CAQDAS (computer aided qualitative data analysis software) has been criticized for promoting a reductionist approach to data analysis (Gibbs, Frieze et al. 2002). The argument is that CAQDAS may lead to analysis that focuses on the elements of the data such as word clouds, connectivity maps between nodes and coverage percentages of terms. These are useful descriptors of what is present, but suggest that data are revealed rather than constructed in a reflexive relationship between the context and the researcher. The analysis for this project was intended to be in the interpretivist tradition, where the researcher is taken as an instrument of data collection and constructs the data rather than reveals it, a traveler rather than a miner in Kvale and Brinkmann's metaphor (2009, pp48-50). The analysis is therefore a reconfiguring and reconstruction of those constructions (Lincoln and Guba 1985, p332)

The argument that credibility of analysis might be inferred simply because CAQDAS has been used was also a possibility that was considered . The pragmatic use of software to reduce the task size without making use of NVivo's more quantitative tools fitted the research design. Using a range of tools for sense making in a complex data set helped ensure that as a researcher I was less likely to entrust too much of the analysis process to the tool rather than the interpretation and avoided the danger alluded to by Bringer et al (2004, p248) of allowing the analysis to become a, "rigid, automated analysis of text".

An analysis process was used that was contextualized for the problem at hand, in the manner recommended by Gibson and Brown (2009). This had three stages, discovery and grouping, thematic reduction and construction into the findings presented in chapter six. These findings were used to build the design principles and so in the following section there is a description of how that term is applied in this research.

### **5.3 Design principles: definition and elements.**

The type of system that can often benefit from an approach to problem solving combining ideas from design thinking and from detailed case study have been described as messes, ill-formed problems and wicked problems. These names share a common theme, they describe a problem which occurs in situations of "uncertainty, instability,

uniqueness and value conflict” (Schön 1987 p49) . The reason design principles can be used to explore such problems is often attributed to their mutability as new design knowledge is added and their flexibility in application, as they do not impose a particular solution (Markus, Majchrzak et al. 2002).

However, there is no standardised definition of what a design principle should look like, nor what features it must possess in order to be called one. The following is a description of what a design principle is for the purposes of this research project.

### Definition

A design principle is a written statement, which concisely represents knowledge gathered when designing an artefact. Such artefacts can be physical or relate to social infrastructure, a process or other tool used in the achievement of work. It provides the description of elements and behaviour which could be used for the construction of a new artefact in a specific problem domain. It does not act as a ‘recipe’ for the construction of artefacts but rather as a description of the features a successful instance has exhibited in a similar context.

For this research project design principles were treated as abstracted descriptions with the following format:

**Name:** A descriptive name, which indicates the role of the principle

**Purpose:** a description of the purpose and objective of the principle

**Interface:** a description of the features of the principle

### Example design principle

An example design principle from the research relates to communication processes between layers in the college hierarchy; from governor level to classroom lecturer. The syntax of the principle follows a standard developed for the research. This example was later deemed to be covered by the other design principles that came out of the study. It is provided as an example of how design principle creation also played a part in the thematic analysis, being created as candidate principles and then discarded or

combined with others as more data was analysed. Such candidate principles might be discarded because they seemed too similar to another one or because there was not a strong enough body of evidence to support it or because an alternative explanation was uncovered. A number of design principles were mooted based on an interpretation of the data and further analysis led to a reduction from the fourteen suggested by the coding to the three presented in this thesis following the final analysis. These principles could help with analysing data in further case studies, something discussed in the conclusions of this thesis.

**Name: #InvolveEveryoneAffected**

**Short Form:** <<for strategic aims and daily practice to be well aligned then clearly defined processes for formative two-way information flow are required>>

The use of the '#' symbol identifies the following word as a design principle and not as a regular use of a word; this is to avoid potential confusion as to meaning. As design principles constitute a collection of entities, which can be organised into classes, the convention of naming them using initial capital letters has been adopted from object-oriented systems design. Design principles benefit from using this notation format as it makes them more easily accessible to a wide range of practitioners and is straightforward for others to learn.

The content of the principle itself is contained within angle brackets <<>>. This delimits the text and ensures it is clearly separate from surrounding writing. It can be seen that the purpose of the principle and the features suggestive of a successful design are concatenated into one unit. This is to ensure a clearly expressed connection between the two. Semantically however they are separate.

This example of a design principle contains the features used as a guide during the research. These favour a 'short form' style which can be supplemented using a long-form style similar to one used by van den Akker (1999). The longer form is useful when it is thought information from a case study might be a guide to action in a different case and more information is desired prior to reading the case in detail.

A longer form expression of the **#InvolveEveryoneAffected** principle would be:

<<To design a working environment for developing and maintaining an ethos of trust and mutual dependence in the college then give that design the characteristics of clearly defined standards of transparency of information flow. This can be achieved via openly available procedures for information dissemination, an active policy of two-way formative feedback cycles and regular exchanges of information between stakeholder groups. Formative information exchange helps create a basis for trust between the leadership team and teaching staff. It increases the potential for identifying individuals capable of progressing to work at the strategic level required in a large institution and the open nature of dynamic two-way communications processes provides a useful mechanism to both promote the benefits of fresh thinking and develop a deeper understanding of constraints on management>>

### Features of design principles

The following set of features act as a guide to how a design principle for this case was assessed. It is suggested that when supplementing a naturalistic generalization with a design principle it should contain all of them. This is because these features provide a consistent structure that helps the case study researcher to remain focused on producing straightforward-to-apply and empirically grounded generalizations.

#### Short

They are a generalised principle. A design principle should be understandable in its own right; and not require significant additional explanation.

#### Memorable

They should describe something important in a way that resonates with the reader. This means they should address core issues in a problem domain that will be familiar to practitioners.

### Evidence Based

They should be based on empirical observation and description of behaviours, rather than the declared goals or preferences of users. This is because a user's understanding of a system is limited by their interaction with it. Users in a problem domain will not have an objective understanding of what the optimal solution to a design problem might be although they are a valuable source of information. As design principles are evidence based they can also be adapted over time to take account of new knowledge.

### Non-conflicting

A group of related principles should form a coherent whole and not require contradictory behaviour from different parts of the system.

### Purposeful

Vague statements, such as 'show strong leadership' or 'develop enthusiasm for ICT' are not design principles, because they do not provide a basis for developing a solution. There should be specific identification of features rather than statements of intent or ill-defined objectives. These traits guided the development of the design principles by providing a checking mechanism, which I and other users of the principles can use to see if they meet the aims of a standardised design principle. The creation of the design principles was an iterative process that followed the analysis model described below.

The process itself consisted of three phases. The stages of each phase take the process from initial hypothesis through to the generation of design principles. At the end of the process there is a framework of design principles that show how learning quality improvement activity was organized in a way that OFSTED recognized as being 'Outstanding'.

*"Quality improvement processes are highly successful"*  
(OFSTED report on Stretchford College 2012)<sup>1</sup>

The design principles collection is an aid to case study reading and local design activity and is not a recipe for a perfect system. It is not a list of 'best practice' items as 'best practice' can be viewed as instrumentalist rather than a design-oriented approach to problem solving. This is because there is an inherent assumption that for a given

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<sup>1</sup> This inspection report may be available if permission is granted by the college

scenario there is a universal best response. I would argue that this makes contextualization, or the development of a system to take it from one stage of the capability maturity model to the next, much more difficult and has the potential to lead to an increased risk of failure of change projects.

#### **5.4 Analysis Phase 1: reducing and organising the data**

This phase includes a number of steps to explore what Stamper calls the “functional morphology, valuation framing and contention management” (Stamper 1994 p113) aspects of analysis that are necessary to articulate the problems of the system under examination.

By this Stamper is referring to methods which look at how norms of behaviour are established and shared especially in communication behaviour between stakeholder groups; identifying stakeholders and their understanding of the system’s functioning and finally examining how conflicting perspectives are managed and differences resolved. For this project that process includes setting the boundary for the system, identifying the aspects of the system that are in scope for analysis, developing a group of broad themes and ensuring that the data to be grouped and analysed can describe not only how the quality process works as a sociotechnical system but identifies the affective aspects that lead to it being assessed as ‘Outstanding’ by external inspectors.

The analysis at this phase is based on field notes, as well as examination of both internal and public documents from Stretchford College and interview data. This is the grouping of data ready to be reduced and then reconfigured in accordance with the steps recommended by Miles and Huberman (1994). As data had been subjected to ongoing analysis as described above I was using this stage to explore the three themes outlined above.

This stage involved two steps, which provided the basis for the detailed analysis work. This section describes how data were used to scope the system to be investigated (the teaching and learning quality system) and associate these with suggested activities that formed part of the quality improvement system.

### Indexing database

The process of indexing was partly assisted by the use of software. As discussed earlier I used Excel as an aid to organisation and even where data such as field notes wasn't entered into the NVivo system it was possible to create an entry in Excel to identify its features as part of three types of activity I was interested in. These were, the quality process itself, the development of strategy and governance and the activities of operations management. Each of these types of activity occurred within one or more of the subsystems that were identified as part of the quality system in the college. This database was used to show the type of data collected, the type of the activity, the nature of the activity, the participants and some comments. This allowed for the tracking of physical items of data by associating them with an activity. For each activity a summary interpretation of the data drawn from field notes, interview transcripts and document excerpts and diagrams was prepared using MS Word.

For data collected from Roman College I prepared a similar database for use as a way of identifying potential verification material for findings from Stretchford College. This meant the analysis of data from Roman College occurred mostly after the analysis from Stretchford and instead of activities the database focused on the three themes of trust, reliability and resilience and flexibility referred to above. This is because the data from Roman College was used to help verify and enhance the validity of the case data from Stretchford, especially in view of the need to check whether design principles were found to be informative and helpful by potential users of them.

### Identifying the boundary of the system for analysis

The diagram below is based on treating Stretchford College as a system whose boundary sits at the level for which the Governors are responsible, which is setting the strategic direction for the college. This means that although external actors are included in the analysis they are not part of the core system.

The descriptors '<<subsystem>>' and '<<component>>' are used to identify the elements that form the overall entity '<<sociotechnical system>>'. A '<<subsystem>>'

contains '<<components>>' and 'Actors'. A '<<component>>' may be a document, a process, an item of equipment or other artefact.

The college system therefore contains a number of subsystems, some of which are explicitly part of the sociotechnical system and require more detailed analysis; some of which can be seen as implicitly part of the system and require analysis in terms of their impact on it and finally fully external actors who sit outside the system boundary and may be analysed solely in terms of their participation in feedback loops with the college; an approach to understanding explicit and implicit system boundaries discussed by Gasson (2005)

Gasson's approach was adapted to make use of some systems design norms as Use Case diagrams (Object Management Group 2011) represent stakeholders and what they wish to gain from a system. Each actor in the diagram is there because they benefit from the system. This type of diagram helped me to question the data in terms of what it meant for the people involved in the system.

After grouping and indexing the data, and reviewing the additional data from a workshop held in July 2011 to discuss the idea of design principles, the next task was to develop a model of the college as a collection of analytical subsystems (see figure 5.2). In order to correctly scope the subsystems and try to ensure that they were a sensible grouping of sociotechnical elements I took note of Koestler's conceptualisation of holons (1969) as groupings that have self-reliance and a degree of autonomy but which nevertheless are subject to control from a related larger entity. Without accepting or adopting Koestler's holonomic model I nevertheless felt the description of whole-part relationships within organisations was a useful way to help me identify and properly describe those subsystems of the college that related to my research. It is important to note that this is not intended to be an exhaustive list of possible subsystems but that set which directly helps answer the research questions.

I began this process by looking at the organisation chart for the college. The idea of an organogram is to produce a hierarchical representation of roles and responsibilities. This was done to help identify logical collections of people and roles. However, the groupings of interest cut across formal intra-college boundaries such as faculty or

department. I took the approach of looking for groupings based on processes that have an impact on teaching quality. The following high-level diagram shows the subsystems that I identified. The light grey area of the diagram represents the three main formal influences on the college. These represent external actors and the component that they are responsible for but, unlike other external actors such as Trade Unions, these have a formal role in determining the college's activities and represent a 'near-system'.

I have included some major external actors in the diagram to show that although there is no formal role for these in the running of the college they are nevertheless influencers of how a college communicates information and adapts to the local environment. Trade Unions and professional bodies such as the Institute for Learning are represented here because although they do participate in formal negotiations with a college over aspects of teaching and learning they have no formal role in assessing or determining quality improvement practices.

It can be seen that the government and its policy framework are represented by the Departments of Business Innovation & Skills and Education. These departments share responsibility for the sector. The most recent adjustment to policy followed the Wolf report (2011) which is focused on changing the delivery mechanism in vocational education rather than on further education per se. The effect on funding prompted by the Wolf report is now an important driver for how colleges are developing, especially with an increased emphasis on Apprenticeships.

As discussed in chapter one, the role of government in organising, funding and overseeing the sector is often unclear and confused, with myriad agencies having responsibility. The sector enjoys much less prestige within political circles than other areas of the education system (schools and universities for example both have a Minister of State, whereas further education has a more junior Parliamentary Under-Secretary of State). The role of government policy in the sector is a major influence on how colleges structure themselves, particularly in terms of the focus of teaching effort.

For example the current expansion of apprenticeships is largely channelled through further education colleges, who are now concentrating on this area whereas three years ago the government was providing more funding for in-work skills development via the 'Train to Gain' programme.

The main near-system component that influences college practice and organisation is the OFSTED Common Inspection Framework (2012). The current version has applied since September 2012 and sets out the basis for OFSTED inspections and a rationale for the grading structure. This current framework is a major change in direction for inspections and replaced the 2009 version, which was retired early following a change of government in May 2010.

The introduction of the new inspection framework has had a major impact on the design of quality systems within the sector, because it places more emphasis on explaining what OFSTED are looking for in terms of quality in provision. This is an attempt to remove reliance by colleges on highly prescriptive quality processes, which have been criticised for being exercises in 'tick box' compliance (something that was acknowledged by OFSTED in my interview with them). OFSTED have recognised a failure on their part to stress the role of the qualitative element of inspections, especially student experiences of teaching. This research project takes a change of Stretchford College's teaching quality process to meet the needs of the new inspection framework as its main narrative.

The final near-system component that has been included is the shared practice knowledge from what I have labelled the 'benchmark group'. This term covers not only other colleges that work together as a group to share practice and work on areas of common interest, but also more formally structured bodies such as the 157 Group. This organisation represents large colleges graded at least 'Good' by OFSTED and produces a range of papers and formal advice to colleges on issues of quality and governance. These benchmarking groups were included as part of the near-system, rather than as external actors, because, unlike Trades Unions or local employers, the membership of them comes from the senior management team within a college. This places them in a special position in terms of their influence on college ethos and strategic planning. For Stretchford College this is evidenced by the fact that the Principal is a leading figure in one of the main national benchmarking organisations.

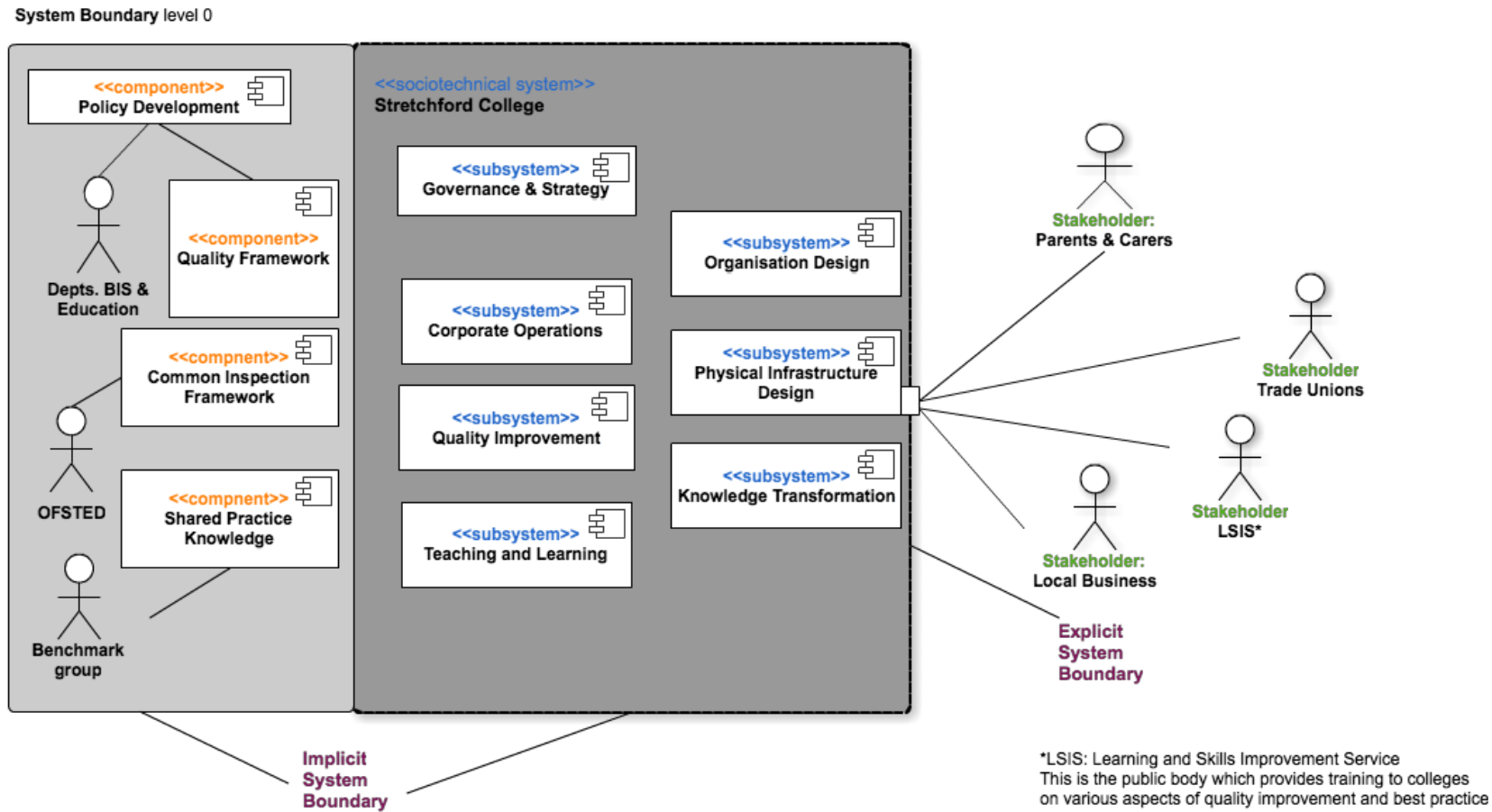


Figure 5.2 High-level view of the college as a system showing relevant internal subsystems and components

After indexing the data and setting out the scope of the analysis the process moved to the creation of codes as described in the next section.

## 5.5 Analysis Stage 2: grouping and coding of data

I grouped data based on a number of review cycles to place data according to the subsystem(s) that the data illustrated. Later in the process this was used to synthesise the data into a design principle which illustrated an aspect of one of the themes I had identified earlier in the process. For illustrative purposes one of the subsystems under examination, 'Governance and Strategy' is described in this section. At the end of this stage the data have been reduced and organised for further investigation and codes have been created so that the analysis can move to construction of the findings.

The process involved looking at the data I had collected and organising it by the subsystem(s) it helped illustrate. The following section (see figure 5.3) of my interview with the Clerk to the Governors provides insight into the process with respect to the governance and strategy subsystem.

| Interview Snippet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Subsystem                                                                                                                                                   | Comments                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>CtG: We addressed the issue of engineering.. at a very early stage. One of the problems.. that I'm sure, you know, we were not alone in.. It was always very easy to set up a strategy for the old libraries and then the learning centres and your IT replacement policy and all the rest of it. And construction and engineering came and said: well, what about us? Our equipment is written down over 20 years, but, you know, no great plans to replace it. So we addressed that with the merger.. we won some funding in a competition and had a new engineering centre constructed at Axx Dxx centre and that included CAD, which we'd been doing on a smaller scale, but enabled it really to</p> | <p>Governance and strategy</p> <p><i>This part of interview very much about the financial control and strategy related to achieving curriculum aims</i></p> | <p>Financial considerations dominate purchasing decisions – new approach needed for long term planning</p> <p>Failure to consult? Why didn't they know this? Governors' having to cope with new types of provision after merger</p> <p>Pragmatic strategy – Governors and SMT seeking funds to achieve new strategy</p> |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>progress and.. robotics as well. Links with schools, which was again a focus at that time. Construction was a little bit.. out on a limb, you know. We were changing from.. the amount of higher level work that we did, meeting the requirements of the area as a whole and doing much more expanding our level 2 programme. BrXXX had been much more about level 3 and HNC/HND, XXX had been much more about practical skills and coming together it was the level 2, and to an extent level 3 that grew, but with sort of less HE work.</p> <p>CtG: We didn't see a progress there until the early 2000s, 2004 I think. Again, link it back in to the financial.. you know the curriculum driving it.. financial and the accommodation strategy. The original accommodation strategy was all- embracing. Because of problems with planning.. it was split into two phases. And it was as well that it was, because we were very badly.. held up at the Axx Dxx centre. It was made a listed building.. it was five buildings.. which put severe constraints on..</p> <p>SWA: on what you could actually do. Internally and externally I suppose</p> <p>CtG: Yeah. And so we pressed ahead - and so this was the first phase. That was up and running. We had funded it through savings.. We didn't spend on planned maintenance. We deliberately let some buildings go downhill as part of the strategy.</p> |  | <p>but flexible in approach</p> <p>Teaching and learning – change of priorities after merger – governance focused on social mission of college – SMT developing curriculum for local environment focused on lower level courses</p> <p>Flexibility again overseen by strategic aim to improve accommodation. Building and £ planning follow curriculum – curriculum in line with college social mission</p> <p>Was this communicated to</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>We sold off half of the Axx Dxx centre and we did quite well, ironically with the.. Although we were delayed for nearly five years by planners... Although there was building inflation way ahead of ordinary inflation, so we didn't do quite as well. And I won't go into all the ins and outs of funding and all the rest of it, but.. You can't just say: oh we've got more money from that and are able to pump that in. You've got a consent from the funding organisation to do that and you've got to stay within parameters so we had to value engineer quite substantially at Axx Dxx to get back in the envelope - yeah? But out of that came new accommodation for Construction which led to a lot more technology ummm and errr use of ummm online exams and things like that. And the third angle was in ummm Motor Vehicle where again with another merger.... with Sxx College we were able to put.... that was a small, very small college and it too had been franchising less successfully than... it went on too long basically and it was bankrupt. Err we assimilated it, it became part of Stretchford but we tried to keep a distinctive identity at Sxx and at the Pxx Centre which is near xxx station which was new-build at Incorporation and that was upgraded and quite a lot of work was done on computers as part of embracing the merger with our IT strategy</p> <p>CtG: Our IT strategy was basically three year write down of computers. We didn't</p> |  | <p>others? Governance system design was loosely based on Carver model – was this decision taken by full board or sub-committee?</p> <p>Highlights need for SMT and governors to work long term to achieve strategic aims – Governors clearly being very much in control of financial stability – what about the value engineering? How far down were those decisions pushed?</p> <p>Explore this – ethos and culture clearly important to governors but tied up with autonomy – problems? Attitude of VP to distinctive identities – college-wide policies – how easy?</p> |
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| <p>automatically just throw them away but in terms of planning your spend and what have you...</p> <p>SWA: It's the most sensible way?</p> <p>CtG yeah... so in key areas we kept up with the IT technology. We did a lot of CLAIT in very good Drop-In centres and were... we had the scale to be able to do it quickly and effectively without having to go out to franchise and what have you. So.... up with the hardware and the rest of the hardware was ummmmm networking - two distinct philosophies. Stretchford spread over a number of sites, fairly small... a Principal who said 'communication is everything' and he wanted the staff to be able to communicate... what was it? with employers, parents students, prospective students. This is showing my age but the first thing he'd done just before I arrived and I've continued it he took off the 'you will not make outside calls before 1 O'Clock' rule that sort of thing and the next was to look at networking.</p> <p>With the help of the County Council we drew up a strategy, again in two parts - it linked to the errr WAN that the council was putting in place and we developed, at our own cost but with some technical support from the council a LAN.</p> |  | <p>Is this a strategy?</p> <p>Pragmatism again – IT use based on current external funding – govt money for CLAIT meant lots of focus – BUT still curriculum lead strategy – supports skills dev in deprived areas</p> <p>Who is driving the culture and ethos here? – Governors setting tone and direction – clearly big input by SMT but this implies Principal able to set the tone – discuss as may be good example of SMT enacting a broader direction</p> <p>Connecting with outside stakeholders to achieve strategic objectives</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Figure 5.3 Interview snippet grouping data for the governance and strategy subsystem

It was decided to do this as interviews could help generate questions for other interviewees and also to raise further questions for existing participants. What this

interview showed was that governance and strategy work could be described in terms of two main themes. Firstly the operational planning and strategy and in this case it led me to check with other interviewees whether this was as curriculum led as indicated here. Second is the development of a college ethos and mission, and the nature of the relationship between governors and managers in building and maintaining it. During the course of this interview it was interesting to note the extent to which operational managers had input into the development of the culture, but it became very clear that the governors saw themselves as the guardians of a particular ethos and would make appointments accordingly.

This was picked up in later interviews with the vice principal and chair of governors. In terms of teaching and learning quality these two themes proved important in understanding how and why the quality system took the form that it did and also the rationale for the changes being made during the time of my research.

Initially each interview transcript was reviewed to see if there was anything that could help build an understanding of any aspect of the subsystem, in terms of its role in influencing the structure and operation of the quality system. I also used this opportunity to try and identify any different subsystems and to build a deeper understanding of the ones I had identified. This was part of the reflexive process in which the design is influenced by additional information about the design arising. This is an essential feature of any design-led study where 'redesign' is the norm and is based on existing knowledge (Markus, Majchrzak et al. 2002).

In addition to interviews I also had field notes, which I also placed into a Governance and Strategy subsystem umbrella 'bin' for further analysis. The creation of codes therefore began by taking the indexed material by activity type and then initially seeing which subsystem(s) it might illuminate. I then added a subsystem code for that as necessary. A data item therefore carried with it an activity reference and a subsystem reference meaning I could explore data either by activity or by subsystem. This type of display, where multiple layers of analysis can be viewed in one matrix structure provided the main output of the coding stage.

