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Royal Engineer Geographic Technicians: Exploring their
Attitudes to Education and Training.

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Abstract

A creative approach is presented for understanding the attitudes of Royal Engineer (RE) Geographic Technicians (Geo Techs) to training and education. Through a grounded theory methodology, participants' experiences of learning and teaching are explored. These provide a greater awareness and perception of attitudes than have emerged through more established, formal methods of evaluating the effectiveness of training. Recent developments in technology, doctrine, requirements and operations have brought about significant changes to the range and complexity of subjects taught in the field of Geospatial Intelligence (GEOINT). This in turn has increased the challenges to RE staff and students, many of whom find themselves instructing on or undertaking demanding degree level courses without the requisite formal qualifications.

Grounded theory, based on guidelines rather than rigid rules, is adopted to provide a study of RE Geographic Technicians' learning experiences from the perspective of those who live it and for an interpretive understanding of their meanings to emerge. The policies, culture and social processes in which the RE Geo training takes place are explored to appreciate the influence of the training environment on learning. Data obtained through focus groups held with students and instructors, and through in-depth interviews with individuals who hold key roles associated with the course, recognises the relativism of multiple social realities in developing a rich source of knowledge on attitudes to learning.

The collection, synthesis and analysis of data led to the emergence of core categories: context, commitment, expectations, motivation, qualifications, relevance and respect. Through their engagement the research participants' awareness, in particular of instructors, of Geographic Technicians' attitudes to training and education has been raised. Using the theoretical framework of communities of practice, the challenges and effectiveness of the RSMS as a learning organisation for the instructors is reviewed.

By exploring beyond the routine, an insight is offered into how the quality of teaching and learning can be enhanced for RE Geographic Technicians through a better understanding of attitudes to learning. Whilst the research is focused on a specific environment the lessons identified can have relevance to other learning situations where the training and education are closely aligned to the work place or to professional practice. In particular, the way in which teacher-practitioners are inducted, developed and employed in training and education has resonance with the wider lifelong learning sector.

Personal Statement

The views expressed in this thesis are entirely and solely those of the author and do not necessarily reflect official thinking and policy of Her Majesty's Government, the Ministry of Defence or Sheffield Hallam University.

I certify that this is my own work and give due credit to the contribution others through references.

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Abbreviations

ACM	Air Chief Marshall
ADP	Army Doctrine Publication
AG	Adjutant General
AI	Assistant Instructor (Captain RE)
AIDU	Air Information Documentation Unit
AI(IT)	Army Inspectorate of Individual Training
ALI	Adult Learning Inspectorate
A/Sgt	Acting Sergeant
BL	Burnham Lecturer
COS	Chief of Staff
CS	Competency Statement
DfES	Department for Education and Skills
DHALI	Directorate of Operational Capability; House of Commons Defence Committee; Adult Learning Inspectorate.
DI	Defence Intelligence
DIN	Defence Instructional Note
DISC	Defence Intelligence and Security Centre
DSAT	Defence Systems Approach to Training
DSI	Defence School of Intelligence
DSOP	Defence School of Photography
DTE	Defence Training Establishment
DTLLS	Diploma to Teach in the Lifelong Learning Sector
DTR	Defence Training Rationalisation
DTTT	Defence Train The Trainer Course
EdD	Doctorate of Education
FDSc	Science Foundation Degree

FE	Further Education
FHE	Further and Higher Education
FOB	Forward Operating Base
Geo Tech	Geographic Technician
GEOINT	Geospatial Intelligence
GIS	Geographic Information Systems
Hd TMB	Head of Training Management Branch
HE	Higher Education
HEA	Higher Education Academy
HEFCE	Higher Education Funding Council for England
HND	Higher National Diploma
IfL	Institute for Learning
IIP	Investors in People
IMINT	Imagery Intelligence
JAGO	Joint Aeronautical and Geospatial Organisation
JITG	Joint Intelligence Training Group
JNCO	Junior NCO of rank LCpl or Cpl
JSP	Joint Service Publication
JSPI	Joint School of Photographic Interpretation
LCpl	Lance Corporal
LLS	Lifelong Learning Sector
MOD	Ministry of Defence
NVQ	National Vocational Qualification
OC	Officer Commanding
OPS	Operational Performance Standard
QAA	Quality Assurance Agency
QAG	Quality Assurance Group (JITG)
QIP	Quality Improvement Programme

QMSI	Quarter Master Sergeant Instructor
QS	Quality Standard
RE	Royal Engineer
REF	Research Excellence Framework
RICS	Royal Institution of Chartered Surveyors
RS	Remote Sensing
RSMS	Royal School of Military Survey
SDSR	Strategic Defence and Security Review
SF	Special Forces
Sgt	Sergeant
SHU	Sheffield Hallam University
SI	Senior Instructor (Major RE)
SMI	Senior Military Instructor
SNCO	Senior Non-commissioned Officer
SOAC	School of Air Cartography
Spr	Sapper
SSgt	Staff Sergeant
SSM	School Sergeant Major
TB	Training Branch
TDT	Training Development Team
TESR	Training, Education, Skills and Resettlement
TLB	Top Level Budget
TMB	Training Management Branch
TNA	Training Needs Analysis
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VCDS	Vice Chief of Defence Staff
WO2	Warrant Officer Class 2
WO1	Warrant Officer Class 1

Glossary

Entries marked with an * are defined in the JSP 822 Part 2 Training and Education Glossary

Attitude*

A pre-disposition to behave in certain ways.

Burnham Lecturer

Teaching staff who are employed as lecturers in the MoD under terms and conditions that were aligned initially to the university sector.

Career Training*

Training given to develop a person for employment beyond the limit of his/her present job; or long-range training providing the perspective and knowledge necessary to progress through a specified set of steps on the career ladder

Class 1

Special to role training to become a qualified Geographic Technician.

Class 2

Initial special to role training

Collective Training*

Training which is aimed at improving the ability of teams, units, or formations, to function as a cohesive entity and so enhance operational capability.

Competence*

Ability to perform a particular skill or range of skills to a prescribed standard, under prescribed conditions.

Competency Framework*

A competency framework describes the competencies needed to support and enable a particular skill or job.

Defence Training Establishment (DTE)*

A Defence Training Establishment (DTE) provides an integrated, multi-Service (including MoD civilians) approach to the management of training where common training needs exist. Within a DTE, the Training Delivery, Training Support and Establishment Support functions will be formed into Wings. Sub-units of wings will be termed Sections

Education*

Education encompasses the development of intellectual capacity, the acquisition of general supporting knowledge and inculcation of attitudes, which underpin performance, and engender understanding, commitment and ethos.

Effectiveness of Training*

The degree to which training enables performance in a job.

Efficiency of Training*

The extent to which the Training Objectives are satisfied in relation to the expenditure of resources (time, money, manpower, facilities and equipment).

Employment Training*

Training enabling the student/trainee to adequately perform the jobs/tasks appropriate to his or her employment.

Individual Training*

Training designed to develop the competencies (a mix of knowledge, skills and attitudes) of individual personnel. It takes in both the training establishments and the workplace.

Internal Validation*

Internal Validation uses both qualitative data and quantitative data to focus on the extent to which the Training Objectives are met with relation to the expenditure of resources.

Joint

A unit composed of personnel from the Royal Navy, Amy and Royal Air Force.

Knowledge*

Facts, concepts or theories assimilated into long-term memory by a person where they provide a network of inter-relationships for facts. The decision to include knowledge items in training courses should be founded upon a proven need to for

an individual to have to recall the concept or theory for the efficient exercise of skills in the operational environment

Learning*

The acquisition of knowledge, skills and/or attitudes. A basic concept in learning is that a change in behaviour occurs as a result of the acquisition of knowledge, skills or attitudes. It is also often defined as the process of making training available at a time, place and pace to suit the needs of the individual.

Lifelong Learning*

A Government initiative, the aim of which is to improve access to learning opportunities and encourage people to take greater responsibility for, and interest in, their own learning.

Operational Performance Standard (OPS)*

Derived from the Job Analysis, the OPS is a detailed statement of the tasks/sub-tasks required to be undertaken by an individual to achieve the operational/workplace performance. It is written in terms of Performance, Conditions and Standards.

ME Geo Tech

Military Engineer Geographic Technician

Phase 1 Training*

All new entry training to provide basic military skills.

Phase 2 Training*

Initial individual specialisation, sub-specialisation and technical training following Phase 1 Training prior to joining the Trained Strength.

Phase 3 Training*

A period of individual training undertaken at any stage in a Service person's career after Phase 1 and Phase 2

Quality*

Quality is the totality of features and characteristics of a service or product that makes it fit for purpose and conforming to requirements

Sapper

A generic term for a Royal Engineer, and a specific term for a private soldier in the Corps of Royal Engineers.

Subject Matter Expert*

An individual who has thorough knowledge of a job, functions/tasks, or a particular topic, which qualifies him/her to assist in the training development process (for example, to consult, review, analyse, advise, or critique),or a person who has high-level knowledge and skill in the performance of a job.

Training*

An activity that aims to impart the specific knowledge, skills and/or inculcate appropriate attitudes required by an individual in order to perform adequately a task or job.

Training Needs Analysis*(TNA)

A structured survey and analysis of training requirements arising as a result of new equipment procurement, doctrinal change, or changes to legislation, including a comparison of different training methods and equipment, with a view to recommending the optimum training system for maximum cost-effectiveness. It is a highly flexible procedure with the choice of supporting tools and techniques varying between projects. In all cases, however, a TNA is a product based, iterative process, providing an audit trail for all decisions.

Training Objective*(TO)

Training Objectives are precise statements of what a trainee should be able to do after Training. A Training Objective is measurable and has three constituent parts; the Performance required, the Conditions under which the trainee must perform and the Standard to which the trainee must perform

Workplace Training*

Workplace Training refers to the formal training delivered outside the training school/establishment to address all, or part, of the training required to meet the OPS. Workplace Training may comprise On Job Training, Distance Learning or courses delivered by commercial organisations/civilian training and education providers.

Acknowledgements

Chapter 1 - Introduction

Education, which is about personal professional development, runs in parallel with training, which improves individual and collective practical performance. Training without education is unlikely to be sophisticated enough to deal with the complexity of conflict and operations. Education without training will not prepare people to apply the theory. The purpose of military education is to equip the individual with the wider and deeper knowledge and skills necessary to assume greater responsibility, and to increase responsibility.

(Army Doctrine Publication, 2010)

1.1 Setting the Scene

In undertaking this research I set out to explore the experiences of Royal Engineer Geographic Technicians who are either learning through a Science Foundation Degree (FDSc) or are delivering training and education through that degree. Having been instrumental in establishing a partnership with Sheffield Hallam University in 2002 to validate that award, and occupied the role of Programme Director for a number of years, I was aware of the concerns of staff, students and employers about embarking on this programme to replace the Higher National Diplomas that had been in place for many years. By engaging directly with all those involved with the FDScI sought to see how this newly accredited programme of study was perceived by them, and consequently how their experiences and perceptions could be improved.

A second strand to my thinking concerned the quality of teaching and learning in the Royal School of Military Survey (RSMS). The particular nature of military

practitioner-teachers[1] in the School meant that there were limitations on our ability to develop their competencies before taking up an instructional role. Having built a link in 2009 with Newbury College to deliver a Diploma to Teach in The Lifelong Learning Sector (DTLLS) for our military instructors, I was frequently challenged at Board level to quantify the benefits of this programme. By interviewing a range of people involved with the DTLLS programme, including our RE Geographic Technicians on their FDSc courses, I sought to use their accounts to demonstrate qualitatively the merits of developing our military instructors.

To carry out this twofold piece of work, I had to unravel a complex scenario that was much more than just the Foundation Degree and the DTTLS programme. This meant a better understanding of learner and instructor identities, the conflicts that exist in what is generally considered to be a highly ordered and structured military environment, and my own role as the researcher. Through my research I have explored both professional practice and policy issues through the 'weave of learning' (Light & Cox, 2001)which 'encompasses a range of intellectual, personal, social, cultural, ethical, political, practical obligations, interests and concerns'.

My own role as researcher is far from straight forward as I command the Royal School of Military Survey, and with that there are a number of perceptions of me personally and my role. As the researcher I am acting like the 'bricoleur' (Denzil & Lincoln, 2005) stitching together the various participants' accounts into a coherent picture of what is happening with student learning at the RSMS, but at the same time taking into account my own personal perceptions. Furthermore I have been able to delve beyond my formal roles to explore issues of identity, motivation, engagement, culture and expectations. My ultimate goal was to fully understand and enhance the quality of the RE Geographic Technicians'

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1 The term practitioner-teacher was first used at Rush University when it was recognised that medical practitioners could play a key role in the development of a graduate health care management program while maintaining operational responsibilities. (Montgomery L.D., 1991)

experiences in the time they spend at the RSMS as learners or instructors on the Science Foundation Degree programme. This is why I enrolled on the EdD programme in the first place, to bring rigour to my approach to improving teaching and learning in the School. This is in sympathy with Barron (2006, p. 194) who considers that:

> *A better understanding of how learning takes place across settings, and of possible synergies and barriers between them, may help educators find ways to supplement school based opportunities.*

The remainder of this chapter, explores the environment in which learning takes place within the RSMS before examining the research questions. It looks widely at Defence education and training before focusing in on RE Geographic training. As the accreditation of training is closely linked with the needs of Defence, this is also considered.

1.2 The Royal School of Military Survey

Defence education and training addresses a wide spectrum of needs across the Services that includes officer and soldier[2] development, single Service as well as Joint[3] requirements, but essentially satisfies operational commitments as clearly stated in the Army Doctrine Publication (ADP) Operations (2010). The Royal School of Military Survey meets these Defence needs in the specialist domain of Geospatial Intelligence (GEOINT)[4].

The School has a heritage that can be traced back to 1833 when the first Royal Engineer Survey School was established at Chatham. For the past 60 years

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[2]Soldier in this context is taken to mean all non-commissioned members of the services; Army, Royal Navy and Royal Air Force

[3]Joint refers to Maritime, Land and Air components

[4]Intelligence derived from the analysis and exploitation of geospatial information and imagery to describe, assess and visually depict physical features and geographically referenced activities on or about the Earth.

the School has been located at Hermitage in Berkshire. In 1998, in recognition of 250 years of Military Survey, Her Majesty the Queen granted the Royal accolade to the School of Military Survey.

Since 1 April 2006 the RSMS has been a federated school within the Defence Intelligence and Security Centre (DISC), renamed the Joint Intelligence Training Group (JITG) in January 2015.The JITG provides an extensive range of intelligence related training through its three geographically separated training organisations: the Defence School of Intelligence (DSI) located at Chicksands, Bedfordshire; the Defence School of Photography (DSOP) at RAF Cosford, Shropshire, and the Royal School of Military Survey (RSMS) at Hermitage in West Berkshire and at Chicksands.

To appreciate the relevance of GEOINT training and education, there are many examples where operational success has been achieved as a direct result of commanders gaining a thorough understanding of the terrain. UK Defence defines terrain analysis, a key aspect of GEOINT, as the *'process of analysing a geographic area to determine the effects of the terrain, geography and weather on military operations'*(MOD, 2003). Geospatial Information has become a foundation layer for the full spectrum of military operations including command and control, communications, intelligence, logistics, targeting, and operational planning. For many years the geospatial community has been focused on similar, familiar tasks, but now it is becoming increasingly involved with the wider Intelligence community.

1.3 Trainees

Turning to the trainees, the majority of students in RSMS are Geographic Technicians (Geo Techs) who are Sappers[5] and Lance Corporals in the Corps of Royal Engineers. Once trained, they become responsible for the analysis of

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[5]The term 'Sapper' came into common usage in 1626 and the rank of 'Sapper' was conferred onto the private soldiers of the Corps of Royal Sappers and Miners on its amalgamation with the Corps of Royal Engineers in 1856.

all available geospatial data in order to provide the operational commander with predictive intelligence. This is achieved through sophisticated Geographical Information Systems (GIS) and Remote Sensing (RS) applications, which allow complex geospatial analysis to be undertaken efficiently and over larger areas.

Students joining the Geographic Branch of the Royal Engineers are not representative of the typical university entrant. Whilst some may arrive with 'A' levels and Bachelor degrees, most do not have the academic qualifications for admission to Higher Education (HE). Experience has shown that many of those selected have not shone at school, perhaps because they could not see the relevance of their studies, or did not appreciate the way teaching was undertaken at the time. By developing my staff, both technically and as instructors, I endeavour to ensure that the trainees' experience is the best that can be delivered and so prepare them to support Defence operations.

Basic Military Training (14 weeks)

Combat Engineer Training (10w)
Driver Training (12w)

ME Geo Tech Class 2 (39w) – Level 4

Field Army Units - Experiential Modules (24-30m)

ME Geo Tech Class 1 (32w) – Level 5

Fd Army Units

Geo Sgts' Course (3w)

Fd Army Units

Geo WOs' Course

Figure 1 - RE Geographic Technician Training Pipeline showing ME Geo Tech training in context of career training.

Following their Basic Military Training, Geo Techs are required to pass their Class 2 and Class 1[6] courses to qualify as Military Engineer Geographic Technicians within the Corps of Royal Engineers and to be eligible for promotion. The training pipeline for these technicians, from initial entry into the Army to Senior Non-Commissioned Officer, is shown in Figure 1.

The challenge for RSMS is to educate and motivate the soldiers to learn in a training environment in subjects which require high levels of academic skills including analysis and synthesis of information. Soldiers entering basic training have to contend with many of the challenges associated with culture shock that faces international students in Higher Education (HE) as described by Zhou et al.(2008). These include novel social and educational systems, behaviours and expectations; in the case of soldiers these are all quite different from experiences at secondary school, or even university for those with degrees.

1.4 Defence Training and Education

The normal style of training design, delivery and assessment in Defence is frequently different from that in Further and Higher Education (FHE)[7]. This can be partly explained by the requirement that Defence training and education is designed to meet a specific customer group, whereas the majority of FHE is focused on the needs of students rather than organisations. However, the view that the needs of the student is paramount is contested by Randle and Brady (1997, p. 587) who argue that the focus is on student throughput:

> *A paradigm shift occurred from a professional system based on primacy of student learning, concern for academic standards, a collegiate community of practice and professional autonomy, to a managerial one based upon*

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[6] Class 2 and Class 1 relate to levels 4 and 5 respectively in the National Qualification Framework and represent the two levels of technician training within the Army.

[7] Lingfield (2012) recognises the 'substantial cross-over between this large and diverse sector [FE] and its neighbours in HE'.

primacy of student throughput and income generation, concern for efficiency and effectiveness and control by managers.

If a course in FHE does not attract sufficient student numbers then it will probably close. There are exceptions to this where FHE is designed to satisfy other bodies through professionally accredited courses. However the Head of Undergraduate Studies in a case study cited by Lightfoot (2007, p. 127) notes:

So all the decisions we take are corporate ones and all of the decisions we take have an eye on the revenue, the income stream and resourcing side of things.