The initial collection of codes was refined into the 14 codes shown in figure 5.4 and these were then further refined by the three themes. The analysis process took the data from its initial state to the point where relevant data was represented by one of the 14 codes developed which have been illustrated through the use of vignettes (figure 5.5).

| ID Number | Thematic code           | Source     | Example Data                                                                                                                                                                                                                                                                                                                                                                                                               | Rationale                                                                                                                                                                                                                                                                                                                                |
|-----------|-------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1-TR      | Informal networks       | Interview  | “That’s difficult actually - I get to know an awful lot but often that’s through direct discussion with the Clerk and Keith and the other senior staff from time to time ... we’re clearly always saying to governors in meetings and when we induct them - it’s like ‘don’t wait for a meeting to raise things or ask anything you want to know speak to the appropriate manager or to the clerk and he’ll fix things up” | In this extract the chair of governors highlights the importance of the Clerk as a trusted conduit for information and as a link to managers within the college                                                                                                                                                                          |
|           |                         | Interview  | “at the top level what we’re doing is really trying to look at our strategy to try and keep where we want to go as a college and to be honest the place we want to go as a college - we want to be... want to remain viable, employ our staff and maintain the same amount of students... you take whatever comes and you try and steer it in between you know!”                                                           | In this interview the Vice Principal in charge of quality is discussing the way communication at a strategic level is a negotiation between management objectives and strategic continuity – the Clerk to the governors helps ensure this happens so that governors and managers are communicating effectively                           |
|           |                         | Fieldnotes | [11/7/12 ADC]Curriculum development – Governors are kept up to speed in some detail on planned provision for the following year – Manjit passes note to Vice Principal – she discusses with chair of QSB then Chair lets everyone know that new Sharepoint site can be used for sharing new curriculum plans.                                                                                                              | This was observed during a meeting of the Quality Standards Board where both governors and managers are present. Here the Clerk reminds managers that some governors may not know about how the document sharing works – by getting this reminder done straight away he helps to reduce governor queries about not being kept up to date |
| 2-TR      | Politics of the process | Fieldnotes | [11/7/12 City Centre] There was a suggestion that managers should ‘walk the job’ more so that the quality system would also address issues of communication with the SMT – comment of lecturer “proper 2 way                                                                                                                                                                                                               | This was a group interview with a number of teachers and managers – the notes recorded my overall impression as well as direct observations and comments. Here is                                                                                                                                                                        |

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|      |                                        |                           | communication should mean we can get hold of them" [senior management team]                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | an example of where managers being personally involved in seeing the process in action and acting on it was raised by participants                                                                                                                                                                                                       |
|      |                                        | Interview                 | "we need to achieve some standardization but if teams are doing experiments and trying stuff out around that then that's exactly what we want"                                                                                                                                                                                                                                                                                                                                                                                                    | This came up in my interview with the deputy principal of Roman College. I had asked him about how they saw the role of teachers in shaping the lesson observation system. It shows how managers can adopt oversight without restricting innovative practice and this can help draw out the differing perspectives at work               |
| 3-FL | Congruence between policy and activity | Lesson Observation policy | "A feedback session is conducted as soon as possible after the observation and the observer will make clear the strengths and development areas of the observed session and offer suggestions for further development if appropriate. A confidential observation report is produced at the end of each observation that includes a Teaching and Learning Development Plan. This development plan is central to the college's strategy of supporting all teachers to reach or maintain a rating of 'Good' and in exceptional cases 'Outstanding' " | The lesson observation policy was rewritten to take more account of its role as a developmental tool not just a quality assurance one. A key part of this is the introduction of formal action plans and a clear process for staff to take problems directly to the                                                                      |
|      |                                        | Fieldnotes                | [29/11/11 SBSA] Point made by June – Historically there has been a focus on quantitative data – getting staff to undertake systematic qualitative activity has been hard – being addressed now with use of learning walks training and staff briefing notes                                                                                                                                                                                                                                                                                       | This note comes from a staff briefing I attended where the QIU were starting to disseminate the plans for the new lesson observation policy. It highlights that bringing staff into the process of identifying problems and applying their professional knowledge was being recognised as an important development in the quality system |

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| 4-FL | Devolving power            | Interview              | “It’s about debunking some of the myths, I’ve heard it quite often - ‘oh OFSTED expect the college to observe every member of staff... I say ‘what? Where did you get that from? ...There’s nothing published, there’s no expectation. In a way, if you were doing that I’d be puzzled why you were taking that approach... base it on risk! We are trying to get heads of faculty to think ‘let’s get grade 1 teachers and pilot something, go a little off piste , let’s be a little irregular, try some new concepts... THEN do an observation, judge the effectiveness of the innovation” | This interview with the head of the QIU showed how there was a tension between central standards and local contextualization. This snippet highlights the role of seeking to allow freedom within the system provided it doesn’t conflict with overall system stability                                                                                      |
|      |                            | College 2011/12 SAR    | “The Academy model also creates employer partnerships where employers play a critical role in determining the experience that young people have of their sector...                                                                                                                                                                                                                                                                                                                                                                                                                            | This part of the SAR describes a unique feature of the business faculty – it shows how a model for achieving a strategic objective (Strategic Goal 3 from the college strategy 2010-2013) can be interpreted and enacted by managers within their own area without needing to be part of a college-wide initiative.                                          |
| 5-TR | Communication of interests | Strategic plan 2010-13 | <p>“Innovation</p> <ul style="list-style-type: none"> <li>• Use technology to enhance learning and staff communication</li> <li>• Develop a college research strategy to support innovation, develop practice and inform curriculum development</li> <li>• Review the curriculum to develop efficient, flexible and responsive courses</li> </ul>                                                                                                                                                                                                                                             | The strategic plan sets out the goals for changes to the existing state of the college – strategic goal 2 relates to innovation and developing the curriculum. It can be seen here that a key part of the improvement programme relates to staff contributions to the curriculum and to developing practice. Capturing this input is also seen as essential. |
|      |                            | Fieldnotes             | [ 13/7/11 City Centre] Principal spoke about ensuring money for research bursaries will continue – essential that teachers can keep                                                                                                                                                                                                                                                                                                                                                                                                                                                           | This was a talk at the opening of the annual research conference at Stretchford. In this talk the principal                                                                                                                                                                                                                                                  |

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|      |                                    |                          | helping college develop as a community of professionals. He said staff survey would be upgraded to try and ensure more people would contribute to free format questions. He went on to say there would be tough challenges as FE colleges would be hit by changes in Adult, HE, secondary and apprenticeships – very worried by effect on college’s social engagement mission and valued staff input about new financial envelope | reiterated the need to ensure a wide variety of groups had input into the structures                                                                                                                                                                                                                                                                                                                                                                   |
| 6-FL | Involvement in the quality process | SAR 2011-12              | “Ensure successful student progression, internally and post-course destinations’ – being better supported by improvements in teacher clinics and dissemination of good practice”                                                                                                                                                                                                                                                  | This goal 1 objective a.4 – the design principle suggests that there is a higher potential for initiatives to succeed – by introducing teacher clinics to address specific problems such as particular classroom management issues UCAS entry point were higher than targeted. The introduction of the clinics was a way to bring staff, not just teachers but security staff, IS team and other support teams into the process for achieving the goal |
|      |                                    | E-learning survey report | <p>“IT services and investment are under resourced causing stakeholder frustration”</p> <p>“ICT strategy group bringing teaching staff and IS staff together – development of BYOD initiative”</p> <p>“working group put together more robust back up and recovery procedures – tested regularly”</p> <p>“wireless coverage fell well below target (40% not 100%) - caused a lot of complaints.</p>                               | This annual survey began as a way to help disseminate information about the learning platform and ways to engage with the use of technology in the classroom. By this time the survey had become an important tool in identifying gaps in provision and embedding staff in the selection and testing process for new technology                                                                                                                        |

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| 7-RE | Quality as student focused not college focused | Interview                                         | “That UCU picket... I don’t understand why they’re doing it. What are they going on strike for? The management don’t have anything to do with pensions. They don’t seem interested in focusing on things that are issues for discussion with management”                                                                                                                                                                                                    | . This quote came early in an interview with the Chair of Governors – he was expressing his frustration that a strike was being called as it was about something the college had no control over and which took attention away from the core objective of making sure students were at the centre of decision making                                                                                           |
|      |                                                | HM Chief Inspector’s report on the sector 2011/12 | “Providers have not focused enough on measuring the true impact of their provision”<br><br>“Leaders therefore need to focus more on the usefulness of qualifications to learners and not on the quantity of qualifications achieved”                                                                                                                                                                                                                        | The Chief Inspectors report was very critical and showed that in terms of long term outcomes the common mission statement (e.g. from Roman College ‘to put the learner and the teacher at the heart of everything we do’) is often not reflected in decision making sometimes because of financial differences in curriculum offers – there is a strong temptation to place other interests ahead of students. |
| 8-RE | Questioning measurement methods                | Interview                                         | “we’re just falling short in the nicest possible way of exploiting the expertise we have... giving an uplift from an academic leader, not just a manager... imagine being a grade three teacher for the past 5 years and thinking ‘I don’t know how to improve’ and if you don’t know how to improve those last 5 observations were meaningless... you’re dissatisfied, go home kick the cat and carry on and that’s a sad thing if that’s all we’re doing” | This interview with the head of the QIU covered the change in direction from data-collection based quality assurance to risk based and more participatory quality improvement - strongly guided by the principle of wanting to ensure observations and other quality activity served a practical purpose and were forward looking not just exercises in recording data                                         |
|      |                                                | Interview                                         | “we used to go and help a department where they came to us and asked for something but now we go and talk to departments who don’t have any contact with us, they’re usually the ones that need it”.                                                                                                                                                                                                                                                        | In this interview with June who was responsible for teaching practice development within the QIU she described how understanding practice in context and helping teams shape their observation policies relied on                                                                                                                                                                                              |

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|      |                                          |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | deeper understandings of why they did things rather than just recording their compliance with mandated observation criteria.                                                                                                                                                                                                                                                                                                                                                                  |
|      |                                          | Lesson Observation form 2012                 | <p>Actions: Include the purpose of the action in improving teaching and learning</p> <p>What will be done and who will support the teacher in achieving it?</p> <p>How will the improvement be measured?</p> <p>When will it be reviewed and who will review it?</p>                                                                                                                                                                                                                                                              | This is the comments wording for the new form for recording graded observations – showing the focus on understanding context and developing an action plan for future improvement activity, rather than recording lesson ‘facts’ such as pace of start or choice of activities                                                                                                                                                                                                                |
| 9-TR | Independent oversight as a trust enabler | Audio Fieldnotes                             | [21/6/11 ADC] It went up to the HE quality board and basically nothing was done – Bill said to me he wasn’t happy with that so it went up to the QSB and remained as an open item for action so he felt he had to take it to the governors – the vice principal wasn’t happy and felt uncomfortable doing this as it made the management team look bad – Bill felt it was an important part of the process and that it was important for people to see that action would be taken and that the system was independently monitored | This was a fieldnote made after a discussion with the head of the QIU – it is partial (I hadn’t yet spoken to the vice principal about the situation). The important thing about this discussion was the appeal to an independent body – accepted by all parties as such. It showed that the process was capable of being used despite the potential for embarrassment. It helped reinforce the idea that no part of the system could set aside the need for agreed processes to be followed. |
|      |                                          | Terms of Reference – Quality Standards Board | The Quality Standards Board will monitor and evaluate the quality standard and quality improvement strategies on academic programmes... It may initiate relevant actions that do not require full Executive approval                                                                                                                                                                                                                                                                                                              | The terms of reference are the formal remit for the board and define its scope and role in providing independent oversight of the quality system. The QSB was set up to address a perceived problem in staff confidence in the quality system. Using its remit to initiate action the QSB played an important part in identifying the lack of progress in inspections                                                                                                                         |

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|       |                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | notwithstanding the large amount of quality assurance documentation being produced.                                                                                                                                                                                                                                   |
| 10-RE | Clearly defined scope of responsibility | Interview | “He and I [former principal] both had this concept which was a practical realisation of some of the carver principles in our own system... the first thing I did after I took over as Chair was to have painted out the car parking space next to the management suite... reserved for the Chair and the previous chair at that stage was in the college every day and that is a concept which is totally alien and symbolically I said ‘paint out that space... because that is the style that henceforth the governors are going to adopt” | This part of an interview with the chair of the governors highlighted the problems that can be caused where the scope of people’s roles is blurred – a previous chair of governors had been used to being in college every day and was felt to be confusing managerial and governorship roles which led to confusion. |
|       |                                         | Interview | “I think that we are absolutely structured right. I mean we’ve moved from a very top level you know quality assessment really... we still have a lot to do of course... and then we had it more at a faculty level and I think what we’ve done now is drill down to a much more school level – and the ownership, which is what we’ve been trying to get... I think that’s where we’ve got to be ”                                                                                                                                           | This interview with the vice principal shows how adapting the accountability and autonomy regime has taken time to get right but that it has been successful in terms of allowing subsystem elements to know where they need to take responsibility and where their autonomy ends                                     |

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| 11-FL | Peer power                         | Fieldnotes            | Two members of staff both commented that staff input to lesson observations was minimal – apart from checking on LOIS (database) they had little say in internal inspections – seemed they had ideas but didn't think they had a mechanism to share them                                                                                                                                                                                                 | This note was taken as a reflection on a workshop in July 2011 where design principles were explained and discussed                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|       |                                    | Quality Cycle diagram | The cycle has a stream of activities related to staff voice and peer support. Examples include<br><br>"All Staff Inset Day – Vision and Mission".<br><br>"Subject Learning Coach mentoring sessions"                                                                                                                                                                                                                                                     | The quality cycle diagram helps staff see the activities and responsibilities for the year in assessing quality improvement. A useful feature of the cycle are specific elements that help teaching staff connect and share experiences                                                                                                                                                                                                                                                                                                                                    |
| 12-FL | Flexibility in the quality process | Fieldnotes            | [19/3/13 Roman College] Ways of getting more dynamic / in-year change – Norman interrupted Lisa who was describing attempts to persuade governors away from getting into too much detail – he said one thing they were aiming for was to get more information more quickly and spread across more staff – he mentioned Dashboard tools 'so we visit other places, sometimes we'll say we like that bit we're going to nick that but don't like that bit' | This discussion with senior managers at Roman College helped confirm the usefulness of the design principles to practitioners. This meeting indicated that the SMT were facing major problems in terms of sharing data and adapting processes quickly enough to meet targets set in the SAR, which itself was needing more frequent updating as the year progressed. The use of Dashboard type software to measure KPIs was very attractive to the management team because of its potential to help speed up the implementation and assessment of operational action plans |
|       |                                    | IT Strategy           | Consistent High level functionality for all IT end users is achieved<br><br>Achieve data consistency across all qualifications with access to student data on a timely basis                                                                                                                                                                                                                                                                             | The IT strategy focuses on helping to achieve broader strategic aims including the improvement of access to data. This part of the strategy document reflected the need to address what had been significant                                                                                                                                                                                                                                                                                                                                                               |

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|       |                                       |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                 | problems with accuracy of student data such as registers (with significant effects on funding) and also the difficulty of getting reports about students from data. The implementation of the Blackboard system with integrated learning and administrative systems was addressing the need to provide much more real-time information for different stakeholders                   |
| 13-TR | Transparency in providing information | Website         | Collections of meeting minutes                                                                                                                                                                                                                                                                                                                                                                                                  | The Freedom of Information Act requires colleges to provide information and at Stretchford this extends beyond the minimum to include minutes from a range of meetings. In addition this the college intranet site includes the report to the corporation on the annual inspection cycle – this gives all staff an opportunity to look at performance data from across the college. |
|       |                                       | Fieldnotes      | [27 Jul 12 City Centre] They were then invited to play a more active role in the initiative, which was intended to secure more funding as a result of being able to provide more timely student information to the SFA. She explained this changed all of their attitudes but left her wondering why it had been kept from them for a year... she was told it was because the SMT simply didn't think they would be interested" | This part of a group interview with a senior lecturer shows there was an awareness that miscommunication is increased when information is restricted – if transparency had been the default then better data would have been captured                                                                                                                                               |
| 14-RE | Capacity to improve                   | Research Policy | There is a range of activities to encourage and enable staff research. These include: <ul style="list-style-type: none"> <li>• Annual research conference</li> <li>• Research CPD programme including a small grant bursary scheme</li> <li>• Regular seminars with internal and</li> </ul>                                                                                                                                     | The commitment to building capacity through staff development has been very strong at Stretchford College for a number of years. This part of the policy identifies the range of ways that practice can be enhanced through                                                                                                                                                         |

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|  |  |            | <p>guest speakers</p> <ul style="list-style-type: none"> <li>• Online information</li> <li>• Links with local universities (UWE and Bristol) and the Learning and Skills Research Network (LSRN)</li> <li>• Bid writing for national and regional funding</li> <li>• Liaising with external bodies who wish to conduct research at the College</li> <li>• Students are also encouraged to participate in research</li> </ul> | <p>professional development. Also however this demonstrates an awareness that building capacity means that provision of services will go through a number of stages to become excellent. The attachment to maintaining progress towards an evidence-based view of what constitutes good quality increases the probability that changes adopted will be well suited to the current stage of development and reduce the risk of being too timid or trying to make too large a change in one go</p>                                                                                                                                                                                                                                                   |
|  |  | Fieldnotes | <p>[29/6/11 SBSA] Workforce development – 54% of spend now on internal training – E&amp;D, Safeguarding training for all staff – tracking now to be used</p>                                                                                                                                                                                                                                                                 | <p>I noted this during a meeting where the head of workforce development was presenting to the SMT about how they would be developing the college's ability to deploy good practice in recruitment and management of students in an area where the college had been noted as relatively weak by OFSTED – all staff were being given courses with a large number of them developed in-house and contextualized for use in Stretchford's very mixed environment. Taking staff from a position of low engagement with issues of equality and diversity to a culture where they were taken as an essential part of the 'learning journey' was seen as a process that could take time, but could be achieved provided the SMT were fully committed.</p> |

Figure 5.4 coding matrix for reduced data set showing sample data used in coding

### Vignettes - key incidents for analysis

A vignette is a mechanism for representing a key incident in a research project in a compact form, where the data are used to illustrate a specific example of an occurrence that is typical of the situation under investigation. They allow for influential observables to be elucidated, promote a discussion of the representativeness of the event and highlight the judgments made by participants in a situation. For this project the vignettes were used to help make sense of the field notes and interviews and provide a mechanism for introducing this data into the findings to support and augment the description.

The vignettes were developed based on data collected by myself as researcher. This is an approach that has been described as the most common (Miles and Huberman 1994, pp80-83) . An alternative approach would have been to work with participants to develop the vignettes, but this would have imposed a participation burden that went against the agreement I had made for site access. There are risks attached to the use of vignettes because they represent a reconstitution of other data into a combined form. As with any other interpretive method they are influenced by the researcher's own interaction with the data. Vignettes were a useful tool as part of an approach where the analysis has been synthesized across different types of data, and were not relied upon as the sole source for a finding. The vignettes were also used to suggest questions to be answered using other data.

The format of the vignettes is to describe an event that illustrates a typical case of a phenomenon that is being argued as supporting a finding. The following example (see figure 5.5) shows how field notes for an observation of students standing outside the college main entrance was used to promote further investigation of the college's strategy on pursuing a social mission to promote economic growth from the perspective of its quality process for managing student behaviour. The argument made in support of this data as being representative is that the field notes for each site provides evidence that student behaviour outside of the classroom was governed by policies and processes being operationalised. This was then confirmed in interview with the deputy principal.

The vignettes draw together the observational and documentary data, which can then be verified by interview responses from senior staff and governors.

| <b>Vignette [sample]</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Event</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Theme illustrated and code(s)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>Context:</b> The learning resources centre at the VIth form site is staffed by three library assistants and a librarian. The LRC has a number of group working tables and a quiet study room where talking is not allowed</p>                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>3-FL Congruency of policy and activity</p> <p>Activities of those present indicates a high degree of compliance with the college's policy on student behaviour and associated student contracts on their duties to the college e.g.</p> <p>illustrates student focus applies to all activity not just classroom</p> <ul style="list-style-type: none"> <li>• Students complied with librarian request to work quietly or leave the room</li> <li>• The librarian acted quickly when the students broke the rules on using the quiet room</li> <li>• Student groups are small with four being the largest membership seen. There were no large groups dominating a space or acting to disrupt others.</li> </ul> |
| <p><b>Incident:</b></p> <p><i>"very busy – lots of groups – working not chatting – most have business studies text book and are working together on solving a problem – one group drawing on large piece of paper.</i></p> <p><i>In quiet study room two people sitting at computer desks – appear to be working but can't seen screen. A group of four boys went in there.</i></p> <p><i>Librarian has gone into quiet room – group in there have been sitting in a row talking – working on same stuff as others?... Librarian comes out and two or three minutes later group comes out and all leave the LRC</i></p> <p><b>Field Notes 8/3/11</b></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

Figure 5.5: A sample vignette

The analysis process was deemed complete when all of the data had been reviewed through a number of readings and had been coded according to the themes surrounding trust in the quality process, reliability and resilience in the formal and informal processes governing it and flexibility in operating it. In the next chapter the analysis is synthesized to show how the system at Stretchford relies on a combination of social and physical factors to operate and discusses how the switch to a new system of lesson

observations is indicative of a broader effort to ensure the college is able to maintain its status as a further education college with a an externally assessed rating of 'Outstanding' for its quality improvement practice.

What the analysis showed and what will be illustrated by the findings is that despite being rated 'Outstanding' significant issues remain to be addressed across all three themes. It could be argued that the design principles are not showing how to design an optimal system and are therefore deficient. This argument implies that design approaches cannot be used unless a perfected design is suggested. This research argues that design is contingent on constraints and in a human-in-the-loop system it is an error to assume a 'correct' design is attainable. The role of the design principles that are suggested in the findings is to provide users with a distilled version of the features of a high performing college (where high-performing is based on a judgment made by the national standards body) that combine to make it work effectively, notwithstanding the existence of constraints both social and technical. The decision as to whether this will translate to a different context is for the user but the design principle represents an approach that allows users to retain agency in terms of the degree of usefulness.

## **Chapter Six: Trust, resilience and flexibility in the quality process**

### **6.1 Introduction**

The analysis is drawn together here to produce an understanding of the quality system at Stretchford College as being the contingent outcome of the degree of trust in the various parts of the system, including the networks of interaction between stakeholders, the resilience of the process when operating under the constraints experienced and the ability of the system to operate flexibly. These three aspects were not found to be separate but entwined in a reflexive relationship, where all three were necessary to achieve the high-performing quality system observed.

In this chapter these features are discussed in terms of what they mean to the design of the system and why they were considered to be important. This is supplemented by the inclusion of a design principle developed from the data, which describes a key element of the finding. The design principles provide a user of the case study with a mechanism for quickly identifying an aspect of the system at Stretchford College which they may find useful in their own environment. The design principle also provides readers with a readily accessible boundary object that can form the basis of negotiating changes in their own system and act as guidance during that process.

The chapter begins with a brief discussion of the three design principles that were developed and the area that they highlight. This is then followed by a description of the quality process as it was revealed during the study, which is illustrated by a combination of vignettes and other data. As part of each finding a design principle is presented that reflects the findings in a format that suggests aspects of the design that others may find useful. The relationship between the data and the design principles is described which, when considered together, led to the conclusions that close the chapter.

## 6.2 Accessing a case through design guidance

Figure 6.1 below shows how each design principle illustrates a particular element of a key feature revealed by the data. This is to provide readers of the case study with signposting as to what aspect of the quality system design might be of interest, and potentially transferable to their own environment. However, it leaves the choice about what might be useful knowledge to make use of, and ultimately how to make use of it, to the users of the case.

| Design principle name | System feature drawn from the study                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| #Keylink              | Trust – How the participants work to ensure effective communication of interests and ensure the system is working effectively   |
| #FavourAutonomy       | Resilience and reliability – How the system operates according to predictable and comparable standards across the whole college |
| #WhyNotWhat           | Flexibility – How the quality system responds to locally situated requirements without compromising the overall system          |

**Figure 6.1 The three themes identified by the study and associated design principle**

Each design principle represents an expression of design knowledge that provides information about how one aspect of the system works and what this implies for anybody wishing to achieve a similar outcome. The research themes are connected as they provide an account of Stretchford College's system as a whole, with all of them being important to its proper functioning.

The design principles can also be treated as a collection, complementing each other in terms of the features others can make use of in their own systems. However, a college or other user may feel their system is resilient because they have well-documented and understood processes but there is still a problem, for example with the relationship between the governors and the SMT. The nature of the design principles means they could look for guidance to the #KeyLink principle and consider whether this is something that is lacking in their own environment, without needing to pay close attention to other aspects of the case or the other design principles.

### Notation

The design principles have been recorded using a simple notation (see figure 6.2) developed for the research. This adopts syntactical elements from systems design and development and is intended to provide a clear, consistent format for describing design principles.

| Element                                                               | Description                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>#NameHere</b>                                                      | The hash symbol is used when naming a design principle in order to ensure the word is recognised as being a design principle                                                                                                                                                                             |
| <b>BasicDesignPrinciple</b>                                           | <p>The name of a design principle is recorded in lower case except for the first letter of each word and if more than one word is used they are concatenated and the capital letter is retained.</p> <p>It is often referred to as CamelCase and is intended to provide a memorable descriptive name</p> |
| <b>&lt;&lt; long and short form of principle description &gt;&gt;</b> | The << >> symbols are used to bracket the text These are semantic markers that show the text as being part of a formally described design principle                                                                                                                                                      |

Figure 6.2: Notation for design principles

The design principles split into two broad categories, strategic and operational. These categories are intended to indicate a difference in level of abstraction where strategic principles relate to the design of the framework within which operational principles are enacted. However these are not strict categories and should be treated more as indicators of the level at which they might be most useful to stakeholders. As with any case study the user has control of how they choose to make use of the findings.

### Strategic Principles

A strategic design principle is used when developing the technical and social infrastructure of the quality system where considerations of connectivity across the whole system are important. In this case this refers to the more abstract principles of #Keylink and #FavourAutonomy. This is because they are overarching principles. They describe aspects of the quality process (often hidden) that support its operation, but don't directly describe any specific step in the process,

### Operational Principles

An operational design principle is used to support the creation of elements of the quality system which operationalise the strategic goals for the quality process. These are more concrete in nature than strategic principles and directly impact on what work is done and how it is organised. In the case of Stretchford College the #WhyNotWhat can be seen as an example of an operational principle because it describes a design goal for specific activity (assessment of practices of teaching and learning).

## 6.3 Networks of trust as enablers of the system

The trust between staff, managers and the governors was found to be something that participants felt was a key feature of the effective working relationship around issues of quality and the functioning of the internal assessment system. Also however it was found that this needed constant attention and relied on relationships being in the form of what Etienne Wenger has described as 'thick Connections' (Wenger 2010), where a relationship builds over time and across a number of situations but which is vulnerable

to changes in personnel. Creating and sustaining relationships was not without difficulties at Stretchford College. However, there was a clear commitment to discussing and implementing policies intended to enhance cooperation and collaboration on matters of teaching quality. For example, the process described below of changing the quality improvement team into an outward facing and proactive team rather than an internally focused quality assurance team.

In addition to efforts to ensure clear lines of communication there was an appreciation of physical constraints on collaborative activity. For example, at the city centre sixth form site sketches of the layout (see figure 6.3 for an example) were made because ecological considerations can affect how and in what ways communication between managers occurs. At this location there is a specific floor with offices for some of the senior management team, the clerk and also for the governors to use if necessary. In my own work as a lecturer I have visited a wide range of colleges and this layout, while not untypical, was also interesting because it seemed to be an exaggerated form of separation. Typically a college has a ‘management suite’, a ‘hub’ or other place where managers are concentrated. The executive corridor at Stretchford College emphasises the physical separation of managers from each other and also from the rest of the people on the site. The diagram below is based on a sketch made on the first visit:

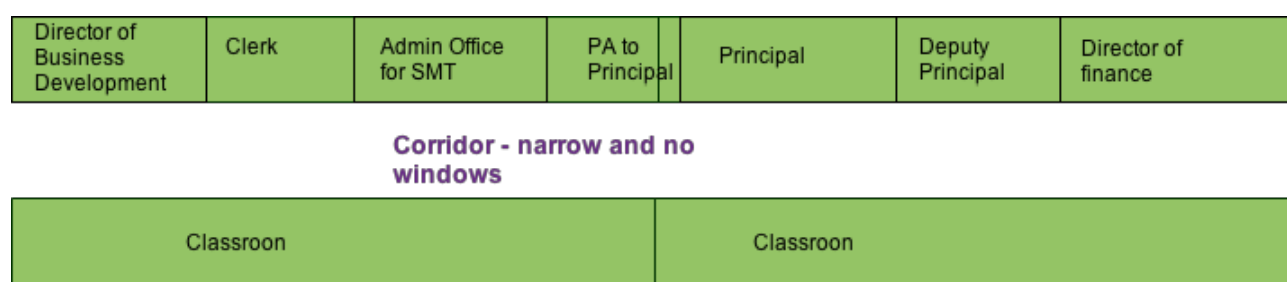


Figure 6.3 Sketch of the ‘executive corridor’ at the Sixth Form Centre

It was noted at the time that it felt enclosed and forbidding. The information on doors was not clear, with many providing no information beyond a building services room identifier such as 4.78.01. Most rooms also had a small whiteboard next to the door and some of these had messages such as ‘OUT ALL DAY’ written on them. This jarred with

the conversations I had had up to this point and the email discussion I had had when negotiating access to the site. It subsequently evolved as a topic in my interviews with managers but also with staff. Initially it seemed that this provided a useful metaphor for making sense of the gaps in understanding between governors, managers and staff about the college's purpose and the ways in which quality is viewed and assessed by these different groups. This ecological perspective has been widely used in educational research as part of work which seeks to understand educational environments in terms of the design of spaces and how they are used, especially where this contributes to the building of an understanding of the social infrastructure in operation.

By taking note of architectural design I was given an insight into the constraints under which people work and they options open to them when responding to their environment. After interviewing staff working in the corridor it turned out that my original perception of it being forbidding was recognized as an issue, but one which the team had worked to overcome, and with some success. This is because people moved around the offices quite freely, with the encouragement of an 'open door' policy. Senior staff also wanted some privacy, using the whiteboards to indicate if they were out. This served to raise the topic of building design as a constraint on the maintenance and development of trust relationships, as physical access to people and 'face-time' were both described as important but not always easy to achieve, especially as some senior staff and the QIU were based at another site. The following vignette illustrates an example of how building design also played a part in shaping the trust relationship between governors managers and teaching staff.

| <b>Vignette TR1</b>                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Event</b>                                                                                                                                                                                                                                                                                                                                                   | <b>Theme illustrated and code(s)</b>                                                                                                                                                                                         |
| <b>Context:</b> The SAR is the main document produced to show how the college is performing across all areas. The overall SAR is built up from departmental SARDS. As the college is spread across a number of sites and has a high degree of faculty autonomy the development of these lower level SARDS involves negotiation and careful handling by the QIU | 1- TR Informal networks – June's role is not only to help solve a practical problem that is affecting the quality of teaching and learning but also to build rapport with the teaching team and demonstrate that the QIU can |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>be a supportive function not just an audit function</p>                                                                                                                                                                                                                                                                                                                                  |
| <p><b>Incident:</b><br/>         Bill recounted a situation where a department had experienced problems with students blocking corridors, making a mess and teachers complaining about corridor noise disrupting lessons but there was nowhere else for students to be in bad weather due to a lack of common areas during building work. This had been a negative feature on their SAR as it lowered the overall effectiveness of the department. Bill explained that by offering to embed a QIU team member in the department they would see this for themselves and perhaps be able to propose solutions. The QIU team member June worked with the department on their site, being physically co-present allowed her to build relationships and also see the problem at first hand. The QIU was then able to support a request for some space for students and a classroom was made available during lunchtime reducing the problem.</p> <p><b>Field Notes 29/6/11</b></p> | <p>2- TR Politics of the process – By adding support to the departments request the QIU demonstrated in this case that the SMT were open to discussion and that they were aware of the problems being faced on the ground as a result of higher level decisions (in this case some building work) – it encouraged June as well to seek out other opportunities to work with departments</p> |

This vignette shows how there is a constant negotiation between practitioners and those responsible for quality assessment. This type of account from participants was typical in terms of how developing relationships was important to the success of the quality system (in this case the SAR document itself). The initiative for embedding staff from the QIU in departments was a complete reversal of the policy prior to Bill's arrival as head of quality improvement. The outcome was a more communicative relationship with the department, including invitations to sit in on departmental SAR meetings.

The ethos and atmosphere of a college campus can be viewed as a reflection of the attitudes of the members of the college community. For example, observation provided useful pointers to how students interact with teaching staff, where I saw a number of

examples of casual conversations where student progress was discussed in the refectory, shared by both students and staff. From this I developed questions about whether this atmosphere (described by a teacher I interviewed as ‘safe’ and ‘calm’) was an outcome of specific strategic decisions or simply the nature of the teaching staff.