A similar view is expressed with regard to the Australian HE sector by Pick (2004, p. 109) by referring to the '*erosion of academic freedom, independence and collegiality*' and a perception that '*academic professionalism is being threatened by entrepreneurial activities and the pressure to become more like corporate professionals*' (Pick, 2004, p. 111).In Defence there is often a demand to run courses with small numbers to satisfy operational requirements, whilst still keeping an eye on funding and resources. Another major difference with FHE is the culture and nature of teaching staff available, in particular the use of practitioner-teachers. However, the concept of practitioner-teachers is common across the breadth of medical and nursing training. Features that differentiate the practitioner-teacher model from more traditional, academically-based universities include:

- Programmes are delivered within applied settings, with coursework supervised by practitioners experienced in applying the concepts to real-world challenges.
- All aspects of coursework focus heavily on applied practice.

Both of these features are consistent with much of the context at the RSMS.

The Department for Education and Science (2003, p. 21)saw a Higher Education sector that:

...meets the needs of the economy in terms of trained people, research and technology transfer. At the same time it needs to enable all suitable qualified individuals to develop their potential both intellectually and personally, and to provide the necessary storehouse of expertise in science and technology, and the arts and humanities which defines our civilisation and culture.

Although the opening quotation from ADP (2010)states that education and training go hand in hand, from my experience a significant area of conflict within Defence relates to the education versus training debate. The overarching requirement is for soldiers to be trained to be operationally effective on deployment. However, that training can be, and I would argue must be, also educational in certain fields to develop the '*storehouse of expertise*' in geospatial science and technology to operate in an age of increasing uncertainty and complexity. In this respect it needs to reflect the need for deep rather than surface learning (Ramsden, 1992) to better prepare the soldiers for the critical thinking required to respond to unpredictable situations. The aspect of critical thinking is also picked up by Haycock:

> *Put simply, training is a predictable response to a predictable situation. Education on the other hand is a 'reasoned' response to an unpredictable situation – which is critical thinking in the face of the unknown. (Haycock, 2004, p. 57)*

However I would argue that RSMS brings together the training and education as defined by Haycock (ibid.) to enable predictable and reasoned responses in soldiers.

ADP (2010, pp. 2-9)asserts that education develops '*not just deeper understanding but an interest in understanding*'. The training delivery philosophy I have encouraged at RSMS is to ensure that Geographic Technicians have an in-depth knowledge and understanding of data; its source, purpose and limitations, and a comprehensive understanding of the procedures they will use and the impact those procedures may have on the data. Today most soldiers graduating from RSMS will deploy in small teams or as singleton appointments to various levels of headquarters, Forward Operating Bases

(FOBs), with Special Forces (SF), other Government Departments and even on board Her Majesty's ships. In all these situations they are required to think creatively to be able to generate a much wider range of products than the classical map sheet and to perform a wide range of tasks.[8]This was clearly evident from Cpl Shead's contribution to the Royal Institution of Chartered Surveyors' Christmas Lecture in December 2014 where he received numerous plaudits from senior Chartered Surveyors for the professionalism he demonstrated. Even more important, the Geo Techs must be able to critically examine their results to ensure that the data and procedures used are valid and appropriate. However, an interest in understanding is evident from many of the comments from my research participants and the high number of RE Geo Techs who have gone on to complete Bachelor and Master Degrees in related subjects, often self-funded. It is hard to quantify the numbers as being self-funded they are not recorded within management information, but out of 23 military instructors currently in RSMS at least 7 have undertaken Masters' degrees and there are currently 37RE Geo Techs enrolled on the e-learning top up Bachelor's Degree through Sheffield Hallam University.

Ball (2001)throws in another challenge to the education versus training debate; that of learning alongside education and training, by asserting that he is:

> … more and more persuaded that the critical difference between education and learning is qualifications. We hate school because of exams; we enjoy lifelong learning because of the fascination of personal development.

This ethos ties in closely with what Schön (1987) recognises as the significance of practitioner experience and which he refers to as 'indeterminate zones of practice'. Although Schön's work is somewhat dated, it is still relevant today within the Geospatial Intelligence world in which our soldiers operate. Within Defence it is usual practice to design training based on Operational

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[8]A classical map sheet would be a product similar to a 1:50,000 scale Ordnance Survey topographic map.

Performance Statements (OPS); that is what the soldiers are expected to undertake in their role on operations. For the RE geographic trade, the sponsor decided that the OPS approach was unsuitable as there is no single defined process a Geographic Technician would be asked to undertake as is evident from the range of support roles already discussed. For that reason an alternative approach of Competency Statements (CS), allowed under Defence Systems Approach to Training (DSAT) Quality Standard (QS)[9], was adopted. This is also where Kinsella (Kinsella, 2007) suggests the majority of the complexities fall outside the realms of technical knowledge; but this indeed is nothing new. Looking even further back than Schön, Dewey (1916) desired to *'enable the coming generation to acquire a comprehension now too generally lacking, and thus enable persons to carry on their pursuits intelligently instead of blindly'*. This is an important difference between the training and education provided by RSMS and that of many other Defence Training Establishments (DTE) and is reflected in the award of Science Foundation Degrees to junior soldiers through Sheffield Hallam University. It is virtually unique to RSMS and with the exception of musicians in Defence, no other group gains this level of achievement at such a junior rank. The approach adopted by RSMS has not only improved recruitment and retention of RE Geographic soldiers but has widened participation in HE for many who would otherwise never be considered, and importantly has also led to a cultural change amongst staff teaching on the programme.

Just as Dewey (1916) considered the coming generation, we in Defence also need to recognise the changes that have taken place over the past two decades in the way young people learn. As Barron (2006, p. 194)notes:

> *'The question[s] of how, when and why adolescents choose to learn are particularly salient now, as there has been a rapid increase in access to*

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[9] The Defence Systems Approach to Training (DSAT) Quality Standard (QS) sets out the strategic principles to be applied to all individual training provided by, or on behalf of, the Ministry of Defence.

information and to novel kinds of technologically mediated learning environments such as online special interest groups, tutorials or games.'

1.5 An audit culture

Having gained accreditation for an MSc through Cranfield University for the Royal Engineer Geographic Officers' course and for a Science Foundation Degree through Sheffield Hallam University, RSMS is subjected to a range of audits from military and civilian quality agencies. But this is common to FE and HE. Robinson (2010)reports how according to Gleeson et al (2005) and Keep (2006) FE is one of the most controlled services within the public sector, subjected to a continuous round of inspections resulting in a managerial regime where professional and individual autonomy are stifled. Robinson argues that this regime has extended to HE through the Research Excellence Framework (REF) and Quality Assurance Agency (QAA) benchmarks and targets.

Within the very broad spectrum of Defence training and education in the UK there is an ever-increasing emphasis on quality and accountability as is evident from the Defence Training Rationalization (DTR) programme (Ministry of Defence, 2001) as well as a more recent focused study into DISC Training Transformation (DISC, 2010). This is not surprising since the estimated cost of Defence training and education in 2000 was put at some £4.2 billion per year[10] (MoD, 2001). The DTR programme is mainly concerned with the efficacy of training, particularly where duplication of training and training facilities exist throughout the three Services.

Following the Strategic Defence and Security Review (SDSR), announced in the Green Paper *Adaptability and Partnership - Issues for the Strategic Defence Review* (2010) published in February 2010, it is worth returning to the effect of the previous Strategic Review on training and education. In his forward to Modernising Defence Training, Geoffrey Hoon, the Secretary of State for Defence at the time, wrote:

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[10] More recent figures are not available

These measures will result in training and education that is more aligned to operational and business needs following the radical changes this Government implemented through the Strategic Defence Review. (Ministry of Defence, 1998)

However, there is a danger that by being more aligned to operational needs that training becomes too focused on 'the war' and not 'a war', as evident from pressure to make all practical exercises for Geo courses Afghanistan centric. Over the last two years RE Geo has supported significant operations in Libya, Iraq, Sierra Leone and the UK, as well as numerous large scale military training exercises. The nature of geographic support has been enormously varied ranging from support to war fighting through to current humanitarian aid in the Ebola crisis in West Africa in 2014 and 2015.

Kaldor (2012) in defending the concept of New Wars argues:

Particularly after the wars in Iraq and Afghanistan, some scholars and policy makers warn of assuming that future wars will look like Iraq and Afghanistan. It is to be hoped that future wars will not be like Iraq and Afghanistan because these wars have been exacerbated by outside military interventions. But nor are future wars likely to look like the wars of the twentieth century. Of course, a return to old wars cannot be ruled out.

The key point here is that the demands on the military are uncertain and unpredictable. Consequently the specialist soldier needs to be prepared for an ever increasingly complex and uncertain environment, as identified in the Future Character of Conflict(Development, Concepts and Doctrine Centre, 2010).

Returning to Hoon's requirement for training and education to be 'more aligned' there is an implicit need for accountability. A year later, in announcing the Defence Training Review, Lord Robertson (Ministry of Defence, 1999) stated:

I am ordering a wide-ranging, fundamental study of education and training ….. the aim will be to consider how education and training can most effectively meet the Department's requirements for timeliness, quality, value for money and operational effectiveness until at least 2010.

Again these requirements imply accountability. Lord Robertson went on to relate Defence policy to wider Government initiatives:

We need to ensure our people have the skills required……. to meet the challenges set by the Prime Minister's Modernizing Government initiative, taken up through the Modernizing Defence agenda.

Accountability came to the fore during the Baha Mousa Inquiry (Gage, 2011) into Baha Mousa's death whilst held in custody. During this inquiry it became evident that the quality of training, methods of assessment, documentation and record keeping will come under severe scrutiny should there be other significant failures on future operations.

Looking to accountability in the civilian sector, Ball (1990) is highly critical of the bureaucratic approach that surrounds education in the UK, which he refers to as a *'hierarchy of continuous and functional surveillance'*. In discussing the applications of power he says:

They embody specific mechanisms, procedures and techniques with particular economic and political unity. The worker, the technician, the teacher is constituted (reconstituted) in this network of discourses, roles, aspirations and desires.

With audits every two years a conflict arises between the desire of individuals to get on with the development and delivery of courses and the needs of the authorities to be assured that the mechanisms, procedures and techniques are all functioning correctly. Ball's use of the term 'reconstituted' is interesting in that it implies the teacher ends up being moulded to fit a standard type. This approach is reflected in *'an economy of performance'* which is broadly a manifestation of the audit culture, and one that raises questions over the relationship between *'self'*, *'identity'* and *'professionalism'.*(Stronach, et al., 2002).

Biennial audits are undertaken by the Army Inspectorate of Individual Training (AI(IT)) on behalf of the Director of Training, Education, Skills and Resettlement (TESR). The purpose of the AI(IT) inspections is to ensure that pastoral care as

well as training design, delivery and management is carried out in accordance with DSAT and is focused on meeting operational capability. Ofsted also carries out inspections of Defence training establishments following the DHALI/Blake (**D**irectorate of Operational Capability; **H**ouse of Commons Defence Committee; **A**dult **L**earning **I**nspectorate; **Blake** report) report into trainee soldiers' deaths at Deepcut to ensure the MoD was doing all it could to protect young people in its care. There are similarities here between how DSAT is viewed within training establishments and what Kanter (1991)considers a misguided approach to business planning and management. Kanter argues that many organisations are too rigid and focused on proceduralism above the skills and talents of subordinates. DSAT was introduced to ensure the training delivered across Defence satisfies operational requirements, but in trying to achieve that goal it can be seen as bureaucratic and restrictive. Indeed it is interesting to note how Kanter (ibid.) uses structurally bureaucratic organisations like the military as examples of those '*who prepare for the next war by practising and replaying the battles of the last war*'.

1.6 Foundation Degrees

As the focus of my research revolves around the learning on a Science Foundation Degree it is worth considering how such degrees were brought about and what they were designed to achieve. Foundation Degrees were introduced to the HE framework in England and Wales in 2001 as a Level 5 qualification (QAA, 2008). They were designed to integrate academic study and work-based learning as a central part of course design and delivery (QAA, 2004); (DfES, 2004). This came about following Sir Ron Dearing's National Committee of Inquiry into Higher Education (Dearing, 1997)that sought to develop HE level qualifications to increase participation in that sector.

Another key aspect was the desire to widen access and participation in HE with a target set by the Labour Government of the time of 50% of 18-30 year old age group participation by 2010 (DfES, 2003).

The Foundation Degrees, which incorporate work-based learning, were also seen as the part of the '*new vocationalism*' (Symes & McIntyre, 2000). Leading

up to the introduction of Foundation Degrees there had been a focus on highly competence based frameworks for vocational qualifications that included National Vocational Qualifications (NVQs) at Level 3, which were considered by some to devalue vocational learning(Boreham, 2002); (Hyland, 2006).That new vocationalism was seen to move beyond just skills training and into higher-level applicable knowledge, skills and vocational competence(QAA, 2004) such as required by the RE Geo Techs.

As perceived by Taylor(2006), there are both positive and negative impacts associated with undertaking a Foundation Degree, in her case in Education. Amongst the positive impacts identified are the opportunities of a second chance to progress academically for those who left school without the possibility of progressing to college or university. This has certainly been the case with the majority of Sappers joining RE Geo.

1.7 Accreditation of Training

On accreditation, the Defence Training Review recognised that *'the opportunity to gain formal, external recognition of achievement of a level of skill and/or knowledge can help motivate people to develop and improve their performance'*. This sentiment is echoed in Joint Services Publication (JSP) 898 - Defence Policy for the accreditation of education, training and experience (MOD, 2009).It notes that:

> *The provision of opportunities to gain nationally recognised civilian qualifications through the accreditation of education, training and experience is an important component of MoD personnel strategies, since they provide recruiting, developmental, retention and resettlement benefits.*

It goes on to explain how accreditation benefits the organisation as well as the individual:

> *This enables personnel to contribute more effectively to the organisation, to respond to change and to cope better with the novel situations that the dynamic Defence environment presents.(MOD, 2009)*

This again links in with Dewey's (1916) expectations of the coming generation and is in sympathy with the ethos of the School. Professor Angell (2000) recognised the need for accreditation in a supporting essay to the Review 'Education for Defence' in which he identified the following as two of the guiding principles for training transformation:

- *Service and civilian education must be responsive to changes in education policy, doctrine, technology and personal strategies, and be conducted in support of the principles of Investors in People (IiP) or other adopted quality management systems.*
- *All career educational provision should be accredited either in whole or in part, to the maximum extent possible, in terms of recognised civilian qualifications.*

Turning back to the HE sector and the introduction of the new Foundation Degrees in 2001, there was a commitment to meeting quality standards, as set out in the Future of Higher Education (DfES, 2003):

As we do this, we will maintain the quality standards required for access to university, both safeguarding the standards of traditional honours degrees and promoting a step-change in the quality and reputation of work-focused courses.

The accreditation of RE Geo Tech training for the award of the Science Foundation Degree brought out different reactions amongst staff. Many saw it as a positive move, providing opportunities for soldiers; others, just like Taylor (2006), regarded accreditation as negative, a move from training to education driven by academic rather than military requirements. The negative reaction is similar to that reported by Ashman and Ellis(2005) and Newton and Ellis(2005) where active resistance to the development of e-learning in the Australian Army was observed with instructors informing students of general problems with e-learning which in turn influenced students' perceptions. At RSMS, some staff have been known to make students aware of their feelings with statements like *'it isn't as good as in my day'* and *'the old HND was far better'*. The perception remains today and comes up in focus groups and interviews. In an essay

written in August 2012 as part of the Geographic Sergeants Course, one student Acting Sergeant (A/Sgt) B wrote:

> *Over the years there has been a shift towards an academic based theme to technical training. Gone are the days of acquiring an HND after completing a Class One, an FDSc in Applied Computing is now the targeted qualification.* ***My understanding*** *of this is that as a result the School have been mandated to teach specific modules. Now some may argue that these aren't squadron/ deployment oriented and hence technicians are being taught an array of subjects but* ***not detailed enough for the requirements of sub-units.***

I found difficulty with two assertions in this statements, both highlighted in bold text. One of the problems is evident from '*my understanding*' in A/Sgt B's assertion. Where did that understanding come from? Is it a true reflection and is it a pervading understanding? Similar comments have been documented in end of course discussions with students and in student feedback forms. Newton and Ellis (2007) note that whilst some instructors supported e-learning as the way of the future others resisted as '*the traditional approach to training was OK*'. The use of the term 'OK' in this context implies a lack of desire for continuous improvement. Kotter & Schlesinger (2008) identify four reasons why people may resist change: parochial self-interest, different assessment, misunderstanding and lack of trust, and low tolerance for change. The resistance to e-learning in the case of the Australian Army, or to academic accreditation and alternative ways of teaching in the case of RE Geo training may be due to some instructors feeling uncomfortable with change due to some or all of these reasons. These issues do emerge from the focus groups with instructors, and through interviews with individuals involved with training delivery.

The second assertion of A/Sgt B concerning '*not detailed enough for the requirements of sub-units*' can be linked to the place of context in learning. Some Officers Commanding (OC), and indeed some SNCOs in the operational units have complained about the fact that students leaving RSMS are not ready for operational deployment. This point is considered by Warrant Officer Class 1 Training Branch (WO1 TB), who works for the sponsor of RE Geo training,

during my interview with him. He points out that the operational units also have a responsibility for training through what is termed the Workplace Training Statement (WTS). This has much to do with expectations; expectations of the students, staff, sponsor and those in the employing units.

1.8 Research Questions

From the outset of the EdD programme, there were a number of questions I wanted to answer with regard to the attitudes and values of Geo Techs to learning. These issues came about through my involvement with the accreditation of soldier training for the Science Foundation Degree in Applied Computing through Sheffield Hallam University. At the start the questions were vague and ill defined, but set the general direction for study throughout the whole programme. However, as Denscombe (2010) observes, research questions are '*those specific things that are to be observed, measured, integrated in order to shed light on the broader topic*' to enable the research to be operationalized. In the case of my research, the broader topic was present from before the outset of my studies; what was required was to move forward with specific research questions to bring rigour and integrity to my research.

Burck (2005) considers that the research question is the most crucial development aspect of the research process, and without a well-honed question the qualitative researcher is in danger of losing their way. The principal research question that I set out to answer is:

> *How can the Royal School of Military Survey enhance the quality of teaching and learning through a better understanding of the RE Geographic Technicians' attitudes to education and training?*

In particular I am interested in how attitudes of trainees change throughout their training and beyond. If one knows why attitudes change then it may be possible to influence the way training is delivered to provide more effective learning earlier in the career training cycle. My military instructors would be able to relate this to their own experiences, as trainees who have passed through the

RSMS for their own technical training, as operators in the field army and as instructors responsible for delivering training; i.e. practitioner-teachers. This led to three key sub-questions:

a. *What are the distinguishing characteristics of the RE Geo recruit?*

b. *How do the attitudes of trainees change during their careers?*

c. *What are the attitudes of instructors to teaching and learning?*

Before considering the research questions, the term attitudes needs clarifying. Whilst the Ministry of Defence (2012) defines attitude simply as '*a pre-disposition to behave in certain ways*', there has been considerable debate on the psychology and sociology of attitudes. Voas (2014) in his paper on Sociology of Attitudes asserts that:

> *In holding attitudes, we think about society and the rights and duties of others as well as ourselves. The judgements may be personal, but they are formed in and relate to a social context. They are neither objective matters of fact nor subjective matters of taste; they express values. Attitudes emerge from the interaction of beliefs, preferences, behaviour and values at the individual level, but these influences are themselves formed through the interaction of culture, human nature and the world around us.*

This assertion fits well with my own use of the term in my research questions and throughout this thesis. The interaction of the different cultures in which RSMS and way in which the wider Army operates undoubtedly influence those attitudes. Indeed, the individual beliefs, preferences, behaviours and values emerge throughout the various focus groups and interviews.