In my interview with June the QIU teaching and learning manager I explored this aspect of college culture and she identified it as a result of strategic decisions such as providing mixed environments for students and staff rather than staff-only locations but she thought this merely encouraged certain behaviours by both staff and students that a different design of space might suppress.

| <b>Vignette TR2</b>                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Event</b>                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Theme illustrated and code(s)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Context:</b> The atrium is a large mezzanine area with a café at the skills academy. It serves a range of food and drink and is open all day to staff and students</p>                                                                                                                                                                                                                                               | <p>TR1 – Informal Networks the design of the skills academy encourages people to meet by providing walkways and social spaces where interactions can occur and the location of offices around a central social space encourages people to meet there.</p> <p>In this instance the chance meeting gave rise to a conversation about a teaching action plan this head of department was working with and gave the space for them to ask for informal advice on a sensitive area – an experienced teacher who was struggling to cope.</p> <p>In Bill’s interview he informed me that he had insisted on his team being based in the more open plan environment of the skills academy to demonstrate that his team was open and available to support people and not ‘hidden away’ in a Victorian building as had happened before</p> |
| <p>There are small groups of students spread over the atrium – which is full of daylight and very open plan – no noise even in the café – a chance meeting between Bill and another person leads to them sitting in the café area and talking for about 10 minutes before person carries on to where they were going – Bill comes to my table for our interview</p> <p><b>Incident:</b><br/><b>Field Notes 20/9/11</b></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

The above vignette shows that physical design and the maintenance of informal networks are connected insofar as certain building designs can support a more open approach but that the quality unit staff are still responsible for promoting that activity.

In addition to the data regarding the relationships between quality staff and teaching staff the data also highlighted the important role played by a trusted party in the management of relationships between the governors and the SMT. When first interviewed the Clerk to the Governors had described his role as being like the head of the United Nations, acting as a trusted party, helping to resolve disputes and misunderstandings and ensuring that there was a unified understanding of the mission of the college and the ways in which the annual operational plan was directed towards that mission. Clerk to the Corporation is a role that doesn't exist in many colleges, and even more rarely as a joint role working as a member of the executive as well as a (non-voting) member of the governing body. In later interviews the subject of the Clerk's role arose spontaneously with the Deputy Principal, the head of Quality Improvement, the Chair of Governors and the Head of the Curriculum and Quality committee; all of whom specifically referred to the importance of his role as a trusted intermediary. The clerk was interviewed again and raised the issue of technology and communication both between governors and between governors as a body and the senior management team. Uses of technology were important; he described how many governors rely on emails of documents and want 'headline' data. The governors, he said, would rarely communicate outside of meetings and they relied heavily on the meeting minutes to keep up to date on developments.

Despite numerous attempts, governors had stated they were not interested in using technologies such as Microsoft Sharepoint to share documents or work on them collaboratively; the consensus was that they just didn't have time to commit to such activity. On the other hand, the senior management team used Blackboard extensively as well as other types of communications technology especially email (with managers spread across a number of sites problems with the email system in the previous year had caused considerable disruption). The Clerk seemed unaware that others saw him as an essential link between the governors and the management. However, a hidden layer

of connectivity between people and across institutional boundaries is how he was perceived by those who worked with him.

The success of the Clerk at working to mediate tensions between managers and governors is exemplified by the 2010 OFSTED inspection of Stretchford College, which notes that “the clear strategic vision is shared by all staff and governors”. As part of the same inspection the role of the governors in driving progress and supporting the management team is graded 1 ‘Outstanding’, “Governors have relevant experience and hold senior staff to account for the effective management of the college”. I found very strong evidence of well-defined scope, such as the quality committee structure and the way implementation of quality processes was overseen by but not interfered with by the governors, except as part of an agreed escalation process where problems occurred. The role of the Clerk in this had been viewed by his colleagues as essential, because it was felt by all those I interviewed that he acted with integrity for the good of the college, and was effective at conveying arguments in a balanced manner. This was something referred to by the Deputy Principal at Roman college when discussing this aspect of the case. He felt that the SMT and governing body at Roman College lacked such a figure since the departure of the previous chair of governors, who had previously been a head of faculty at the college, but that the negotiation of boundaries and mediation of disputes between the two groups was vital to a well-run college. He hoped the vice-principal appointed to be head of quality would fit into that position. An example of this mediating function at work is represented in the following vignette.

| <b>Vignette TR3</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Event</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Theme illustrated and code(s)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p><b>Context:</b> A meeting of the curriculum and quality committee was provided with details of a complaint case where the SMT had not pursued the issue vigorously enough in the governors' opinion</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>TR1 – Informal Networks – the Clerk stepped in to head off a dispute between the chair of the committee and the deputy principal.</p> <p>TR9 – independent oversight</p> <p>Other data indicate</p> <ul style="list-style-type: none"> <li>• Embedding of QIU staff into teaching teams a success where not viewed as 'management spies' [term used in workshop 11/7/12]</li> <li>• SMT fund a 'head of research post' to seek out and help develop innovative practice – trusted by staff and SMT to deliver good value</li> </ul> |
| <p><b>Incident:</b><br/>...failure of a faculty to address issues raised by the quality improvement team at an internal inspection. had been raised by the team through the normal process but following a failure to carry out agreed remedial action issue brought to the curriculum and quality committee in accordance with the documented process in place. The governors were made aware of the issue and its status as an issue became 'red' (the governors operate a 'traffic light' or RAG system and usually only take note of 'amber' or 'red' issues). The governors required that by the following meeting the issue should have been addressed and it was taken out of the faculty's hands and placed with a deputy principal to resolve. She felt this was inappropriate – Clerk moves to develop an agreed way forward that avoids governors appearing to make operational decisions– people listen to him – Dep Prin allows process to move forward and accepts OK for QIU to make judgments outside normal chain of command – retains oversight responsibility</p> <p><b>Field Notes 21/6/11</b></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

The Clerk's role placed him into a unique position in the college. However, it was also recognized that he was being relied upon and that a succession plan was in place to appoint a replacement well ahead of time.

#### From data to design: a network of trust

The representation of the case is intended to provide different views depending on the requirements of the user. It could be at a conceptual level, for example by the Chair of the quality standards committee to provide insight on how the system is grounded in a particular design. In this case the short form version of a design principle may be enough to let users understand the broad rationale behind a new approach to the work practices being encouraged.

The longer form might in this case be most useful to a senior manager seeking information on what the focus of staff development activity needs to be in order to achieve a particular ‘nudge’ effect on staff attitudes and social practices. The vignettes might help other staff responsible for development activity to see how networks have been uncovered and are the result of both people’s actions and the physical constraints within which they work. In terms of meta-practice the following principle (figure 6.4) provides a design guide for recognising and encouraging this type of ‘hub’ role, a person who is able to seek out and build relationships.

The wording of the principle was developed from the thematic coding that was carried out, as illustrated by the vignettes set out previously and summarised in figure 5.4 . The first part of the design principle relates to creating and maintaining trust between teaching staff and other groups. The wording for this comes from the workshop held in July 2011 at Stretchford College. One of the areas of discussion in the workshop had been about the difficulty of understanding what the management team wanted from staff in terms of delivering high quality teaching, what does high quality teaching look like? There was evidence to suggest that the management team were carrying out a range of activities, as described in vignette TR1 for example, where the QIU was actively supporting teaching teams using a trusted person to communicate with both the team and senior managers. In the workshop it was clear that this type of activity wasn’t being communicated to other teaching teams very effectively. A general consensus existed that improved communication flows were needed and that individual actors were essential to it working well. The second part of the design principle suggests how improved information flows would be supported through the action of trusted parties

working at a senior level. The role of the clerk is described as being a trusted link between the SMT and the governors. This was something directly stated in interview, and vignette TR3 provides an example of how the clerk operates to maintain high levels of cooperation between different groups in the college. The need to ensure trust is maintained amongst stakeholder groups through the actions of individual #KeyLinks and in figure 5.4 code 9-TR describes how evidence of independent oversight was important as a trust enabler. This is because it helps ensure that information flows are from stakeholders acting in accordance with agreed processes even where this might cause tension within one of the groups.

The wording for the design principle comes from a combination of examining the data related to building trust through the actions of individuals and drafting then rewording that text based on feedback from people affected. This was important because the language used needs to act as a guide to action based on what happened in the particular case. There is support for the argument that this approach succeeded as staff at both Stretchford and Roman colleges agreed that the text reflected an approach that they found both realistic in its aims and which reflected their own experience of what works in terms of trust building.

| <b>Design Principle</b><br><b>Version: 1.1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Name:</b><br><b>#KeyLink</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <p><b><u>Short Form:</u></b><br/>           &lt;&lt;for negotiating boundaries and maintaining trust between teaching staff and other stakeholder groups a senior manager trusted by both groups should have responsibility for ensuring clear information flows between them.&gt;&gt;</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                 |
| <p><b><u>Long Form:</u></b><br/>           &lt;&lt;to design a method for developing and maintaining an ethos of trust and mutual dependence in the college then give that design the characteristics of continuity of key-linking individuals including a clerk to the governors, succession planning for senior officers of the corporation and clearly defined standards of transparency of information flow. This can be achieved via openly available procedures for recruitment, an active policy of preparing future volunteer candidates for senior governorship positions and regular exchanges of information between groups. Continuity and succession planning create a basis for trust amongst the leadership team. It increases the potential for identifying individuals capable of operating at the strategic level required in a large institution and longevity of service coupled with succession planning provide a trade off between the benefits of fresh thinking and the experience of having gone through similar situations.&gt;&gt;</p> |                                 |
| <p><b><u>Rationale and Example:</u></b><br/>           This design principle suggests mechanisms for trying to avoid conflicting understandings of the purpose of governance and executive management. The formulation is directed at identifying how teachers, governors and senior managers can be supported and guided in their role by a particular role type, the socially sensitive intermediary who is trusted by both sides to convey their intentions successfully.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |

**Figure 6.4 A design principle to support the development and maintenance of trust relationships**

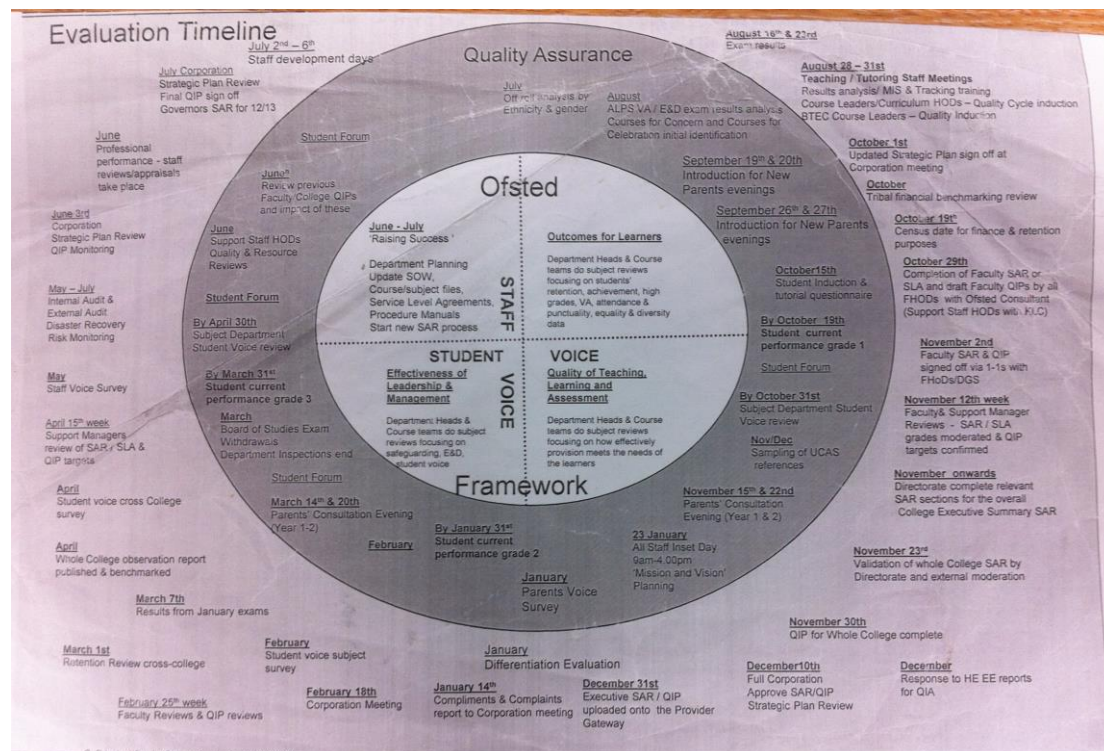
The design principle describes a general state identified during the research, whereby particular staff at Stretchford College were seen to act as conduits and intermediaries to support the flow of information around interest groups. This type of role was found to also exist in situations where physical space design might make communication problematic. This type of mediating activity is also argued to be something that other

colleges may wish to see developed in their environment and that the #Keylink design principle provides guidance on what features this should have.

In a large distributed environment one problem is finding a balance between central control of standards and allowing staff to take decisions based on knowledge of their own environment without diminishing those standards. In the next section this issue of maintaining quality within an environment, but also providing local leadership teams with freedom to operate, is discussed in terms of devolving authority. This is argued as being a successful way at Stretchford of creating resilient systems that can cope with threats that differ across the college's many different environments.

#### **6.4 Resilience and reliability through decentralisation**

The organisation of courses at Stretchford is a combination of subjects organised into departments, and groups of departments are organised into faculties. In addition to this the college has a concept of 'schools'. A school is a collection of courses which are offered by different departments, which may not be in the same faculty. This is a complex structure and reflects the range of provision and the scale of the college's operations where courses from level 1 literacy courses to an undergraduate programme in aeronautical engineering are offered. Some of these courses, such as the BSc in engineering, are taught in conjunction with an employer and this gives rise to complex quality management issues. Figure 6.5 shows a map of the annual cycle of quality activity



**Figure 6.5: Map of the quality process activities over 1 academic year.**

The map shows how layers of responsibility, a wide range of activities and numerous stakeholders are indicative of the complexity of addressing quality activity directed at a range of different interest groups while maintaining a coherent standard and level of assessment. Throughout the academic year observations are carried out supplemented by surveys and meetings of quality teams and departmental staff. At Stretchford there are over 60 staff trained and accredited as observers for internal inspections. At the beginning of the research project these staff were beginning a programme of training to address a historical problem of judging teaching through individual lessons, rather than taking an overview of a programme and faculty using techniques such as learning walks. June, the teaching and learning manager in the QIU, described learning walks as, “the main way to get staff thinking about the qualitative stuff that goes on, not just reporting quantitative data on LOIS [the lesson observation database]”. Learning walks are discussed in more detail later and are an example of how resilience of the quality system and flexibility in its operation are closely connected.

This focus on following a single prescriptive process across all faculties was a legacy of the previous quality system, which had relied on a centrally managed culture of audit reports being completed and summary data on retention and outcomes of qualifications.

This issue of a seemingly remote quality function that had no relationship to the work of teaching and learning was raised in a number of interviews with teaching staff. For example a senior maths lecturer described the quality system historically as being all about 'weighing the pig', meaning that little attention was given to what was happening but quality was deemed to be adequately measured by collecting data rather than questioning it. This lecturer also described an experience of an observation, "I was observed once by someone from wet ['wet trades' such as plastering]. He had no idea about what I was teaching and in my feedback he had to just talk about things like a cable trailing across the floor... which was because I was using a projector". This is indicative of the problem of having the same observation process across all faculties. A trailing cable may well be a health and safety concern, but in a construction environment the risk is different to a classroom one. The observation process treated those two risks as equivalent, which the maths teacher felt was highly inappropriate.

Under the new quality system being created by Bill there was a move towards allowing local conditions to play a much larger part in decision making and away from a centrally mandated operations culture. This is revealed in other ways than lesson observations, as it extended to infrastructure and the operational culture in different sites as well as different faculties.

For example, in my first interview with Bill, the quality manager at Stretchford College, he stated *“for email, when I can get on to it, we use Outlook...”*. He felt it should be as available as any everyday office tool, such as a pen, but that day it wasn't and this was causing him problems. This is a paradoxical state of understanding, transparent in that everyone knows it's there and what it is but opaque in that the overwhelming majority of users have no real awareness of how Outlook works beyond navigating and interacting with the user interface. What is needed for it to function effectively is something that ethnography of infrastructure is concerned with. By teasing out and building understandings of the relationship between users and the infrastructure a deeper understanding of processes and organisational design can be captured and this can help identify situations where local autonomy gives rise to different applications of infrastructure, social or technical because of different local requirements.

The role of email in Stretchford College is central to maintaining business as usual (BAU) operations. When email is unavailable the impact is almost instant and within a short space of time it has severe negative consequences for continued operations. This is evidenced by the importance placed on email availability in the disaster recovery plan, and the fact that the service level agreement for email includes a 5-hour fix time. This option means that from reporting the problem the supplier's engineers have five hours to restore a full service or be subjected to penalties.

This issue of availability and support of technology services provided by Stretchford College came up in my interviews. For example when speaking with the Clerk to the Corporation about the development of a college-wide culture he described a single site where significant communication problems arose because of a lack of availability, largely as a result of local conditions,

*“communications around the rest of the site, bearing in mind it was a large site - 40 Acres or whatever, a considerable size was very independent you know almost each building was a college within a college. They had a sort of linked telephone network but it was not big enough... they had just not embraced technology and communication”*

This initial hypothesis was confounded when, on further investigation, it became clear that this was not a problem of reluctance to engage with technology but difficulties in obtaining financing for what would have been a major upgrade. It shows that sometimes autonomy is imposed rather than actively sought. For this reason the quality system needs to cope with these types of infrastructure problem without compromising overall standards. The introduction of faculty level action programmes, managed locally but monitored by the QIU had allowed these autonomous parts of the college to function according to the overall framework of standards, but without the frustrations that would arise from trying to work within a centrally managed system that was largely unavailable.

The email service therefore is something vital to the daily work of everybody involved in the quality system in the college but operates in the background and as part of an assumed ecology that is a 'taken-for-granted' feature of work. When people notice the email system it is because they have had a problem with it and ways have to be found to manage around the problem. This is a common situation in sociotechnical systems; when infrastructure is working it passes without comment and there is an expectation that this is a natural order. However, as Star and Ruhleder point out, infrastructure is relational and cannot be stripped of its context of use, "infrastructure is something that emerges for people in practice, connected to activities and structures" (Star and Ruhleder 1996, p115). Similarly the infrastructure of social aspects of the system at Stretchford gave rise to the three key features described previously. The case of Stretchford College is unique in that no other environment is the same but just as with the case of email described above it is also typical.

However this is not the only reason infrastructure was investigated as part of a study of the resilience and reliability of a college quality process. As well as telling stories about the relationship between parts of the sociotechnical system the 'when' of infrastructure can provide evidence for the nature of power within the system and helps connect cultural and physical infrastructures, which come into being when a tension between local and system interests is resolved (ibid, p117). This is where the needs of the local system component are well aligned with those of the system as a whole.

Problems of availability of infrastructure clearly have an impact on a high performing assessment system, as the grades being given to teachers are at risk of being skewed by issues outside their control. As with the problem of students being restricted to corridors at lunchtimes this was a problem that the QIU could support staff with by raising it as a quality rather than a technology issue. The outcome of such intervention is shown by the results of the 2011 staff survey on IT resources, which showed an improvement in satisfaction with IT at the college of more than 10% (3.6 to 4.1 on a 5 point scale). An IT Quality action group had also been formed in 2011, whose reports were submitted to the main curriculum and quality committee. This new committee included QIU members as well as IT staff and senior teaching staff. This indicates that one of the strengths of the process at Stretchford is the identification of problems and seeking ways to overcome them that involve the different interest groups. This issue was addressed in terms of how local implementations of infrastructure might best be used to allow the stability of the overall system to be maintained by allowing local decision making that demonstrates trust in the local staff, encourages innovation at a local level by showing that ideas can be implemented without needing central approval (and the perception of 'red tape' and 'bureaucracy' however lightweight the approval process might be) and tailoring the local infrastructure to suit the needs of a particular site or course.

An example of infrastructure being implemented locally to support the mission of the wider college is illustrated in the following vignettes regarding the use of CCTV cameras.

| <b>Vignette RE1</b>                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Event</b>                                                                                                                                                                                                                                                                       | <b>Theme illustrated and code(s)</b>                                                                                                                                                                                               |
| <b>Context:</b> City centre site – main entrance. There is a strike by members of the UCU union with a picket of union members. There are placards related to pensions and boycotting membership of the Institute for Learning (compulsory at the time) - In addition students are | Resilience and Reliability of systems<br><br>Activities of those present indicates a high degree of compliance with the college's policy on student behaviour and associated student contracts on their duties to the college e.g. |

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| <p>gathered and most are smoking. The weather is cold and sunny. Approximately 25-30 people are gathered on the pavement at any time with most people apart from the trade union members staying for 12-15 minutes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>illustrates student focus applies to all activity not just classroom</p> <ul style="list-style-type: none"> <li>• None of the people smoking goes on to the site even though there are no doors or members of staff to prevent them doing so.</li> <li>• The students and trade union members do not interact and hold themselves separately</li> <li>• Student groups are small with four being the largest membership seen. The majority but not all groups are three to four people and are mixed sex and race.</li> <li>• There is a static CCTV camera pointing at the entrance and appropriate information notices – with no difference in behaviour by groups covered by the camera or not</li> </ul> |
| <p><b>Incident:</b></p> <p><i>“Union picket line over pensions – 2 members of staff currently arranging placards”</i></p> <p><i>“no obvious signs of lessons being affected – no notices re cancellations of any teaching... students in small groups – many groups smoking but not all; nobody is stepping on to college land while smoking... cigarette ends being stubbed out on ‘ashtray’ attached to top of bin – counted 3 on pavement but no more”</i></p> <p><i>“students talking generally about their plans for the day regarding lessons and work as well as personal things – group of four seems the biggest and chitchat is at normal volume [check if coincidence or ? comply with contract]</i></p> <p><i>“1 CCTV camera pointed at main entrance – large box camera with yellow notices on wall – monitored?”</i></p> <p><i>Despite presence of large numbers the atmosphere is calm and non-threatening with students moving into the college after smoking</i></p> <p><b>Field Notes 24 March 2011</b></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| <b>Vignette RE2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Event</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Theme illustrated and code(s)</b>                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>Context:</b><br/>There had in the recent past been a potentially controversial piece of infrastructure innovation at the sixth form centre, the use of CCTV monitoring in all non-classroom areas. The 6th form centre is a city centre location and is largely open to the general public. This makes security of staff and students more of an issue for the college managers than some of the more specialist centres, which have more physical security (such as swipe card access both to the site and then to locations within it). The incident occurred on one of the upper floors dedicated to A level sciences.</p>                                                                                                                                                                                                                                                                                               | <p>Resilience and Reliability of system</p> <p>Activities of those present indicates a high degree of compliance with the college's policy on student behaviour and associated student contracts with non-compliance being dealt with by staff.</p> <p>The role of infrastructure agreed necessary locally played a direct role in ensuring the maintenance of standard college behaviours based on a decision made locally to install CCTV</p> |
| <p><b>Incident:</b><br/>Students have access to various seating arrangements and each main teaching area on the site in question has a set of fixed sofa style seating around a central table. In addition to the seating students have access to cold drinks and snacks from vending machines and can use these social spaces between lessons and during study periods.</p> <p>Overlooking this space are two box-type CCTV cameras. A small group of students were observed who were starting to become noisy and had also begun 'play-fighting' and swearing in a way that could be heard by many of the people passing by the area on their way elsewhere. After approximately three minutes of this behaviour two members of teaching staff came through the area. The two members of staff were both female and involved in a discussion of their own. When they saw the teachers the noisy group, which contained both</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| <p>boys and girls, exhibited no change in their behaviour and they were now being clearly avoided by other students. The two female teaching staff initially walked past the group but then one of them stopped and there followed a brief discussion. One of them approached two boys, who were now taking their play fighting outside the confines of the seating area and starting to collide into other people. The teacher pointed out that they were on CCTV and they couldn't behave like that, because they had a duty under their student contract to be well mannered. One of the boys ignored the teacher but the other one said, "Yeah, you is (sic) on candid camera" and withdrew to the seating area. The other boy was then laughed at by two girls, who told him he was going to be kicked out of college. This boy then collected his bag and said 'I don't care, I couldn't give a f*** it's all boring... I'm going home'. The two teachers then turned away and carried on walking and talking.</p> <p><b>[based on] Field Notes 8/3/11 2pm</b></p> |  |
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The definition and maintenance of an ethos is an important part of the governors' role, as they are responsible for setting out what type of college the managers should be developing. These incidents were used to look at other ways CCTV and the college's mission and ethos were connected and how they were shared. I did this in order to develop questions for the governors about the introduction of this technology and the processes that led to it being seen as a supportive innovation, which has now become part of the habitus; where teachers have been seen to use it to support their own authority and construct an environment where behaviour to agreed norms exists all over the college, not just the classroom.

I inferred from the incidents and the design of the cameras (large, boxy and very obvious, with large warning notices placed nearby) that the intent of CCTV in this situation was as much about making a statement of intent (we want you to know that your public actions are publicly known) and nudging people into a particular, compliant, behaviour as it was about identifying people or subjecting them to surveillance.

Another example of this use of locally selected technology to convey a message about the culture of a site (its interpretation of the overall ethos outlined in the college's mission statement) can be seen at the skills academy where the emphasis is on openness and passive technology. The drawing below (figure 6.6) is taken from my field notes and is of the space immediately outside the learning resource centre. It shows the placement of detectors for people removing books without checking them out. Unlike a traditional library arrangement the library desk is not at the entrance/exit but at the back and there are no barriers to people moving in and out of the centre, which is designed to be a welcoming and relaxed environment with 'quiet rooms' for people who wish to work in a more traditional library style. However the barriers help ensure all materials are checked out properly but also send a clear message, that students' actions are monitored and their behavior is expected to comply with the terms of their contract. This awareness of the different 'atmospheres' at different sites also helped me in terms of understanding the difficulties faced by the QIU in developing college-wide processes that still allowed for local differences in style and approach to working with students. le.

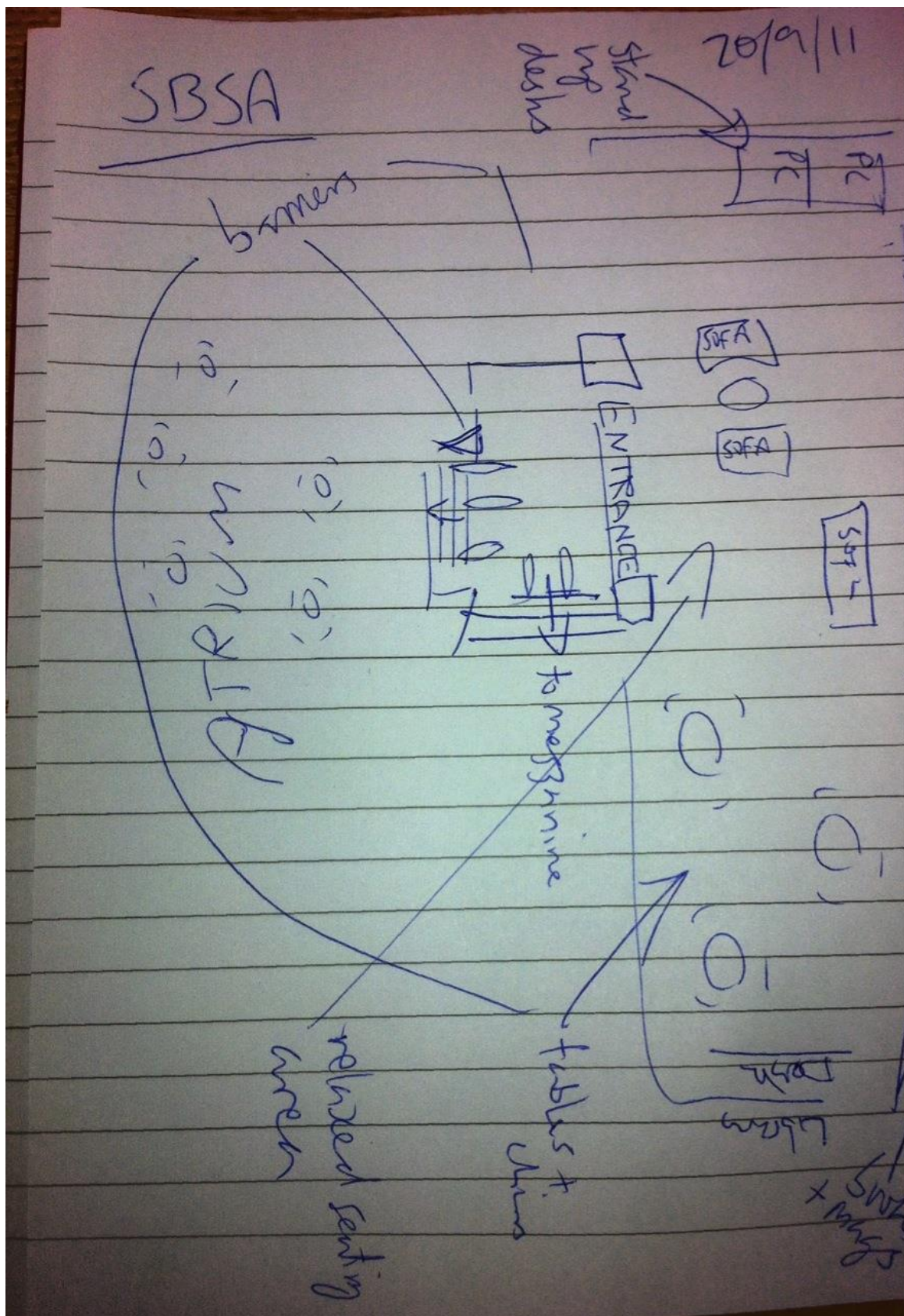


Figure 6.6: The open but monitored space outside a learning resource centre

Another facet of the CCTV observations was that it started a process of thinking about physical artefacts and their design in terms of infrastructure ‘whens’. I wanted to explore the ways in which artefacts in the quality system which might commonly be thought as being part of BAU for a quality assurance and improvement process could be seen as shaping practices and understanding in ways that their users did not realise, because of their familiarity. Lesson observation as a tool of quality assurance and improvement is an essential element of any college’s systems for measuring and reporting progress, both internally and to the wider world.

Lesson observations are a core technique in the assessment of teachers and can take a variety of forms. My interest was in the infrastructure supporting them. The policy within the college, its relationship to OFSTED’s own reports on the matter and the operation of the observations themselves over the academic year. Lesson observations are very sensitive and my focus was not on individual observations but on the system for planning and managing them. In my own career I have been through a number of observation cycles, and have been trained as an observer. This means it was possible to quickly assimilate the knowledge about Stretchford’s approach. My own experience also aided the process of developing a design principle to describe the ways in which local autonomy could help ensure that the overall system was successful in achieving the college-wide standards.

#### From data to design: resilience and reliability

The following design principle (figure 6.7) describes features of the quality system at Stretchford College which succeeded in encouraging innovation and flexibility of thinking but maintained a framework of overall standards that faculties and teams should work within. This design principle was based largely on interviews and the quality documentation, including the Chief Inspector’s report on the national picture. The wording highlights how evidence gathered, such as the interview with the Vice principal where the scope of responsibility was discussed and which aided the development of code 10-RE (see figure 5.4), provided a basis for understanding two core requirements that are expressed.

Firstly OFSTED in its previous inspection, the Vice Principal, the Chief Inspector and Bill, the head of the QIU had all discussed the importance of innovation in looking for ways to keep standards high, something discussed in vignette RE2. The ability for local managers to develop a solution to a particular problem (potential criminal conduct) was implemented to help ensure overall college aims were being met (in this case a safe environment) and was done in a timely manner but in consultation with teaching and support staff. The second aspect of the text relates to the speed of implementation and the overall stability of the system. This arose from data such as the presentation to the governors by the head of workforce development where leadership and decision making development amongst middle managers was identified as a core task for the next 3 year plan. This was also something that was evidenced by the talk given by the Principal on the continuing importance of access to funds and support for teaching staff innovating in their own area. The design principle then suggests that as part of its quality improvement planning Stretchford was moving away from a model based on central control and towards one where local managers and staff could innovate within a well described framework of college requirements. The Deputy Principal at Roman College, which was moving towards a similar structure, described a similar change in direction.

A counter example arose during the research, which highlighted the difficulty experienced by decision makers (at whatever level) where authority is held outside of the scope of the system. Staff went on strike during the research over a pensions issue, something that the governors and SMT had no devolved authority over. The frustration about this was felt by teaching staff but also by the governors. The code 7-RE describes attention to students' needs not college needs as the priority for activity. The strike was an example of how the #FavourAutonomy principle was seen as working at a college system level but at the national policy level a lack of such autonomy had the potential to disrupt the work of the college.

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| <b>Design Principle<br/>Version 1.1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Name:</b><br><h1>#FavourAutonomy</h1> |
| <p><b><u>Short Form:</u></b></p> <p>&lt;&lt;To promote innovation which is agile in its implementation the quality process design should allow for decisions to be taken at the lowest level possible, commensurate with boundaries that ensure the overall stability of the wider system&gt;&gt;</p>                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| <p><b><u>Long Form:</u></b></p> <p>&lt;&lt;In order to support the development of intrinsically motivated quality improvement activity and to help create a supportive and collaborative response to change then give the quality system the characteristic of non-interference within well-defined boundaries that ensure system-wide stability. The promotion of agile approaches where authority and accountability are devolved to practitioners within a framework which focuses on overall system performance provides a pragmatic design solution to help ensure agility in executing change and the promotion of stakeholder ownership of the quality improvement system&gt;&gt;</p> |                                          |
| <p><b><u>Rationale and Example:</u></b></p> <p>This principle can be enacted by the adoption of light-touch internal inspection processes and management by exception. An example of this is the proactive consulting service offered by the Quality Improvement Unit (QIU) at Stretchford College where staff can be helped to design and run their own quality processes within a college-wide framework of standards and expectations.</p>                                                                                                                                                                                                                                                |                                          |

**Figure 6.7 A design principle to promote the distribution of authority**

The attention to the concept of subsidiarity where decisions related to achieving quality standards are pushed to the lowest level possible was successful in creating a system that was robust in the face of problems because decisions could be made quickly and

could also be made to suit local requirements, they did not need to meet the needs of the whole college. This shows that resilience is an outcome of permitting autonomy where possible but it also indicates that one of the main benefits of this is a positive attitude to flexibility in implementation of the quality process. This flexibility was especially apparent in the construction of the lesson observation and internal inspection process, which is described below.

### 6.5 Flexibility in application of the quality process

Teaching and learning observation is seen as core technique in the assessment of teaching quality and improvement by many policy makers as well as OFSTED. For example in the 2012 version of the Handbook for Inspectors the use of time by inspectors is described in the following terms,

*“Most of the time on and off site is spent collecting first-hand evidence, through observation of teaching, training and assessment in a variety of ways. Observations will take place, as appropriate, wherever learners are receiving teaching, training or assessment.”* (OFSTED 2012, p28)

There is no rationale provided in this document for why observation of teaching practice is an effective assessment tool, or what the benefits are and this practice is also carried over to the inspection framework, although distinct claims are made for the benefits of inspection generally. It is clear that for OFSTED these observations are essential and also obvious, they are part of the language of inspection and should be expected as part of the process. Like any infrastructural artefact then the observation is seen as part of the fabric of operational activity. Similarly, the policy of Stretchford College in relation to observations (2010 version) describes their purpose as being,

*“to quality assure the student learning experience, to develop high standards of learning and teaching in all college faculties and identify and share good practice”.*

The policy has detailed descriptions of how internal inspections and observations are carried out and the outcomes of them but provides no explanation of why they are seen

as effective, or evidence to support that claim. However, the policy does include statements such as,

*“Classroom observation is an essential element in the constant process of improving standards of teaching and learning across all faculty disciplines.”*

The use of observations is taken as a natural and uncontroversial aspect of both teacher development, where professional development activity for individuals is suggested partly based on observation scores and comments, and also managerial oversight where comparisons made across faculties and subjects is an important aspect of overall quality assurance and improvement activity.

Any quality improvement system therefore needs to have a clear process for managing and reporting lesson observations. This is a separate issue to whether lesson observations per se are the best tool for assessing the quality of lessons, and sets aside the potential benefits and problems inherent in this process. It is indicative of the need to de-scope for this project the merits or otherwise of externally mandated reporting requirements, or activities that are seen within the sector as a whole as normative. As they are in place and used in external inspections a college has to work with them and use them in a way that complements their own culture and mission. What this project aims to do is show how a design principle associated with the way lesson observation reports are structured at Stretchford College might guide others to fulfill external obligations, and also provide the most useful information for the teachers and managers involved in the process.

The QIU at Stretchford College provided copies of the documentation they used to manage the annual process of preparing a self-assessment report as well as the process documentation for internal inspections and observations. A cycle of quality activity is common across FE colleges but is applied differently according to the college's own mission and organisational culture. The self-assessment report (SAR) is the main tool used by management to report the progress made over the academic year and it is developed using what is often referred to as a quality cycle. The SAR's development is a

complex process involving teaching teams and the wider organisation in a series of activities related to reporting student progress and the effect of teaching on learning. For example as part of the identification of areas for development teaching teams are expected to write a Teaching Progress Review (TPR). The idea of the TPR is that it will identify strengths and weaknesses that can be put into the SAR and act as pointers to improvements that need to be made. The following extract from my notes relates to how this part of the process has caused problems in the proper functioning of the overall lesson observation process,

*"[27 Jul 12 City Centre] A humanities lecturer described her experience of writing up a SAR, she told me that she was being expected to write the TPR as well and at the same time as the SAR so it was just form filling. She felt that her managers were only interested in getting the paperwork and knowing how many observations had been done."*

Another example of how a sudden change in process infrastructure can fail to succeed without careful introduction was given to me at the same group interview, and was provided by a senior lecturer.

*"[27 Jul 12 City Centre] Senior lecturer in sociology and law told me about a new weekly spreadsheet they got asked to complete. It simply arrived with no explanation or indication why the information was needed. She said that after the number went up from 1 to 3 and nobody understood what they were for they were given a low priority and not always completed. This happened for a full academic year and then they were sent on an internal training course with a member of the SMT where the purpose of the spreadsheet was made clear. They were then invited to play a more active role in the initiative, which was intended to secure more funding as a result of being able to provide more timely student information to the SFA. She explained this changed all of their attitudes but left her wondering why it had been kept from them for a year... she was told it was because the SMT simply didn't think they would be interested"*

The assumption of attitudes on the part of other stakeholders is not unique to Stretchford college, but the fact that the problem was addressed and there was a

mechanism to change things indicates that the concept of communicating 'why' and not just 'what was present' is explicitly understood by the management team at Stretchford but challenges nevertheless remain.

The lesson observation process at Stretchford College includes over 70 different types of college-wide activity, from subject reviews of documentation to 'financial benchmarking' reviews where the costs and income from a department's courses are assessed for both internal and external benchmarks. Some of these activities are themselves then broken down into smaller activities, with lesson observations covering every discipline in every faculty and with every teacher being observed at least once (in addition to local and peer observations). This means there are over 2500 observations per academic year carried out between September and March. All of these require significant resources. For example, the policy at Stretchford is for a minimum of 3 days notice to be given to individuals and their line managers, for all observers to be trained to nationally accepted standards and for all observations to be recorded centrally in a standardised format.

Over recent years other aspects of college operation have come within the remit of OFSTED grading and thus the SAR process. The work of the Governors for example was brought within the inspection process as governance theory from industry made its way into the education sector, with the public adoption of the 'Carver model' being common in colleges. At Stretchford College the chair of governors and the clerk to the governors had both attended conferences and exchange visits with colleagues working in the United States, where the Carver model of college governance had already been adopted.

In my interview with OFSTED's Principal examiner for the learning and skills sector it was explained that this aspect of their work, as well as some of the attention given to management of equality and diversity policies, was being rolled into the grading for overall effectiveness. He characterised this as a return to focusing on teaching and learning and an acceptance that by trying to inspect every aspect of a college's operation they had to some extent lost that focus. While it might be inferred from this that the short-lived practice of broadening the remit of inspections to more general

management issues in colleges had been a failure he described it as part of the work OFSTED were doing to increase the understanding between management teams and OFSTED inspectors about the purpose and operation of inspection activity. The change in approach from OFSTED, attempting to improve communication of their intent and 'sticking to the knitting' as he referred to it, had however caused some problems for Stretchford (and also Roman College).

This is because the replacement of the 2009 inspection framework with the 2012 version had left colleges in a difficult position in terms of adapting their internal SAR process. The operation of a SAR cycle of activity is difficult to change in-year and there had been little time between releases of the inspection framework to adjust the process. However, an interesting aspect of the new OFSTED approach, which came in from the September 2012 inspection round, was a move away from a reliance on data-centric inspections and an increased use of contextualised dialogue with a college's staff and students and more attention to the collection of primary evidence through observation of student's ability to apply learning, interviews with staff and students and evidence of the use of challenging and engaging teaching strategies.

The intention, as described to me, was to move away from a search for one best way of doing things which all college's needed to follow in order to achieve a high grading, towards a deeper understanding of why a college has presented data in a certain way. This would mean inspectors listening to a case for operating under a particular quality regime and making a judgment on that, using comparative analysis and their own experience. This is detailed in the 2012 version of the Common Inspection Framework which also provides for shorter notice of inspections and a move away from grading colleges as satisfactory in favour of detailed improvement recommendations and a change of term where a grade of 3 on the 4 point grading scale is made so that no college can be left as 'satisfactory':

1. Outstanding
2. Good
3. Requires Improvement
4. Inadequate

This study does not assess how this intention is working now that the inspection framework is in place. However, for the purposes of this research the knowledge that OFSTED was actively intending to change its approach, including the use of short notice inspections and more 'walking the job', to observe and judge operations indicated the drivers for some of the changes being implemented at Stretchford College. Criticism of previous regimes, where OFSTED inspectors would spend a disproportionate amount of time examining curriculum documentation and reports from the college's student information database, was common in my discussions both informally and recorded throughout the study.

For example, when discussing the proposal for changing the lesson observation policy at Stretchford, Bill, the head of Quality Improvement, put the current situation into a historical narrative, where quality assurance had been the main driver of activity for many years because it was the completeness and accuracy of recorded data presented to inspectors, in the form of curriculum planning, internal observation reports, staff appraisals and other documentation that was the focus of OFSTED's attention. He explained how after an initial phase of activity, which had succeeded in standardizing practices across different faculties, to the extent where some formal quality assurance activity was both taking place and being recorded, the team had turned inwards. This led to activity becoming focused on checking compliance with documented procedure rather than being directly involved in supporting and driving improvement by being embedded in the process that teams went through, offering ongoing advice and support and discussing with teachers the best ways to help them develop their skills. What he described as the 'descent' into an office-bound culture of oversight and detachment from the real everyday practice of teaching and learning, with a focus on the completeness and thoroughness of documentation, was something he used to explain the college's reduction from a grade 1 overall ('Outstanding' in all areas) to a grade 2 ("Good"). His reasoning was that, *"the team weren't on the ground. They didn't know what was going on. They ended up not really coming out of the office but dealing with everything by phone and email"*.

The college had used the retirement of the previous head of Quality Assurance to replace her with somebody experienced in developing more proactive strategies for assessing teaching and learning. The proposed changes to the lesson observation process were part of his overall plan for developing a new culture of constant knowledge sharing and physical presence across the different sites.

Bill explained that he had made this attitude clear by asking for the quality improvement team to be based on one of the periphery sites, rather than the central one which includes the 'Executive corridor' where most other members of the senior management team were based. Other senior managers had also started to split their time between the central site and a different one. The deputy principal for example spent part of her week in a large vocational centre where the focus was on introductory courses in business, construction and beauty trades, with the aim of supporting economic development in a deprived part of the city. In my interviews with other members of the senior management team and members of the QIU the same issue within the quality team, a failure to engage with practitioners and an adherence to a culture of formal measurement that lacked social awareness, was raised in response to my question about why they wanted to change the processes used in assessing quality.

The history of Stretchford College was described to me by the Clerk to the Governors, the Deputy Principal and June, who had moved from teaching to teacher development. The narrative was a complex one of college amalgamations and rescuing failing colleges from bankruptcy. This history of different organisational cultures and expectations had led over time to the creation of the original quality assurance function, in an effort to standardise approaches across disparate locations and organisations. Although the differences between the previous colleges could still be identified in some practices, differing participation rates in professional development activity and the annual internal inspection system were given to me as examples, there was a standardised system of oversight and an acknowledged process for governance of the quality system across the whole of the college. However, as discussed previously, there remained a commitment to subsidiarity in decision-making.

### Lesson observations: building a picture of performance

The lesson observation process at Stretchford is built from 3 main components. These are the internal inspection system, the formal and peer observations schedule and the 'learning walk'. The following discussion shows how I observed the changes being made to these processes, and how I used this to guide the development of the #WhyNotWhat design principle and then had it validated both by team members from Stretchford College and also the senior management team of Roman College, another high performing college graded 'Outstanding' by OFSTED.

### Internal inspection process

One of the major changes that the QIU were seeking to make in how teaching teams dealt with issues of autonomy and authority in their own practice was in the process for internally assessing subject areas and faculties. An important element of the college's ethos, and something that had assisted the incorporation of other colleges into one system was the maintenance of a culture of subsidiarity, where faculties and schools (collections of subjects that operate as a unit and cross faculty lines in a matrix structure) would have both the authority and autonomy to make decisions that do not need to be made for the college as a whole. Clearly, this can lead to miscommunication and is potentially problematic unless there is a clear procedure for determining issues where local authority should be allowed to have precedence.

There are different motivations for internal inspections but all unify around their contribution to the SAR and it is this perspective that took precedence in my data collection. From a governance perspective the internal inspection system serves to provide an overall view of performance levels in different parts of the college, and can act as a data point for identifying potential issues to be discussed in the Quality and Improvement sub-committee. The outputs of the internal inspection include a PIR (post inspection report) and a verbal report to the team leader. From a manager's perspective the process serves to help identify areas for improvement both generally and within individual teams. For both these groups the data takes precedence over the process. It is the outcome that is viewed as most relevant as it forms the basis for in-year KPI (key

performance indicator) reporting and helps them assess progress against their own targets.

From a teacher's perspective however the inspection process can appear arbitrary because the process changes both in format and also focus between inspections. For example in the first workshop a teacher who had been in her subject area for a number of years commented that the last time they were inspected it, *"was all about diversity and making sure all the lesson plans included differentiation, but we've now been told we need to explain what we are doing about gifted and talented, it's all gifted and talented now"*. For this lecturer then the internal inspection process is led by whatever the latest externally mandated requirement is, rather than what might be of most concern to her and her team and with little, if any, discussion of the rationale or evidence as to why this is the most important issue for her own teaching. The common view of staff I spoke to was that the internal inspection process did serve a useful purpose in that it helped identify how well they were organizing and working together to achieve their own SAR targets, but that those targets themselves were sometimes arbitrary and lacked any sense of social context. I found evidence to support this view in the overall college quality improvement action plan. This is not to argue the merits of whether the targets set for teams were actually arbitrary but that they are perceived as such. In the college action plan there are a range of issues generally perceived of as being in need of management attention in order to meet the improvement goals laid out in the SAR. One of these areas for improvement is titled *"Challenge learners sufficiently and provide a range of learning activities that keep learners interested and inspired"*. The suggested method to achieve this goal is in two parts:

- *Improve the use of Blackboard (the VLE) to make lessons more memorable*
- *Individual and group support needs to be more formalized and closely monitored*

*The goal to be achieved is "improve the quality of teaching and learning and improved (sic) retention by 5%"*

This is measured by feedback from the annual learner survey, the termly performance review (where data on retention and outcomes is reported) and lesson observation feedback (which includes a distilled judgment in the form of an observation grade). The structure of this plan is typical for the type of management system that is based around manufacturing industry designs, in that it includes specific targets, ways of measuring achievement and an explicit intent to move to a more resource-efficient model (improving retention on courses carries significant financial benefits under the current system of financing for the sector). This 'performative' culture has long been discussed in relation to the learning and skills sector, particularly FE (e.g. Avis 2003).

Internal inspection then can be seen to play an important role in helping a college build an in-depth picture of performance across the range of subject areas and geographic locations. However, the process itself can be criticised for focusing on specific externally mandated concerns and with little scope for teaching staff to provide input on the format or substantive work of the process beyond their role of being trained and utilised as inspection team members. This lack of teaching staff participation in the design of internal inspection processes has a number of consequences, one of which is a set of metrics for use by senior managers that can be misread, because they lack the context-knowledge from teachers. This point arises also with both the lesson observation and learning walk processes. In all these situations the data produced are quantized, either into a performance grade, a percentage measure of improvement (either negative or positive) or a financial indicator.

While these metrics can be informative they lack the essential but highly situated information needed to point towards an improved design for the process as a whole. Following the initial investigation of the inspection process, including participating as an observer on a departmental inspection it became clear that Bill's new approach to the quality function was intended to enact a change of fundamental purpose, from finding the 'whats' of inspection (counting instances of specified behaviour) to the 'whys' (for example "why is retention a problem?" or "why are pass rates for the AS and A2 courses below the national average?")

An example that illustrates the motivation behind this change came up in interviews with the QIU team related to the failure of a particular department to undertake any peer observations, as required by the post-inspection commentary from a recent internal inspection. The subsequent change to the internal inspection process that resulted from it is illustrative of how involvement of parties in the design of processes is both complex and more politically entangled than simply asking for their opinion, or allowing them the freedom to design their own approaches to system-wide issues of concern.

Following meetings with the Head of the QIU and the Deputy Principal the faculty head had mandated the departmental head to develop a peer observation schedule and provide feedback on progress. The purpose of peer observation is that people can see and comment on work either in their own subject area or in a different area, where the observation might focus on general teaching skills such as formative assessment or lesson structure.

When I became aware of this situation it had already become a matter for discussion at the college Quality and Curriculum committee. This is where representatives from the governors question senior management about issues of quality improvement. This meeting is also where the governors discuss presentations by staff representatives (such as the professional development coordinator) about matters relating to staff skills improvement and the progress of the college's development plan. I attended this meeting and it provided me with an insight into the work of the QIU in changing the long-standing culture of unmonitored faculty autonomy (which is contrasted with the autonomy recommended by the #FavourAutonomy design principle – which is based on internally measured but externally monitored performance indicators and compliance with overall college aims). When the agenda item was reached Bill, the head of the QIU, provided a brief synopsis of the situation, which I recorded in my notes concerning student feedback about the organisation of an HNC course in engineering. He explained that the head of faculty had not complied with the requirement to ensure a peer-observation system was in place as had been agreed.

The committee discussion following this showed that so far as the Deputy Principal was concerned it was a matter she would take up and that pursuing the matter via the Quality committee would cause problems with the faculty, who saw the QIU's recommendation as advisory rather than binding. The committee chair decided to set a clear example for the future work of the QIU by clarifying their status as ranking above that of local decision makers in matters of college-wide quality activity. This allowed the head of faculty to make her own decisions in relation to local internal observations and mini-inspections but gave the QIU the authority to set college-wide standards. This was a tense part of the meeting and it was clear that there was disagreement over the issue among the senior managers and governors present (and is discussed earlier in terms of the role played by the Clerk in mediating a solution) and also that this incident was part of a more broadly based change as the QIU moved from being an assurance function to an improvement one.

In my 2<sup>nd</sup> interview with Bill I asked him about his decision to raise this issue at the meeting. He explained that he had spoken to Pamela about the difficulty he was having exercising the QIU's authority in this case but she felt there was no need to take it before the governors, because it was operational rather governance related. He told me that he disagreed and added the agenda item. He said it was a very uncomfortable moment because he had a good partnership with Pamela and she had been very supportive of the new role of the QIU. However, he said that in his experience from other colleges an early indication that college-wide standards could not be ignored had played an important role in making change stick. He also said that he expected that this case might lead eventually to disciplinary action involving staff from the faculty concerned, but in his opinion the most important aspect had been showing that the QIU was willing and able to stand aside from the senior management team if they thought the governors needed to know something. He felt that ultimately this would strengthen the college's quality system, because it would help demonstrate that there was independent oversight.

One of the things the incident illustrates is that teaching staff, including the head of faculty felt that the peer observation process did not offer them enough benefit to offset

any problems in design and implementation. It also implies that there was a lack of effective communication mechanisms to resolve such disputes before they lead people to adopt an entrenched position. The team who had ignored the instructions regarding peer observations were teaching a vocational course and most of them had come into teaching from a trade background, rather than an academic teaching route. The argument that they had made to their head of faculty and which was presented at the Quality Standards Board meeting was that they were all experienced in the subject area and knew each other. They could not see the benefit of formal observations of each other's work and nor were they interested in offering advice to others. The argument of the QIU was that these staff were working with some very challenging students and were successful in getting them to achieve at a level commensurate or above their expected outcome (referred to as 'value added' in another adoption of manufacturing terminology) and other staff would find their input helpful. From the QIU's standpoint there was value to the system of these teachers participating in peer observations, but they lacked the necessary tools (either motivational or otherwise) to persuade the team.

When analyzing this incident it was possible to see how a move from a 'what' inspection report which provided information on a missing required data field regarding peer observations could instead be used to formulate a 'why' inspection report where the team could feed back their attitude in a structured and systematic way.

Such an approach would also be congruent with the aim of the governors to move from 'data capture' to 'data analysis' as their focus. The rationale for this, improved knowledge about impact of quality improvement activity, is described in my field notes from a meeting of Governors and senior managers,

*"[21/6/11 ADC] Governors – impact measures only corporate/management what about others?- example given of maths teacher adapting curriculum in-year – Impact is to be measured by local managers as corporate measurement impossible except in aggregate – want team leader skills to be focus of development... stage 1 data capture – happy this now working better, stage 2 data analysis, (aim is to drill down between activity and*

*outcomes, lesson observation scores etc.) – want to know when they will be given this sort of info and what form it will take.”*

To make a case for not undertaking activity such as in-team peer observations might involve explaining the stable nature of the team, pointing to other indicators such as value added being evenly spread across members of the team and student outcomes being in line with SAR targets and national standards. It would turn the post-inspection report from a set of data points (number of peer observations, who observed who etc.) into a detailed description of the team’s internal functioning. It also means a decision to not support colleagues or participate in college-wide quality activity would be transparent and the team members would have to argue their case.

In change management projects there is a risk that the views of participants can be overlooked but there is also a danger that they can be privileged at the expense of wider benefits to the system as a whole. By turning the PIR from a unidirectional document to a co-constructed and published one a process of identifying and aligning the needs of different groups can take place. I used other incidents from the lesson observation and the learning walk strands of QIU work, which I will briefly describe. These are then drawn together in the form of #WhyNotWhat design principle which provides guidance about moving observation and assessment activity towards a questioning approach and away from an unconsidered monitoring of data stripped of any context.

### Lesson Observations

Formal lesson observations have been described above as a core tool in quality assurance and improvement activity in the sector. The structure of lesson observations is an area where there is wide scope for different levels of structured observation and recording and the motivation for observations differs depending on a range of factors such as focus, output from the observation and the different types of participant. In teacher education for example students can be expected to undergo a number of formal observations, which will form part of the transcript of their PGCE/PGDE or other teaching qualification. This can include multiple observer lessons, where a two-way mirror is used so that teachers get used to the idea of potentially being observed at any

time. While such practices can be controversial, with both main unions in the sector opposed to such techniques, it does show that for both teachers and managers the observation of teaching practice is an essential activity in quality management within the learning and skills sector. Other types of observation include the peer observations described above, whose purpose is more formative and related to the sharing of ideas and spreading knowledge and experience within the team and video observations, where a session is recorded and then reviewed by both the teacher and observer. Between these types of observation are the majority of formal observations that take place during the progress of the annual quality cycle. At Stretchford College this amounts to approximately 2500 observations and the observation form used up until the replacement form introduced alongside the 2012 Common Inspection Framework contained 32 measurements. Each year therefore approximately 80,000 judgments were being formally recorded and fed back to individual teaching staff, managers and ultimately the governing body. These outputs also fed into the SAR grades for different aspects of the college's work.

The administrative support for this activity was one of the reasons presented to me for the inward focus of the Quality Assurance team. With the resources available to them simply managing the process itself was a struggle. In order to help with this and to improve access to the data Stretchford College had developed an in-house system called the lessons observation information system (LOIS). I was given permission to view the application but was asked not to take screen shots of it. The intention of this system was to provide both teaching staff and managers with access to the body of observation evidence and to use it to guide developments in observation practice. In my interview with Joe, who was responsible within the QIU for managing the database, he described a more complex relationship between managers, teachers and the database. One of the issues was that the database itself was more constrained than had originally been intended. Rather than providing an in-depth resource and an environment in which teacher research could be reported in order to help improve teaching the database was much more limited. The data it stored was limited to measurable detail such as date of observation, location, session subject and level, observation grade and names. The scope for adding additional detail was limited because the main body of the electronic

form used for uploading was closely managed with little ability to refer to information not covered by one of the three themes; Outcomes for learners, Quality of provision and Leadership and management. Within each theme there are a range of specific questions. For example under the theme of 'Outcomes for learners' there are questions such as "How well do learners achieve and enjoy their learning?" This is a complex question, and open to the criticism that it conflates two issues, 'achieving' and 'enjoying'. The option for the observer is to rate the lesson on the standard four-point scale and provide a small piece of feedback in a text box limited to 255 characters (about 45 words). Joe said that this information was needed for a wide range of management reports and also enabled the QIU to investigate weaker areas of provision. However, he also felt that in the change from assurance to improvement the database now lacked some of the contextual data that would be useful when building an understanding of why teaching teams may need support in specific areas.

It is clear that the database was successful in enabling the many thousands of observations being carried out to be properly managed. Also, the observation grade, although subjective, is the view of a trained and experienced observer and all grades are also moderated to help ensure consistency. Joe felt that for the purposes he needed to use the database for (report generation) it was very useful and I did not find that observation grades were questioned in the workshops or individual interviews. What I did find was that people questioned some of the basis on which a grade could be allocated. For example using the old lesson observation grid a crisp start to a lesson with all students and the teacher present would be graded as 'Outstanding'. This would form a small part of the overall grade but nevertheless is indicative of a somewhat mechanistic approach. It might be argued that the lesson starting on time with all students present should be assumed and only mentioned if it is not the case.

The college's lesson observation policy is derived from the OFSTED inspection framework and so those parts of it that can be viewed as 'tick box' compliancy are captured because managers are concerned to provide OFSTED with an experience that is not challenging or different (from what the senior management team believes OFSTED's priorities to be). In my interviews with both BIS and OFSTED this issue of

managers second-guessing what is wanted in terms of quality was raised as an issue to be addressed, and it was the aim of the new inspection framework to encourage more independent thinking in the area of quality management.