Burck (2005, p. 250) recognises the challenge facing systemic clinicians who consider patterns, relationships and processes all relevant and points out that it is necessary to leave out aspects considered important to the systemic thinker. I interpret this as carefully determining the boundary of the research so as to stay focused on the key research question whilst remaining open-ended and exploratory. To illustrate this, if one considers sub-question (a), then I am focused

on RE Geographic Technicians rather than the wider army recruit. I have no doubt that there is much research that could, and should, be undertaken across the Army, but that would be outside the scope of my research. My boundary was also set to encapsulate those trainees who would otherwise have not had the opportunity to attend either FE or HE.

1.9 Methodology

To answer the research questions requires an interpretive portrayal of the environment in which the Geo Techs are trained. There is a close analogy with our work as geographic staff as the maps we make are representative of the world we are trying to represent and not an exact image. In portraying physical geographic features, human settlements, industry and cultural boundaries we must sample the data, generalise and interpret, and work at different scales to represent that world in the most appropriate way for the task in hand. To map the Geo Techs' training environment requires the selection of data sources, interpretation of the various perspectives gained and then the portrayal of the analysis through my research findings.

So to develop an understanding of the training terrain within RSMS, and through that process the discovery of theory, requires a systematic qualitative analysis that combines both positivism and pragmatism. The former aims to discover and establish generalisations that explain what is going on, whilst the latter recognises that participants are active and creative, and it is through their actions that people come to know their world and to solve problems.

To discover theory, establish generalisations and solve problems requires creativity on the part of the researcher. Amabile (1998) quoted in Tierney, et al. (1999)defined creativity as *'the production of novel and useful ideas'* whereas Torrance used the word imaginative as the best synonym for creativity. His definition is:

> *....a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty, searching for solutions, making guesses, or formulating hypothesis about deficiencies: testing and retesting these hypotheses and possibly*

modifying and retesting them, and finally communicating the results. (Torrance, 1974, p. 8)

Although lengthy, Torrance's definition is in sympathy with Amabile's and addresses many of the aspects that one would expect to see in the development of theories, and represents what research sets out to achieve. Strauss and Corbin (1991)adopt a simpler approach and define a theory as '*a set of relationships that offers a plausible explanation of the phenomenon under study*'.

1.10 Conclusion

In this chapter I have set the scene by examining the environment in which RE Geographic Technician training takes place. As Robinson (2010)argues:

> *To merely consider the perceptions of staff and students and to ignore their environment would have been to render the study invalid….. It is not the individuals as 'objects' that are under research, but the policy and social environments as well.*

Although the education and training takes place at the Royal School of Military Survey, many factors impinge on the quality of training and the experience of the trainees. Delivering training in a Defence context has a number of distinctive features when compared with education at Level 4 and 5 in the HE sector, in particular the quality and experience of the teaching staff. However, there are many similarities as well especially with the culture of inspections, the context of Foundation Degrees and staff development.

In Defence the inspections, which I termed a culture of audits, are intended to ensure that the education and training meets the needs of individuals, but more importantly those of Defence. Not only will failures in training and education have an adverse effect on operational capability, but they will come to the fore as was the case in 2011 during the Baha Mousa inquiry.

The nature of trainees, the main focus of my research, brings many issues to the fore. Not only are the majority of RE Geo Techs unlikely to have gone into HE due to leaving school with only limited qualifications, but they then proceed to

extended periods of intense learning in the Army. However, some key features that differentiate them from most students is the motivation brought about through promotion, financial reward for passing certain courses, the culture of Army life and the associated discipline.

Having set the scene, I conclude this chapter by examining my research question and introducing my research methodology.

In Chapter 2 many of these issues discussed in this chapter are examined through a review of the literature that is relevant to my methodology, far out comparisons, teaching and learning in Further and Higher Education, professionalism and student motivation.

Chapter 2 - Literature Review

Before these statements left my desk and followed the fate I eventually chose for them, I considered using them as the basis for a traditional, painstakingly researched biography, recounting a true story. And so I read various biographies, thinking this would help me, only to realise that the biographer's view of his subject inevitably influences the results of his research.

Paulo Coelho (2007)

Extract from 'The Witch of Portobello'

2.1 Introduction

In Chapter 1 I established the landscape in which RE Geo Techs train, thereby establishing the context, conditions and policies which influence their training. This included aspects of policy and governance both within Defence and more specifically within the School. In this chapter I consider the literature that relates to professional issues associated with vocational learning and the research methodology I adopted.

To start the review it is worth considering the place of a literature review, in particular noting that Garman (2006) argues against a narrowly conceived literature review:

> *We find the concept of the review of the literature to be problematic. It suggests a dysfunctional notion that a one-chapter review of literature is a precursor to, rather than an integral part of the study. Furthermore, there may be a residue of linear thinking reflected in statements about the review of literature, implying that there is a single body of literature, to be reviewed only once (Garman, 2006, p. 8).*

Although this Chapter reviews the literature, the review is not constrained to a single chapter as I have explored the wider literature in all the chapters where relevant and integral to the discussion. The relevant literatures reviewed are far from being a single body and so include those relating to qualitative

methodologies, grounded theory, the RE Geographic soldier training and education, similar training environments within the military, education and training, organisational theory, the military as a training organisation, military culture, teaching staff and student motivation. As there has been much debate over the timing of a literature review within the grounded theory methodology, the next section examines the role of a literature review.

2.2 Grounded Theory

There is a significant difference of opinion concerning the place and timing of a literature review in the field of grounded theory, not least because of the concern that it may, as recognised by Coelho (2007), inevitably influence the results of one's research. Indeed the two fathers of grounded theory, Glaser and Strauss, hold opposing views on this issue. Glaser (1998) advised that:

Grounded theory's very strong dicta are:

a) do not do a literature review in the substantive area and related areas where the research is to be done, and

b) when the grounded theory is nearly completed during sorting and writing up, then the literature search in the substantive area can be accomplished and woven into the theory as more data for constant comparison.

A little later Glaser (2001, p. 133)reasserts his very firm line on this, advocating *'waiting for the problem to emerge and not reviewing the literature until the later stages of sorting and during writing up'*. Those against undertaking the literature review early on argue that theories should be generated from the data rather than simply confirming existing theories with selected examples from the data. McGhee et al. (2007) in discussing literature review and reflexivity, point out that they delayed their *'first real move into the professional literature related to the topic until topics grounded in the data had been identified'*. They took the same line as Glaser that the literature is a source of data and should be treated no differently to other emergent data. However, McGhee et al. (2007) also recognise that the researcher has no control over prior knowledge, but expects what is then added to that knowledge should be controlled.

A more realistic approach to this is taken by Goulding (1999)who considers that the difficulty in the application of grounded theory is where there is a long, credible and empirically based literature. In such cases she argues that the literature in the immediate area of research should be avoided so as not to prejudice the researcher. This is still in keeping with Glaser's view (Glaser, 1992, p. 32)that

> There is a need not to review the literature in the substantive area under study. This dictum is brought about by the desire not to contaminate ... it is vital to be reading and studying from the outset of research, but in unrelated fields.

Strauss and Corbin(1998) on the other hand consider that the literature should be reviewed early on. This line is also taken by Charmaz and Mitchell(2001) who strongly oppose researchers who delay the literature review, not least because as active researchers *'they are apt to be steeped in specific literature for a variety of purposes beyond a specific research project'*. Thornberg (2012) goes as far as suggesting that Glaser's dictum might even turn educational researchers away from exploiting grounded theory. However, McGhee et al. (2004) recognise that the use of literature or any other pre-knowledge should not prevent a grounded theory approach, but what is needed is reflexivity to *'prevent prior knowledge distorting the researcher's perceptions of the data'*. I would prefer to speak in terms of minimising the influence of prior knowledge on the researcher's perceptions rather than the more dogmatic words prevent and distort. This is implied by Heath (2006, p. 519) who concurs with the need *'to avoid imposing predetermined understanding and existing frameworks on the investigation'* but recognises that this is a key principle of most qualitative research.

A quite different perspective is offered by Cutcliffe (2000) and Dunne (2011).They point out that a comprehensive review of literature is normally required to satisfy the requirements of the sponsors of the research as well as those of ethics research committees who are looking for a well-defined research question. The very nature of this Doctorate programme meant that I have been reading surrounding attitudes to learning from the outset.

Turning to the specifics of my research the relevant literatures that I reviewed include that on the Geo Techs, soldier training and education, similar training environments, education and training, organisational theory, and the military as an organisation.

2.3 RE Geographic Technician Training.

There is no published academic literature in the substantive area of this study, that is, the attitudes of Royal Engineer Geographic Technicians to education, especially in the field of Geospatial Intelligence, so the distortion or contamination that Glaser (2001) and McGhee et al. (2007) are concerned about is not a problem for this research. Similarly, with soldiers as trainees there is little related research to refer to in the substantive area, particularly for junior soldiers on long educational courses. Although there are papers on basic recruit training these are very much trade specific and more relevant to physical training rather than education. However, there are relevant articles from other training environments including Further Education, the police and fire services, as well as medicine and nursing.

2.4 Far out Comparisons

Whilst this research is focused quite narrowly on RE Geo Techs, I have looked at cases and situations that are similar in some respects but quite different in others and consequently could be considered completely outside the study. However, reflecting on the similarities and differences between the situation at RSMS and the wider field of learning can help to understand what is going on in the specific case.

The far out comparisons considered include vocational education, secondary school experiences, wider military training including national and international, police training and instructor development

Vocational Education

A relevant starting point for the wider literature review is where the training and education portfolio delivered by RSMS fits within FE and HE. The UNESCO(2001) definition of technical and vocational education and training is:

All forms and levels of the educational process involving, in addition to general knowledge, the study of technologies and related sciences, the acquisition of practical skills, know-how, attitudes and understanding relating to occupations in the various sectors of economic and social life.

This definition can be closely mapped to the training and education within RSMS, in the context of Geospatial Intelligence (GEOINT) within the Royal Engineer Geographic community. The work of RSMS can also be mapped directly into Wolf's description of vocational education.

Vocational education today includes, as it always has, courses and programmes which teach important and valuable skills to a very high standard. It offers a direct route into higher education......good vocational programmes are, therefore, respected, valuable and an important part of our, and any other country's educational provision. (Wolf, 2011)

Good vocational programmes are dependent on the quality of the teachers in this sector. In considering teachers in the learning and skills sector, Maxwell (2009) identifies a significant lack of direction from Ofsted on the processes of professional development. She argues that it is necessary to understand the ways in which trainees' ideas and practices develop and it is important to recognise the complexities of trainees' journeys. She observes that the limited published studies in this area largely exclude those who teach in the wider learning and skills sector, which could include RSMS. The issues of professionalism is considered further in sections 2.5 and 2.8.

Similar training environments

In Campbell's(2007) research on applying communities of practice to the learning of police there are close similarities with the training of specialists within the army. He considers the work of Manning (1977), van Maanen (1978), Fielding (1988)and Chan (1997)regarding socialisation of recruits whilst exploring the theme of police culture. Campbell agrees with Reiner (2000) that there is no one common culture in policing, an observation that is equally applicable to Defence with the single Services, wide array of corps, regiments and specialist units. Campbell argues that there was cause to base his theoretical framework on

communities of practice to analyse the learning of early-career police. But he also recognises that an approach based solely on communities of practice is inadequate and considered the process of socialising within his framework. An area of police training which resonates with the RE Geo training is that of early adopters of Foundation Degrees. Brennan (2004)cites the successful development of Foundation Degrees within the police service, noting in particular the engagement of employers in programme design, assessment and workplace support. Within RE Geo there has also been very close engagement with the employer in these respects.

The Military as a Training Organisation

> *One of MOD's highest priorities is to train people for military operations. That training includes the development of attributes such as leadership, teamwork, ethos and courage, which predominantly, requires human interaction. (MOD, 2005).*

This extract from the Ministry of Defence's JSP 777 encapsulates all that training in Defence is about. However, those same attributes can also create problems in the delivery of training; it is this aspect of the organisational issues which impact on the delivery of training and education in the Defence geospatial domain that are considered here.

Many of the issues fall into the category of what Argyris and Schön (1996)refer to as '*trying to solve problems without discussing the un-discussable or running foul of the organisational taboos*'. In a similar way Bourdieu asserts that '*The most improbable practices are therefore excluded, as unthinkable*' cited by Jenkins (1992, p. 81)and consequently '*a durable status quo is achieved*' (ibid.) whereas in reality according to Boud (2000, p. 9)'*dysfunctional local traditions may need confronting*'. These overlapping views are evident in many of the opinions captured during my research and reflected on in Chapter 4. It is often easier to ignore sensitive issues, but that is not an acceptable option if the RSMS is to break out of a predominantly 'mechanical' structure and one that can be associated with what Ball (1990) identifies as a 'bureaucratic approach'.

One aspect of sociological studies in organisational analysis of particular relevance is that of the order-conflict debate that has taken place over the latter half of the 20th century. In respect to the RSMS as a Defence Training Establishment (DTE), the social, cultural and political influences on the training delivered by the School are considered here and how these factors affect the role of the trainer and educator within the organisation. By focusing on organisational issues, in particular from an order-conflict perspective, the tensions and power dynamics within the School are explored within social groupings, between education and training, and with regard to culture.

From the organisational theorist's perspective Bittner (1967) argues that an organisation can be considered to be a '*stable association of persons engaged in concerted activities directed to the attainment of specific objectives*'; a definition that Burrell and Morgan (1979) call a common sense assumption. This view is consistent with the typical military unit, especially on operational deployment. However, the concept of a stable association of persons is far from the case in my training establishment. Whilst my civilian lecturers provide a degree of continuity, there are frequent changes to my military instructors, due to normal postings every two years, early postings on promotion and resettlement for those at the end of their military career.

A general trend in society is towards increasing emphasis on human rights, individual rights, equal opportunities and less emphasis on group identity and responsibility in what McKie and Brook (1996)call the culture of individualism. Handy (1993)recognised a similar change with a loss of respect for traditional institutions, which would include the Services. In the Discussion Paper, 'People for the Future Army', by COS AG (2000, p3) there is recognition of the culture of individualism that has taken hold in a more permissive society, together with an emphasis on individual rights rather than a sense of collective responsibility. COS AG argues that the ethos of the Army appears to conflict with these trends with its emphasis on the virtues of social cohesion, trust, the subordination of the individual to the group interest. In his work on social identity theory, Tajfeh (1981)examines how group membership affects individual identity. This again is very much part of the acculturation process seen within the military training

environment which leads to the order within an organisation. The challenge for me here is to ensure that the correct balance exists between establishing a learning culture and exercising the military experience, particularly as the School is collocated with an operational unit.

All this could be perceived as at odds with what is happening in wider education in the UK. Ball (1990) in discussing management theories in the context of school education, recognises that schools as organisations are focused on the individual at one extreme and complex, interrelated and interdependent structures at the other and with the emphasis on order, procedure and consensus.

Mair's view of an organisation also recognises it as one that is

> ....an orderly arrangement of parts, and [the social anthropologist's] business is to detect and explain this order. It consists in relationships between persons which are regulated by a common body of recognised rights and obligations. (Mair, 1965).

Again this perspective is an interesting one that is particularly relevant to the soldier in today's Armed Forces, especially in the training environment where there are clearly stated policies on trainee soldiers' rights and on institution and instructor obligations. These policies have become more demanding following the Blake Report (2006) into the deaths of service personnel under training. This concern ties in with wider organisational theories, where there is conviction amongst some managers, consultants and academics that business success requires management attention to be directed to the soft cultural and humanistic aspects of organisations(Collins & Porras, 1996). It is also reflected in COS AG's Paper (2000) where the 'ever-increasing emphasis on human rights, individual rights, equal opportunities and less emphasis on group identity and responsibility including family, national and other groupings' are recognised as needing consideration within the military. These are areas where I have had to persuade members of staff that these aspects are of benefit to the organisation, the individual and the learning, and not the unnecessary bureaucratic overhead they are often perceived to be. Indeed in a recent exit interview with one of my Quarter Master Sergeant Instructors (QMSI), the senior soldier in a Wing, we discussed

many of these concerns and towards the end he commented that he wished we had that discussion a few months into his tour as QMSI, as much would have been cleared up and he would have been better placed to address the concerns of his military instructors.

Considering the organisation from a practice theory perspective, Bourdieu (1990) believes each individual goes through a large number of experiences in his or her life and these experiences are socially structured founded on, and generated by, what is considered 'normal' in the society in question. But normal in the military is undoubtedly different from what may be considered normal in everyday society. Bourdieu (ibid.) also contends that these experiences shape assumptions and expectations, and thus inform actions and interactions with other people. The MoD (2000) recognises the shift of structures in Britain away from 'mechanistic' organisations, such as the military, which are hierarchical, highly formalised, tightly structured and rely on compliance with orders. Merton (1968) suggested that these mechanistic organisations can become dysfunctional and that conformity to normative standards can indeed lead to disintegration of social order. Looking at the wider defence picture, Gen Sir Richard Dannatt, Chief of General Staff, in 2007 expressed concern over the growing gulf between the Army and the nation. Whilst not suggesting that the Forces are becoming dysfunctional, both the MoD in 2000 and Dannatt in 2007 recognised that Defence needs to change and adapt.

Military Culture

The Defence training environment can also be viewed through a cultural lens. Kirke (2012, p. 28)defines culture as:

> ...knowledge that is not acquired or passed on genetically, and can include behaviour, attitudes and thought processes that are consciously or unconsciously learned rather than innate.

The whole military training process is designed to influence that knowledge. More recently Kirke (2012), in carrying out the first systematic study of cross-cultural issues in the four Services (Royal Navy, Army, Royal Air Force and the MoD Civil Service), both positive and negative, recognises how stereotypes and caricatures, or 'constructions "of the other"' can emerge from the single Service cultures. He

notes that within the single Services, individuals may *'value different aspects of their organisational lives, or value the same elements in different ways'* and how such constructions can become obstacles to cooperation and collaboration (Kirke, 2012, p. 4). A particular aspect that emerged from his study of Army culture, was the sense that whatever group an individual was associated with was the best; a sense that certainly emerged from some of the focus groups in this study.