The QIU's plan was to move the college policy towards a more questioning approach, grounded in ensuring that teachers could explain their actions and provide a sound rationale for adopting a particular practice. The intention was to use this change of focus to show how professional development, formative feedback and professional dialogue could work to the benefit of all, but especially to students. The impact on the student's 'learning journey' was something that was of key interest to Pamela the vice-principal who was writing a new version of the strategic priorities at the same time as Bill was introducing the new quality system. What these two activities show is that as a research-led college where teacher research is actively encouraged and an annual research conference is held there was a process underway to ensure that teaching staff could see that efforts were being made to address concerns over communications and the quality assessment regime. In particular, there was a clear move towards processes that would provide context in addition to the empirical data.

### Learning Walks

The final strand of observation activity was the learning walk. A learning walk is a structured approach to observing and studying the daily life in an education environment by 'walking the job'. The idea of managers getting out from behind desks and 'sniffing the air' has a long history in management literature. In the education world it is something that has happened for many years in schools and colleges, especially where head teachers have been responsible for maintaining the official school diary and had a lot of autonomy over the running of the school. The current use of the term 'learning walk' however goes beyond an engaged professional walking around a site and making mental notes. A learning walk normally involves a selected theme such as 'interaction types', where the manager will go into a lesson and talk to some students and see what types of interaction are there, for example peer support, directed questions from the teacher, long answer questions, use of technology for a well defined purpose such as demonstrating a skill or some knowledge of a topic.

In addition to this the learning walk will take this theme and apply it to other environments. For example, I did a learning walk with Bill where we went to one of the coffee shops on site and saw how students were interacting with other students, members of support staff running the shop and teaching staff. In my notes for this walk I sketched out the seating pattern and noted the noise level, which was at conversation level; there was no evidence of inappropriate behaviour such as shouting or physical behaviour such as pushing or fighting. It was also noted that teachers were greeted by students but infrequently; in a two-hour observation this happened three times in a busy environment. Most notable about these particular interactions though was that teachers were sharing the same space and that the ethos of mutual respect for others that is part of the college's student charter was being upheld. As teachers and students do not have separate canteen arrangements at Stretchford my only comparison for a similar learning walk would be my experience of other large college canteens. I have seen far more mess, fighting and loud swearing in refectories where teachers are not also users, and order is maintained by security personnel. I discussed this issue at Roman College when asking them about their use of learning walks and whether they used the idea of 'whole site' walks or drop-in lesson observations. The deputy principal said that they had requested teachers to use the main refectory more and provided an incentive with discounted coffee. They felt there had been a reduction in incidents but that this was not something they had formally measured.

The 'whole site' learning walk approach though was something that they supported and as with Stretchford everybody from faculty heads upward were required to include learning walks as part of their weekly work and also maintain a note of issues and resolutions. In my interview with Pamela the vice principal responsible for teaching and learning the learning walk was something she was keen to see taken further by encouraging an increase in peer learning walks, where teachers would drop in to classes both in their own team and other teams, though she also felt that this would need to be agreed between teams. The issue of teacher responses to learning walks is complicated. The official trade union response to them is that they are part of a problem of overbearing management and that they encourage a performative culture, "Excessive

observation is disruptive, demoralising and stressful... [ATL] seeks to minimize the number of occasions where teachers are observed and encourages the school to develop local protocols on the use of drop-ins, learning walks and other types of observation.” (ATL 2012). This attitude was something that I found among teachers I spoke with, a suspicion that this technique was not intended to support teachers’ development but was part of a culture of oversight and monitoring, which demonstrated a lack of trust in lecturers’ abilities.

This was a strong example of where an initiative which could have significant benefits for different groups was being viewed from different perspectives which, while understandable, were also indicative of a culture of miscommunication and a failure on the part of management to explain. I found the learning walks that I participated in during the project useful for understanding what was happening and for identifying where there might be issues that need attention. In constructing the #WhyNotWhat design principle I used the evidence of the impact of initiatives which require the active participation of many stakeholders to create a principle which uses boundary objects (in this case the new college-wide lesson observation policy) to allow disparate groups to operate collaboratively even where they may disagree on the function and purpose of the activity.

I have discussed previously how the quality function at Stretchford had turned inwards and stopped the kind of proactive approach to information gathering that learning walks encourage. The re-adoption of the idea of visiting classes, observing the shared spaces and talking to teachers and support staff about the constraints they were working within was an early and noticeable change introduced by Bill when he arrived at Stretchford. In my first interview with June, the teaching and learning development manager she explained that this was one of the first things that had changed when Bill started. She said that previously she had spent about one day out in a department either doing observations or some development activity and four days in the QIU office, but that now it was the other way round. She also highlighted another change that she felt was significant,

*“we used to go and help a department where they came to us and asked for something but now we go and talk to departments who don’t have any contact with us, they’re usually the ones that need it”.*

Bill explained to me that if there was to be a real change in the culture then *“we have to .....be seen, we need to be out and about asking ‘why is this like that?’”*

Learning walks are common in education environments and there are numerous resources available from the Department of Education on implementing them. As discussed above, trade unions such as the Association of Teachers and Lecturers have policies on how teaching staff should react to them but there is little specific research available on the effect on them in further education environments. A search across a number of databases gave no indication of research into what is becoming a standard tool of quality management in further education. I was not measuring specific effects such as changes to observation grades or learner outcomes but I was interested in the learning walk as part of the ethos of the college and as part of the quality improvement process. Despite the reservations of some teaching staff it was decided the idea was useful as a way to provide qualitative support for the data collected through LOIS and other tools such as the annual student satisfaction survey because it involved personal interactions by quality reporting staff with the daily reality of college life. It was also considered important that in view of teachers’ concerns and their ideas about improving the observation process they needed to be seen as key participants. The data indicated that by moving to a more questioning approach that is inherently flexible and provides space for education professionals to work through problems the new observation process could both support the need for evidence of standards in teaching and also allow for teaching staff to have genuine input into the process.

In my interviews with the QIU team there was a clear theme of wanting the observation policy and the SAR process to use richer measures of student outcomes such as employment and destination data as well as qualification outcomes data to measure success. This was viewed by the QIU, the chair of governors and the deputy principal as one of the core changes that was being made. I also kept in mind what I was told by

OFSTED where their interest was described to me as being “can you run this railroad”, meaning that the details of how things were run were less important to them than the ability to explain why things were organised in a certain way and show how this was providing students with the best experience possible and outcomes that would support their transition into their next life stage.

The following design principle (figure 6.8) shows how Stretchford college provided a flexible environment for the assessment of teaching and learning by encouraging observers to question why things had happened rather than measuring what had happened. This change addressed concerns of staff about judgements being made in what was characterised as a mechanistic manner, but also ensure the SMT and governors could keep up momentum in developing the richness of reporting data. In addition the change was in sympathy with the move by OFSTED to a more active, and qualitative style of inspection.

#### From data to design: flexibility of implementation

Thematic code 3-FL (see figure 5.4) refers to achieving congruence between policy and activity. The wording of the #WhyNotWhat design principle reflects the evidence gathered regarding the changes made to the role and operation of the quality assurance team as it moved towards focusing on quality improvement. As described above a number of observations of various activities including learning walks and lesson observations was made in order to understand why change was necessary and what it was intending to improve. Part of the evidence for the wording of the design principle comes from the Chief Inspector's report, which expresses frustration that colleges appear to be gathering evidence for no clear purpose. This was something picked up in the interview with the Deputy Principal of Roman College and also OFSTED where there was an acceptance that 'why' as a question had been supplanted by 'what' to the detriment of college performance. The wording of this design principle was drafted in conjunction with Bill from the QIU at Stretchford College and the evidence of its success as an approach was taken from an improvement in the staff satisfaction survey results that informed the development of thematic code 6-FL. In both workshops held with staff the most useful purpose of teaching observations was agreed to be for development and sharing ideas. However, at both workshops it was felt that observations were often done to find fault and monitor teachers. The design principle encapsulates the new policy developed at Stretchford and successfully trialed during the period of the research.

| Design Principle<br>Version 1.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Name:<br><b>#WhyNotWhat</b> |
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| <p><b><u>Short Form:</u></b></p> <p>&lt;&lt;Teaching and learning observation policies should be designed to ensure that understanding why activity has been arranged in a particular way is given priority over understanding what activity occurred&gt;&gt;</p> <p><b><u>Long Form:</u></b></p> <p>&lt;&lt; In order for a teaching and learning observation policy to effectively support the development of students, as well as provide information necessary for quality assurance reporting it should focus on the rationale for teacher activity not its form. Observations should be arranged to serve clearly defined and well explained purposes and should serve one of the three core functions:</p> <ul style="list-style-type: none"> <li>• Internal formal inspections for quality assurance</li> <li>• Formative observations to support professional development</li> <li>• Ad-hoc and drop in sessions to develop a transparent and supportive teaching culture</li> </ul> <p>The lesson observation policy should provide teachers, managers and other staff with the necessary information to operate as active participants in the process, and the policy should encourage the use of any supporting technologies to enable effective communication between stakeholders. The lesson observation policy should provide all staff affected with a mechanism for discussing and amending aspects of the policy including the design of observation documentation</p> <p>All observation grades and feedback from ad-hoc observation activity (for example learning walks) should include explanations from participants involved in the activity about their understanding of why something has happened to provide context and a rationale. Data should be available for the identification and testing of innovative and effective approaches to teaching and learning practice&gt;&gt;</p> |                             |

**Rationale and Example:**

The attention to recording data as part of lesson observations (number of types of interaction, pace of lesson, use of technology etc.) can detract from paying attention to the success of a lesson as part of a planned series of learning experiences. At Stretchford there was a conscious move to adapt lesson observations to pay more attention to teachers' motivations and application of professional knowledge in order to create a richer understanding of the success of a lesson.

**Figure 6.8 A design principle to guide development of observation and assessment activity**

## **6.6 Conclusions**

The findings of the study, including the design principles, was presented to staff at an event during the annual research conference held on 13 July 2012 , at which QIU, senior management and teaching staff were all present. This lead to a discussion about the role of observations in respect of their role in improving teaching and learning. The design principle most closely associated with the observation policy #WhyNotWhat was identified during the discussion as a good descriptor of where lesson observations should aim to focus. As the design principles were independent of the personalities involved it allowed for a very open exchange of views. In my notes for the session I recorded the fact that all the different interest groups felt there had been a focus on teaching staff performing in a closely defined manner (such as writing lesson aims on a whiteboard) but less focus on questioning why such activity was rated as being 'high quality'.

In this instance it led to a new lesson observation form where the intent is to provide guidance on improvement and removes the necessity for grading. The argument in favour of graded observations is that it shows how a teacher has performed against a nominal standard. A potential problem however is that the grading is a subjective judgment, and standardisation across disciplines is very hard to achieve. An additional problem is that a grade represents the quantification of qualitative data, which can be misrepresented, with teachers' careers being affected.

In discussions later with the head of the QIU he told me that the use of design principles as a discussion tool had helped his team overcome resistance to making changes to lessons observations. He said that he found that people saw them as objective, even if they didn't necessarily agree with them. In the next chapter I discuss some ways in which I would like to take the research forward and develop the use of case study data as a design aid. This exercise in developing the design principles during the course of studying a case helped me to develop my plans for further research grounded in questions of objectivity of design, responses to the use of a design practicum approach based on the study of cases and the generalization made possible by it.

The exploration of the quality function at Stretchford College shows that it is fruitful to express an understanding of design in a specific environment using ethnographic techniques and that by abstracting away situated knowledge it is possible to produce a description of essential traits usable by others for constructing their own designs. In this section I discuss the effectiveness of this process of design knowledge reification into principles. I would argue that it is an approach for practitioners and other researchers which merits further investigation; for example collections of case studies and analysis to see if common design principles among colleges ranked as 'Outstanding' can be identified.

For this research the data led me to design descriptions which highlight the importance of trust between stakeholders and the essential role that influencing skills and clear messaging have when trying to manage the interests of different groups. In terms of what this reveals about further education quality systems . This chapter provides evidence to suggest that attempts to describe well performing quality systems purely in terms of the policies, processes and physical infrastructure that have been implemented gives rise to a risk that a design which is otherwise expected to perform well will fail. The role of social sensitivity in design is not therefore simply to encourage people to participate in the process of creating a new or improved structure but is an essential element in ensuring it functions and exhibits the implementable validity which I have previously described. There have been a number of initiatives to encourage improvement in the sector, with bodies such as the learning and skills improvement service and the Excellence Gateway website being two of the major ones. Although both

have been widely used resources in the attempt to raise the standards of colleges there is still a systemic problem in the sector.

The increase in government attention to apprenticeships and the role of employers in developing and managing them adds another layer of complexity to the assessment of quality in further education. This chapter shows that design principles can be found for helping to create environments where these relationships provide the maximum benefit to the young people they are created to serve. Creating KPIs for skills such as influencing or managing conflict is extremely difficult because they do not lend themselves to quantization and cannot be convincingly reported as a number. There are examples of where proxy outcomes have been used, such as numbers of sick days compared to levels of job satisfaction in employee surveys for example. The argument for using such a number is that if people report that they are happy in their work then sickness absence should be lower *ceteris paribus*. A problem with such measures is that they lack internal validity; it is not at all clear that they are measuring what is claimed. In my group interview with the senior management team at Roman college, used to help review my findings, I found they felt that by having a design principle they would be able to identify the person or people performing the role and whether the supporting tools were there to give the person concerned the best chance to perform. I found that in my interviews with governors and senior managers this was very much viewed as a role and not a formal position, with the function being an innate characteristic of some people.

For this reason my study of aspects of college life such as the physical design (especially with the rise of both 'executive suites' and distributed working), the collaborative technologies in use by all layers of the hierarchy and the structure of the quality reporting process (for example whether it allows upward feedback to senior staff) were valuable additions to building an understanding of why certain character traits and soft skills are important in certain roles at certain times. If I had not taken an organizational level view but focused on the ecological aspects or a sociological study of communications practices I would have lacked the ability to describe the system in a way that treats it as a distillation of the practices in operation so that others can judge

the applicability to their own environment. By creating a case study process and carrying out a wide angle study encompassing a range of points of contact between participants and the system I was able to describe then reduce key design features of one model of an 'Outstanding' quality improvement process and provide guidance to others in the form of design principles that focus on issues of trust, resilience and flexibility.

## Chapter Seven: Conclusions and Recommendations:

### 7.1 Introduction

This chapter turns to answering how the findings provide an answer to the research questions and also what the implications are for future work in this area. This complements the previous chapters where an argument was made for adopting a standardised approach to discussing design principles and an analysis method which builds on existing work in educational case studies. There is also an account of the research process and a discussion of how the project could be developed to support the study of further education colleges.

This research project has examined the role of qualitative enquiry into the study of systems where the intention is to provide design knowledge as an output that can be transferred by research users into their own environment. It shows that the outputs from such research can provide domain participants with a tool to help them shape both the visible and informal environments. The case given of lesson observation design showed for example how case study data supplemented by the application of a design principle can be used to help guide the construction of a process which has a high likelihood of meeting the needs of all stakeholders. I suggest the following five requirements as being indicative of achieving this aim:

1. Provide a clear guide to the teaching philosophy of the institution and its ethos
2. Critically consider alternative approaches to teaching and learning, e.g. at other institutions or in other disciplines on a regular basis.
3. Focus on describing why teachers teach the way they do, and how their strategies might affect students using a broad range of outcome measures.
4. Explain how the process is empirically grounded in research evidence rather than informal approaches
5. Provide an evidence base for mandated external reporting, internal reporting and communication as well as being the basis for quality improvement activity.

The research output allows stakeholders to identify their own particular requirements and use the case study data to identify how issues have been addressed. The design principles can promote the development of actions to address problems in the environment, by suggesting metrics to assess an improved process and also by acting as boundary objects to promote discourse about the desired end state and actions to achieve it.

The mutable nature of a standardised form of design principle, developed as part of a case-study approach and expressed in a standardised format, also provides a flexible tool for a range of other potential users. For example, this might be a senior leadership teams in a colleges, quality inspectors from OFSTED or elsewhere, policy makers interested in aspects of a system which might be indicators for successful policy intervention, as well as researchers working in the field of further education. In addition the research indicates that the approach may be applied in other environments within the field of education and also other problem domains. One aim of this research was to show that such support within messy problem spaces does not have to be either inflexible, a typical problem when attempting to use other design tools such as patterns in this type of situation, or overly prescriptive, which performative approaches such as the use of 'best practice' guidance are criticised for.

In previous chapters I have argued that design principles provide a flexible, evidence-based mechanism for people to use as both an upfront design tool for quality improvement systems or as a comparative analysis tool. The capacity for design principles to be refactored in the light of improved information and their status as context-aware artefacts capable of being repurposed in different problem domains gives them both longevity and a high capacity for localisation. These traits provide significant benefit to people involved in the development of solutions to problems in human-centred systems, as they can use the same design knowledge to overcome different local problems and retain the same core traits that make a solution successful.

A mechanism to support communication of applied research across colleges is a valuable tool for practitioners. The persistence of design principles over time is a

feature of their mutability, in that they can be adapted to new cases and thus maintain their relevancy. Their potential for diverging from an original source in order to provide a more specialised description of a particular issue in a college or a number of colleges means they can be part of strategic change projects on a policy level as well as individual design effort in one location.

Within the field of sociotechnical systems design this project has provided an account of how qualitative enquiry lead to the construction of design principles to augment traditional case study fuzzy generalisations. The particular case of a teaching and learning quality system has acted as a successful development environment because I was able to construct and validate a range of design principles which were recognised by teaching staff, senior managers and external participants as being useful as a guide for analysing and working with case study data from an existing quality system that has been assessed as 'Outstanding' by OFSTED. A key component of the design principles as an access mechanism for the other data in the case study is they help guide research users to an understanding of the quality system as being a combination of human interactions as well as work processes. This includes an acceptance in the findings that a high quality system is achieved in the face of adversity, and that informal networks to promote trust, well defined processes to provide resilience to a system and a focus on understanding the 'whys' of practice not the 'whats' is what marks out the system at Stretchford. It could be argued that this attention to difficulties in the operation of the system undermines the argument made in the next section regarding the adoption of design principles. I would argue however that implementability was a core aim of this project.

It would not be credible to discuss a high-quality system to staff working in a further education environment without discussing how it achieves its status, despite the problems faced by anybody working in a college. Just as the achievement of an 'Outstanding' rating by OFSTED does not imply perfection on the part of the system neither does a design description drawn from a case study imply that the design is perfect. Rather such a design principle operates as a tool to help professionals act to adapt to imperfect situations as part of the design. A quality system identified by its

managers as being at stage 1 of the capability maturity model may be outstanding at that moment but its robustness is dependent on retaining particular behaviours, but without a clear process for understanding what they are. By studying cases and the design features of them staff working within quality systems management have a tool for evaluating their own approach and also making use of knowledge from other environments.

## 7.2 Contribution to knowledge

This research has two contributions to knowledge. Firstly, it addresses an under-researched aspect of further education colleges, the perspective of staff responsible for designing and operating the quality process. The attention to the relationship between governors, the senior managers and the quality improvement team means that the project is adding to the knowledge of how further education colleges achieve their aims. The relationship between the governors, the SMT and the QIU is an essential part of the operational story of a further education college, but has not been the subject of much attention in the literature. In particular the exploration of where the interests of those staff lie and how this impacts on the wider college community is underrepresented.

The tensions between strategic aims, operational decision making and externally imposed requirements provides insight into how Stretchford College struggles with consistently changing policy demands and a complex funding landscape. The study also shows that despite such problems, through attention to relationships between governors and the SMT and a willingness to constantly seek out and address implementation problems in existing systems it succeeds in delivering a quality system ranked 'Outstanding'. This suggests that studies of colleges where performance data indicate that they are high performing could benefit from the approach taken in this study; exploring how high quality is achieved notwithstanding the constraints faced by staff working in the sector.

The application of the educational case study method, which is widely understood in education research, and supplementing it with design principles as a tool for aiding the construction of quality systems in other colleges, also contributes to the field by

providing an approach that researchers can use without having to adopt unfamiliar approaches.

A further contribution is to provide detail about the design and operation of a quality system and not just the outputs from it. As there is no standard system for quality improvement in the FE sector (in contrast with schools for example) there is a need for more information about how quality systems operate if the concerns of the Chief Inspector about low standards are to be addressed. This project provides an example of how a particular system works and how it was changed. The research therefore contributes to this improved understanding and adds to the discourse about the future of further education provision and standards. It also suggests that three aspects of any quality system; trust, resilience and flexibility can be examined using case studies, and designs to enhance them within a college can be based on discussions of design principles.

### 7.3 Answering the research questions

The research questions focus on an issue in enquiry within a well bounded but messy problem (in this case the design of quality systems in further education colleges). The answers, as discussed in the findings chapter of the thesis and encapsulated in the design principles provide results useful to people working with teaching and learning quality systems in further education, whether that is from a research perspective or an implementation one. Although it is possible this approach may be applicable across numerous fields where social sensitivity and cultural infrastructure is a key determinant of system outcomes the research questions address a problem in a well-defined area, where the focus is on understanding the case and suggesting aspects of it which others may find transferable into their own context. The answers developed for the questions indicate that ethnographic approaches, allied to design thinking, can be expressed in terms which potentially meet the highly situated needs of practitioners in a range of functions outside of quality processes, and potentially in problem domains other than further education. This is something that is discussed as part of future work.

I would argue that innately contestable areas of research, such as the analysis of real-world environments where human intervention in the system has a high degree of influence on the potential outcome, where even a basic construct such as task certainty (what is the purpose of this field of enquiry?) is low due to the nature of the subject matter (Whitley 1984 , p239) cannot readily be examined using research questions which demand an answer requiring a claim of objective truth. Such work is better served by research questions that scope the problem, provide room for the data to speak and allows for findings that take account of the inherently problematic nature of the social world. Therefore, the answers provided below for the research questions are not the only ones that could be given. However, they are the ones that best represent the objectives of the project and the data that was collected.

#### **Research question 1:**

**“In what ways do staff responsible for managing a quality system shape it through their practice?”**

This question succeeded in getting me to investigate whether deciding to describe a college in sociotechnical system terms was useful when the ultimate intention was to describe a case and develop design principles to provide key knowledge about features of it. I had to think about questions such as ‘why view it as a sociotechnical system rather than as for example an activity system or a collection of communities of practice?’ The role of the systems element in the research was essential because the aim was to provide information to guide practitioners in developing their own system rather than to produce a psychological account, which an activity system would have directed me towards. Other approaches such as actor-network theory did not seem very attractive either, particularly with the equalization of human and other actors in that approach. I wanted to view a college in system terms and, with its attention to human-centred systems, sociotechnical theory was an approach that met the requirements of the project . Other approaches, such as studies of collaborative work practice and micro accounts of activity within a college based on video observation are interesting but would have reduced the ability to take a rounded view of the operation of a quality system.

Others have looked at ways to combine ideas of professional knowledge construction, distributed cognition and sociotechnical analysis (e.g. Hewitt and Scardamalia 1998, Spinelli, Perry et al. 2005) and I also wanted to ensure that technology's role as an enabler of distributed cognitive effort was kept in mind. As discussed previously in the thesis I viewed the research as being within the social systems tradition rather than the social cognition one, though influenced by it as well as Donald Schön and Chris Argyris' work on organizational learning and the design studio.

The findings raised some questions about this literature and the range of theory explored in chapter two, from which the sociotechnical approach was developed. Whilst the presentation by Schön of the usefulness of the design studio as a model for other work environments was helpful in providing a perspective to explore the current system, and develop ideas for an improved design it also raised questions about how such an approach might fit into a distributed team used to operating in a hierarchical style. This translation of literature into the real world served to emphasise the highly contingent nature of individual cases, and the complexity of applying theoretical models without adaptation.

The literature therefore provided an integrated framework of sociotechnical, organisational design and distributed cognition theory, which helped ensure the research project maintained a focus on what happened in the case from a human-centred perspective. The role of sociotechnical theory in this and the effects on activity of distributed cognitive effort in the design and use of the quality system demonstrated that an understanding of the way staff shape the quality system could be grounded in literature that spanned cognitive, social and technical elements, but that to apply those approaches was inherently complex and meant that, while the theory expressed in the literature couldn't be applied directly to the case, it was a valuable tool for developing the particular understanding of the design of the quality system. Based on the use of these complementary theoretical models the findings support the idea that cases of human-centred work can be produced that provide a different perspective from an approach such as activity theory modelling because of the attention to individual, group

and system-wide factors. This allowed a lot of scope to identify fuzzy generalisations and provided a basis in which to ground the suggested design principles.

The question scopes the project to one particular process that exists in a college, the teaching and learning quality system. By stating this in the question it was possible to judge elements of what was being observed to ensure the research was within the scope of the project. A difficulty here is the judgment needed in certain cases as to whether an observation provided evidence related to the quality system itself rather than a wider issue. This was not always clear and judgments had to be made in the analysis to exclude certain things or include others. This is an inevitable feature of ethnographic enquiry where potentially 'everything connects'. The process would have been more difficult if the scope of enquiry had not been set; examining part of a sociotechnical system not all of its facets.

The adoption of a sociotechnical approach therefore provides a researcher with a particular perspective that is useful in describing design and building a knowledge base about it. If the level of enquiry is too micro then the knowledge will be most useful for examining specific parts of a process. This is valuable but places the researcher in a position where there is a risk that the relationship to the broader institutional ecology is not taken into account. This is a problem with some education technology research because it focuses on a designed artefact without taking account of its potential for persistency, and has been discussed in the literature, especially with reference to technological determinism and a lack of follow-up enquiry.

An example that demonstrates why sociotechnical approaches should complement other forms of design study relates to the LOIS software used to record lesson observation results. A design study that captured the users' behaviour, system requirements and technical architecture in order to suggest an improved approach to recording lesson observation data would be very useful. It would however be different in kind to the study of how the lesson observation process fits into the quality system, and how that shapes the overall design of the quality system. By using the sociotechnical approach at the organisational level I was able to examine the process

and suggest design principles for the quality system as a whole, and not just a particular part of it. The production of a case study provides a narrative about the implementation of the system and this might be used in conjunction with a design principle to create specific tools. For example, the consideration of database design to meet the needs of the #WhyNotWhat design principle is a way that case study data and design principles can be combined to support the development of new artefacts.

The quality system at Stretchford College underwent such a process during the period of research. In interviews it was found that there was an awareness of weaknesses in the existing system. It used a complex marking grid to constrain both the observer and the teacher into being assessed according to a closely defined and precisely described set of characteristics. The change to a system where specific behaviours, such as classroom management, was still measured, but where the assessment process also allowed for professional dialogue to influence and shape reporting, is an example of how a change to a more flexible design retains system stability but improves the ability of the system to reflect local needs. This is because by moving away from an algorithmic approach that requires attention to be paid to the individual actions taken by the teacher the flexible stance indicated by the #WhyNotWhat principle provides space for those operationally involved in assessing learning and teaching to engage with teaching staff and negotiate an agreed understanding of what has occurred in a lesson.

The findings in chapter six showed how increasing trust between teaching staff and managers and between managers and governors turned the quality function from an auditing/checking/assessment one which staff felt was 'done' to them and began a process of turning it into a collaborative support function. This change happened after the governors had expressed concern about the nature of the data they were being provided with, and the comments provided by OFSTED. This had begun a process in which the management and governors had worked together to bring into the college a new senior member of staff to develop a quality improvement system. His changes, including the embedding of QIU staff in departments had been an important factor in helping to drive forward the reputation of the QIU as being supportive.

This interconnected series of events helped governors, managers and the QIU to build a relationship where trust existed and there was confidence in the oversight mechanisms, such as the quality standards board. The governors as participants therefore shaped the system by questioning existing practice, developing a strategy and then devolving responsibility for delivering that to the SMT. The SMT shaped the system by developing operational priorities through the SAR and instituting a major change to the structure of the quality reporting function to address the strategic priorities provided by the governors. The QIU were able to work with the other stakeholders to develop a new observation system and new practices, all with the aim of improving communication between the QIU, the SMT, governors and the teaching staff. The findings indicate that the shaping of the quality system happened because of the relationships that were developed by interest groups responsible for different aspects of the system as well as the documented processes that arose from their work. The practices of staff managing the quality system, in terms of performance, willingness to collaborate and communicate with other stakeholders as well as designing an annual cycle of quality activity that placed the QIU at the centre of a system that had an overt aim of being trusted by teaching staff and managers alike provides evidence that social as well as technical aspects of the quality system were important to its functioning.

The design of the system therefore exhibited many of Trist's principles for the construction of successful sociotechnical work environments and indicates the importance in a human centred system of attention to the ways in which people affect outcomes. An example of why this is the case is provided by the addition to the information given to governors where case studies of individual student progress were included following a suggestion from a teacher to the QIU in order to add context to the performance data. Without the choice to embed staff in departments and without a culture of encouraging engagement this measure, described by the Chair of Governors as "really helping us understand what is going on in the classroom, not just the numbers", would be much less likely to be adopted. The shaping of the system by its operators also suggests that the major features of that design will in turn arise from those people and the culture that they create. The answer to the next question explores

whether this type of knowledge can be shared from a case by describing it using design principles

## Research question 2

**“Are design principles a way to describe design features of a case?”**

My Master’s dissertation was focused on distributed cognitions analysis as a way of understanding collaborative activity in a further education college, and building a picture of the communications problems across the environment, especially between interest groups (senior managers, support staff and academic staff for example or academic staff in different departments). It was this study that first led to planning research into ways of drawing out and explicating this type of process and the tacit knowledge used by people to work through problems that arise in the course of their work within a college system. Elinor Ostrom’s work on governance systems for common property and overcoming the ‘tragedy of the commons’ where everybody’s problem is nobody’s problem was influential on the initial research design for this thesis. It was used to develop ideas about how her conceptual framework (though not the game theory she developed as part of her research) could be taken on and developed within the field of education research. A research design was produced where a combination of a case study approach supplemented by endogenously created design principles would be used to explore the different stakeholder groups in a college. This question therefore led me to examine whether the addition of a design principle strand was a viable approach to take when considering social and other abstract elements of processes in a sociotechnical system, in order to improve understanding of the way senior managers and other staff manage a quality process.