In considering culture as part of social structure, Hays (1994) argues that it can be used to represent patterns of social life which cannot be reduced to individuals and are durable enough to withstand the whims of individuals who would attempt to change them. The military must surely fit into such a structure, not least in the manner in which it helps to determine the thoughts and actions of individuals, as evident from various contributors to this research project. Hays (ibid.)also uses gender stratification as an example of how men and women are constrained to act in certain way, whilst giving them a sense of identity and a secure position in the world. Within the military, the same could be said of rank stratification, which is far more complex than the binary gender stratification, but it still constrains, offers identity and sets a secure position within a well-established hierarchical social system. Hays asserts that:

> *Culture is a social, durable, layered pattern of cognitive and normative systems that are at once material and ideal, objective and subjective, embodied in artefacts and embedded in behaviour, passed about in interaction, internalized in personalities, and externalized in institutions.*

Through her consideration of culture, Hays (1994)argues that social structure can be considered as systems of social relations and systems of meaning. The former consist of:

> *....patterns of roles, relationships, and forms of domination according to which one might place any given person at a point on a complex grid that specifies a set of categories running from class, gender, race, education, and religion, all the way to age, sexual preference, and position in the family.*

One can map across the RSMS social structure with special regard to gender, education and position in the 'military family'. Although there may be issues with

class, race, religion, age and sexual preference, these factors did not emerge at all in my research. However, issues of gender, education and position within the *'military family'* did emerge from the interviews and focus groups. For example issues of respect were aligned to both gender and position in some cases. With regard to systems of meaning Hays(1994) asserts that these are what is often known as culture and include:

> *....not only beliefs and values of social groups, but also language, forms of knowledge, and common sense, as well as the material products, interactional practices, rituals and ways of life established by these.*

Again it is easy to relate military meaning to all of these categories, many of which can be attributed to rank and experience, and are again evident through the various participants in my research.

Hays (ibid.) also draws attention to Mannheim's 'Conservative Thought' (Mannheim, 1971, pp. 132-222) in which he observes that:

> *Strictly speaking it is incorrect to say that the single individual thinks. Rather it is more correct to insist that he participates in thinking further what other men [and women] have thought before him.(Mannheim, 1985, p. 3)*

This line of thought is reflected in my interview with WO1 TMB when discussing how new trainees are developed and the way in which instructors have been inducted in the past into their training roles. One of the challenges is to break out of the mould where *'new ways of thinking are always derived from old ways of thinking'*. (Hays, 1994, p. 68)

However, there is not one single culture in the Services at large or in RSMS in particular. As Kirke (2012, p. 9)asserts, a key aspect of a soldier's development cycle is that it will involve a prolonged period of single Service experience during which they develop *'deep seated attitudes, expectations and assumptions about other parts of their own Service and the other Services'*. At all ranks there is much banter about the other Services and Regiments, some quite derogatory. However since operations began in Afghanistan in 2002, more and more RE Geo Techs

are deploying to singleton posts often working alongside a wide range of colleagues, both national and international, quad-service[11] and with contractors.

For RSMS, a DTE, a combination of tradition, ethos and social structures come into play to make up the culture of the organisation. In Chapter 1 I referred to the transfer of ownership of RSMS to the Defence Intelligence and Security Centre in 2006. Until then the School had been a Royal Engineer establishment for more than 250 years with the majority of teaching staff being officers and soldiers of the Corps of Royal Engineers. Over the previous 15 years there was a move to civilianise many of the military posts as a result of 'Front Line First' (Rifkind, 1994), however more than 75% of teaching staff in RSMS today remain service personnel. My challenge is to develop a better balance of military and civilian staff to meet Defence commitments whilst maintaining the School's military ethos.

A strength of a military organisation is the strong sense of belonging to the Corps or Regiment, often referred to as the Regimental System, to the extent that the Army is made up of many distinct organisations and sub-organisations, each with its own traditions and practices. But tradition can also contribute to many of the conflicts and tensions facing Defence especially in looking to the future. The last six years have seen RSMS taken out of Royal Engineer command and control to become one of four (now three) federated Schools within the Defence Intelligence and Security Centre. This was followed by the Medmenham Training Delivery Wing, formerly the Joint School of Photographic Interpretation (JSPI) and an RAF led organisation, being incorporated into the School in November 2007, to be followed by the School of Air Cartography (SOAC) in October 2008. Although not having as long traditions as the RSMS, both the JSPI and SOAC have a great heritage dating back more than 60 years.

This merging of different single service establishments into a Joint Defence capability brings with it uncertainty and suspicion, which partially explains why the

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[11]The term quad-service addresses teams composed of Royal Navy, Army, Royal Air Force and civilian personnel.

Air Cartography training has retreated back into the workplace of the Aeronautical Information Dissemination Unit (AIDU) at Northolt. Marks and Sample (2003) refer to an observation by Scott Snook that:

> the deeper issues of inter-service rivalry and the difference in cultures between army and air force, and even within those, are very rarely addressed and that they are often the biggest contributor to friendly fire.

Inter-service rivalry is not unique to the UK; Marks and Sample (2003)point out that when asked why Black Hawk helicopters had not been entered on the mission sheet detailing aircraft in the air, the USAF service person responsible said 'We don't consider helicopters to be aircraft'.

Whilst RSMS, as an institution, does not face front line threats[12], the same cultural factors still come into play both in the way staff relate to each other and their approach to training and education. Another conflict identified by Builder (1994) is the 'me-centred' rather than 'we-centred' attitudes experienced within the US Air Force where 'people are increasingly favoring their own careers and interests over that of the Air Force mission or institution'. Newton (1998) notes that whilst Marines think of themselves as Marines through and through, Air Force personnel see themselves as pilots, personnel officers, air-traffic controllers or communications officers. Kirke (2012, p. 13)recognises similar traits in the Royal Air Force when he refers to the cultural separation between 'those who fly (the "two winged master race") and those who do not ("the ground pounders")'.

Two other significant aspects of culture are singled out by Kirke (2012, p. 15)from his study; culture associated with functional sub groups and with sites. The key characteristic of the functional sub-groups is that they tend to be small with less than 20 members where face-to-face contact occurs on a daily basis. This can be seen within the three Wings in RSMS where separate cultures have developed.

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[12]Individual military personnel within RSMS can face front line threats. Several members of staff have deployed on operations each year for the past decade.

Whilst I agree with Kirke that these cultures can be close and bonding, the Corps culture still appears to dominate.

In the same way that Kirke (2012, p. 16)finds examples of site culture within the MoD, the RSMS is part of Hermitage Station and has been based on the site since 1949. The School underwent a rebuild in the late 1970s and became the home of Military Survey, now RE Geo when 42 Survey Engineer Regiment moved onto the site in 1975. This has completely changed since June 2014 with the move of the Regiment out of Hermitage and the Security Assessment Group, now reformed as 77[th]Brigade, taking its place in Denison Barracks. This new Group includes the Military Stabilisation Support Group, 15 Psychological Operations Group and the Defence Cultural Support Unit, and comprises all three services and more than 42 different cap badges[13].

Turning to the RSMS, Royal Engineer staff consider themselves Royal Engineers first, rather than members of RSMS, the Army, JITG or even Defence Intelligence (DI). In an environment where military staff are posted every two years, but mainly within the RE Geographic fold, this attitude is not surprising, but a worse consequence of the short term postings is that key personnel rarely directly experience the consequences of many of the decisions they make or the outcomes of their time in post.

This difficulty of short-term postings is recognised by Senge (1990) but he also points out that there is also a positive benefit in that people do learn from their experiences. Bolman and Deal (1997)in discussing power, conflicts and coalitions, recognise that goals and decisions emerge from bargaining, negotiating and jockeying for position amongst stakeholders. Jockeying for position is a significant part of military life where promotion and choice of postings depend on making the right impression to reporting officers for annual appraisal reports. This again can encourage a *'me'* rather than *'we'* centred approach.

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[13]The term cap badge refers to the identity of the range of Services, Corps, Regiments and Units.

My agenda includes the development of a 'we-centred' approach, one which became even more critical since November 2007 when the IMINT Wing joined RSMS. Whereas up until June 2014 most RE personnel within RSMS will have spent much of their career collocated with RSMS, with many spending two or more tours of duty in the School, the new structure within JITG (previously DISC) means that many staff will come to the RSMS training environment only once in their career, possibly breaking the sense of allegiance that has existed to date within RSMS.

A significant change at RSMS was my appointment as the first civilian Head of Establishment in more than 250 years; all previous incumbents have been Royal Engineer Officers, all Military Survey[14] specialists. Parker in his preface to The Art of Japanese Management(Pascale, et al., 1986) observes that the 'Western manager .... has been able traditionally to go straighten himself up.... by having a private, cosy chat with his own image'. My appointment was certainly not a reflection of past leaders, and definitely created tension amongst some of the military. However, it is interesting to note that in recognising my own contribution to developing Royal Engineer ethos and standards, I was made an Honorary Member of the Institution of Royal Engineers in 2009 indicating acceptance by the Corps.

Another interesting perspective is presented by Hanhé (2012)on the military habitus compared with the medical habitus. He refers to the work of Mintzberg who identifies two separate forms of bureaucracies, the professional and the machine bureaucracy ((Mintzberg, 2006) cited in Hanhé, 2012 p.12). As Mintzberg asserts, machine bureaucracies are highly hierarchic and regulated, have big units on the production level that execute highly standardised work and the power of decision is centralised. Indeed the Permanent Secretary at the Ministry of Defence, Jon Thompson (2012), soon after taking up his appointment as

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[14]The term Military Survey disappeared when Military Survey became a Defence Agency, the Defence Geospatial Intelligence Agency, however the majority of officers and SNCOs still use the term Military Surveyors and consider themselves to be Military Surveyors.

Permanent Under Secretary at the Ministry of Defence, expressed concern at the level of bureaucracy within his own organisation.

> I strongly believe that we have built up bureaucracy to a level which is excessive. There are more than 200 extant Joint Service Publications and several thousand extant DINs[15] and I believe that is too many. One of the changes I believe we have to make, if we want to remain true to Lord Levene's report and delegate responsibility, is to focus the Head Office on the things that really matter and then delegate other matters to the TLBs[16] to decide what is appropriate for their business. I struggle to believe Head Office needs to keep thousands of policies in place.

Soeters, et al. (2006, p. 242) assert that the situation is worse in military academies than in the business sector due to the 'level of power distance' or hierarchy. Two aspects of culture particular to the military are worth noting in the context of this research. Hofstede (1991, p. 5)asserts that 'culture is the collective programming of the mind, which distinguishes the members of one group or category of people from another'. In his paper, Hanhé (2012, p. 12)argues that the military can be seen as a 'little society' based on Soeters et al.'s(2006, p. 239) integration perspective on culture.

Another perspective on military culture is presented by Palmer (2012, p. 113), one that I recognise in many of my instructors, that of attention to detail. In his paper on obsessionality and military service, he records how many veterans have difficulty in adjusting to civilian life. As with Kirke's (2012)work on 'the other', Palmer often found civilians stereotyped as living 'in a world where rules, discipline and structures are unclear and were seen by some as anonymous ants scurrying around without direction'. He argues that all military forces cultivate obsessional behaviour to function and achieve the mission, and that obedience,

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[15]DINs are Defence Instructional Notices which are published by the Ministry of Defence on a frequent basis and are expected to be read by specified target audiences.

[16]TLBs are Top Level Budget holders within the Ministry of Defence.

hard work, trust, mutual support, interdependency and integrity matter and all are obsessional traits to some extent. I have had many discussions with my instructors about their approach to marking assignments, where they may spend one of two days marking one individual's piece of work. Their approach has been to identify every error in a map product, as though it were a production task, rather than find representative errors that the student could learn from. Not doing so is seen by some instructors to be failing to do their job properly.

Many of the issues associated with culture within RSMS are recognised in other learning environments. Hudson(2002) in discussing cultural considerations in developing on-line learning, recognises that *'differences do not relate simply to ways of behaving but also to history/histories and social and cultural traditions'*. His reference to Kawanaka et al. (1999) is particularly pertinent to the situation in RSMS.

> *Over time, each culture has developed norms and expectations for teaching and learning that are passed along from one generation to next. Since these norms and expectations are so widely shared and familiar they become nearly invisible to members within a culture.* (Kawanaka, et al., 1999)

The manner in which training methods have been passed from one generation of military instructors to the next is evident from attitudes of instructors in this research. The invisible norms and expectations that Kawanaka refers to only became apparent to many of the instructors during their DTLLS course when they were challenged to reflect on their own methods of instruction.

2.5 Teaching Staff

The Defence Training Policy for Staff Delivering Formal Training (MOD, 2008) states that

> *The quality of training and education delivered to Defence personnel is a key enabler in meeting the Defence Mission. This training is delivered in a variety of establishments and in a multitude of ways. It is, therefore, imperative that those delivering the training and education are well trained*

and regularly update their knowledge about training techniques and subject matter.

There is therefore a requirement to set common standards for training and monitoring of those personnel engaged in the delivery of training across Defence to ensure that they have been trained appropriately for their role and, consequently, that the quality of training delivery in those establishments is optimised.

Whilst Defence policy recognises that training is delivered in a multitude of ways, the second paragraph talks about the need for a common set of standards for those personnel engaged in the delivery of training across Defence. Is this possible for such a diverse range of disciplines and approaches to training and education as Defence covers? The policy goes on to refer to *'trained appropriately for their role'*, which would suggest a common set of standards may not be quite achievable. A recent Deloitte's study into JITG business processes and training design singled out the wide discrepancies that exist between the three Schools in JITG let alone the wider Defence community (Deloitte, 2015). The focus of this policy on training is evident, even though it mentions education; it emphasizes *'well trained'*, *'training techniques'*, *'common standards for training'*, *'engaged in the delivery of training'*, *'trained appropriately'* and *'quality of training delivery'*. This is not an accident, since the fact remains that the prime focus of Defence is on training for operations rather than education, and therefore Defence Policy does not always fit the RSMS model well.

2.6 Further and Higher Education

The opening paragraphs of the Defence Policy prompt questions of what is happening in other establishments, in particular Higher Education, with regard to common standards. Do common standards exist? What influence do national bodies such as the Higher Education Funding Council for England (HEFCE) and the Quality Assurance Agency (QAA) have on standards for the recruitment and development of staff? How effective are professional bodies including the

Institute for Learning[17] (IfL) and Higher Education Academy (HEA) in influencing professional standards within the sectors?

Fanghanel (2004, p. 589) identifies two distinct scenarios associated with staff development within the Higher Education sector. He suggests that teacher training in this sector is a *'short term, bolt-on activity'* whereas the community of practice approach associated with departmental level development is the *'prime, long-term locus of practice'*. Others, including Engestrom and Miettenen (1999) argue that the latter has inherent weaknesses with the possibility that communities of practice could adopt *'conservative stances in seeking to maintain well-established practices'*. In particular they are concerned at the possibility of missing the opportunity of questioning of authority, criticism, innovation and initiation of change. In suggesting why it is so difficult for lecturer development to make a direct impact on learning and teaching, Trowler and Cooper (2002) suggest that *'departmental cultures are powerful, operate against innovation, and hinder the transfer of the trainee's experience back into the departments'*. Gibbs and Coffrey (2004) similarly conclude that:

> *...trainees reported that in their departments teaching was often not valued and that there was pressure to conform to largely teacher focused teaching conventions ..... Change was sometimes frowned upon and taken to imply criticism of more experienced colleagues.*

Perry (2012, p. 62)identifies similar difficulties and challenges the effectiveness of communities of practice for new staff moving from industry to academic professional.

> *Whilst academic departments/subject teams may exist and have staff bases, I would not necessarily agree that they are acting communities of practice*

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[17] The Institute for Learning (IfL) was established to *'promote education and training for the public benefit by the enhancement and maintenance of the quality, standards and practice of learning and learning.'*(Institute for Learning, 2012). The IfL ceased operating on 31 October 2014 after their numbers dwindled to approximately 35000 members.

within this scene. For example, some subject group communities of practice are fragmented, insular and operate in isolation to the wider collaborative agenda. Furthermore, the members of these subject group communities are not receptive to challenges to their established positions and therefore view new academics with unease.

He goes on to say:

It is argued that some communities of practice are re-productive and seek only to assimilate new members into established practice. It is claimed that it could prove difficult for a new academic to break into a community of practice, particularly if they were opposed to the established practice.

Lisewski (2005) critically reviews the work of many researchers regarding the problems of bringing about change through communities of practice. He points out that even Wenger recognises that they can '*become hostage to their history, insular, defensive, closed in, and oriented to their own focus and can be impervious to change*'. He identifies with Hendry (1996) who talks about '*conveyors of cultural conformity and inertia*' and Gee(1995) who expresses concern that newcomers are likely to take on board '*a variety of tacit and taken for granted values, norms, cultural models and narratives.*' A common theme amongst the critics is the lack of conflict leading to a weak position of the newcomer (Gee, 1995, Gherardi et al, 1998, Illeris, 2002) that according to Lisewski (2005) traps them in the prevailing learning and teaching practice.

Many of these perspectives can be seen in RSMS and are discussed in Chapter 4 and can be related to a recent Army publication on instructor development that recognises the need to improve the way in which teaching and learning takes place in training establishments. (MoD, 2014)

The way in which staff are appointed to teaching posts is another distinguishing feature of RSMS when compared to HE establishments. I have very little influence in the selection of military personnel posted in to RSMS even though Army Policy for Instructor Capability (2012) places particular emphasis on competitive selection for instructors. Civilian staff on the other hand are recruited through open competition for permanent employment. Recruitment of staff with the right

experience, knowledge and approach is a major challenge for RSMS and the HE sector in general. The military bring recent operational experience whilst the civilians offer more in-depth technical knowledge and teaching experience.

Associated with recruitment and posting of staff is another challenge, that of developing competencies in education and training. Cooper (2004, p. 88) expresses concern over development programmes for new academic staff in HE when she writes:

> *The ways in which teaching and learning are assumed to take place within a discipline are often not rationalised or examined, and are accepted as a set of mutually accepted givens. Higher Education teachers are inducted over a long time into these social processes, first through their own academic experiences as successful students and then as lecturing staff and researchers.*

Whilst staff in RSMS, particularly military staff, are not the active researchers that Cooper mentions, the experiences they have had as students and now instructors in the School certainly play a major part in their approach to teaching and learning. The situation that military instructors find themselves in on posting into RSMS is not dissimilar to many who enter the Lifelong Learning Sector (LLS):

> *...many FE practitioners begin their careers in FE with no formal training or background in teaching. Many never envisaged 'professional' careers, let alone teaching, and some 'slipped' into the role through a range of unforeseen and unplanned events. (Gleeson & James, 2007, p. 454)*

The military staff are not career teachers and would not regard themselves as professional educators or trainers, although a number do move into teaching as a second career. They are more akin to practitioner-teachers in nursing education. Within the nursing profession there have been strong arguments for nurse lecturers to take an active part in clinical practice (Rolfe, 1996) where the benefits are seen as increased job satisfaction and maintaining clinical competence and credibility (Fawcett & McQueen, 1994). The benefits to the students are seen as up to date teaching that is focused on the realities of

practice, allowing them to learn from appropriate role models. Clifford (1993) and Murphy (2000) argue that the practitioner-teacher makes a unique contribution to higher education in the form of their expertise and knowledge of practice, which other university academics may not possess. This is equally true to the mix of military and civilian teaching staff within RSMS where practice could be taken to mean operational experience and collective training[18].

Atkinson et al. (2002) in discussing a new type of hybrid professional and how they have personal experience and knowledge of other agencies, found that many had worked in multiple agencies during their career. Within the Defence Geographic community, all the military staff can be considered hybrid professionals; first they see themselves as military, second as geographic technicians and only third as trainers and educators. The problems are not confined to the military. Civilian staff coming into Defence from academia are presented with enormous challenges, not least in terms of language, culture and ethos of military agencies. Military personnel appointed to training roles in RSMS also face significant challenges in coping with the language and systems of education, as well as the quality processes, sometimes contradictory, that are now common across academic agencies in Defence and the HE sectors.

Returning to the conflict theme, the Defence training environment is very different to Higher Education establishments in the UK in a number of respects. First there is a wide range of military and civilian types employed as instructors within the School. Mair (1965), Hofstede (1980) and Goodenough (1976) review culture from a social anthropological aspect and consider cultures within social groups as well as within organisations. The establishment at RSMS is composed of a number of groups and sub groups with very different cultures and values that inevitably bring with them various conflicts.

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[18]Collective training refers to that carried out by the operational units to test their capability and ability to meet operational scenarios.

Burrell and Morgan (1979) consider organisations as pluralist systems which are arenas of conflict between individuals and groups, and where activities are focused on personal goals, values and interests; this is what Builder (1994) calls the 'me-centred' approach. Considering groups, there are natural military and civilian barriers created in highly hierarchical organisations such as those in Defence. Whilst the MoD recognise a move to organic structures in British organisations, in which influence is based on skill, competence and expertise rather than position and status, the Services retain a mechanistic structure (MoD, 2000). The most obvious manifestations can be seen within the military staff where there are many ranks and also sub groupings based on rank: Officers, Senior NCOs, Junior NCOs and Sappers. These groupings are reinforced by the strong social structures associated with the groups; Officers' Mess, Warrant Officers' and Sergeants' Mess, Corporals' Club and Junior Ranks' Mess. These groupings can be considered as barriers as they encourage, and maybe force, communications along horizontal lines so that issues are often addressed within a layer without involvement of key players or without due regard to other people's interests.

By establishing committee structures for managing courses I have managed to break out of this layered management. However, some of the senior military staff considered this to be breaking the chain of command and diminishing their authority.

Turning to the civilian teaching staff, these provide continuity to training and education within the School as they are employed on permanent contacts. They also have a deeper theoretical understanding of their subject areas with Master and Doctorate degrees in their specialist areas. However, in the same way as Murphy (2000) points out, quoting Algase (1986) there is a need for nurse educators to remain focused on the realities of practice, there is a need for military trainers in RSMS.

> *Separated from the real world concerns of practitioners, academicians risk becoming out of touch with the most glaring gaps in the knowledge base for nursing. Their questions become increasingly irrelevant, sterile and esoteric: their sense of professional direction diminishes.(Algase, 1986, p. 75)*

This is where the challenge is for civilian staff which consists of are two sub-groups: Lecturers and Specialist Instructional Officers. The lecturers come to teach in the School with very good academic qualifications but with no military experience, and so could be considered as never having been in touch, and therefore run the risk of being perceived by the military as irrelevant and sterile. Within the Specialist Instructional Officer group, these staff are normally ex-military, but they too run the risk of lacking operational context the longer they remain in post.

Scott (1998, p 7) in a review of the Common Recruit Syllabus for Royal Marines, considers the instructor as the vital component, but like COS AG, recognises that not only have the societal and educational changes widened the gap between the instructor and recruit, but the diversity of individuals faced by the instructor is also far more marked than in the past, particularly in academic ability. This is also true for the trainees coming to RSMS, where there over the past 10 years there has been an increase in the number of trainees with A Levels and Degrees entering as Sappers. Scott also argues that the culture pervasive throughout much of the training environment is reactionary and counterproductive, and emphasises the need for 'true teachers' as opposed to good instructors. This has resonance with the drive at RSMS to develop and professionalise the teaching team.

2.7 Professionalism

General Van Uhm asserted that *'soldiers are increasingly being seen as professionals and the military is often referred to as a professional organisation that values highly skilled and academic trained employer[e]s'*(Van Uhm, 2009, cited in (Hanhé, 2012, p. 13)). Turning to the professionalism of the instructors, Lord Lingfield's Review Panel on Professionalism in Further Education came to accept the assertion by John Hayes MP, Minister of State for Education, Skills and Lifelong Learning, that the FHE sector has been *'infantilised and encumbered'* by too much and too detailed intervention by government and its agencies. (Lingfield, 2012). The Review Panel considered that

> *...the interventions have, in the name of control and accountability, weakened the very characteristics successive governments have wished to*

nourish: good governance; self-reliance in academic quality assurance and continuous improvement; and a primary focus on furthering the interests of customers – students, their employers and their communities.

Whilst the RSMS is not governed in the same way as FHE colleges, similar interventions are applied to DTEs possibly with the opposite effect to that intended. This links in with Thompson (p15), Ball (1990) and Kanter (1991).

The Litchfield review panel consulted other organisations which follow the traditional definitions of professionalism and asked FHE staff what the term means to them. The panel concluded that there is no hard and fast interpretation of the word, but proposed a working list of criteria, as shown in Table 1, which could underpin professionalism. Against each of the criteria I have given my perception of the RSMS position.

Two documents, *Skills for Sustainable Growth* and *New Challenges, New Chances*, define the arena as shown in Table 2 in which staff professionalism should play an influential part.

Table 1 - Criteria underpinning professionalism

Criteria	RSMS position
Mastery of a complex discipline.	Staff are frequently appointed to instruct outside of their speciality. Time to prepare is frequently too short. Instructors in at deep end.
Continuous enhancement of expertise.	Too narrowly focused.
Acceptance that the field of expertise is a vocation to be pursued selflessly for the benefit of others.	This is seen differently by staff and students.
Public accountability for high standards of capability and conduct.	Very much so. Frequent inspections. DHALI/Blake
Membership of a group earning and deserving the respect of the Community.	Not entirely so. See New's comments on regimental view.
Membership of a defined group with similar skills, transcending local loyalties to achieve national and international recognition.	RSMS is well respected by partner universities and internationally in Defence
Acceptance of responsibility for the competence and good conduct of other members of the professional group.	Use of personal development objectives in annual reporting. Tiered management Completion of standard training. Operational experience
Membership of a group which accepts responsibility for planning succession by future generations.	Not so. Succession planning is weak, if not impossible to develop.
Membership of a group which seeks continuously to extend and improve its field of knowledge.	Generally yes. Many SNCOs are already on BSc, MSc and DTLLS.
Membership of a group deserving an above-average standard of living.	Not applicable

Table 2 - Influence of Staff Professionalism

Influence of staff professionalism	RSMS position
Fostering vocational training.	Very strong link with employer and sponsors
Pursuing excellence.	Nature of military to deliver very best.
Ensuring that qualifications are relevant to employment.	In line with MoD policy.
Strengthening governance to deal with greater autonomy.	Less autonomy than lecturers in universities.
Increasing the flexibility and freedom to innovate among FHE providers.	Yes. Novel approaches including FDSc and DTLLS
Reducing the intrusiveness of national government agencies.	Not at all.

Using the Armed Forces as a standard that could be followed, the Review panel recommended the duties in Table 3 should be placed on teaching staff and employers. However, if the responses of my fellow Commanding Officers within the Defence Security and Intelligence Centre are representative of the wider DTEs, then the Armed Forces do not marry up well against these duties. Many of the issues associated with these duties come up in discussion with those participants in this research and are discussed further in Chapter 4.

Table 3 - Litchfield's Recommended Duties

Recommended Duties	RSMS Position
New teaching staff successfully to complete the new preparatory award, the threshold licence to practise, within a normal probationary period.	Only DTTT, but difficult to get new staff trained before employment.
Employers to support completion of the preparatory award through an appropriate allowance of study opportunities, time and training during a structured period of induction.	RSMS does this however releasing units do not. Pressure of commitments may delay undertaking this award.
Lecturers continuously to extend and update both their occupational (subject) and their pedagogical expertise, including through undertaking the new Cert FHE or Dip FHE where appropriate.	Yes through DTTT and DTLLS. Subject knowledge is less well developed.
Employers to support continuing professional development in both the occupational and pedagogic realms through an appropriate allowance of study opportunities and time (at least 30 hours each year).	Not recognised as a right. A minimum of 5 days are allocated for civilian training each year
Lecturers to participate in activities intended continuously to enhance their performance, such as observed teaching, appraisal, self-assessment and peer review.	Yes. Programmes have been set up for these in recent years.
Employers to develop in partnership with employees, a system of fair performance management, promotion based on excellent performance, talent management and succession planning.	Difficult to achieve. Limited opportunities for civilian staff progression.

Although the decision was taken in 2005 to take DISC outside of the Defence Training Rationalisation (DTR) packages, the studies that have taken place over the past few years will undoubtedly still lead to the adoption of training transformation in an attempt to deliver '*cheaper, faster and better*' training to meet Defence requirements. Discussion still takes place today to agree an understanding of the term 'better' in the context of Defence training. Newton and Ellis (2007) reviewed the situation in the Australian Army and recognised that for organisations with hierarchical management and training cultures, '*e-*

learning provides opportunities for standardizing content, delivery, and course management while challenging traditional teacher-student relationships'. The RSMS position is almost identical to that described by Newton and Ellis when they go on to discuss the requirement to achieve training efficiencies through a shift away from traditional instructor-led training. This is evident from the interviews with DTTLS Tutor, WO1 TMB and Hd TMB and with the instructors who have followed the DTLLS programme.

Outside of Defence, Hargreaves(2000, pp. 155-156) asserts that professional learning for new teachers, in what he calls the pre-professional age, was simply a matter of common sense and achieved through apprenticeship as a novice to someone who was skilled and experienced in the 'craft'. The use of the term craft would add to the claim that teaching in that age was not professional, although widely recognised as a profession. Murray (2005, p. 69) notes that both the 1997 Dearing Report and the 2003 White Paper (Department for Education and Skills) recognised that:

> *Most teacher educators found themselves dependent on learning through practice in ways which were often unstructured, solitary and dependent upon individual endeavour.*

This situation is an accurate reflection of Perry's (2012) experience and mirrors closely what happens with military instructors when posted into the School. Normally they are expected to shadow a colleague through one module and then deliver that same module next time. The challenge here is for me to be confident that those taking up a post in the School have the ability to develop in this way considering my lack of involvement in the selection process of military personnel posted into the School.

The approach in Defence has close similarities with recent developments in secondary education where some student teachers learn on the job. Walke (2004) discusses the growth in a range of school based learning schemes and raises concerns over the tendency to de-skill the teaching profession. He argues that properly educated teachers need an understanding of the context in which they work. In the case of military instructors they may have a very good

understanding of the Defence context but not of the psychology of learning, the philosophy of education or even the technical specialism they are expected to teach. Walke (ibid.) relates these trends to the education versus training debate and suggests that an *'educated teacher will have flexibility, purpose, vision, understanding'* and what he calls a *'little healthy cynicism'*. From my perspective, these characteristics have frequently been lacking in the past in a small minority of military instructors who are posted into the School rather than selected based on desire and ability to work in education. This is not a criticism of those individuals, but of the military posting system.

2.8 Communities of Practice

The framework of communities of practice has already been touched on in connection with early police training (Campbell, 2007), student throughput(Randle & Brady, 1997), and approaches to staff development (Fangharel, 2004 p. 589).Of particular relevance to this research are aspects of on the job learning taken up by Lave and Wenger (1991). In discussing situated learning and communities of practice, they see these approaches as legitimate ways of developing staff where newcomers work as apprentices alongside and under the guidance of more experienced colleagues. They recognise the importance of *'learning by doing'* especially where context specific knowledge is required, as would be the case with many Defence applications. Johnson (2007) adopts a similar stance in arguing that communities of practice are best seen as action learning spaces in which learning occurs within *'complex social histories and relations and is thus a contested process'*.

A contested space and process can be beneficial in opening up ideas and challenging existing practice. Cox(2005) argues that a community of practice is not necessarily friendly or harmonious, and can be one where people have different skills and knowledge and mutually defining identities, whereas a community implies sameness. In particular, he argues a community of practice *'is a community of people, having different skills and knowledge and mutually defining identities'*. Wenger (2010) recognises criticism that his work on communities of practice does not place enough emphasis on issues of power, largely because he believes the term community is often associated with

harmony and homogeneity rather than disagreement and conflict. Although he considers his theory is founded on learning, he accepts that issues of power are very much part of that and are inherent in a social perspective on learning. The issues with tensions and power dynamics have been raised earlier in this chapter not only with regard to the RSMS and the wider military, but also in terms of departmental cultures in HE. However, communities of practice are not without problems. As Engestrom and Miettenen (1999) point out their weakness can be in the preservation of the status quo. As already seen Perry (2012) in moving from industry to academia as a 'new academic' found the communities of practice to be fragmented, insular, operating in isolation and not receptive to challenges to existing practice. Cooke and Kothari (2001, p. 8) recognise this when they ask '*Do group dynamics lead to participatory decisions that reinforce the interests of the already powerful?*'However, Gherardi, Nicolini and Odela (1998, p. 279) argue that a community of practice '*provides a way to emphasize that every practice is dependent on social processes through which it is sustained and perpetuated.*' For RSMS the variety of social processes and circumstances are complex but highly relevant.

Whereas Wenger's indicators suggest a tight knit nature of relations, the community may indeed be quite varied and subject to strong power relationships. However, for learning Chambers (1997, p. 76) argues power is a disability. On this Johnson recognises that all learning and knowledge are subject to power relations such that '*understanding context, history, relations and purposes within and between groups of actors is crucially important*'. As Cox (2005) argues, the '*relationships and understandings within a community of practice can be structured by the work itself and a management created context*'. Watson (2002, p 252-4) relates to the management created context by considering questions of control and empowerment in management, in particular in using communities of practice to add value to organisational goals.

When considering communities of practice, it can be hard to define the boundaries and the participants of a particular community. This difficulty can be seen in the education versus training debate, which is evident in many other disciplines including medicine and pharmacy. Often the debate is split between

practitioners and educators, and made more difficult by the plurality of roles that often exists. One example is illustrated in the editorial to the Pharmaceutical Journal (2006) which quotes the Council of University Heads of Pharmacy Schools as saying '*Some of our hospital colleagues believe that the pharmacy degree should be about training, rather than education*'. This is the frequently expressed view of many in the defence training and education sector. Stronach (2002) argues that whilst most professionals acknowledge the plurality of roles, it brings with it differences in approaches, uncertainties over identity and uneasy allocation of priorities. My role as Principal is to convince course sponsors and the instructors within the School of the benefits of education whilst meeting the training requirement.

Jensen (2007) suggests that '*another challenge in perceiving the professions as expert cultures is related to the elusive nature of the concept of desire [to learn] itself.*' Within all the groups she researched, they have come to regard continuous learning as an integral part of professional practice. In collaboration with the sponsor, I am encouraging a culture of continuous learning within the RE Geographic Branch by sponsoring Officers and SNCOs on external Masters' programmes, developing opportunities for soldiers to take their Foundation Degrees forward to Bachelor Degrees through a combination of distance learning and independent research, providing military instructors with a one year Diploma to Teach in the Lifelong Learning Sector and a pathway to Qualified Teacher Status, and recognition by the Royal Institution of Chartered Surveyors.

Under the Director General Training and Education policy, all military instructors are required to undertake the Defence Train the Trainer (DTTT) courses outlined in Appendix 8 and other mandatory courses prior to taking up appointments. RSMS, as with other DTEs finds that it remains a challenge for staff to be trained prior to joining the School. This problem is not unique to RSMS as recognised by Sherlock, Chief Inspector for Adult Learning in England, in his report on Better Learning who identified "*the lack of progress in getting every instructor trained in advance of their posting to a Royal Navy, or Army training establishment*" (Adult Learning Inspectorate, 2007). The problem of

lack of development opportunities is wider than Defence. With reference to DfES (2003) and Ofsted (2003) reports, Maxwell (2010) identifies this deficit in initial teacher education in the LLS with regards to both specialist knowledge and pedagogy. Indeed there are many similarities between her assessment that there is a wide diversity of teaching work and subject specialisms in the LLS, and that the curricula are directly related to workplace roles which cross traditional subject boundaries. This is very much the case for RSMS and the wider Defence training and education community. This theme will be developed further in Chapter 5 based on commentaries from the focus groups and from individuals.

The heavy dependence on military staff, combined with their limited training and education prior to taking up their posts can have the effect of side-lining creative and human dimensions in the same way that Peters and Waterman (1986) recognised in quantitatively based models of management and decision making. This can be seen by the requirement for soldiers to attend mandatory courses. Provided they have completed these courses they are deemed to be qualified as instructor assessors, course designers, and trained assessors. Senge in an interview with Zemke (1999)on why organisations still are not learning, recognises this problem: *'People go off on a two or three-day training programme and think they can do something'*. Indeed there can be a negative reaction to it; some of my experienced staff have been told by Army inspectors that they cannot design courses, assess students or assess instructors because they have not attended such short courses. This situation can be considered as a result of a conflict brought about by the rigid structure the military requires, where *'proceduralism is placed above the skills and talents of employees'* (Kanter, 1991)

Returning to plurality of roles, military staff in training roles generally see themselves as primarily military, then specialist geographic personnel and for a short time instructors. This is not unique to the military and is recognised by Cook(2010, p. 47) in her study of nursing student attrition where she notes that many students have more roles than merely being a student. Kinsella (2007, p. 401) touches on this when she asks *'if a practitioner can acquire tacit*

knowledge in a field that they do not know: do they not require the foundational knowledge first before it can become tacit?' One risk associated with practitioners taking on a training role for a relatively short period of time is that they bring with them concepts of learning models based on a set of experiences and beliefs of their own instructors. Errington (2001) and Robertson (2004) identified this particular issue within the Australian Army where official pedagogical approaches were *'recontextualised by teachers selecting their preferred teaching principle'*.

Turning to the conflict theme, the Defence training environment is very different to Higher Education establishments in the UK in a number of respects. First there is a wide range of military and civilian types employed as instructors within the School. In the same way as Mair (1965), Goodenough (1976), and Hofstede (1980) review culture from a social anthropological aspect and consider cultures within social groups as well as within organisations, RSMS is composed of a number of groups and sub groups with very different cultures and values that inevitably bring with them various conflicts.

The groups within the staff of RSMS can also be considered in terms of Lave and Wenger's (1991, p. 98) concept of communities of practice. They define a community of practice as *'a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice.'* There are strong relations between instructors of the same rank, who are normally detailed to teach at a particular level according to rank. For example, Sgts are normally tasked to train the Class 2 soldiers, whilst SSgts train the Class 1 soldiers and Officers teach the MSc course. The tangential and overlapping communities of practice can be considered as the collocated Regimental staff[19] who sponsor and employ the trainees on leaving the School, as well as civilian instructors and lecturers. Appendix 9 identifies Wenger's indicators of a community of practice together with my assessment of how the

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[19] The collocation existed until July 2014 when the Regiment moved to RAF Wyton in Cambridgeshire.