After working with stakeholders to identify and produce design principles for the tacit elements of a successful version of work practice I would argue there is strong support for my assessment that design principles are a valuable addition as a tool for supporting colleges in the examination and development of their quality system.

I have presented evidence that design principles are described as a useful addition to the tools available by people both across a college's hierarchy and also across different colleges. I have also shown that this success of design principles as a mechanism for describing what a particular quality system design looks like applies to both formal and informal processes. I would argue there is evidence to support my *apriori* theory that design based research can be used to help make sense of social as well as technical infrastructure, and that design principles offer an easily understood way to engage with case study data.

#### 7.4 Research questions conclusion: systems and methodology

This project can be viewed as a first release and would benefit from further iterations, which would in turn continue to provide a dynamic set of design inputs for colleges moving along the stages of the capability maturity model that I have proposed. For example case studies of other types of college such as Sixth Form Colleges and tertiary colleges would provide a knowledge base of cases and associated design principles which could then be examined for similarities and differences. The design principles could provide a mechanism to promote discussion about colleges as individual, but sharing features such as a need to promote intra-college discourse about quality systems and practices associated with operating them. In addition to this, further case studies of a more comparative style could tackle more specific areas of difficulty by examining a problem common to a number of colleges, where the case is an issue such as assessment in vocational lessons with guidance coming again in the form of suggested design principles for how the issue has been successfully addressed.

Further studies could produce results useful to a number of communities, both within the academic research space and also in the domain of education leadership. Support has been provided to the argument that qualitative enquiry can play an important role in helping to understand sociotechnical systems from a design perspective. However, as a doctoral study carried out with limited resources there were some necessary limitations, such as a limited capacity to undertake a comparative analysis of relationships between the SMT and the governors. This is another area where further case studies would be beneficial across different types of college.

As discussed below one way of doing this would be by taking advantage of e-research infrastructure to carry out studies in the 300 further education colleges in England. For example this could take the form of design experiments which would aim to address the significant weaknesses in the current general design of quality systems as identified for example in HM Chief Inspector's recent report on the performance of the learning and skills sector (OFSTED 2012). The current research for example does not include any detailed examination of important aspects of motivation (working conditions, professional development activity and its impact) or structural issues such as financial control and the market economy in 16-19 education being introduced, and generally supported by all the mainstream political parties. A useful approach for such large-scale research would be a mix of comparing high performing colleges against the information provided by existing case studies. It was demonstrated in this research that a college could effect change to a process and that design principles may help guide the process.

Helping a weaker college move to a more self-aware status, with a design intent to become better attuned to both the social and operational features needed to be a successful provider of a complex service in a politically sensitive atmosphere, and amid a high degree of funding uncertainty, would be a challenging but powerful test for the use of case studies of management teams and their operation of a quality system.

Building on any project where a weaker college is given support to design its future in an evidence-informed style would be the possibility to engage other types of education organisation in a design experiment where a domain-specific collection of case studies and design principles could be developed. Initially it would be interesting to do this in other types of education institution where autonomy within a framework of national standards is the usual structure such as other types of college as mentioned earlier. In addition it would for example be applicable in the study of 'free-schools' and academies where local decisions are made and claims of teaching quality need to be grounded in aspects of performance beyond grades reported.

Extending beyond the education sector there is potential for this to be useful in professional activity requiring large-scale collaborative effort and which is distributed both geo-temporally and cognitively. One example would be process quality assurance in large IT projects, where a range of techniques, often drawn from research on manufacturing processes (such as Lean or Six Sigma) or adapting software design artefacts (for example the development of patterns, use cases, structured walkthroughs in non technical aspects of projects) have been used with varying degrees of success. The research questions posed as part of this thesis can be adapted and developed for application in a strategic consulting capacity in business environments. This is important in the large scale, dispersed environment referred to above, where real cases can be a source of guidance and can act as a boundary object through which professionals can negotiate through different scenarios. This combination of case study and design principle might also allow 'hidden' boundary objects to be made concrete, as was described in the discussion of the #Keylink principle. This explication of hidden work and understanding what 'work' means and the role of boundary objects was inspired by Susan Leigh Starr's work (Star and Strauss 1999) and such research might be a way of complementing other work on understanding the roles and actions of professional knowledge workers.

Another thing that the research questions guided me towards was a more complete understanding of the different natures of design principles, which was along a spectrum from generalised statements of a design ideal to reification of specific design knowledge. This was particularly important when I was moving from a universal theory of design to a more situated one; inspired by the adaptations made to Christopher Alexander's work in architecture. I was struck by the idea of patterns and pattern languages as being interesting but incommensurate with the type of sociotechnical analysis I wished to describe. In the pilot study for this research, which focused on collaboration and the role of distributed cognition and professional knowledge in action. In that study it was concluded that it was not a necessary condition that a design principle be transferrable because a design principle is intended to promote the discourse around a new design and what it might look like, providing an explanation (though not the only explanation) of important features seen in another case. Norman's

concept of perceived affordances (Norman 1988) has been adapted in a number of fields, as noted by Turner, where he points out that in the computer supported collaborative working literature, “artefacts mediating cooperation are frequently socially constructed and their affordances can be seen to differ from one workplace to another... there are numerous examples of boundary objects, descriptions of which are frequently couched in terms of affordance ” (2005, p793). The professionals using the case study and associated design principles are argued as being best placed to understand their possibilities. This is because as a boundary object, a collection of case study generalisations and design principles based on them allows specific communities to discuss and negotiate meaning and application in their own environment.

The research questions therefore provided me with a good base from which to develop a knowledge base for a specific domain. They also helped me to identify where I think more research is needed, but also how the research products could be applied in new contexts and how further research effort might be designed. All of this also gave rise to ideas for developing specific products and services as a result of the project. The following section is a brief description of how this research could be used to help develop solutions in real environments using a number of tools developed from the research results.

### **7.5 Research questions conclusion: further education and local context**

At the beginning of this thesis I described the motivation for the work as a curiosity about the social processes at the centre of the further education system’s management processes. A lot of this thesis discusses ‘cases’, ‘design’, ‘systems’ and how this approach might be transferred. It could be argued that this project is about the design of environments, and not about education, which is simply the chosen location for this study. However, such an argument misses what I would suggest is the most important conclusion of the thesis. In the further education sector different lessons need to be learned from business than the ones currently seen as important. For example, the role of trust within informal networks has been shown to be important in helping to ensure the quality system at Stretchford College operates with a ‘light touch’ oversight regime on the part of the governors, reducing the potential for conflict and disruption to the

process. This type of knowledge is not typically part of the advice given to colleges by services such as LSIS, where the focus is more on adopting quality management techniques and tools such as 'Lean'. These have a focus on measuring data and improving production efficiency, which is important, for example the use of control charts to provide information about retention and where it might be better or worse than expected in faculty or department. However it cannot be used to address why that might be the case and to explore the design of current systems to uncover what might be going on.

Many of the practices of industrial management do not fit the needs of the education sector, and where they do there needs to be better understanding of why. In this thesis the use of design thinking is suggested to be a way of helping colleges think about their aims and the outcomes they wish to see, and look to other providers for knowledge about how they might proceed.

Further education is struggling as a sector with an unstable funding environment, an education policy that makes claims for 'parity of esteem' between vocational subjects and academic ones, between apprenticeships and university degrees but directs government attention and ministerial weight to traditional notions of education, as a didactic classroom-based process measured through the results of written testing. The Wolf report (2011) was the latest in a long series of reports that governments have promised to take forward in order to strengthen 14-19 education. However, during my fieldwork and since that time through my own connections in the sector, it is still operating under an enormous burden of contradictory policies and what Alison Wolf has described as 'ministerial whims', where colleges are asking staff to work longer hours than secondary school teachers for much less money, and the idea of a person walking in off the street to teach is once again being promoted as an acceptable alternative to developing lecturers' professional competency. This research is intended to provide guidance for those responsible for the design and operation of quality systems to help ensure that they function well in the terms that are important to different interest groups and supplements other work that focuses on teaching, learning and financial performance.

The study offers researchers and practitioners a mechanism for creating conversations about the design of a local system and a way of thinking about what features might be useful to them in adopting changes to their own way of operating. At the moment FE is being asked to look at and adopt the culture and language of a very particular part of the business world, manufacturing industry. This thesis is an example of how senior leadership teams in colleges can indeed look outside for ideas and support but that there are many types of organisation, with the design studio and the creative industries also being a good source of inspiration. Complex sociotechnical systems, such as large colleges, need to be able to effectively examine themselves, look for ways to improve and move up through a capability maturity model over time. This case study shows that communication both between colleges, and between colleges and other organisations can be improved. For managers struggling to make sense of the ‘messes’ that exist when a system is dependent for its functioning on individuals collaborating this thesis offers a practical and evidence based approach to describing and disseminating individual cases that can guide the actions of others.

## 7.6 Operationalising the research results

As described above this project has been a test of the research approach that could now be taken further. I have described above how this might be done in terms of research effort and why it is a contribution in both thinking about the design of human-centred systems in general as well as education structures and processes in particular. In this section I will describe a few of the ways in which I think consulting propositions and products to support them might be developed.

The main development that I would like to take further is the combination of case study and design research that I used. The approach is straightforward and easily learned and while some elements such as the suggestion of standardised notation derives from elements used in IT systems design and business process engineering it is readily explicable to others. Some notations are placed in the hands of a standards body such as the International Standards Organisation. I think this is often done to provide an independent arbiter of correct usage. Other standards such as PRINCE 2 remain the

property of an organisation (in this case the UK government) but are released under a Creative Commons licence. These are examples however of fully developed and somewhat prescriptive tools, which I have never in over twenty years of systems development experience seen used in the way described by the standard. However, aspects of them are widely used, and many features of them are commonly understood by users, even where they have not had formal training. I think therefore that releasing the simple notation system under a creative commons licence would provide protection for the consistency of notation while allowing users to modify any aspect they need to.

The research approach could be developed into an education consulting proposition, and following further research this could be expanded to other sectors. The value added would arise in a number of ways. Firstly, senior managers, governors and other interested parties would have access to an evidence base of the features they might expect to see in their own systems. If their own systems deviate from suggested design features they have a basis on which to ask questions and interrogate the rationale behind their own implementation. This ready access to alternative approaches is I think a valuable tool for benchmarking and similar comparative activity.

As a consultant working in a design research consultancy I would have a starting point for a benchmarking analysis and a set of boundary objects that can form the basis of a programme of organisational change. If this consultancy were to have behind it a research base then a design studio environment for a specialist consultancy would be possible. This would be in tune with the aims of the research project and could work in a similar fashion to an architecture studio. It would be a setting where general principles of human centred approaches to system design are understood, shared and discussed and where practical implementation is grounded in deep knowledge and understanding of a problem domain.

At the moment a lot of policy development work in education is done outside of the university research community (Robinson 2014). The lack of strong ties between education departments at universities and the government is long standing and Tony Blair when he was prime minister described an education establishment which was part of the 'forces of conservatism' which he said had prevented him making changes.

Whether such criticism is justified or not it remains important for education research to adopt a pragmatic view of education policy making. This research study has pointed to an approach that can provide colleges with a mechanism for maintaining and improving standards based on working with case studies contextualised for their local environment and with design principles acting as a starting point for creating their own solution but basing it on principles that have featured in the design of a system externally assessed as 'Outstanding'. It is a way to make use of evidence without assuming a unique solution to a problem is available, and can be seen as augmenting more data-centric approaches to describing education systems, the international comparative studies of McKinsey and Co for example (2010). The case and the supporting design principles are offered as an alternative, design-oriented approach to the more quantitative models now in wide use. Case studies can be succeed as part of a change process by keeping the people involved in the system as the focus, which I would argue is a central function in a human-centred system such as education. The design principles can help instigate a process of reflection and support design by suggesting how to think about the combination of people, process and documentation holistically, rather than as distinct issues to be addressed separately.

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## Appendix A: Participant consent

All participants were asked to sign a consent form, which followed this format and also included an information leaflet.

### A.1 Consent form:

**Study title:**

***“Further Education College Quality Systems: A framework of design principles for the development of teaching quality improvement processes”***

**Researcher:**

**Steven Albury**

Research student, Department of Education

15 Norham Gardens

Oxford, OX2 6PY

e-mail: [steven.albury@education.ox.ac.uk](mailto:steven.albury@education.ox.ac.uk)

**Purpose of the study** - The study will explore the potential of technology to provide opportunities for teacher-led education research which is integrated into college internal inspection systems.

**I declare that I...**

- ☐ agree to participate in the above study
- ☐ have had the opportunity to ask questions about the study and have received satisfactory answers to my questions
- ☐ understand that participation will entail collaboration with the researcher where I will be able to contribute to the design and conduct of the study
- ☐ agree to participate in a number of interviews (audio recorded) during the course of and at the end of the study
- ☐ understand that I can choose to withdraw from participation in the study at any time by informing the researcher
- ☐ understand that the project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee
- ☐ know who will have access to the data that will be collected, how the data will be stored and what will happen to the data at the end of the project

Name of participant .....

Organisation .....

Signature .....

### A.2 Information for Participants

**Invitation**

You are being invited to take part in a research study. Please take time to read the following information carefully. Please ask if there are any aspects of the project that are unclear or if you would like more information.

**What is the purpose of the study?**

It examines whether the use of a design based approach can assist college staff in designing, running and reflecting upon their role in a way which integrates with the college's own quality system and internal inspection arrangements.

**Why have I been chosen?**

For this study, I am seeking the perceptions of those with an interest or role in the formulation and implementation of teaching and learning policy, either as a practitioner ,manager involved in quality systems management or governor involved in setting the strategic direction of the college.

**Do I have to take part? What are the benefits of taking part?**

The study is entirely voluntary. You can decide to stop participating at any time. You do not need to answer questions that you do not wish to. Confidentiality of your information is guaranteed and you will not be identified by name or institution in the final report or any publications. No private or personal information will be collected except basic biographical details such as job title.

The benefits are helping to create a picture of what are the core cultural and technical factors that make up a high performing college. This will help to shape the design of tools to support educators in improving their understanding of their own practice in line with the Learning and Skills Sector Improvement Service's e-CPD programme and improving evidence for college managers in reporting quality data to the Skills Funding Agency and OFSTED.

**What Will Happen to the Data I provide?**

All data such as interview sound files, transcripts and other documents will be kept securely in a password protected folder on a computer hard drive accessible only by myself and my supervisor Dr Chris Davies. The data will be destroyed after the completion of the project.

**What will happen to the results of this research?**

The results of this research will form the basis of an Oxford Doctoral thesis. Some results may be published in academic journals and books. If you wish to obtain a copy of the published results, please inform the researcher. The study will take place over the next 2 years after which time the published results will be publicly available.

**Who is funding and organizing the research?**

The research is funded and organized as an independent research project in conjunction with the Department of Education Oxford University.

**Contact for Further Information or Follow-up**

Should you have any further questions about this research, please feel free to contact:  
S Albury Department of Education, 15 Norham Gardens, Oxford, UK OX2 6PY.  
Steven.albury@education.ox.ac.uk. Your inquiries are most welcome.

Supervisor: Dr Chris Davies, Department of Education, 15 Norham Gardens, Oxford, UK OX2 6PY.  
Email: chris.davies@education.ox.ac.uk

## Appendix B: Sample interview guides

These are examples of the interview guides I used to provide shape and direction to my discussions with participants. As the interviews were intentionally loosely structured to promote an open exploration of ideas they were used to ensure certain key ideas were covered. I also provided them to interviewees in advance to give them an idea of the areas I would cover.

### **Interview Topic Outline – OFSTED**

**Thank you for agreeing to participate in an interview related to my study. I have listed below a range of topics I would hope to cover in the 45 minutes or so of the interview. I have also included some background information which I hope is helpful. On the day of the interview I will ask you to sign a consent form for participation. The study is governed by the ethics policy of the University of Oxford and both anonymity of individuals and the confidentiality of their contributions is guaranteed. I look forward to meeting you and if there is anything else you would like to ask please don't hesitate to contact either myself directly or my supervisor Dr Chris Davies ([chris.davies@education.ox.ac.uk](mailto:chris.davies@education.ox.ac.uk))**

**Steve Albury**

**e-mail: [steven.albury@education.ox.ac.uk](mailto:steven.albury@education.ox.ac.uk)**

The aim of this interview is to help me understand the forces driving the quality process that is implemented across the teaching and learning provision of a large Further Education college. I will therefore focus the interview on issues related to:

- OFSTED's role in improving the quality of teaching and learning
- the types of data gathering and reporting that OFSTED look for
- the external environment in which inspections and reporting operate.

I think it would be helpful if I could understand the current view of what 'good teaching' is and the types of evidence that are most helpful in making such judgments.

- The structure of the current national quality oversight system
- Plans for the future direction of teaching quality metrics and reporting
- The gaps between what OFSTED would like to see and what colleges provide – what the common misunderstandings are when it comes to demonstrating the competencies

Finally I am keen that my research has a practical outcome. I am trying to uncover effective ways of leveraging existing technology to improve communication about teaching quality amongst all internal stakeholders and how this can be integrated into a quality assurance/improvement system. I would therefore be interested to know:

- Why is the inspection cycle as it is – could it be more dynamic
- Any difficulties with, or gaps in, the information currently provided – especially observation data

This is a lot of ground to cover in 45 minutes and it might be that a second interview may be requested at a later date – or follow-up questions might be asked via email if this agreeable.

## **Proposal for Research Project to Create A Research Environment Built Around the XXX College Quality System**

By: Steven Albury, University of Oxford  
December 2010

### **Summary:**

Participation in this research will provide the college with access to an approach to CPD that allows for upward feedback of the impact of teacher research activity and a potentially useful augmentation to the quality system. It will help the college demonstrate its role as a propagator of good practice in the sector and the support of the Institute for Learning and the Department for Business provides an opportunity for the college to take this approach forward to a wider audience should it wish to do so.

A particular feature of the research is that it takes a design-based approach. This means the way the system is implemented is shaped by the input of the participants. This is a fundamental aim of the research, and means the involvement of the college will be directly seen in the final product. This shaping of the tool and how it fits into an existing way of working is a real benefit of the design-based research style.

### **Background:**

As an FE Teacher and former head of department I am interested in how the CPD of teaching staff can be augmented by providing a mechanism for the support of technologies and design activities which feed directly into a high performing teaching and learning quality system. I wish to uncover the tacit knowledge that is present in a high performing culture and use this to inform the development of a collection of design principles to both support the CPD of teachers but also provide detailed information about the impact of teaching and learning activity for other users, such as members of the college quality steering group. The research will be done on a college wide scale and also to be done over extended periods of time and across different sites.

### **Why XXX?**

My main interest was in finding a college with a good reputation for staff development, a strong track record in quality management and of a large enough size to benefit from the use of a 'virtual research environment'. I am working on the project with the Institute for Learning and they agreed that XXX would be a good candidate.

### **What does the research involve?**

The research will be carried out in two stages. The first stage is intended to act as an ethnographically focussed 'embedding'. The idea would be to visit and interview with key actors in the teaching quality system. These would be 1 hour interviews with stakeholders such as the Deputy Principal, Chair of Governors, Head of Quality, Head of E-Learning & Innovation and the Head of Workforce Development. This phase would also include observations of meetings such as the Executive or Senior Leadership Team, Research Steering Group and the Quality Standards Board. As the organisational culture plays such an important part in the effectiveness of innovation I would also wish to be allowed to observe the day to day life of the college through the observation of public spaces and, with lecturer consent, some lessons. As an important part of understanding how systems work is to understand the documented processes I would also like to spend some time doing 'desk research' examining the quality documentation process.

This phase would run during the Spring and Summer term of the current academic year and be spread over a number of 1 day visits (5 or so). I would present my findings, perhaps to the Quality Systems group and then use the feedback from that to help with the design of phase two.

The second stage of research will be to take the understanding of the college's quality processes and the 'style' of the college as an organisation to inform the creation of a catalogue of design principles which will be used to help in the creation of new quality improvement activities. The idea of the research is to uncover what is required for innovation and investigation to successfully feed back into the quality management system in a manner that helps align the interests of the various stakeholders. It is intended that a project using the design principles catalogue will be possible during the second phase of the study.

This phase would run during the Autumn term of the next academic year (2011/2012) and be spread over a number of visits as required. As one of the research goals is to work with the 'state of the actual' rather than an idealised teaching environment it will be important to ensure the participants are not being asked to do work beyond their normal CPD hours. The research findings will be disseminated during the research conference scheduled for 2012 and the design principles catalogue will be made available to help guide future quality improvement activity.

### **Ethical Considerations:**

The research is being carried out under the direction of the University of Oxford ethics procedure for research (called CUREC – Central University Research Ethics Committee). It is also guided by the British Educational Research Association ethics code. This means there is a commitment to ensuring the confidentiality and anonymity of people and data connected to the research project. Therefore all participant names will be anonymised and the institution will not be named or otherwise identified. Confidentiality is also a guiding principle and information will not be shared with others. All data collected will be kept in a secure location and access will be restricted to myself and my supervisor, Dr Chris Davies. At the end of the project the college would have the option of allowing itself to be identified if it so wished. It should be noted that the Institute for Learning will not be provided with any information without the written consent of the college. Their hosting of the technology will be on the basis of only seeing anonymised data.

## **Interview Topic Outline – Senior Management Team**

**I have listed below a range of topics I would hope to cover in the 45 minutes or so of the interview. I have also included some background information which I hope is helpful. On the day of the interview I will ask you to sign a consent form for participation. The study is governed by the ethics policy of the University of Oxford and both anonymity of individuals and the confidentiality of their contributions is guaranteed. I look forward to meeting you and if there is anything else you would like to ask please don't hesitate to contact either myself directly or XXX XXX (x.x@xxx.ac.uk).**

**Steve Albury**

**e-mail: [steven.albury@education.ox.ac.uk](mailto:steven.albury@education.ox.ac.uk)**

The aim of these interviews is to help me understand the forces driving the quality process that is implemented across the teaching and learning provision of the college. I will therefore focus the interview on issues related to:

- improving the quality of teaching and learning
- the role of the management team in this
- the external environment in which the college operates.

I think it would be helpful if I could understand the context of the college's structure and mission and would be interested in learning more about:

- The development of the current quality system.
- Plans for the future direction of the college insofar as it relates to teaching quality – for example changes to EMA, age of compulsory education, teaching qualifications etc

Finally I am keen that my research has a practical outcome. I am trying to uncover effective ways of leveraging existing technology to improve communication about teaching quality amongst all internal stakeholders. I would therefore be interested to know:

- What does data and analysis of it say about quality of provision
- The ways managers communicate amongst themselves/ the Governors and the rest of the staff
- Any difficulties with, or gaps in, the information currently provided and whether there is a 'behaviour gap' between what the data says and what people feel is going on.

## Appendix C: Sample interview transcripts

### C.1 Stretchford college chair of governors interview

SWA = steve albury

CG = Chair of governors

SWA:

Introduction of location etc. not relevant to research

The basic premise of my work is to try and connect a bit better the research work that teachers do as part of their personal development and see if there are technology tools that could be used to produce more systematic enquiries and an evidence base that goes across a college's teaching and would feed back more formally through the quality system.

My feeling is that although everybody does CPD and managers are aware of what CPD goes on and have particular ambitions for it quite often when I was a lecturer I felt there was a disconnect between what we did as CPD and how effectively that fed back into reporting of quality. Quite often it was an individual thing so it would be part of your staff appraisal

CG:

Yeah OK

SWA:

But there was no overall place where you could go and find out what the impact and effect was of the same thing tried across different types of environment

CG:

Yup

SWA:

So what I wanted to see was whether some of the ideas from e-science which is big data sets and number crunching but if you could take some of the ideas from that really to connect people over time and distance so you're not so constrained in sharing experiences - to take some of that and then more formally integrate it into the quality process that might help two things. It might help teaching staff feel that their CPD had some value not only to them but to colleagues but also for college managers. It would give them a bigger and better evidence base on which to be working.

CG:

Presumably the ease with which best practice in some of these area could be shared - one of the things in the college we've struggled with for a number of years is trying to get best practice in teaching, I don't like talking about teaching and learning I

prefer learning and teaching but that's by-the-by errrm we've you know going back to inspection processes, lesson observation course evaluation, OFSTED doing the same thing by and large very good practice and how that is developed involves CPD clearly but HOW it involves CPD is an area that is difficult. Just to round off the way what you're doing could really be seen to fit in with what the governors are talking about we had our triennial Investors in People renewal ermmm in the summer (2009) and as a result of that we came out with a gold standard or whatever and in the course of the discussions with the inspectors for IIP the vice-chair and myself spent an hour with him and ermm one of the things we talked about was various management development issues like succession planning and so on,

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which links in to CPD clearly. And we talked about one of the difficulties being understanding the impact I'd had and in fact in the report that came out there was reference to that and we had a paper in our last governors' meeting which was talking about the actions following the Investor in People examination and part of that was referring to how we could develop impact measures ??? that all links in to the concept really that we have of governance as a sort of overview of that sort of activities, so yeah, I'd be very interested in the outcome of this and see whether we can develop some ools that will actually put into place.. ways of ensuring that what we do on an individual basis can have some wider effect in some systematised evaluation of it ??? It's great, yeah.

SWA:

I'm glad you think it's great! I like it when people say that! The impact thing is really important and it's the trickiest thing, isn't it?

CG:

Absolutely

SWA:

Because my experience has been that impact often seems to boil down to being able to express it in an excel spreadsheet in some form or another. Which I think a lot of teachers find problematic for a number of reasons, one of which, perhaps the most important one is the feeling that you're not getting any depth to.. you know.. this happened, but it's because of that.. Do you think there is a place for sort of perhaps more qualitative information to be provided.. I mean what kind of information do you currently get on these issues.. I mean is it all the.. sort of sets of statistics about attendance and achievement..

CG:

Yeah. I mean we get the sorts of things that are identified at the SAR as areas.. looking at proportions of teachers who completed training, proportions of teachers who have been on various CPD activities.. we get lots of things. Mainly we are.. looking at a higher level.. we look at really the overall college success rates and that sort of thing. We look at improving trends in lesson observation scores and that sort of thing. We don't find it very easy to relate the two and various attempts have been made to look at that in the past. We are more concerned as a Governing body that there are systems in place you see rather than getting... worrying about the detail ourselves.

SWA:

Yeah OK. It's the design of those systems I'm really interested and it's one of the reasons I wanted to talk to the Governors and the SMT because I think if you start with that premise, why things are designed the way they are and I'm assuming that everybody who does this is competent and there is a reason why things are done in a particular way. So, at what point do you feel the Governors' role stops and the SMTs starts in terms of designing systems.

CG:

Well, designing systems is the job of the SMT - the isn't expertise on the Governing Body to do that sort of thing. Errm saying we want to have system might be a governorship role... err often that might be prompted by individual knowledge, by some external source or by the management team identifying it. For instance the classic one was when we set up the Curriculum and Quality committee which was, if my memory serves me was about 1997... 1998 I think, I know I hadn't been Chair long - the Previous Principal, Brian Stiles errr and I were talking as we did regularly the Principal and I about issues and how we need to go forward; we were very mindful of the importance of quality... at the time it was becoming more identified with themes and inspections and so on... it was sort of discussed in the literature, at conferences and so on and Brian and I talked about how we could greater involve the governors' role in the oversight of quality matters and we decided we needed to have another sub-committee of the Governors. Until that time we just had the normal Audit, Finance & General Purposes, well there was remuneration and so on but that's bye-the-bye and we decided we ought to have another main stream committee on a par with F&GP to look at curriculum and quality issues and so that's the sort of thing that Governors would do.

That committee itself gets lots of information... there are, unlike F&GP, there are a greater proportion of senior staff on it... The Principal attends, the Vice-Principal - sorry the Deputy Judy attends errr.... members of the executive attend, not all the time, the head of Quality is there... two or three Heads of Faculty come because it is all about the business of the college.. for the PURPOSE of the college rather than the business of the college I should say. F&GP so often gets stuck into financial issues that dominate all our lives but the curriculum and quality committee plays a very important role and it was set up for that purpose because we recognised that was an area where errr, the...the issue visibly wasn't demonstrated by its having a senior committee of the Governors to look at. Secondly that Governors' influence on those areas needed to be more manifest and Governors needed to be better informed about those issues and it's much easier to do it... We've worked for many many years on the basis of having committees who do a lot of the detail work and this is then reported to the Governing body and the governing body doesn't go over them in detail but they're satisfied the committee has done their work...

SWA:

Errmmm and that kind of leads me into thinking about the structure that you've got with the Governing body - when I was talking to the Clerk he mentioned you had tried the Carver Model which in other colleges I know is a hot topic or has been and he said you'd sort of gone down that route and then decided that wasn't you...

CG:

That's too formal a way of describing it errrm I went... I first heard Carver in '93 at a conference - it was the American... what was it the Association of.. the trustees of oh I can't remember the acronym now - Anyway it was colleges in America have their conference, colleges which are equivalent to our FE colleges and there was some organisation, forgotten what it's called now, organised a trip for Governors to go and take part in that conference and have some activities of our own and we went to visit... it was actually in North... it was in Toronto but it covers the whole of North America and we went to some ermmm Canadian colleges but one of the highlights of the conference was a talk from John Carver and the general concepts rather than the detail of what he's put forward are concepts that really have guided our governing body in particular the distinction between management and governance... the fact for instance that governors in looking at strategic issues, in monitoring issues will not get involved in, which other colleges sometimes get involved in for instance in staff relations. By our articles we have to determine a framework for pay for staff, we determine the pay for senior staff obviously but overall we have for instance on that made a decision in the very early days of the college we would adopt the recommendations of the AoC in the national negotiations and the Principal is to depart from that he has to come and change Governors' minds...