RE Geographic training community matches up to each indicator. It also shows RSMS staff perspectives on these indicators. However, the indicators proved difficult to interpret by some syndicates. It is clear from the written entries and the comments during the CPD session that the staff's sense of belonging to a community of practice is heavily dependent on their past experiences and time in the RSMS.

Benzie et al.(2005, p. 183) in moving forward Wenger's communities of practice offers that:

> The notion of a community of practice provides a very useful theoretical framework for research into social processes of groups in contexts such as the workplace observable through 'structures, rituals, repertoires and relationships.

Clearly the military and RSMS implicitly have very clear structures, rituals, repertoires and relationships. These come out through the various focus groups and interviews, but are well documented in studies of the military, in particular by Soeters (2000 and 2006), Hahné (2012) and Uhm (2009).

Lave and Wenger (1991) in putting forward the concept of communities of practice to analyse the relationship between learning and social environment discuss how individual experiences, knowledge and beliefs influence how professionals learn and perform. The military system is very much designed to develop trainees through a common training programme with key progress points to ensure that those individual experiences, knowledge and beliefs are similar; essential when preparing for either war fighting, peace keeping or capacity building roles. But in a training and educational environment this commonality can have adverse effects on how students learn, how staff facilitate learning and how staff themselves learn. If one considers a training establishment such as RSMS to be a learning community, then Glazer's (2001)distinction between a community of practice and a learning community is relevant and important, in particular that members in the former learn through participation and reification. There are currently no formal communities of practice within either Defence education or training sectors, although there are

mandated short courses that bring civilian and military lecturers and instructors together. This situation is not confined to RSMS. Maxwell (2010) reports on studies in the LLS where trainees had limited opportunity to access teacher communities of practice((Banks, 1999); (Bathmaker & Avis, 2005); (Maxwell, 2011)).In such cases she expresses concern that the trainees are denied access to an important resource that could support them in developing subject knowledge and pedagogy

Defence's requirement for high levels of competence is well matched in other domains in emphasizing the importance within the field of higher education. The World Bank observed that '*a high quality and well-motivated teaching staff and a supportive professional culture are essential in building excellence*' (World Bank, 1994). For the UK, in his preface to the Interim Report on Reward and Recognition of Teaching in Higher Education – a Collaborative Investigation (HEA, 2009a), Professor Ramsden asserts that '*high quality, inspiring teaching is the lifeblood of higher education and the student experience.*' This indeed is at the very core of my research and the communities of practice form the theoretical framework in which environmental and cultural issues are considered in Chapter 4.

2.9 Student Motivation

Looking beyond the military environment, there has been considerable research into motivation of students. Ballantyne et al. (1997) in their research of award winning teachers, identified the relationship between theory and practices as the most common theme. In a similar study of award winning teachers in Australia and Hong Kong, Kember and McNaught (2007)identified the importance of showing relevance as one of ten principles of good teaching.

Looking at this from a student perspective, Hodgson (1984) related three types of experiences: extrinsic, intrinsic and vicarious experiences of relevance. She suggests that:

> ... *vicarious experiences occur when students saw the content from the lecturer's perspective either because they perceived the lecturer's interest or*

enthusiasm for a topic or because they identified with a lecturer's example of illustration of a concept.

This is where the employment of military instructors is so important and this is brought out repeatedly in the various focus groups.

In proposing an instructional design theory, Keller (1983) specifically looked at motivation in four motivational conditions: interest, relevance, expectancy and satisfaction. Keller later refined the model and called it ARCS model: Attention, Relevance, Confidence and Satisfaction. Keller's interest in relevance is focused on content, but relevance should also be considered in terms of context. Lave and Wenger (1990) in discussing situated learning, argue that learning is most effective if it is undertaken in a context and culture in which it normally occurs. They also contend that learning should take place within an appropriate social context. So in developing learning, relevance should be considered in terms of content, context and culture.

Just as Kember et al. (2008, pp. 252-254) were able to use third year students as participants in their research so that they would be able to look back and report on most of their undergraduate degree, my research uses the instructors and the Class 1 students in much the same way. The results of their research identified the following main factors which motivated student learning: establishing relevance, creating interest, allowing choice of courses (so that interest can be followed), learning activities, teaching for understanding, assessment of learning activities, close teacher-student relationships and sense of belonging between classmates. They also point out that one of the key de-motivating factors is abstract theory, which aroused little interest and can be hard to understand. One response he noted in this context was *'We hesitate as we are afraid of asking inappropriate questions'*. All of these factors are evident in the context of RSMS from the focus groups and interviews throughout my research.

2.10 Conclusion

In conclusion I support Dunne's assertion that the call by Glaser and Strauss (1967) for abstinence from reading in the substantive area prior to data

collection is both disproportionate and could even detract from the overall quality of research(Dunne, 2011).

Although there is no substantive literature related to RE Geo Technician training and education, my literature review has taken me into wide and varied areas of research that relate not only to qualitative research methodologies, in particular grounded theory, but also subjects that include education, sociology, psychology and defence policy.

Just as Lave and Wenger (1991) saw communities of practice as legitimate ways of developing staff, I have recognised the relevance of this approach to the way in which military staff have been introduced to their instructor's role. However, with the different groupings within the RSMS instructor cadre the framework is not straight forward and the complexities are considered in Chapter 5. In using focus groups as my main tool to discover the reality of learning within RSMS, I shared the same expectation of Wilson (2012) that her focus groups would explore training approaches, experience and expertise in the expectation of providing a perspective on a community of practice.

Following Shutz's (Minichiello, 1990, p. 94) notion *'that we need to understand how people think to understand why they behave in the way they do'*, Chapter 3 explores the methodology I used to gather people's thoughts in this research. As my main research effort is designed to enable individual views to be explored based on the analysis of data from focus groups and interviews it became clear from the start that I needed to keep in mind Paulo Coelho's (2007) warning about the researcher influencing the results of their own research and that things are never absolute, rather they depend on each individual's perception. My research methodology is designed to overcome those concerns of undue influence.

Chapter 3 - Methodology

Those of us who are practicing scientists should check in on this debate from time to time (perhaps every hundred years or so would be about right). We should think about the assumptions we make about the world when we conduct research. We can't wait for the philosophers to settle the matter. After all, we do have our own work to do!

Trochim (2006)

3.1 Introduction

As discussed in Chapter 1, soldiers entering the Royal Engineer Geographic Technician trade are by and large non-typical FE or HE entrants. For various reasons most entrants left school with little more than 5 GCSE's. Whilst there are many feedback methods employed within the military training environment, I consider most of these tend to be at a superficial level and do not get to the nub of what is happening with RE Geographic Technician training and more importantly why it is happening. As Douglas (2003) claims, grounded theory has great value in developing answers to the questions 'what' and 'why'; it is for that reason I have adopted loosely the method for this research. This chapter discusses the research methodology I employed to understand the 'what' and 'why' principally from the perspective of trainees and instructors, but also from key actors involved with the teaching and learning in RSMS.

A pilot study was undertaken as part of the EdD programme in 2009. This was run as '*small scale version, a trial run, done in preparation for the major study*' (Polit D.F., 2001, p. 467), in particular to pre-test a '*particular research instrument*' (Baker 1994, p.182-3), that being the use of focus groups as the main research instrument in the context of grounded theory. Whilst focus groups formed the only instrument to gather information in the pilot study, they alone would not be sufficient to complete the picture, so individual interviews were carried out with selected individuals who could bring an intimate knowledge and understanding to the research. This chapter addresses my methodological thinking, positionality as the researcher, the design of focus

groups and interviews, and issues concerned with data recording and transcription and analysis.

3.2 Methodological Thinking

Methodology defines the way in which a study can be carried out, and can be classified in broad terms such as quantitative or qualitative, or narrowly as grounded theory, case studies, action research, etc. Frequently qualitative research is based on grand theory such as Marxism, feminism, or Weberism. Charmaz (2014, p. 117) expresses concern that some researchers think they need to apply such theories to legitimise their work, not least because this approach can preclude the researcher's own ideas from emerging. The term grand theory was developed by Mills (1959)to refer to highly abstract theorizing, which he considered to be more or less separated from the concrete concerns of everyday life and its variety in time and space. My research is concerned with the everyday life of RE Geo Techs and how their attitudes to education change in time, from initial recruit to SNCO.

Although Guba and Lincoln (1989, p. 63)suggest that

> *Facts and theories are so intricately intertwined that it is impossible to imagine an empirical language that does not depend heavily on theoretical assumptions and formulations for its meaning.*

They also contend that the paradigms are

> *..beginning to 'interbreed' such that two theorists previously thought to be in irreconcilable conflict may now appear …. To be informing one another's arguments.*

As these two assertions seem to be in conflict they raise questions for me on the reliability of a particular theory in the first place and its relevance to the particular nature of my research.

Social science research has been categorized by Cohen and Manion (1994) into two separate camps, objectivist and subjectivist, and by Miles and Huberman (1994, p. 8)into positivist and phenomenological or interpretivist.

However these apparent black and white standpoints are not so clear cut, as noted above by Guba and Lincoln (1989)and as Burrell and Morgan(1979, p. 7) point out*...in practice there is often a strong relationship between the positions adopted on each of the .... strands'*

Charmaz (2012) in recognising that many studies use combinations of qualitative and quantitative methods, reflects Barbour's (1998)view that mixed methods are fraught with knotty problems. Like Popay, et al. (2003) she warns that mixed methods may '*divide, collide, or cohere*' (Charmaz, 2012, p 127)

In his discussion on Positivism and Post-Positivism, Trochim's (2006) assertion on philosophical assumptions and the fact that we all have our own work to do, certainly resonated with me. As an engineer and scientist, a Chartered Surveyor and with Bachelor and Master of Science Degrees, the debate about the various philosophies did not come naturally and I have considerable sympathy for Trochim's view. My position is not too dissimilar to the British Army Doctrine on Operations which offers the following in describing the British attitude to conflict and warfare:

> *The attitude is shaped by adaption and a preference for empirical rather than theoretical or necessarily technological solutions. In military terms, an emphasis on professional competence engenders an uncompromising approach to training, in order to acquire and maintain the skills necessary to prevail in the most challenging situations.*

Denzin and Lincoln (2005) observed that qualitative research has undergone quantum leaps since 1991 but at the same time it is characterized by a series of essential tensions, contradictions and hesitations, not least in the definition of qualitative research which means different things to different people. Even in putting together their handbook, Denzin and Lincoln (2005, p. xvii) recount how they fought with various authors over the conceptualization of chapters and what was clear to them was not clear to others. Some of these tensions and contradictions are most evident within the field of grounded theory.

Turning to hesitations in qualitative research, Denzin and Lincoln(2005) are of the opinion that the Government of the USA considered the only knowledge

worth producing is based on quantitative studies. By hesitations, we could interpret these as a reluctance to adopt methodologies that are constantly challenged as being unsound. This view also reflects that held by Cicourel (1964, p. 36) who argued that governments favour quantitative research because it mimics the research of their own agencies. Indeed, that has resonance with me with regard to RSMS where frequent audits and reviews are mainly concerned with the type of analysis based on first time pass rates, percentages responding to various questions on feedback forms and the like. Although there is scope for trainees to add narrative, little is done to follow up any comments in depth.

In the same vein, Silverman (2006)suggests that governments and research funding agencies want quick answers based on 'reliable' variables by quoting Denzin and Lincoln (1994, p 4) who consider that governments regard the work of qualitative researchers as *'unscientific, or only exploratory, or entirely personal and full of bias'*. But many years earlier, Sellitz et al. (1964, p. 435) as quantitative researchers, recognise that *'the inspection of non-quantified data may be particularly helpful if it is done periodically throughout a study rather than postponed to the end of the statistical analysis'*. This is analogous to the way in which theory can emerge from data through grounded theory although periodically might imply a linear progression rather than the recursive approach within grounded theory.

In differentiating between positivist and interpretivist approaches, Cohen asserts that:

> *Positivism strives for objectivity, measurability, predictability, controllability, patterning, the construction of laws and rules of behaviour and the assumption of causality; the interpretivist paradigms strive to understand and interpret the world in terms of its actors.*(Cohen, et al., 2007, p. 26)

Even Cohen's extensive list of attributes associated with positivism signals a far more rigid approach when compared with the vague *'understand'* and *'interpret'* they associate with interpretivism. Burrell and Morgan (1979)recognised this when they note that by its nature, the interpretive paradigm is highly subjective

and as such will be concerned mainly with the experiences of the individual. But which individual or individuals; me as the researcher, those being interviewed and the way in which they were selected. What is key to my research are the experiences of individuals before, during and on completion of training, and the perceptions of these experiences by others associated with the training.

Many researchers including Giorgi (1994) and Jones (1998) have challenged the adequacy of knowledge produced through interpretive approaches to qualitative research. Jones suggests that *'there is little reason to believe these methods really give us good, trustworthy pictures of the native point of view'*. Sandberg (2005, p 43) argues that one problem concerns the lack of accordance between the use of positive criteria to justify results of interpretive research and its underlying ontology and epistemology. In particular they talk about validity and reliability being criteria used for justifying such knowledge. Salner (1989, p 47) refers to a correspondence criteria of truth that implies *'facts are out there to which our ideas and constructs, measuring tools, and theories must correspond'*. The facts that are out there cannot be regarded as hard facts when derived by interpretation from qualitative research. They may be factually correct records of interviews, comments, questionnaires and observations but the information and knowledge derived from those primary sources can never be hard facts as one cannot guarantee that one has fully tested everything that is out there.   Much research depends on perceptions of different people, whether subjects or researchers, all with different views and experiences and hence their views are not necessarily a true reflection of objective reality, if objective reality is ever achievable.

3.3 Ontological and Epistemological Positions

Quine (1948) in resurrecting interest in ontology gave a succinct statement:

> *A curious thing about the ontological problem is its simplicity. It can be put in three Anglo-Saxon monosyllables: 'What is there?" It can be answered, moreover, in a word – 'Everything' – and everyone will accept this answer as true.*

The challenge here for the researcher is to remain focused on the research question, as *everything* offers no boundaries to the area under investigation. One of the strengths of grounded theory as a methodology is that it can be used to better understand any chosen phenomenon about which little yet is known. Douglas (2003)claims that despite Glaser's adherence to the principles of their seminal work (Glaser and Strauss, 1967), the method has great value in developing answers to the questions of what is happening and why; i.e. the ontological and epistemological positions. Glaser clearly established his ontological position when he noted that *'in grounded theory we do not know, until it emerges'* (Glaser, 1992, p 95).

If ontology is concerned with what is there, then epistemology is about what is true, or what constitutes valid knowledge and how we can gather that knowledge. Hitchcock and Hughes (1995, p 21) assert that ontological assumptions give rise to epistemological assumptions; these in turn give rise to methodological considerations and these in turn to instrumentation and data collection. Mills et al. (2006) support this view, suggesting that it is by subjecting the researcher's beliefs to an ontological interrogation that the epistemological and methodological possibilities become apparent. Epistemology is mainly concerned with propositional knowledge, knowledge that something is true. True beliefs can be elicited from the views of individuals and it is from these beliefs that the grounded theorist tries to convert them into a body of knowledge that is relevant to the situation under study.

In distinguishing epistemology from methodology and method, Harding (1987) identifies three common goals: looking for meaning rather than cause and effect, explanation not prediction, and participant-defined meanings not researcher imposed ones. Meaning and explanation here are concerned with the nature of knowledge in a given context, what Eraut (1994) calls *'value based knowledge'* which includes morals and ethics. In that context there are two major strands of qualitative epistemologies, realism or objective reality that emerges from data and constructivism where experience and perception are socially and culturally mediated.

Cohen et al. (2007) contend that one's beliefs will profoundly affect the manner in which knowledge of behaviour will be uncovered. If knowledge is considered to be hard, objective and tangible, then the researcher must adopt an observer's role; a positivist approach. If on the other hand, knowledge is considered as personal, subjective and unique then the researcher must get involved with the subjects and to reject the ways of the natural scientist. For me, I got involved through running the focus groups and interviews as the facilitator rather than an observer to gather together those personal and subjective aspects of knowledge.

According to Fassinger (2005, p. 157) it is the adaptability of grounded theory that sets it apart from other methodologies. She sees the method as a paradigmatic bridge between the various approaches to qualitative research and this is why aspects of grounded theory have been incorporated into a range of qualitative methodologies. In agreement with Annells (1997) and Charmaz (2000), she argues that depending on the way in which grounded theory is conceptualized and used, it may range from essentially post-positivist to post-structural, and even critical in its overall intent and impact.

Taylor and Callahan(2005) in observing that more than twenty years earlier, Amabile (1982) noted that the concept of context was scarcely mentioned in creativity literature. More recently, as Ford (1995)recognised, organisational scholars viewed creativity as a vital component for success in a rapidly changing environment. The same could be said of Higher Education and the situation at RSMS in the drive for training transformation (another question that emerges: what does training transformation mean to all the actors?). Taylor and Callahan (2005) saw creativity as an aspect of physical, social, cognitive, and even spiritual development that transcends the individual, group, process, and organisation learning and performance domains. In questioning how data regarding the existence and development of creativity can be created, they suggest that much depends on the researcher's epistemological framework and definition of creativity. Their concern is that the way the researcher defines creativity can significantly affect data collection methods and subsequent outcomes; this concern can be extrapolated to other definitions such as learning,

developing, mentoring and coaching in the field of the author's research. This issue is considered later in a discussion on verification and validation of research.

Defence training today includes concepts such as Continuous Improvement, manifest in JITG through Quality Improvement Programme (QIP) and the Quality Assurance Group (QAG). Taylor and Callahan (2005) conclude that as organisations attempt to measure the effectiveness of change programmes designed to increase creativity that will lead to innovation, it is important to examine the frameworks that determine measurement techniques. If continuous improvement is to have any meaning then it must include innovation and imagination, in other words creativity. Within RSMS the methodology I adopted in my research to determine the 'what' and 'why' of the principal actors, the soldiers under training and their instructors, reflects a creative approach to training transformation.

Morse (Denzin & Lincoln, 1998) offers three stances that underlay qualitative research: theory driven, concept driven and reform or problem focused. My research is very much in the reform and problem focused arena, as evident from my principal research question:

> *How can the Royal School of Military Survey enhance the quality of teaching and learning through a better understanding of the RE Geographic Technicians' attitudes to education and training?*

To answer this question, my methodological thinking is based around grounded theory, a methodology that requires data collection and analysis to occur concurrently rather than sequentially. In this way the theory is emergent rather than predetermined and is a consequence of systematic data collection and continuous analysis.

3.4 My Positionality

As discussed in Chapter 2, a significant change for the RSMS was my appointment as the first civilian Head of Establishment; all previous incumbents have been Royal Engineer Officers, all Military Survey[20] specialists.

In my position within the RSMS it is impossible to become fully immersed in the local culture; that is, in the lives of the soldiers under training or even those of the instructors. This is evident from my interview with WO1 TDT, a highly experienced and senior soldier. I had to ask him to stop calling me Sir, even though we have worked closely together for many years; his response was that *'it is a hard habit to get out of'*. So if that is difficult for someone like WO1 TDT, one of our most senior soldiers, then it would be far harder to immerse myself with junior soldiers and less senior instructors. The effect of this is reflected by Kincheloe & McLaren's (2003, p. 452), assertion that *'all thought is mediated by power relations that are socially and historically constituted'*. The social norms are well established within a military environment and are frequently well established historically. The only time the formalities are relaxed is when taking part in adventurous training or in sport when first names are used across all ranks.