SWA:

Oh right

CG:

We never have, we've applied the recommendations every year and if other people, particularly occasionally have been staff governors, not so often but sort of union representatives have written to the governing body we've noted but we've refused to discuss it as it isn't our issues, it's a management issue. So that's just the very obvious illustration. We've taken the view very consistently, we've therefore concentrated as a governing body on strategic issues, the strategic development of the college and the impact of the changing rules and regulations... the besetting sin of the sector the rules change every six months whether it's the funding rules or who is eligible... well you know this sort of thing with your background errmmm and the impact of those on strategy is obviously one of the key issues for the governors to consider and of course then you get into all the monitoring rules that a Board of Governors has to carry out. So that difference between making the management decisions which is very definitely for the management team and an oversight of it by terms, obviously there are policies to be agreed, financial policies, property... all those, all sorts of things are clearly matters for the Board but really none of the detail, that's a matter for the management to make decisions...

SWA:

Right I see

CG:

And I think I wouldn't call it Carver in any formal sense. I think Carver and those forms is something that just doesn't fit. It's not compatible at all with the Articles. And

it's not compatible at all with the National Government's work so we've got to do things that are probably a bit more than its pure form would suggest when the Clerk says we've departed from it but the principles behind it clearly in the first instance the separation between governance and management at the heart of the governing body...

SWA:

So that was a change then from the situation before where...

CG:

Well... it grew out of the previous practice but almost from the outset after incorporation one of the constituents of this college was XXX College, this merged in 1996 with YYY I think it was called then. YYY was the bigger institution... it was in the North of the City, XXX was smaller but in the South of the City. One of the drivers of that was that both institutions recognised their missions were convergent. I mean YYY main... it had the characteristic of being about block release courses in engineering and management and construction students and that sort of thing. XXX had a much wider mission of widening participation and all of that. Errr YYY recognised their... the environment was changing, their mission needed to come more towards that. We recognised in XXX that there were things we weren't as good as we ought to be at. Both of us recognised that needed a city centre presence and recognised that, you know it wasn't sensible for both of us to develop a city centre presence. We merged and we got this building [the sixth form centre] directly out of the college merger, directly out of the thinking that said the college needs a city centre presence because both colleges had identified separately the need. I was XXX, the governors' influence in the merged college was almost entirely driven from the XXX governors. I was at XXX as vice-chair or acting chair at the time of incorporation when I went and heard Carver. Ermmm our first chair had been a XXX governor and also in the (YYY) chair with me was a chap called KS. Now he was a deputy director of Comb Lodge when it was the FE staff college. He'd been a staff officer of the lecturers' union in a previous life. He was a very well known figure in the sector and after incorporation and privatisation of colleges and so on he was on the Board of what was then called the FE Employers' Forum before the creation of the AoC and we had things like... it's all mythology to you probably. A chap called RW was the Chief executive he was very much into putting all lecturers into agency contracts and recruiting them through agencies and you know carrying the privatisation concepts to what some regard as extreme and there was a time of great upheaval. While that was going on, as I say KS, because he had this national role as chair and I was vice-chair when we merged KS became the merged chair of governors and then after a year he left to pursue his consultancy work because he'd retired at that stage from the errr Comb Lodge cos Comb Lodge was disbanded etc. So KS was out initial... but he and I both had this concept which was a practical realisation of some of the Carver principles in our own system. And so that was errmm... Right from day 1 in the combined college that has been the governance style ermmm and the principles that are followed so it wasn't a step change in this college It had been the culture in XXX, it was not the culture in YYY, the first thing I did when I took over as Chair after a year was to have painted out the car parking space next to the management suite as it then was up at YYY which was a car parking space reserved for the Chair of Governors and the previous chair of

governors who was at that stage in his seventies was in the college every day and that is a concept that was totally alien and symbolically I said 'paint out that car parking space for the Chair of Governors' because that was the style that governors were henceforth going to adopt and we have done ever since. It's sort of, it was a natural evolution from the way we were doing things in XXX any way so although it was discussed in principle there was never a 'now we're going to adopt this model of governance' it was... that was the style we evolved and clearly people like KS and I used to discuss it. We would discuss it with the Principal all the time and then we just carried it along with the Governing Body and that seems to have worked pretty well.

SWA:

With the merger. Do you think that, well that applies at the governor level, do you think from the management style and so on as well was that a meeting of who was doing it in a way that seemed to fit better with the way the merged college...

CG:

That's very difficult for me to say. Certainly a lot of the policies, discipline... procedural policies that you have to have were based on the South Bristol model. The devolution of budget to faculties which was a key part of all of this at a lower level was probably further advanced at XXX than it had been at YYY but it was a model that was carried through so ermmm that's the side that I have most direct knowledge of. In terms of the teaching styles. In terms of things like lesson observations, how you look at individual performance of teachers, how far you look at individual groups' success rates it's evolved. I wouldn't really have a great deal of recollection now of what that state was at YYY before we merged to be honest ermm all I know is that the ermm that there has continued to be parts of the college that have moved further down the road than others. For instance one of our disputes last year, a couple of key issues was whether management were able to conduct unannounced observations. Now that was something that was commonplace in most of the college but was not readily adhered to by probably the same people who were behind that points to flyer from union saying – [boycott the IfL']

Equally the culture of certain departments ermmm was errmmm very traditional, classically you've got engineering and construction on the one hand and you've got business studies, hairdressing you know all those sorts of things in a college of this size and of this distribution physically one of the key problems is trying to get to a situation where practice is brought up to a common level everywhere; where standards of teaching and learning where... not success rates as such because success rates are impacted by lots of other things as well but ermm basically quality standards as far as one could measure them in various ways are things that are continually, we're continually searching for ways of ensuring good practice can spread everywhere and in addition to that we've had various experiments... not experiments, studies of different types. I know we had one a few years ago where we looked at learning styles in some detail. Now governors were aware that was happening but governors didn't get involved in any detail at all. We were just aware it was happening and encouraged the management to look at those sorts of things.

SWA:

So it's definitely the point at which you give people the freedom to do their thing...

CG:

Yeah and at the same time in an overall sense making sure that all the trials and tribulations of the day, on the financial side, on relationships with local authorities, partnerships etc. etc. at the same time don't distract the senior management overall from saying 'basically, quality is what we're all about, we've got to be about quality' None of the rest of it will be sustainable if our quality falls away. So, you know, making sure that the governors support that message has been quite key.

SWA:

Ummm that does sort of lead me nicely into the external development plan where you've got five strategic aims. I'm just wondering. When you develop these types of thing who are the people who mostly influence it from the outside? How confusing is it to be told different things by different parts of government? It must be very difficult to...

CG:

It's extremely difficult. One of the things we struggle with most as governors is perhaps one level below that and that is in ensuring our, as we see, our mission which has always been at the heart of it delivering learning and economic success for the community which at times, for instance some of the adult provision we make, some of the foundation provision at different times has been under severe threat in funding terms ermmm to such an extent that at different times and I'm going back over the whole of the last 18 years since incorporation now with different funding methodologies succeeding each other well we have at different times deliberately accepted that we were sort of cross subsidising some of the things that we really wanted to do in terms of mission and in spite of the fact that those have been not funded as generously as we wanted. So in terms of the external pressures there obviously are different types, obviously funding is the main one, inspection, partnership arrangements. Much more... equally important to that is the indirect effect of consequence - indirect consequence of changes made elsewhere.

For instance the state of Bristol education. Until probably five years ago Bristol tended to be in the bottom two or three in the league tables for both GCSEs and A levels. That meant that the general standards of education in schools up to the time when we might recruit pupils was fairly poor and the growth of ... A levels in this place for instance was in part driven by that, that errr not by our deliberate intent. When we opened this building and sited most of our A level provision here clearly it was very popular because it was the city centre and that was part of it but equally the standards of A level delivery in the State Sector in Bristol, some say in part because there's a big private sector which has creamed off more able kids, that's only a very small part of it in my view but the standard was very very poor. And we grew and grew and grew as an A level provider and that was fine and that wasn't a deliberate plan; there was a deliberate plan to improve our A level provision, it wasn't deliberately planned to grow as much as we did but there was a time from when the, the errrr at the time the LSC first came into being around that time there was something called the Strategic Area Reviews which were carried out and the Strategic Area Review on the Greater Bristol area said basically FE was sustaining Post-16 education in Bristol despite the schools sort of thing so we were making a

big impact. Now we've got things like the Academies ummm process where even before this government [the 2010 coalition] ermmm going back 5 years I suppose we knew that academisation was starting on a small scale - we had the City Technology College from the previous tory government ermmm but of course when you have schools that are failing which was the original Labour concept of supporting Academies was about supporting failing schools by academisation - most of those failing schools had either non-existent or very small 6th Forms well what does an Academy want to do he wants to grow at 6th form so that's an external competition and those sort of factors have been influential on the governors' decisions strategically in order how we develop the 6th Form Academy as we now call the 6th Form Centre as an Academy in inverted commas to help sustain our 6th Form but recognising probably that we're going to have to plan for a declining number of students doing A levels here as the marketplace was being expanded.

SWA:

Yes, yes I see

CG:

So there are various things like that. External things impact on this ermmm things that are not directly related to changes in our funding or our regulation but are part of the environment in which we operate ermmm Bristol has improved its position in the league tables substantially over the last two or three years but our A level recruitment has held up as well so, you know those are factors we're very conscious of and where governors typically really respond to these things and influence this sort of thing directly... two levels one is that at each governors' meeting the Principal gives an Executive report and a key feature of that has been a description and an analysis, nothing detailed but an overview of what was happening nationally and locally and its impact on the college - just briefly, supplemented by one or two seminars a year where we meet as a full governing body and we... it varies but recently been for about a three or four hour period - at one stage, very early days we had an awayday but that became unpopular with governors - governors tend to have less and less time for these things because they're all busy people - we had at sometime a practice of meeting often at lunchtime offsite and going through til 6 o'clock and then going to one of the college sites and having dinner with heads of department and so on so we could meet them. Governors then decided they didn't want to do that in the evenings much against my judgment. After our last seminar in January we actually had a three or four hour session and I arranged a dinner anyway and said it would be followed by dinner and we'll invite Keith and so on but only a small proportion of governors stayed for the dinner which is unfortunate and I read the riot act a bit but it doesn't necessarily have any effect but that sort of... those seminars are where we develop our strategic thinking or at least where governors contribute to the development of... the senior management team - obviously the senior managers lead, particularly as Keith our Principal is a member of the 157 group... before he came to this college he was on the AoC national as representative of Welsh colleges cos he was at Swansea ermmm he's been involved in some national fora - he has reasonably good contacts with senior departmental [BIS] officials and that so he's well in touch with the national scene. He's also and this was one of his aims when we appointed him - it was one of the things that I have in my appraisal of him and he's continued to target.... I was building good relationships with

Keith with Bristol, particularly the local authority because that's the way partnerships have to be built and various other things like that you know - this local/private partnership is the latest thing the governors have brought out and the local authority decided that only ermmm the universities would represent education and Keith has been actively involved in trying to change that but he's very much involved at the second tier, underneath... so building those partnerships are things that help him to come to the governors and he uses us to develop the strategic direction in a way that is helpful to governors because we understand the background a lot more than some governing bodies that I've talked to do. And we are also helping to maintain this strategic direction that we want in the way in which we steer the management to develop some of these things and then they come back to us for approval where it's necessary... if you like when we change the mission statement it comes back for formal approval but that's the way we work strategic direction and the way in which we get involved in considering things like our purpose and so on.

SWA:

Right. So it's very much an administrative process and lots of communication.

CG:

Yeah

SWA:

I've seen or experience different types of governing body...

CG:

I do wonder sometimes... as you can tell I've been a governor for some time about 25 years and I've been chair here since 1997 which is too long and I've made it clear I'm not going to do another term after this one. So in 2012 I shall give up but because you've only seen ever by direct knowledge one governing body, your own, you really do worry sometimes if you're doing well and if you're doing the right thing. We've had a bit more experience than that because of the merger. Apart from the merger with YYY we did take over a very small college, my current vice-chair was in fact chair of governors at that small college at the time then we merged with ZZZ college which was a failing college in... we merged with them as well so we've had governors from these other bodies who've come and shared it (their experience) but, you know, all I can say is our last two OFSTEDs have said governance is outstanding...

SWA:

And you have to go with that really!

CG:

(laughs) Yeah!

SWA:

You have to trust they've seen a lot more... is there... I had a contact at BIS in governorship but that was more the general idea of governance rather than any specific training for them or any national forum... is there anything like that?

CG:

The AoC ermm has for many years ermm promoted various governance conferences. There have been local governance training events organised regionally within the AoC and three years ago now the AoC changed its structure. The main council had been equal numbers of governors and Principals and they changed to make it more Principal focused but developed a separate governors' council. And that has a representative on the main board. The governors council has been developing various training events, some are organised by AoC nationally and as I say there are regional ones and more recently the AoC has been developing a Governance Code of Conduct ... it's called a code of conduct but it's a bit wider than that - the driver for that has been initially the attempts to create a greater degree of self-regulation in the sector. It's self-regulation has been a theme for a number of years with the government supporting the idea but wanting various things to happen. One of the things that was seen to be necessary was to develop a code of governance - governors in general have not been very interested to be honest, I obviously keep in touch with whats happening - there's a conference this week organised by the AoC South West where this code of conduct or whatever it's called is being discussed. Governors feel that the AoC is moving into areas that it should keep out of by trying to be too prescriptive. In practice I recognise it's necessary for the self-regulation aim so am happy to go along with it but the Clerk and I went through the draft code. It's on the basis that you either do it or explain why you're not doing it which is fine.

Everything in there we do - it didn't require any change at all, I think the only thing we don't do and I'll have to explain it, we don't produce an annual report as governors and we therefore don't include some of the things they say should be in an annual report - we've debated it several times in the governors (meetings) whether we should have an annual report and we think, well who's it for? A school obviously has an annual report, I was chair of governors of a school and we had to produce an annual report for parents. In a college where you've got 30,000 adults as well as 7000 16-19 what is the point of doing an annual report for parents ? when you look at the numbers of people, when you've got the diversity that we have an annual report simply is meaningless we thought and so that would be the way we explain why we don't comply with that bit of the code.

So we're happy to go along with the code because of its wider purpose but interesting to me was the fact there was nothing in there that indicated we weren't doing what we should be doing as a governing body. So you started by asking what the external influences were, well it's all of that mainly through the AoC, through the annual conference, regional AoC meetings of chairs and Principals about three times a year which I errmmm go to very much more often than not and there are occasional conferences, a governors' conference and I don't go to every one by any means but I've been to many over the years, other governors have been to them at different times. Most of the governors aren't very interested in the theoretical development of governance, they're interested in doing what needs to be done for the college.

SWA:

Making use of their expertise...

CG:

Yeah, bringing all their expertise from other sources and I mean one of the things we decided in terms of governor training we make available courses that seem to be right if a governor wants them but we say the main contribution a governor can make is their own expertise and they do that through their own CPD and whatever role in life they have and that's written down explicitly so part of training that governors are required to do is maintain their own expertise in their field. We don't examine them on it or anything we just say that's your responsibility.

SWA:

And is it then difficult to recruit new governors?

CG:

Yeas, extremely difficult to get the sort of people we would... that sounds odd - governors have, in our view, very much a strategic role, they have particular areas of expertise, we've got a lawyer, an accountant and mine was a human resources, industrial relations background so we we've got that layer . We also have a need, perceive to need people with particular areas of professional expertise like marketing we've just taken on one of those, accountancy a lot some individually and in job terms we also as far as we can try to ensure that some of the main employer groups that we provide particular services that are important to the locality - we've got somebody from GKN, used to be Airbus, and they for example have developed a new composites factory where they use these modern materials to build aircraft wings and the project manager who set up the factory he's on our governing body ermmm we have somebody who is chairman of a quite large scale firm that does a lot of public sector construction projects, schools hospitals that sort of thing, he's on the governing body. We tried at various times to get people from the Health service because they're a big customer of ours. We had a director of planning from a strategic health authority who actually got promoted to London and we lost her and we haven't been able to replace at that level but the main concern we've had is that we've wanted on the governing body a fair sprinkling of people who've had experience of operating strategically in big organisations. We've got the Director of Children's Services who is if you like somebody with strategic experience in a big organisation but our turnover is about £70 million it's gone down a bit with the cuts, about 64 million. SO we're a big business in that sense and really when you're talking about the governors getting a partner in a small scale accountancy firm it's all well and good for the accountancy discipline but they don't tend to have experience of the strategic decision making in a big organisation and that's the hardest job - getting these, as I say we've got this chairman of this building company, he's chief executive of a company with a turnover of 600 million. He's great but because of his time and he divides his time between Exeter and Bristol because he's got two headquarters - he only manages to come to the main board. He doesn't find it's possible to attend the committees - he comes to the seminars, in fact he's very rigorous in attending the seminars and he's a very very useful contributor to strategic discussions but it puts a lot of pressure on if you have people like him who can't come to the committees.

That's been our big job, keep those, he's a member he's member of the CBI locally, on the local committee and so on and we've used that source, that's how we got this particular guy in to find people. Years ago and I'm talking fourteen-fifteen years we advertised and we got at that time lots of people who were clearly in jobs where it would be helpful on their CV to say they were a governor; some were members of staff at other colleges, people in the police, that was a thing, the police went through a phase... at my school where I'm a governor we had two police put their names forward and it was clear that part of the police's image was thought to be enhanced if they were members of local bodies and suddenly we got police wanting to...! When we advertise our experience has been not so good - it wasn't a successful route to get people of the calibre, not personal calibre, there were some good people we've had good people as part of the process over the years and we used to have to get people from community groups but that's changed now they're all one category but we still try and get people from community groups, we get people from the local authority, we've had some extremely good governors as people who could contribute but the haven't got the experience and it's a continual battle. It's a continual battle also to get some of the community groups to stay long with us, again they tend to be volunteers in their own areas and so it's just another voluntary position if you like so we do struggle. The search committee meets quite often although not as often as we would like because we've not been able to get anyone to sit on it! We've got a couple of vacancies nevertheless we're continuing to try and get people with that expertise who've operated at that main board or operational board level in a medium to large organisation or the public sector. And it's not easy because those people are very busy.

SWA:

So what free time they do have

CG:

Yeah so the ideal for us in my view is someone who is coming up to the latter stages of their career who are perhaps thinking of something else to be involved with when they retire and maybe it's the last few years their working and the first few years of retirement and they still have the expertise and experience to operate in that way and they're very very useful. We've recently recruited as a governor the finance director of a university who brings that particular area of expertise but also operating at a strategic level in a big institution. Unfortunately most of the times (of meetings) he's been very ill but he's back now and that sort of person is who we want to recruit - well I've been retired ten years anyway so it's time for me to go but we (retired people) have more time to do it.

It's a time consuming job if you are going to chair or chair a committee, I reckon over the years with all the telephone and all the papers I've read and the meetings I attend if you added it all up together it would be the equivalent of one day a week if it's an eight hour day which is a lot.

SWA:

With those time constraints that you all have do you have your own ways of communicating with each other, email, Sharepoint or anything like that.

CG:

We don't communicate with each other than in meetings as far as I'm aware, I've never come across it, there might be some particular crisis - I remember one time years and years ago prior to this college we had to get rid of a Principal and we had quite a few communications then! Normally it's all through the Clerk - he communicates electronically with everyone except me and I still prefer paper - that's my particular quirk.

So we do some business sometimes by phone or email if we want a quick decision. A committee, particularly a search committee doesn't necessitate a full meeting like 'this particular governor is coming up for renewal' and we're happy to renew by correspondence - governors all have access to the intranet if they want to use it. Some do. Others don't and there's no necessity for them to do that. Our main sources of discussion are either in meetings - committee meetings in particular, main board and the seminar - and receiving communications and briefings - The Clerk sometimes says to me 'we've got this document and would you have a read of it then decide if you want me to send it round' and that's the sort of thing. That's how we communicate, mostly governors don't talk directly to each other outside that structure.

SWA:

Right, so when you're doing draft documents and things you'll discuss it in the meeting, agree the changes...

CG:

Yes, and then leave it to the officers to do it

SWA:

Is there a wish list you have of information that can't be provided or do you tend to find that if you feel you need to be given something that is made available?

CG:

That's difficult actually - I get to know an awful lot but often that's through direct discussion with the Clerk and Keith and the other senior staff from time to time - Governors as a whole sometimes say they would like more information. But my experience is they don't necessarily read all the papers they get anyway so we're clearly always saying to governors in meetings and when we induct them - it's like 'don't wait for a meeting to raise things or ask anything you want to know speak to the appropriate manager or to the clerk and he'll fix things up. And they do do that - if you want more information about something just ask and it'll be provided - the main form of information we get and its continually changing and being refined ermmm is what information goes to the committees because most work that goes to the committees also goes to the main board just under the cover of a paper. Members don't look at it necessarily but it's there if they want to and we're continually changing and enhancing the reports we ask for - we've recently decided to have a report on sustainability issues. We try to include what we're actually doing and where it can be embedded in the education provision we make and that goes to F&GP and the annual report to the Board - most of the stuff you'll be interested in goes to curriculum and quality and they from time to time change the nature of what they ask

for - it depends what's the issue for the moment I suppose but that happens all the time in any sort of institution like this - one of the issues that ermmm we might need to return to I think is the information we get at the faculty level at C&Q. I didn't think I should chair any of the committees but for various reasons we were without a chair for F&GP at fairly short notice and there was no obvious successor because of changes of personnel and the previous chair left the governing body so I decided I would have to take over which meant coming of C&Q, I'd been an ordinary member of C&Q since its inception but I came off because I was doing F&GP and I wasn't going to do both the main committees - that would be wrong so I haven't been to C&Q as much as I used to and in my last year I hope to get back to that. I'd rather spend my time on that to be honest but for instance I think they still do but not so frequently, occasionally you would have ermm a head of faculty come and do a presentation and in particular about their SAR.

SWA:

Right, in what ways?

CG:

How they develop the SAR, what they're doing to improve their rating and so on and errr well my favourite question always after a presentation was 'ok you got a grade 2 what are you doing to get a grade 1 and when are you going to get it' sort of thing you know. So that was a way of getting to grips a bit more with the detail. We'd probe down through the paperwork we'd get to try and look at more of the detail, obviously an individual faculty appears sometimes in the development plan or in the operational plans and so on, all of which gets reported to C&Q that's the main vehicle for reporting all the issues that aren't about finance and buildings and property and those sort of things which all go to F&GP.

So curriculum and quality does a good job but I do think sometimes we don't get a detailed analysis of the financial structures or financial issues in faculties unless there's a problem and that's OK but I sometimes feel that we could do a bit more in reporting...

SWA:

Down at the faculty level?

CG:

Yes but in an institution of this size you simply can't do it. We know there are good systems in place, that's the point. I mean there's a system of faculty review that looks at any faculty that's falling into difficulty on its financial structure and so on - we know there are regular reviews that go up to either the Deputy Principal or the Principal, we know there's the quality structures in place so I see our job as making sure those systems are in place but I do sometimes worry that we don't get enough feedback about what's actually going on.

SWA:

But you only want that sort of overview don't you?

CG:

Absolutely!

SWA:

That's really interesting, it's been very useful for me. I do have one final thing I'd like to ask you though - this [shows Nigel Robbins' diagram] was developed by the Principal at my old college...

CG:

Which one were you at?

SWA:

Ciren, a small one!

CG:

Oh yes I know Nigel, he's still doing good work trying to close the gap in funding!

SWA:

Yes! At Cirencester he went through this [the diagram] Would this feel like a familiar structure... set of issues errmm that feed into the SAR?

(long pause - 1 min)

CG:

Yeah - I think it would - I'm sure all of this goes on in some form or another in the college, ahh yeah you've got benchmarking, good. You've got review standards of performance and achievement - yeah yes it would - I'm sure those things all happen in different ways they're not always the same titles but this...

SWA:

No that's right but one of my ambitions is to uncover whether it's a small college big college, mostly vocational or sixth form type college I think there will be things in governance and management that should appear in any kind of good system

CG:

I agree with that - there were some papers I've forgotten who did them now but there was some stuff written about management in the sector - I've forgotten what it was now but I didn't read it all!

SWA:

Well thank you... then some chit chat

## C.2 Stretchford college deputy principal interview

SWA = Steve Albury

DP = Deputy Principal

interview held in DP office at Ashley Down centre

SWA: Thanks very much for seeing me, I've had a very interesting time over the last few months talking to a wide range of different people...

DP: Good

SWA: I started off talking to the governors and then worked my way down the hierarchy and now I'm coming back to you as the focal point - everything seems to focus on you!

DP: Yeah!

SWA: So what I'd like our interview to be about is how you juggle the competing requirements you appear to be faced with from my discussions with other people and the external requirements, the college mission that you are responsible for carrying out and then pressures the other way from staff wanting certain things also. So I wonder if you could tell me a little bit about your role and how you do it.

DP: Well basically for me it always starts with... as an executive we always have a few key priorities and those are always based on what are the external things that are wanted, what's the college mission, what's the impact on staff? So err at that level you always start off with that anyway because that's the drivers to be honest that drive the key priorities

INTERRUPTION while secretary arranges coffee and biscuits

DP: So those for me at that level is where I focus and I'm very clear and we always make the point that there are far too many of them.... so we have sort of six strategic aims that don't change that much but underneath each of those in terms of key priorities there's probably four or five that sit underneath that and err.. and generally they fit into clusters if I can put it like that of quality issues... errr the second one would be around what I would call innovation and new developments. The third would be around efficiency and err the kind of growth which is really your income so growth.. you've got these contracts you need to meet so growth... and efficiency is about you're getting less money to do more, usual thing and then the ermmm another one, I've missed one out. Partnership, again that's part of the college mission which is around the way we work. So it's with communities, HE, schools... it's very much a platform of the college...so they fit into those kind of sections really and within that you'll then have the focus. For me that's the.. that's my job.. that's it really (laughs)

SA: SO everything then!

DP: Absolutely! Obviously I don't... in terms of something like ermm the growth agenda, obviously there are things around contracts which are quite key to me but if we take the efficiency one there are certain areas of that where the Director of Finance might lead off because it's about procurement and other mechanisms. So in the exec we're very clear on which ones we personally have to take a lead on which isn't to say one person will do them all

SA: no but oversight of them?

DP: Absolutely yeah.

SA: You said about the six strategic priorities... is that with like a 3 5 and 10 year view?

DP: Well those six themes if you like we review each year and they are like a rolling three year but within that we then have... so you've got your key priorities for the next three years which might be X and within that you have, I have a sort of plan which is related to this one... what are the actions this year and what are the impact measures? That's for this year so they do sit in the longer... but then you actually break it down. Then we ask the faculties in their plans... they work from the same premise. And some of those priorities don't relate to the faculty actually and then you know you don't need to plan about this because it's not your bit. So I think it's errr that's the way it drills down, some being functional areas I suppose. So they are three year but they have objectives well targets I suppose which is how I would describe it. They're within year and that is then monitored by the Governors along with our development plan which goes to the Curriculum and Quality Board. Every time we have a curriculum and quality meeting I take that... essentially an operational plan at a very very high level and give them a progress update on where we are on each of those things and obviously about now (Sept 2011) I will have to do the next Governors' report on the end of the year.

SA: So if we focus a little bit on the quality and curriculum..

DP: Yeah OK

SA: had a very interesting chat with somebody from OFSTED a few days ago about the 2012 Common Inspection Framework... the changes and this led to think that one of the difficulties you must be faced with is this rolling change programme of government policy, funding arrangements and the focus of attention.

DP: Yes and No... If for example I take a quality issue.. and I've been in this job a long long while and we've had various funding streams and various OFSTED frameworks but fundamentally your quality improvement strategy and what you measure doesn't change. Are students kept on the programme? Do they achieve? Where do they go to at the end of the course? What's their feedback like? You know what might change around there that still applies to everything. It's the only thing that is absolutely constant really! That's what you drive on and I think if somebody... if I think about the standard of somebody in a classroom who's got a class that they're teaching then whatever happens up there... and I do think it's part of our role in the

executive to sort out these things over here, you know steer the college through it so what is actually happening on the ground the poor person who is teaching all he has to be concerned about is are my students happy, are they achieving are they going somewhere worthwhile? You know to be honest I'm not saying you achieve that but that's what you want to do at the end of the day is keep all that noise away from them

SA: Deflector shields to keep the staff away from it!

DP: absolutely

SA: I think you're right to say that at the end of the day it's always going to come down to the students...

DP: And how happy are they? I think that analogy of steering the ship is very true because we change the way we might I terms of some of our... cos what you communicate to a member of staff on the ground really doesn't change very much. Probably a little bit more now about you've got to be a bit more efficient you know save on paper... the things that you can bring down and at the top level what we're doing is really trying to look at our strategy to try and keep where we want to go as a college and to be honest the place we want to go as a college - we want to be... want to remain viable, employ our staff and maintain the same amount of students. We don't, we're not as a college... well we don't have a vision to take over things and become bigger so that is about - well it is a mission actually isn't it... can we as a college deliver for Bristol? And that's where our Governors see that and I suppose you take whatever comes and you try and steer it in between you know! Now the rest of it just sort of goes along in much the same way actually I think.

SA: Really it's a case of saying 'thank you very much' up there and try and keep to the mission down there?