I was fully aware of my positionality when interviewing participants. As Principal of the RSMS, I am the soldiers' Commanding Officer and whilst I do not have reporting responsibilities for the Sappers and Lance Corporals, I do for all the instructors in the School, where I am either the First or Second Reporting Officer. In these circumstances it is difficult to separate out the differences that exist within a highly hierarchical society such as the military. Cresswell (1998) recognises the challenge of trying to be objective for a researcher exploring their own back-yard. In the RSMS there exist strong barriers through the workplace, messes and differences in rank. Young soldiers are reluctant to talk

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[20]The name Military Survey disappeared when Military Survey became a Defence Agency, the Defence Geospatial Intelligence Agency, however the majority of officers and SNCOs still use the term Military Surveyors and consider themselves to be Military Surveyors.

in front of senior officers and will generally speak only when spoken to. This was evident from the 2nd Focus Group with Class 1 trainees when they discussed how reluctant they had been to express a view in front of staff during their Class 2 course, and the change in relationship between staff and themselves after being on operational tours with some of the military instructors. In an attempt to distance myself from my position, I deliberately dressed down by changing into casual clothes.

Apart from my positionality in terms of rank, I was also aware of my influence as facilitator of the focus groups. As Burck (2005, p. 241)observes, an interview *'can contribute to the construction of a new account with its own effects'*. In view of this she goes on to raise more fundamental questions over whether a participant can ever give 'informed' consent. By limiting the number of interventions in the form of questions or bringing the groups back on to the subject I hoped to minimise my contribution to these effects.

Cohen et al. (2007) contend that one's beliefs will profoundly affect the manner in which knowledge of behaviour will be uncovered whereas Glaser(1992, p. 95) clearly established his ontological position, a more clinical one, when he noted that *'in grounded theory we do not know, until it emerges'*. After more than 25 years working in the School I had built up my own perceptions of various attitudes, behaviours and practices through daily interaction with staff, attendance at course committee meetings and general discussions with trainees. Picking up on this possible contamination, Douglas (2003) argues that detailed predetermination of research foci, beyond generalized parameters, could be contended as inhibiting the true emergence to the ontological and epistemological questions of the 'what' and 'why' events have occurred. On the subject of unfocused research, Miles and Huberman (1994, p. 28)) observe:

> *The looser the initial design, the less selective the collection of data; everything looks important at the outset to someone waiting for the key constructs or regularities to emerge from the site, and that wait can be a long one.*

However one risk is that the researcher is never satisfied, as the scope of the research continues to grow to capture Quine's *'everything'* in the belief that everything is important.

3.5 My Positionality as the Researcher

Turning to the role of the researcher, Glaser and Strauss (1967, p. 249) in their influential work asserted that, *'The theory can be developed only by professionally trained sociologists. . .'* A few years later Glaser(1978, p. 158) revised his view by recognizing the contribution of researchers in a wide range of fields, observing that:

> *Although there is some interweaving, most of these students have submitted essentially social science dissertations and written papers speaking to the issues in their own field.*

In this aspect, Strauss and Corbin (1998, p. 9) are in agreement with Glaser, a stance that reflects my own position as a practitioner in education:

> *As a methodology and a set of methods, their approach to research is used by persons in practitioner fields such as education, nursing, business, and social work, as well as by psychologists, architects, communications specialists, and social anthropologists.*

As Goulding (1999) points out, no researcher starts out with a totally blank sheet, giving examples in the fields of sociology, psychology and business. Indeed, Charmaz (2014, p. 59) citing the example of Baldwin (2011) recognises the benefits of the researcher being fluent in the procedural issues and technical questions to guide the conversation. She also recognises the need for researchers to be current about the situation under study. This supports the line taken by Strauss and Corbin (1998, p. 97) in *'emphasizing that it is not possible to be completely free of bias'*. This line is also taken up by Charmaz (2014, p. 17) who argues that:

> *As we are part of the world we study, the data we collect and the analysis we produce, our grounded theories are constructed through our past and*

present involvements and interactions with people, perspectives and research practices.

Indeed, most authors point out that researchers are part of the research study and cannot be considered as objective observers, and Mills, et al.,(2006) picking up this theme demand that researchers acknowledge their own values and make these transparent to readers of the research. In explaining the challenge of understanding the stance the researcher takes toward others, Schwandt expresses a similar view that:

> *. . . understanding requires an openness to experience, a willingness to engage in a dialogue with that which challenges our self-understanding. To be in a dialogue requires that we listen to the other and simultaneously risk confusion and uncertainty both about ourselves and about the other person we seek to understand (Schwandt, 1999, p. 458).*

But care is needed as recognised by Fine (1994) who argues that there is a danger of a discourse of *'the other'*. By this he means hiding one's own role under a guise of neutrality which can create an *'othering'* of research participants.

In a similar way the use of seed data has been discussed by many authors. Use of seed categories as advocated by Miles and Huberman (1994) to help guide the research was considered by Strauss and Corbin(1998) to be flawed as it detracts from the method. A similar argument is presented by Silverman (2006, p. 79) who argues that the premature definition of 'variables' is dangerous in field research as it runs the risk of deflecting attention away from how the participants relate to their own social world.

Burrell and Morgan(1979) argue that interpretivists are interested in understanding the nature of the world as it exists because they believe that reality can only be revealed by those engaged in the experience, thus helping individuals *'make sense of their world'*. This line is also taken by Ehigie and Ehigie (2005) who argue that the researcher must be knowledgeable about their subject and able to relate to the participants in their own language and context.

In my research I have engaged with a wide range of individuals all closely involved with RE Geo Tech education and training.

Fernandez et al. (2002, p.117) relate how it is easier to use grounded theory when the researcher is *'sensitive'* to the subject of research as it becomes easier to elicit information from participants and in understanding the more subtle issues. This sensitivity is contrary to the advice of Glaser. Cutcliffe (2000), and Hepwood and Pidgeon (2003) in discussing diversity in qualitative research argue that there is a fine balance to be struck between having the knowledge to focus the data collection and avoiding the risk of the investigation being circumscribed by pre-ordained constructs and expectations, what Acker (1999, p. 212) refers to as contamination. Glaser and Strauss see the researcher as a *'highly sensitized and systematic agent'* and the sensitive insights of the observer as key to all significant theorizing.

Gadamer's (1994) view is that the interpreter should start from the viewpoint of their own culture and tradition, and reach some kind of *'fusion of horizons'* with the area under investigation which requires the researcher to look beyond what is close at hand. In my research this fusion of horizons brings together the visions of the wide range of participants and my own to enrich our understanding. It also merges past and present horizons. Gadamer also considers that *'it is not that objectivity is a hard quality to achieve, but that it is impossible – not least because there is no unequivocal, culture-free reality to be sought.'*

According to Gilovich (1991), a natural tendency in human reasoning, when examining evidence relevant to a given phenomenon, is an inclination to see what is expected. In other words, people readily accept evidence that validates pre-existing ideas and are found to be less responsive to the implications of new information. There are sources of a priori knowledge other than the literature; for example as McGhee et al.(2004) recognise, a researcher who is close to the field as is my case, may already be theoretically sensitized and familiar with the literature on the study topic. Holton (2007) and Charmaz (2006)acknowledge that researchers carry into the analysis accumulated experiences and preconceptions arising from their discipline or profession.

Holton (2007, p. 269) also argues that '*grounded theory requires the researcher to enter the research with no preconceived problem statement, interview protocols, or extensive review of literature*'. However, Eisenhardt (2002, p. 12)notes that '*it is impossible to achieve this idea of a clean theoretical slate*'. In summarising the work of Dey (1999), Layder (1998), Elkins (2003) and Clarke (2005), Dunne (2011) comments that '*for researchers who are experienced in a certain field, the idea that they could somehow jettison all their prior knowledge of the field is unfeasible*'. So as Evans recognises whether the research is in nursing or business it helps to understand issues related to nursing or business respectively. In the same way to undertake research in the field of education and learning within the military, my own understanding of both the military and educational environments is beneficial.

3.6 Grounded Theory

Grounded theory is a well-established research methodology in a wide range of fields including nursing, education and psychology. Charmaz (2012) defines grounded theory as:

> *a systematic method of analysing and collecting data to develop middle-range theories. This method begins but does not end with inductive inquiry. It is a comparative, iterative, and interactive method. The emphasis in grounded theory is on analysis of data; however, early data analysis informs data collection.*

The methodology has been viewed with criticism and scepticism for its apparent lack of rigour, excessive fragmentation of data and because it is considered excessively time consuming. Indeed Charmaz (2012) recognises that qualitative research was seen as '*idiosyncratic, impressionistic, unsystematic, biased, and impossible to replicate*'.

Since first presented by Glaser and Strauss (1967) more than sixty years ago, the methodology has diverged with different paths Straussian led by Strauss and Corbin (1990), Classical grounded theory by Glaser(1992) and

Constructivist by Charmaz (2000). Strauss advocates a very rigid coding structure for the data analysis, with an emphasis on deduction, verification and validation. Classical grounded theory is based on an inductive-deductive approach and as such starts with no preconceived ideas or questions. Constructivist grounded theory starts with a review of literature to explore existing research in the substantive area. For some this is seen as an evolution journey from Classical grounded theory, through Straussian to Constructivist grounded theory(Hallberg, 2006). However, Hernandez and Andrews(2012) consider that the real difference is in the final product, with constructivist grounded theory creating a descriptive theory whereas the classical approach is focused on explanatory theory. A more pragmatic view is taken by Bryant (2009) who argues that the various epistemological issues associated with the different approaches can be set aside as the *'ultimate criterion of good research should be that it makes a difference'*.

Goulding (1998, pp18-19) in explaining why grounded theory had largely been excluded from the discourse on interpretive and post-modern methodologies., concludes that the methodology is particularly suited to the study of behaviours and has considerable potential for the broad range of subjects that have a human dimension. In my research there are a number of different human dimensions that need to be explored and understood.

Concern over the volume and unwieldy nature of the data is widely recognised, but saturation of data remains a necessity for the constant comparison method to allow for the generation of theory. It is still essential to avoid research that is so unbounded that it becomes unwieldy, but instead to narrow down the scope of the data collection so that it is most appropriate to the research problem. Smith and Pohland (1969, p. 7) observe that the problem of when to terminate the sampling is simplified by the fact that they were working with phenomenally discrete situations, which is similar to that of this research. In their case they were constrained by semesters or start of years; in this research the start of cohorts of Geographic Technicians is similar. Silverman's (2006)advice is *'to celebrate the partiality of the topic and data and delight in the particular phenomenon that it will allow you to inspect'* is pertinent to this research.

It remains the responsibility of the researcher to ensure that the emergent theory is truly grounded in the data and that data has been collected in a 'correct' way. The divergence of approaches and opinions, and the disagreements between different camps, is not helpful to me as the researcher in this field. As Rosie (1995) says, *'grounded theory approaches to social analysis do not release the researcher from careful and exact specification of what data were collected, under what conditions, and on what grounds analysis is proceeding'*. Specification is probably not the best word, explanation would be better, but the message is that the researcher must be able to present the results in a robust way that will stand up to scrutiny.

As grounded theory is designed to construct theory out of lived experiences of those under study, it is well suited to the study of Geo Techs under training. In particular as subjects of the research they would be talking about their previous experience, present concerns and future plans; undoubtedly their current and past experiences are likely to colour their perceptions. Grounded theory as a methodology provides a valid approach to be adopted in determining the 'what' and 'why' of the principal actors, the soldiers under training and their instructors, and offers a way of contributing to training transformation within RSMS.

Dunne (2011)in discussing the place of literature in grounded theory research deliberately avoided imposing a specific theoretical framework on the study at the outset. Henwood and Pidgeon (2006, p. 350) use the term *'theoretical agnosticism'* to describe this approach in preference to *'theoretical ignorance'*. Being agnostic does not mean I need not think about the assumptions that I make about the domain of this research.

In discussing grounded theory, Dey (2004, p. 84)argues that there is *'no such thing as grounded theory if we mean by that a single, unified methodology, tightly defined and clearly specified'*. As Payne (2007, p. 68) points out *'one of the unique features of grounded theory analysis is the dynamic interplay of data collection and analysis'*. I sympathise with Hughes and Howcroft (2000) in their belief that grounded theory should not be applied rigidly in practice; rather it relies on the practical application of methods to suit real situations and needs *'to adapt to the contingencies of a particular situation'*. This is in keeping with the

line taken by Dey (2004) and recognises the difficulty of finding a one size fits all methodology for researching social situations and the need to recognise the particular dynamics of the area under study.

A similar approach adopted by Garland (2008) that of a non-formulaic one, had strong resonance with my own thinking. Her references to a '*Smorgasbord table*' (Strauss & Corbin, 1998, p. 8), '*flexible feel to it*' (Glaser & Strauss, 1967), '*Guidelines ...... not rules*' (Strauss, 2001 p7), '*Gentle guidelines*' not '*rigid rules*' (Charmaz & Mitchell, 2001, p. 161), and a '*tool rather than a prescription*' (Bryant, 2003) were all used to support her stance. Hughes' and Garland's approach appealed as there can never be a right or wrong way to address the problem, only better and worse approaches, and each must take into account the circumstances in which the research is carried out.

In feedback from Assignment 3 of the EdD Programme, Tim Simpkin observed that the research questions that I set out on are not all susceptible to interpretivist study, rather some of them seem very positivist. Within my research I would argue that if the research questions are susceptible to positivism as suggested by Simpkin, then post-positivist critical realism would be closer to the mark in recognizing the fact that all observation is subject to error and that all theory is revisable. If one accepts that our ability to know reality with certainty is questionable then I would suggest that the approach is more like that of the critical-realist. In carrying out this research I am constrained by the samples I can take of students, staff and individuals who express views, thoughts and opinions. If one takes the question about achievement at school and decisions not to progress to FHE or HE, then there is no one single reason, but many interleaved factors that may be relevant. All of these need interpreting. If the goal of knowledge is simply to describe the phenomena experienced, a positivist approach, then that does not satisfy the purpose of this research. We cannot simply stick to what can be observed and measured.

In differentiating between positivist and interpretivist approaches, Cohen asserts that:

Positivism strives for objectivity, measurability, predictability, controllability, patterning, the construction of laws and rules of behaviour and the assumption of causality; the interpretivist paradigms strive to understand and interpret the world in terms of its actors' (Cohen, et al., 2007, p. 26).

Even the extensive list of attributes associated with positivism signals a far more rigid approach when compared with the vague 'understand' and 'interpret' they associate with interpretivism. Burrell and Morgan (1979) had already recognised this when they noted that by its nature, the interpretive paradigm is highly subjective and as such will be concerned mainly with the experiences of the individual. But that is what is key to the proposed research, the experience of individuals before, during and on completion of training. By involving groups of individuals and holding interviews with others, particular experience of an individual should give way to a more general position.

3.7 Focus Groups

I chose focus groups as the principal tool for capturing and analysing data as they enable participants to contribute based on personal experience through discussion (Powell & Single, 1996, p. 499). As Morgan (1997, p. 12) points out, focus groups rely on interaction between participants rather than questions and responses between the researcher and participants. I saw that interaction between participants would be important to bring out those shared experiences that exist amongst close groups such as the 'military family'.

The focus groups were exploratory to identify those personal experiences that have been shared by soldiers and by instructors at various stages of their career development. The main purpose of focus group research according to Gibbs is to

...draw upon respondents' attitudes, feelings, beliefs, experiences and reactions in a way..... that are more likely to be revealed via the social gathering and interaction which being in a focus group entails. (Gibbs 1997, p. 2)

Gibbs goes on to echo Kitzinger's (1994) view that interaction is the crucial feature of focus groups because it highlights their [the participants] view of the world, the language they use about an issue, and their values and beliefs about a situation. The focus groups provide insights into shared attitudes and values, which is particularly relevant in the tightly knit military environment.

The timescale for the research introduced time scale problems. Ideally a longitudinal study would have been carried out that would follow the career of a cohort of sappers from arrival in RSMS, through Class 2, Class 1, operational experience and into their career as a SNCO and as an instructor. Figure 1 shows the typical training and development programme for a soldier entering the RE Geographic branch. However this would entail something like a minimum of 7 or 8 year observational period, well beyond a sensible study period. Indeed such an extended observational period could result in the outcomes of the research being negated by other factors such as changes to doctrine, organisational structures and developments in technology applied to teaching, learning and assessment.

3.8 Ethical Issues

Cohen et al. (2000) set out four key ethical principles that should be considered when undertaking research: beneficence, informed consent, confidentiality and anonymity. Beneficence is concerned with 'doing good' whilst ensuring 'no harm'. My research set out to 'dogood' by enhancing the quality of soldier training and education within RSMS by better understanding the attitude of soldiers and teaching staff to learning. However, the beneficence would not be restricted to the individual; if the learning environment could be enhanced through my research then so too would be Defence's capability.

I have already addressed my positionality and I expected to face some ethical issues in my role as facilitator of group discussion and interviews and as Principal of the School. Two distinct situations arose where I intervened towards the end of the discussions to put my perspective on issues raised. One regarded the issue of linking training to a Foundation Degree, the other related to respect.

In discussion on the relevance of the Foundation Degree, I took the opportunity to explain how I saw the situation.

JAK: *I'll jump in here. It's not really relevant to my discussion, but certainly the FDSc has not dictated what we do at all. What we do is dictated by Training Branch'*

LCpl D: *That is not what we get told.*

JAK: *No, I can assure you…..*

LCpl E: *at the end of every module we get a discussion, about how we thought the module went and we get told quite regularly – yeah it's the FDSc.* (by this I interpreted LCpl E to mean it's the FDSc and Sheffield Hallam University that dictates what is taught and how it is taught. JAK)

JAK: *I will be quite firm here. I'm going to jump in, and I shouldn't really, but the content of the course was dictated by a Training Needs Analysis[21] and not by Sheffield Hallam University and a Foundation Degree – quite separate……..*

This in a way showed my frustration at the struggle to bring some of the military instructors on board with external accreditation and represents what was frequently heard from instructors in the early days of the FDSc *'that is not how it was done in my day'*.

Indeed towards the end of this particular piece of discussion I was surprised to hear the following:

LCpl C: *Mr P…..Mr P was saying round the table, he said why are you doing something, he said it's because the Foundation Course says you have to do it.*

Mr P, one of my senior military Non Commissioned Officers at the time, should have been clarifying the situation for the trainees, whereas the message that I

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[21] A Training Needs Analysis (TNA) is an integral part of the Defence Systems Approach to Training (DSAT). All Defence training and education should adhere to the principals of DSAT.

interpret from this extract was that an incorrect representation was given. This would indicate that either the senior management within the School, including me, have not communicated effectively how the FDSc came about, or that there is deeper resistance and mistrust to the development of accreditation than I thought existed. This links back to my questions of 'does it work' and 'how does it work'.