DP: Yeah! Try and keep people happy up here by what you tell them what you're doing.

SA: I came to the research conference here and it really struck me hearing the Principal talk and you hear these things delivered with different levels of waffiness but he said something that made an impression which was his overriding aim was to maintain the social engagement mission, he didn't want to lose that.

(9:56) DP: Absolutely.. and it's a clear steer and that's where the Governors come in I think.

SA: Interesting so it's really a case of keeping that in mind

DP: Yes absolutely

SA: And then seeing what you can do to make it happen.

DP: It's exactly that so if you look at our strategy which is actually to maintain some of that community focus and what we do for wider participation I suppose and all of

that. And if you looked at some of our strategy and this might be reducing in terms of funding here so what you're looking at here is can we grow this commercial bit which is actually at the market (price?) to keep the college able to do this. So there are some strategies I suppose that might look, you know so if you're a community based... so why are you going after all this business. Well actually there is a sense you can't do it unless you do the other really.

SA: So do you think that is widely communicated and well understood by staff? Or do you think sometimes staff are.. you know sometimes teachers can be quite cynical?

DP: Yeah, ummm it's difficult to say. I think The Principal has always been very clear and people know where he comes from... errr whether... I think sometimes you get on the ground impact from the way individual managers might work with staff you know because I will often hear like errr... this is not related to that but it's a kind of a quality issue errmmm 'we have to take any student on to our course because we've got to get the income in' and absolutely you can... 'No! you have to get them on the right one - I don't want you to do that'. But, you know sometimes you get... the way it comes down is always difficult in an organisation this size. I think what you mean is then miscommunicated! So it gets yeah, the Chinese whispers and the way it gets communicated that is ALWAYS an ongoing battle for us as to whether we've got that communication right and I would say we have really. You know we keep at it but I'm sure with stuff it's not always communicated in that way.

SA: Yeah everybody knows it and spends a lot of their career trying to overcome it don't they!

DP: Yeah and of course they wouldn't know the battles the Principal has had with you know government policy through the 157 to you know tackle things such as around ESOL. I think they are, new staff might not be but people know that's what the college has been trying to do whereas we could have said 'oh well we're not going to do that anymore'

SA: Yes you could have just said 'we're doing apprenticeships now'

DP: Yes absolutely! We'll just forget all that, we'll go this way now!

SA: So just generally speaking, I was quite surprised when I was speaking to OFSTED that underlying all the issues around having to be more efficient and do more for less money, changing the emphasis of inspections might be about he actually had a sort of underlying optimism as well about the sector and the focus perhaps on employability and getting people skilled

DP: Yeah ummm I think it's absolutely... for FE it's actually you know what it's about. I always think we're a bit like a train station in that it isn't an end in the same way that maybe... I suppose school and university is but I always feel like you know you come out of school you go through this thing called FE and you either go off to university or you'll get a job and we're the middle bit in that. But I think where the changes will help us is I think now OFSTED being more focused on it it makes you have to

measure it. It's always been... we are about employability and getting people into work but we've never really measured it very well. So I think the OFSTED thing kind of helps and that's where I think some of the agendas actually help with what you're really trying to do.

SA: Yeah it's really the sort of thing people in FE have been saying for ages and ages

DP: Yes we've been saying it but we haven't been very good at measuring what we're doing.

SA: How do you see that measurement taking place because it seems very... it's all this passive stuff

DP: I know ! And how... I suppose that's why we haven't measured it very well because it's an incredibly difficult thing to measure. You know, has somebody got a job? Have they got a job in 6 weeks, a year? Is it the kind of job you would expect them to get, it's a huge, huge... you know I don't have the answer to that to be honest. I just know we've got to try and work it out. At the moment it's based on local knowledge but it isn't very robust, not at all.

SA: It's very difficult, and if you extend that back into the classroom and you think of the different ways of measuring the development of people as they go through their course you can say whether they got a merit or distinction but...

DP: Yeah I mean the measure... the danger of something like that is you'll measure by sticking a qualification on the end and I don't think that's actually very valid really in terms of things like that. I mean we have at the moment with our full-time we've got more doing employability qualifications, we had this huge event with employers great stuff you know but err... and they will get the qualification or at least most of them will because it's very low level but it doesn't necessarily mean to say that they actually have those employability skills. If you see what I mean some will have better than others so it's a false measure.

SA: Yes because you're just saying you've got this many people through a certificate.

DP: Whereas a better measure would be getting something from an employer who they have a job with that says 'this student's really good and they know how to work' and you know then that you've had some impact!

SA: It always seems difficult to get employers to participate in that kind of err feedback cycle It's a big challenge and certainly a different thing to the last ten or fifteen years of very quantitative views of what constitutes success.

DP: Absolutely! I suppose OFSTED might be able to take a view because they could go in and they can talk to students and they could see activities going on. I suppose they could get a view of whether schools are being developed but it's very difficult to quantify it at the end. It's a bit like... we've always had problems with OFSTED in

terms of our community mission really which again is hard to... you know we say 'oh this is really important because the college is having an impact regenerating communities' but you can't really evidence it can you!

SA: Yes measuring how much... what would have been expected and how different it is very difficult. Nobody can actually say.

So. I think there are changes coming, I think there's a bigger focus going back on teaching and learning which I think a lot of people will be very happy with and I don't think that will be controversial. I think errr... actually a lot of people will be quite keen on it. But, there might be a lot of people who think it's a good idea but once you get used to producing all your reports or getting all your reports based on a certain type of data and acting on that there's a fear that if that is taken away, or rather de-emphasised do you think managers... if a manager thinks he's being judged on outcomes and retention and then that maybe becomes part of a richer picture is that going to cause problems for people who've got used to doing things a certain way I suppose. People have got used to this very instrumentalist way of doing things.

DP: Hmm yeah well if you think of the current self-assessment process even through OFSTED it isn't just... people think judgments through OFSTED it's just on the data but to be honest our last OFSTED and I suppose it's in the nature of who was the lead inspector but it was very good in terms of understanding what the whole college was about and getting that across. And certainly when we do self-assessment with our staff data is absolutely important but it's not just that. You know, you are looking at how you engage with employers and so on so rather the things you look at such as the student satisfaction is I think a strong measure and that is still going to be a measure isn't it and that tells you quite a lot of the richness of it I think.

SA: I think so too. What two or three students say might just be hearsay but when you get it as a general view....

DP: Absolutely right and some of it can be quite precise in a way. I've seen.. for example we had one from HE students recently where they're really positive on the teaching and learning but actually quite negative on some of the organisation and that side of things so it can be quite subtle. Rather than it all being 'oh the college is wonderful or the college is bad' I think if they get the survey right they can sort of tell you things like 'well this is all right but you're not doing too good on this bit'

SA: So if you ask the right questions they'll give you the information so it's knowing how to tease those answers out of the students because they tend not to volunteer too much do they?

DP: Yes You're right there! One or two students might but...

SA: Right... you gather a lot of data, you generate a lot of reports and things, but do you feel you might be sitting on a goldmine there that perhaps isn't used as much as it could be?

DP: Oh I'm sure of it. We've got a huge amount of data sitting in the college, tonnes of data, about everything so yeah. I mean we've just had a meeting about introducing CRM and a gateway. I mean the amount of data we have on students is massive and not just in terms of success rates there's a huge amount yeah. We don't touch more than a little bit of it really.

SA: It's interesting talking to you really because that was just a general feeling I got was people saying 'I know we've got all this stuff in here and it would be really interesting to look at it'. It's never straightforward I know, it's a big job and you've got to think how you would actually use it.

DP: Yeah

SA: I was just wondering, you are a very big organisation, you're one of the biggest colleges and the way that you operate is incredibly complex isn't it? I mean just the... this site here for example on it's own is bigger than my old college. Just getting basics like toilet paper to every part of the college... I mean things like that are part of people's experience of college.

DP: Yeah (laughs) absolutely

SA: Doing that well is incredibly difficult. The fact it happens at all is amazing...

DP: Perhaps it should be a performance indicator!

SA: But you've had some big changes in the quality improvement process recently. How do you see that... the shape of the quality improvement process over the next couple of years? I know the QI manager is in the process of making changes...

(23:05) DP: Well I think what errr... that we are absolutely structured right. I mean we've moved from a very top level you know quality assessment really... we still have to do that of course... and then we used to have it at a faculty level and I think what we've done is drill down much more to school level and so the ownership which is what we've been trying to get and so the data and all of that and using it, to try and drill it down lower I think that's absolutely where we've got to be and I think that's right. I think also in the past it was very much about 'weighing the pig' and I think [Head of Quality] 's philosophy of you do the self-assessment which gives us all this evidence but the important bit is quality improvement - so I think he's shifting that balance which I think is good. You know going from reams and reams of evidence, which to be honest I think was kind of OFSTED driven which they woke up to and asked 'what are we going to do about it?' So that's good and his view of having more of a risk-based approach is also good. Set a target - quality improvement - and ask 'where are you then? Because to be honest we do have areas in the college where things are done well, they're grade 1 and that's fine and to be honest they're probably ones that take a lot of the quality improvement advice and they want it and take any help they can get. But there is a danger because they want you give and then the areas that don't actually ask for it really need it. So I think the area of quality improvement especially under Martin has been a more interventionist area than they have been. You know you can't say 'well there's a problem here, faculties need to

sort it'. That's not... yes they do sort it but that's not 'we told you therefore...' that's not what quality improvement is about. You need to be in there driving it and making sure it's been done - taking that responsibility I think as well as... you can't just say it's the responsibility of the faculty so it is about that kind of process I think.

SA: And the reception to that kind of a change I presume depends on how confident the faculty is

DP: Yeah absolutely, and I think that's right - I think some faculty's will say 'oh thank God someone's going to try and help us' and others will say 'keep out the way'. You've just got to ignore those and you've just got to get on with it haven't you?

SA: This does lead us on to the vexed question of lesson observations and the role of observations...

DP: Yeah... yeah

SA: How they're carried on and what people feel is happening to them. It's very interesting talking to teachers and then talking to people on the other side and actually having been on both sides - you know you certainly understand the view from both...

DP: Absolutely! I would love, and this is a personal view and you can't do it with OFSTED and can't measure this but I hate graded observations, always have done and if we could, and to be honest I know that's not the general view across the college and a lot of managers will say 'we need to know where staff are' and I do understand that but I do think there's something about teaching that is... you know you need to have someone going with you on it and you could have an observation process where you say 'you did this really well but you need to work on this without having to say this 'satisfactory' stuff and you know you can still say 'your work is not up to standard' and you can still say 'this is absolutely brilliant' without having to put a stamp on it. I do think they're the bane of observations - I really don't like it.

SA: It's funny because I've never been given a grade in that form...

DP: If OFSTED would.. maybe we could do it if we were a bit more confident but it's a big risk for a college to say, 'we won't grade it' and then OFSTED comes in and says 'well how do you know? And then you get slated for management because you haven't got a view of what teaching and learning is like - I think, you know I had this discussion with [the Principal] and that's a huge risk - you can't risk it can you? I would love to do it but nobody else....

SA: That's interesting and illustrates a general point which has come out which has come out a lot which one deputy principal explained to me as 'the Fear' - you don't want to be the guy who says 'no - we're not doing that'.

DP: Risk averse, certainly we are.

SA: And you can't make people behave differently to that - and also to a certain extent people do want comparable measures don't they? They want to be able to say, even though it's much more tricky in FE than in secondary schools for example you know one comprehensive school can be very similar and you can make adjustment for socioeconomic differences and so on...

DP: the trouble is though observations are still a subjective thing - however much you look at the criteria and use it - it isn't, you know my daughter's a primary school teacher and her school was placed in Special Measures and she had, within the space of a month she was observed - she had lessons... two which were good, one was then unsatisfactory and the other one outstanding - now you can't tell me her teaching, that her as a teacher suddenly you know [wanes hand up and down]

SA: [laughs] exactly

DP: it didn't did it? It's all just the people that saw her, it's not within the school because you've got OFSTED and LEA - and I think that's the other risk we let the idea that because we've got all these criteria then that's absolutely right.

SA: I wonder of some of the changes... at least from my understanding of them, that [Head of Quality] is doing with the process at the moment which opens it up a bit more, you've still got the criteria and still got to grade it, but a bit more what's actually going on in the lesson with the student - what are they learning? how do you know? what is the point of it what are they getting out of what you've been doing? Is there a reason you're doing things or are you just doing three different types of activity to..

DP: Just because you think you should! It's my lesson plan and it has differentiation because I've done these so give me a tick, yes absolutely.

SA: It will be interesting to see how far OFSTED are willing to errr... to take that

DP: Yeah, and see OFSTED would argue that they don't dictate how you do your observations or anything wouldn't they?

SA: Oh absolutely

DP: They would say 'oh that's nothing to do with us and we'll just come and have a look at what it is on the day' and this is it [meaning the problem with OFSTED's position being one thing but everyone feeling it is another - with some justification]

SA: Yeah and there's another thing I didn't think of until it was mentioned to me by an OFSTED inspector but they are commissioned to do these inspections by the SFA - so really if you want to have a look at a guy to blame there you have it!

DP: [laughs] Yeah - I don't think... I don't subscribe to the idea this is all OFSTED's fault actually, I really don't. You know, I think it's a good excuse to say "we have to do this we have to do that" - I used to hate.... our previous quality manager, it was fine I don't want to criticise her but she was very much "oh when OFSTED come in you'll need to...". I don't want people to do this because OFSTED might come in! You want them to do it because it's going to improve the quality. OFSTED is just a

point in time and what you're like and to sort of think that you're doing everything because in 4 year's time OFSTED might come in - I think it would really be... not a good way to be going to be honest.

SA: Yes and that again seems to impose the kind of 'squashing' mentality - if you are good and seeking to get better OFSTED are going to see that - if you constantly try to second guess what they want it's not going to work is it?

DP: absolutely

SA: How have you found the change of government? When the coalition government came in I went to see a senior civil servant at BIS and funding formed part of the discussion and I was given this document which I have never seen anybody else refer to but it was about the lead quality body for FE which was going to be the YPLA and now I think is the SFA - so my question is, how do you stay sane with this constant changing of names of bodies and you end up with the same people...

DP: well exactly - I think you just say to yourself 'it's still the same person' and they're probably doing much the same job and that's it really. They come and they go and the only difference recently [after coalition govt restrained spending] is we've got less of them. They don't come so often because there's not so many of them.

SA: So is that a lot easier?

[33:10]

DP: Absolutely a lot easier! The macro management has changed because I do think you know you go back to the LSC and as you say this is a big college and we're quite able people at running it and then you have somebody and no disrespect to them will kind of come in and you think 'what the hell do you know about running a college of this size'. Do you know what I mean and they kind of want you to do micro management but that's our job and yes they to monitor what we're doing - and I think it's much better now they've taken that out - because once people have got jobs they've got to justify their jobs haven't they?

SA: That's something to consider

DP: So I think there was some of that but there is now certainly a lighter touch in that sense and they are looking at things they need to look at which is absolutely right but not in quite enough depth, because they haven't got the capacity - now I'm sure if there were real issues - you know and absolutely if this college goes terribly wrong financially or in terms of quality or not meeting our contracts or whatever - you know hugely wrong, well you would expect that wouldn't you, a public body - somebody's got to come and sort us out I suppose! But there's a real difference between what they used to do and... you know names have changed and you go with that, whoever they are but the people tend to be much the same.

You know, same people, just they've moved to another job [laughs]

SA: One of the things said to me a few weeks ago was you might have ten or fifteen people on a course and there might be four or five different funding streams

DP: Yes

SA: Each of which have their own specialist requirements

DP: Yeah, yup

SA: Is that actually a problem or is it just something you're very used to...

DP: It is something we're used to and it's not a problem as such. The problem is for the MIS [central computing services] - it's not a problem for the person teaching them, or at least it shouldn't be...

SA: Because they don't really know...

DP: Yeah, they're just teaching their class - obviously it's when it goes down the wires and trying to sort it out the other end is if you like, the problem. That is why we have such a huge MIS department so it actually.... there's a cost. One of the promises was [after new coalition government came to power in 2010] and I don't think it actually happened though it's a bit better, was that they would simplify the system to save money and for us the saving money would be simplifying our MIS - we employ a horde of people to try and unpick all this and put things in the right boxes and sort it all out and send the data to the right people.

So it's not a problem - just a huge cost I think that you know the country bears as a result of it.

SA: But also it's difficult to see how you can unravel it because each of the funding bodies appears to have a sensible scope - and of course you can't just get a truckload of money, give it to people and hope

DP: [laughs] sure, no! Though I would say, well it's different for universities - But it is more complex, you know if you think of a school - a secondary school has different qualifications, I know they're all the same age which does make a bit of a difference but they're doing different qualifications and the government says 'here's your school body, here's your funding'

SA: Yes based on the numbers to teach

DP: And in universities it's the same isn't it - you'll have different sorts of degrees but they'll say 'well here's your money and you go and manage'....I know it's not quite as simple as that but I think that we are unique in that we do have this incredible mix. I think they're trying to simplify the 16-18 and I suppose that will be one body and hopefully they will.

SA: Well that's been the promise hasn't it - schools FE, whatever, all just the same

DP: Yes, so that would simplify it a lot - so that would be simpler by saying 'well here's your full time students' and you'd have to track every qualification they do - you know what I mean and the adults - I think the adults is the area where you get the complexity and they haven't delivered really on simplifying that.

Even now.. simplify! we have this immense grid that we have to follow about which person has eligibility and which concession applies and so, again, we have to employ a lot of learner services staff to unpick and make sense of it

I don't have a solution, I understand why but it is incredibly complex I think that side of

SA: A lot of friction to being able to offer courses

DP: And they have changed it again... in August - A HUGE problem for us. We gave all these fees and eligibility criteria to our students and then have to go 'well we haven't quite got that right!'

SA: In August!

DP: I think they don't understand the timescales of putting something in place sometimes!

SA: Generally how receptive are government to bodies like the 157 group, which I believe is made up of big colleges?

DP: Yes it is; I think they have been - there's been a lot of examples of where they actually did influence policy - and you'll find that ministers, in the previous [Labour] government certainly and I think in this one [coalition] too will ask 157 colleges - they will consult with them quite a lot.

I think they [157 Group] are quite influential in terms of policy drivers.

SA: So they do seek out the views of...

DP: ..The larger colleges yes; I think the whole notion was that government ministers would listen to them because they were big colleges and I think they did and they have, not in everything. The agenda around action to drive forward some simplification you know I think they've quite.... in terms of driving that; some of the backtracking they did on the EMA... so I think yeah they are quite a powerful group as a lobby group.

I think that's their role - in terms of their purpose I think they should act as a lobby group with key people. We do have some sharing of practice between us and we have a peer review group and that's useful... ummmm but I think the danger is... I get something from 157 almost weekly saying 'here's this policy can you tell me your views on that' and I'm thinking 'no! I can't' [laughs] you know what I mean? I mean I know it's important but you really haven't got the time.

So it's a bit like what I was saying, once you employ people they generate their own work! So there is a danger I think that they might become a burden if we're not careful.

SA: So it's trying to keep that tight focus

DP: Yes absolutely

SA: In terms of other things, do you see shared services as being a big thing in the future or do you think that being such a large college you wouldn't get anything from it?

DP: Yeah... no I think not for us because to be honest if you think about where we are as a college - it was 4 colleges...

SA: So you've already got shared services!

DP: Absolutely, that's why it all came together was to develop a shared service and so this year we've done quite a lot of work on procurement to try and get some value for money for the way we buy because we've got quite heavily devolved faculties. So I think probably for large colleges I think 'no' I don't think shared services will be big.

I think certainly for small and medium sized colleges there's a lot of sense in that absolutely but I doubt for us as a college it will be a big thing. There are some partnership things around procurement and so on but I can't see how we would... I mean there was a lot of talk in 157 about how we would have an IT cloud or whatever so these ideas are milling around.

I think even that was one of the bids they put in under the...you now they put in this big bid but it didn't get accepted. I think they have done some work on looking at parallel examinations, awarding bodies and so on. So there are some areas where it might...

Mind you that's not really shared services is it? That's more about using your buying power to drive down prices! So for us it's not a huge agenda. We do have a thing about shared services but it's more about internally, getting our services to actually be shared.

SA: Right well I've taken up my time but if I could just finish... we have talked about it but in terms of staff acceptance of big change. Do you think this is a huge difficulty for you or just one of those bumps in the road that you'll get over.

DP: Hmm well I, you know - it depends what you mean by big change - I think we come through big change constantly! I'm just trying to think when anything has ever stayed the same - we've had the mergers so that was quite a big change, we then five years ago revamped the whole of the college structures to create the sixth form academy and changed that, so that changed - this year we've changed the way our work skills /basic skills work, we've changed that agenda so they've all changed.

I think there's always change going on - people might not feel it but I think there is.

SA: Right

DP: I just think we're changing all the time

SA: Which is just FE really isn't it?

DP: Yeah - and I also think that's how you survive really

SA: Being nimble enough!

DP: Honestly, you have to kind of look ahead and say 'we need to do that before we get to here' rather than waiting for it to arrive. You know, we all know we're facing funding restrictions in the future but as a college, you don't wait til you get there - you try to get there before it happens. So I think a lot of colleges do that anyway. So I'm not sure what a big change would be other than what it already is!

SA: Yeah and at the moment the big change is that there's a bit less money than there was a few years ago maybe?

DP: Yeah

SA: Well thank you for your time.

[interview ends]

## **Appendix D: Observation and field note data**

### **[11/7/12 City Centre]**

The workshop was with 7 senior lecturers from a number of sites and schools (these are collections of departments not necessarily in same faculty)

Presented some initial findings – worked hard to break down the dam of resistance to get some responses to the three claims I put up

\* Richer information was desired by all parties who participated – there was consensus that current data availability was poor and lacked social context

\* communication constrained by processes and technology – everybody feels misunderstood or unconsulted

\* people keen to find new ways to carry out quality assessment, avoid quantifying all data before accepting as valid

People were reluctant to discuss these claims – I used a long period of silence to break the logjam and then the senior e-learning manager stepped in and connected these claims to the issue of boundaries and power structures in the college

This led to a ‘robust’ discussion... the participants came up with specific measures they wanted to see – more ‘presence from the SMT and better technology to communicate complex data (they were largely talking about student performance data here and making good use of it when writing a SAR)

### **[20/9/11 SBSA QIU]**

XXXX {contracts manager} Enjoyed the management culture of Stretchford – he felt there was freedom of expression, latitude and autonomy given to staff – he felt that the college was very supportive of people who were interested in sharing knowledge and collaborating

He had some clear ideas on the use of technology {about half hour into interview} – was an advocate of contract based management for transparency – memorable quote “it’s all about the contracts – you get those wrong and it doesn’t matter how good the rest is it will go under”

Interesting discussion of the future of tech in college quality management and he also wanted me to read up more on Deming and his ideas – may do that as sounded interesting

### **[19/3/12 Roman College] cloudy 5C**

Dep Principal ...It’s taking too long in my opinion to get the process right, the governance model is not working well – he referred to governors sometimes getting

involved in operational decisions but sometimes avoiding making a decision when they needed to.

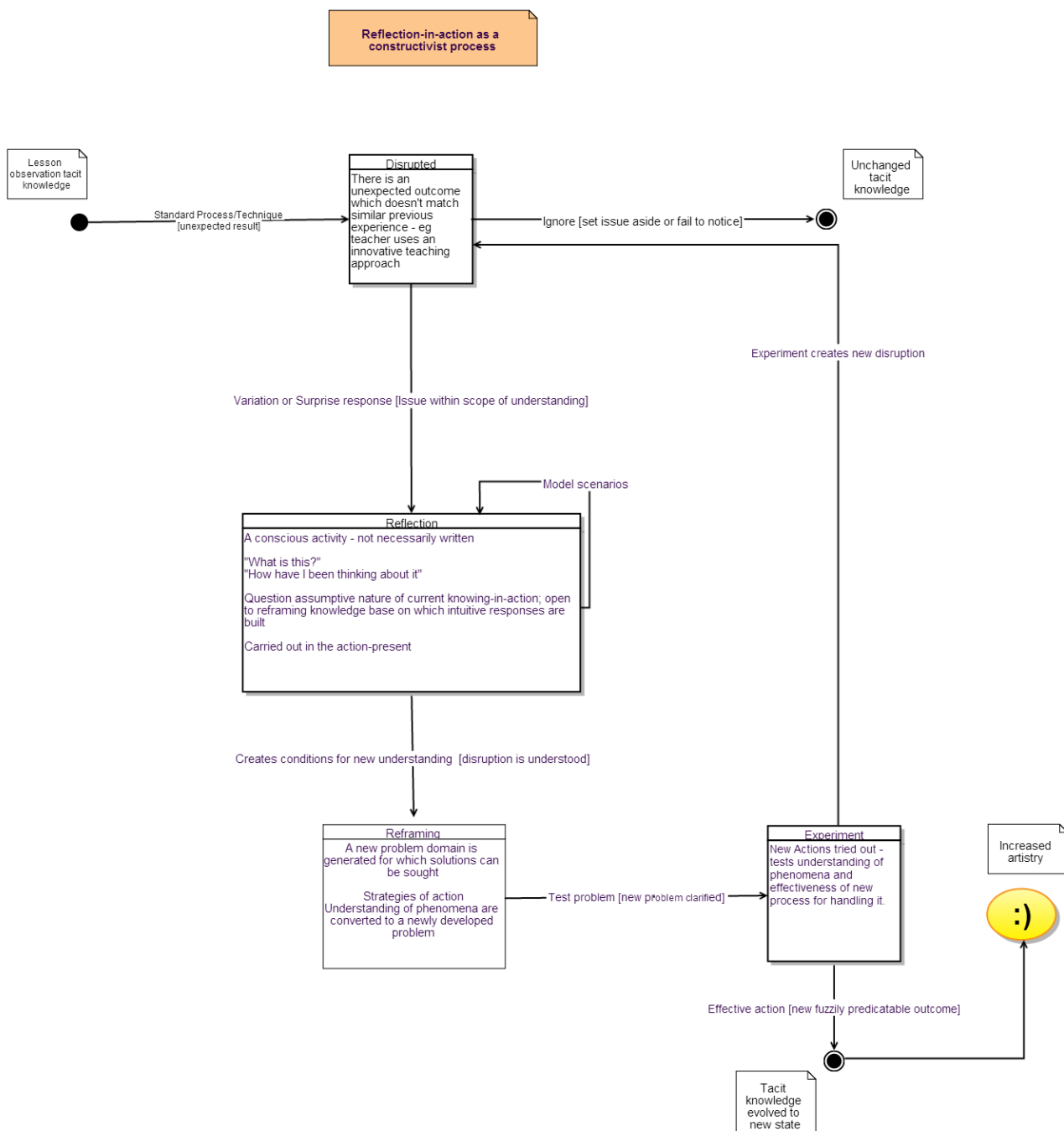
Vice Principal felt they needed to get to a point where governors could say 'we want this from you now go and get it'

Both felt the idea of trusted intermediaries between themselves and governors was necessary but they hadn't got a process for developing that sort of role at the moment.

Dep principal " like you've mentioned we need to achieve some standardisation but if teams are doing experiments and trying stuff out around that we need to encourage that" – pair of them then got into a discussion about achieving that type of flexibility but want to keep reputation by still measuring against external things such as ALPS scores

## **Appendix E: Example boundary objects for use with stakeholders to build mutual understanding and promote open discussion.**

This is a representation of stakeholders applying the #WhyNotWhat design principle to both question the existing and develop a new state of tacit knowledge within the boundary of an individual lesson observer's professional knowledge. This has been done in the format of a fuzzy finite-state machine. The purpose of using a diagram such as this is to provide a communications mechanism between sociotechnical system developers and practitioners. The diagram shows how a lesson observer moves through a process which can be modelled in concrete system terms but which involves the development of hidden knowledge via intra-psychical processes of reflection both 'on' and 'in' action. The practitioner can discuss this in terms of their own learning process and the development of new competencies in understanding what constitutes effective teaching practice. For the sociotechnical analyst the diagram shows how the hidden practices of an experienced lesson observer can be viewed in order to ask questions about how the technology design (in its broadest sense) can support and augment the work of the observation team with a richer knowledge base than that provided by purely procedural descriptions of practice. By explicating the process of tacit knowledge development all participants can benefit and communication between the practitioner and systems communities can be improved



The following is a sample slide presented to staff at Stretchford as part of the change over preparation to the new lesson observation form. It provides a short description of the rationale and the major change to practice that flows from it. This type of presentation can be useful to promote discussion and reduce the potential for miscommunication. However this needs to be done within the context of an open discussion. In view of the trust required for people to talk openly this discussion can be extended into other formats such as anonymised feedback forms and team responses.

The language is aspirational clear and purposeful. Two words have been highlighted. The word 'Every' is done to show that the historical practice at Stretchford of observations being poorly organised and inconsistent in format is gone. The word 'Why' is emphasised to help strengthen the message that the focus in future is to be on the rationale for activity not checking off a set of prescribed 'best practices'



## Action plans and developmental feedback

- **Everyone** receives full and frank feedback
- Developmental dialogue takes place
- Clear targets and strategies for improvement
- **Why** not a higher outcome? – What would improve the quality?
- Action plans are mentored, monitored and signed off

ACHIEVING POTENTIAL AND CREATING PROSPERITY

The following diagram is something I used to promote conversations with my interviewees. It represents a view I had formed from own experience of the overall quality system in a further education college in terms of the elements that make up a SAR. I was able to use this to prompt responses and draw out ideas about the function and purpose of quality improvement and then more particularly about the role of observations as an aide to improved quality. It worked with people at different levels of the college hierarchy using terms familiar to people working in the sector and enabled me to have a common framework within which to discuss these issues.