The other case was where the Class 2 trainees were discussing a subject I had not expected to come up, that of lack of respect in school. They discussed respect for each other, notions of respect with teachers in school and then moved on to the respect they have for staff and the respect staff have for them. This aspect started with the following:

Spr A: *I think we are respected more.*

This was echoed by Spr B

Spr B: *Yeah you feel more respected.*

Spr A: *Civilian in military has now changed now we've got on to military topics. Military instructors and respected now.*

Spr A: *That sounds real crap but….*

Spr B: *….. they [civilian instructors] treat you like an add-on.*

Later on there is a lot of discussion that shows a lack of respect for civilian instructors. This is a particularly interesting aspect that I later explored further with all focus groups and interviews as the comments from the Class 1 trainees were very different and a lot more respectful of the civilian instructors than the military instructors. The emerging theme of respect was one that I explored further in all the later focus groups and is discussed further in Chapter 4.

I expected some ethical issues to arise in running the focus groups, but the two examples given above certainly took me by surprise. Indeed discussions with my Head of Training Management Branch following the focus groups showed that he too was unaware of these issues. This also demonstrated the benefit of

carrying out this research and moving beyond the many formal feedback mechanisms that are accepted as standard. Regarding the first example, I thought we as a School had moved on from the perception given and the second was one that I was completely unaware of, but with hindsight one that I should have recognised. But if one sees the focus group as a forum for change (Race et al, 1994) then maybe I should not be over-concerned that I faced what I thought of as a difficult ethical issue.

Kvale and Brinkman (2009) recognise that ethical issues can arise at any time in the research process. In my case one such ethical issue arose during the analysis of the individual interviews, that of anonymity of participants. Social Research Online offers clear guidance on the matter of anonymity:

> *The anonymity and privacy of those who participate in the research process should be respected. Personal information concerning research participants should be kept confidential.*

It goes on to assert that:

> *Where possible, threats to the confidentiality and anonymity of research data should be anticipated by researchers. The identities and research records of those participating in research should be kept confidential whether or not an explicit pledge of confidentiality has been given. Appropriate measures should be taken to store research data in a secure manner. Members should have regard to their obligations under the Data Protection Act. Where appropriate and practicable, methods for preserving the privacy of data should be used. These may include the removal of identifiers, the use of pseudonyms and other technical means for breaking the link between data and identifiable individuals such as 'broadbanding' or micro-aggregation.*

With the focus groups there is no difficulty in anonymising the research data. Indeed I did this at the data collection stage by using letters to identify individuals, such as Spr A or LCpl S and the specific cohorts are not identified in this thesis. This makes it impossible to identify individuals from aggregated data.

Where I failed to anticipate the problem was with regard to individual interviews, and it is here that there is a conflict between anonymity and validity of the research findings. All the individuals interviewed, were selected for a specific purpose as they filled key roles either in the School or in support of the School. It was through their role that context is established, and authority and credibility given to their statements. Clark, (2006, p. 9), with reference to Grinyer (2002) argues that it is worth considering whether participants wish to remain anonymous. For my research context is crucial to framing the contributions of these participants. Without reference to their position it is hard to understand their contribution to the social reality of RE Geo training. Clark (2006, p. 17) argues that *'if anonymity is not possible .... then being open and honest with participants is of course the most ethical of all anonymisation strategies'*. With three of the participants I have been given explicit permission to use their names. As Clark (2006, p. 18) argues, *'an inappropriate [anonymisation] strategy could result in inappropriate data analysis'*; it is for this reason that for most of the participants, especially the instructors and students, anonymity is necessary but for key individuals it is essential to relate contributions to appointments.

3.9 Conclusion

Returning to my background as a scientist and engineer, I have considerable sympathy for Glaser (1998, p. 68) who argues that researchers can be *'awed out'* by the work of others when exposed to established theoretical ideas. A more pragmatic view is taken by Bryant (2009) who argues that the various epistemological issues associated with the different approaches can be set aside as the *'ultimate criterion of good research should be that it makes a difference'*.

However, if one accepts Crotty's (1998) argument that there is no single objective truth that can be measured or captured then Charmaz's (2003, p. 250)view of constructivist grounded theory fits well with my own methodological position. In her version of grounded theory she considers that there is a *'relativism of multiple social realities, recognises the mutual creation of knowledge by the viewer and the viewed, and aims towards an interpretive*

understanding of subjects' meanings'. Her approach is to acknowledge subjectivity and the researcher's involvement in the construction and interpretation of data; an approach I have followed. The situation in RSMS resonates with her recognition that knowing and learning are embedded within social life, of which the military forms a specific case.

I also recognise the importance of avoiding the over-construction of data. As Glaser (2002) notes, care should be taken not to garner *'the data through an interview guide that forces and feeds interviewee responses'* so that one doesn't construct data to a degree by the interviewer bias. This still allows for *'very passive listening and then later during theoretical sampling focused questions to other participants'* based on emergent categories (Glaser, 2002). My approach to interviewing is discussed in Chapter 4.

Through the methods adopted, I set up the conditions to enable a better understanding of the learning that takes place within RSMS to emerge. It is through a deeper understanding of the attitudes of staff and students to learning that enhancements can be made.

Chapter 4 - Method

We construct research processes and products, but these constructions occur under pre-existing structural conditions, arise in emergent situations, and are influenced by the researcher's perspectives, privileges, positions, interactions and geographical locations.

Charmaz (2014)

4.1 Introduction

In Chapter 3 I established the methodological thinking behind my research and focused on my own role in the research process. In this chapter I address the construction of processes and products to establish the methods employed to select the participants, carry out the interviewing and manage the data. I conclude by assessing the validity and reliability of the methods adopted.

4.2 Access issues

Working mainly on the same site as the focus group members made it relatively easy to be flexible on my part to fit in with training programmes. On explaining the purpose of the research to those courses and staff who would be candidate participants, I had no difficulty in gaining willing volunteers to take part. On the contrary, the reception I received was quite enthusiastic with a number of questions asked, despite encroaching on the soldiers' meal times, something one normally tries to avoid! This could be attributed to a sense of empowerment where the soldiers welcomed an opportunity to contribute, in a way they had not been involved before, to the thinking on the way they are trained. This aspect is recognised by Gibbs (1997, p. 2) who reminds us not to underestimate the benefits to participants. She refers to the work of Race et al.(1994) and Goss and Leinbach (1996), who offer that the opportunity to get involved in decision making, to be valued as experts and to be given the chance to work with researchers can be empowering for many participants.

One insurmountable difficulty related to identifying a location for the focus groups. A major challenge was to find a neutral location to hold the focus groups, to avoid the possible negative or positive associations that Powell and

Single (1996) warn against. I could not go into the Warrant Officers' and Sergeants' Mess or the other ranks' Mess without the permission of the Presidents of these Messes, and the junior and senior soldiers could not come into the Officers' Mess. These are the only social environments on the camp and this forced me to host the focus groups within the School premises. Unlike many training establishments we do not have a mixed rank 'crew room' and so I had to create as relaxed an atmosphere as possible in one of the syndicate rooms. I did this by using armchairs around a low coffee table, on which I placed the recording devices and soft drinks.

On a couple of occasions, the only location I could use was around the conference table in my office. I thought this might be too intimidating for the young soldiers taking part, especially as they only visit the HQ top corridor when they need to report to the School Sergeant Major (SSM), normally for some administrative or disciplinary offence. However, I discussed this with my Senior Military Instructor, who argued that the soldiers would indeed feel privileged to be invited to take part in discussions in my office, very much supporting the views of Gibbs (1997, p. 2).

4.3 The Participants

With my research focus on the attitudes and values of Geo Techs to learning, I needed to appreciate how different parts of the training pipeline are viewed; what Creswell refers to as *'what is going on'* (Creswell, 1998, p. 17). As Lincoln (1997, p. 38) observed,

> *...multiple stories feed into any text; but, equally important, multiple selves feed into the writing or performance of a text, and multiple audiences find themselves connecting with the stories which are told.*

It is important to recognise that those involved in this research have more roles than merely being a student or an instructor. This research therefore enabled me to gather the stories of soldiers entering and working in the Geographic specialism whilst comparing their perspectives with those who instruct and manage them.

Participants for this research were drawn from aptitudees, soldiers on course, military instructors and personnel external to training delivery. Between these groups they provided a rich perspective of the reality of the experience of training within RSMS. In planning the research, my desire was to ensure that the groups chosen would offer several perspectives on the key research questions by capturing insights from four different group types. These were planned to capture these from:

A. **Aptitudees**. Several one week courses for aptitudes take place each year, but these are run by the sponsor of training rather than the School.

B. **New entrants to RE Geographic Training**. Four intakes start each year making it possible to select a group that fits this category within the timescale of the study. Ideally this group would have been interviewed with a week of the course starting, to gain their initial thoughts on entering training.

C. **Soldiers completing their RE Geographic Training**. Initially at the start of the research, three cohorts entered their Class 1[22] training each year which would enable a group to be selected that would be close to completion of their training.

D. **Instructors – Military and Civilian**. The School employs a mix of military and civilian instructors. There are fundamental differences between the instructor groupings and separate focus groups for military and civilian instructors are more likely to produce attitude differences that can be related back to the students' perceptions.

According to Creswell (1998, p. 118) *"a researcher chooses participants based on their ability to contribute to an evolving theory"*. The choice of aptitudees and trainees was left to my Senior Non-Commissioned Officers (SNCOs) since they were in regular contact with the individuals and much better able to facilitate the

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[22] Class 1 refers to those Sappers who are qualified as RE Geographic Technicians and equates to Level 5 in the National Qualification Framework (NQF); Class 2 equates to Level 4 in the NQF.

focus groups. The only conditions I set out were that I wanted to exclude those with degrees or 'A' Levels that would have allowed the trainees access to Higher Education should they have wanted to follow that route, and that all participants should be willing volunteers and not press-ganged into joining a focus group.

Aptitudees

One group at the start of the training pipeline is the cohort of aptitudees. Throughout the year several programmes of one week's duration are run for those individuals who are interested in becoming Royal Engineer Geographic Technicians (Geo Techs). The week provides candidates with the opportunity to see the operational organisation and be exposed to the RSMS training environment whilst allowing the sponsor to select those candidates who are considered best fitted for the role. One of my focus groups involved a cohort of six aptitudees to provide a baseline from which responses of students could be compared. The advantage of this cohort was that they had not been influenced by teaching, learning and assessment practices within RSMS, and many of the aptitudees have no previous experience of the military.

New Entrant Students

As discussed in Chapter 1, the majority of students in RSMS training to become Geo Techs are Sappers[23] and Lance Corporals in the Corps of Royal Engineers. On completion of their training they are given considerable responsibility as they will be required to carry out complex geospatial analysis in very small teams on operations.

As most of those joining the Geographic Branch of the Royal Engineers would not normally gain access to HE the School has been successful in widening educational opportunities. Experience has shown that many of those selected

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[23]The term 'Sapper' came into common usage in 1626 and the rank of 'Sapper' was conferred onto the private soldiers of the Corps of Royal Sappers and Miners on its amalgamation with the Corps of Royal Engineers in 1856.

have not shone at school, perhaps because they could not see the relevance of their studies, or did not appreciate the way teaching was undertaken at school.

The RE Geographic trainees are required to pass their Class 2 and Class 1[24] courses to remain in the Geographic Branch of the Royal Engineers and to gain promotion. The challenge for RSMS is to motivate the soldiers to learn in a training environment in subjects that require higher levels of academic skills including analysis and synthesis of information. Soldiers entering basic training have to contend with many of the challenges associated with culture shock that faces international students in HE as described by Zhou et al.(2008). These include novel social and educational systems, behaviours and expectations; in the case of soldiers these are all quite different from experiences at secondary school, or even university for those with degrees. A general trend in society is towards increasing emphasis on human rights, individual rights, equal opportunities and less emphasis on group identity and responsibility in what McKie and Brook (1996) call the culture of individualism. Handy (1993) recognised a similar change with a loss of respect for traditional institutions, which would include the Services; one that Dannatt (2010) raised concerns over. By aligning education with civilian awards in partnership with universities, the gulf between the military and civilian worlds can be narrowed, albeit in a small part of Defence whilst meeting the political will to diversify and certificate military training.

There is also a resonance in the work of Olmeda (1979) who describes how immigrants gradually give up identification with country of origin and move towards identification with culture of contact. The immigrants in this case are those entering Army life out of the civilian world. In his work on social identity theory, Tajfeh (1981) examines how group membership affects individual identity. This again is very much part of the acculturation process seen within the military training environment that leads to the order within an organisation.

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[24]Class 1 and Class 2 equate to level 5 and level 4 in the National Qualification Framework and represent the two levels of technician training within the Army.

The challenge for me as Principal of the RSMS is to ensure that the correct balance exists between establishing a learning culture and exercising the military experience, particularly as the School is collocated with an operational unit.

Class 1 Students

The Class 1 students will have completed their Class 2 training in RSMS as part of the Foundation Degree and have normally completed at least one operational tour in Helmand Province in Afghanistan. Many of those on the course will have worked with their instructors whilst on operations or while employed in operational units in the UK. This undoubtedly changes the dynamic between student and instructor when compared with the Class 2 students on arrival in RSMS. They will have seen active service, employing their skills and will understand the context in which they operate. They will also have started up the promotion ladder and may well be looking at role models amongst their seniors. This is an aspect brought out by WO1 TMB, from his own experience as a student, as an instructor and as the sponsor's representative.

The Teaching Team

As already discussed there are two quite distinct groups of instructors in the School, who deliver training to both the Class 1 and Class 2 students. The Class 2 courses are mainly delivered by Sgts whereas the Class 1 courses are delivered by SSgts and civilians.

Military Instructors

From my perspective, the function of staff in the school has been very much along the traditional military instructor role, focused on the transfer of knowledge from instructor to student. For far too long the training of military instructors has been focused on presentation skills suitable for delivering short training sessions rather than education over long periods. This is to ensure that military personnel are able to deliver mandatory training to soldiers in their unit, to a required standard, in line with the idea of 'economy of performance' (Stronach et al. 2002). The issues here have a close resonance with what Hargreaves (2000) identifies as transmission teaching, which he suggests forms

an accepted and largely unquestioned view of what teaching is about. This was very much the view of DTTLS Tutor, an external instructor on starting to teach the Diploma to Teach in the Lifelong learning Sector.

Despite the lack of qualifications in education and training, there are several reasons why the military like to keep a high number of military staff in the training environment. Under Harmony Guidelines (MOD, 2003) operational tour lengths should be not more than 6 months, with 24 month average tour intervals. Postings to what can be considered a benign training environment certainly help to keep within the requirement especially for a small specialist cadre of military, as is the case with RE Geographic staff. An added benefit of military personnel serving in a training environment is that they develop their own technical competency beyond the level they have been trained by 'hand me down' training in the field. This ties in with Senge's (1990, p. 139) view of how organisations grow, in that organisations only learn through individuals who learn. Posting staff for harmony reasons is yet another source of conflict; conflict between the needs of the individual, the training organisation and the wider military employing units.

Military personnel are employed to bring recent vocational and operational experience to the training environment whilst the civilians bring professional, academic and educational experience. Royal Engineer personnel represent some 60% of the staff, with Royal Air Force, Royal Navy, Intelligence Corps and civilians accounting for the other 40%. This balance is at variance with recommendations in the report Modernising Defence Training (2001) that came out of the Defence Training Review programme which proposed a balance of 60% civilian and 40% military; this recognised the difficulties affecting military personnel holding instructional posts in a training school. These include the need for time for staff training in the subject matter and training delivery, operational tours, resettlement for staff in their last year of service, adventure training, sport, station and mess duties, and court martial service.

In discussing research by Wineburg and Wilson(1991), Richardson (2003) recognises the importance of the teacher's own understanding of subject matter

in combination with an understanding of how students are receiving it. She asserts that:

> *Such knowledge helps teachers in the interpretation of how students are understanding the material, in developing activities that support students in exploring concepts, hypotheses and beliefs, in guiding a discussion toward a shared understanding, providing guidance on sources for additional formal knowledge and at times correcting misconceptions.*

To achieve all this has been a tall order for military staff posted into RSMS as instructors, since they would rarely arrive in post having been upskilled in their own discipline. For this research, it is important to recognise that all the military instructors have been through the training programme at RSMS, although the regime, training profile and syllabi will have changed since their time in the School.

Civilian Instructors

Within the civilian staff there are two quite distinct groups; Burnham Lecturers (BL) and Specialist Instructional Officers (SIO). The SIOs are all ex-military who have left the Service as SNCO's. Differences between these groups has been aggravated by perceived unfairness in pay and reward for the different groups. This is a constant source of irritation that arises every time a new post is advertised; not only is it an internal issue that requires diplomacy but also one that requires careful negotiations with the trade unions.

However, a continuing conflict exists between military and civilian staff. The MoD publishes equivalences between civilian grades and military ranks, as shown in Table 4.However, these are often denigrated by the military as being inappropriate and this has led to difficult relationships between some members of staff, particularly where the civilian's role and responsibility have not been recognised. On the other hand some civilians have made a point of emphasising that they equate to certain military ranks and this is not well received by the military. In reality most civilians and military personnel in RSMS have different roles and responsibilities, not easily compared.

Many scenarios that at first appear to be negative influences can indeed have positive influences and should not be dismissed. For example, the rapid change of military personnel creates difficulties in planning and resourcing training. However, as Senge (1990) points out, there are also benefits for those individuals in a learning organisation. For example, during their time in the School military instructors develop a deep understanding of their subjects which then feeds back into the operational units on their next posting. This knowledge transfer is an essential element in developing a learning organisation and to enhance its capabilities. A balance therefore is required between the needs of the individual and those of the organisation.

Table 4 - Civilian and Military Equivalences

Civil Service Grades	MOD Grades	Specialist Instructional Officer Grades	Burnham Lecturer Grades	Military Ranks
Grade 6	B1		Head of Department IV	No equivalence
Grade 7	B2		Principal Lecturer	Colonel
Senior Executive Officer (SEO)	C1	Senior Specialist Instructional Officer (SSIO)	Senior Lecturer	Lieutenant Colonel
Higher Executive Officer (HEO)	C2	Higher Specialist Instructional Officer (HSIO)	Lecturer	Major
Executive Officer (EO)	D	Specialist Instructional Officer (SIO)		Captain
Administrative Officer (AO)	E1			Warrant Officer
Administrative Assistant (AA)	E2			

However, there is much more to developing instructors in the military. As Johnston (1998, p. 5)points out in discussing academics as learning professionals:

> *Formal courses and similar activities need to comprise part of an integrated and coherent program of professional learning undertaken by the academic and they need to take place in an environment in which such learning is expected and valued.*

RE Geo Techs can be considered in the same way as Daniels(2001) considers the process of newcomers moving towards the role of full membership of the community. The progress from raw recruit, through their first level of technician training, work experience in an operational unit, their final year of training and then often return to the training environment as instructors. Then they could be considered to be full members of the community in the same way Campbell(2009) saw the Australian police develop to enable them to contribute to the shaping and development their learning of the community.

Campbell's (2009) shaping and development are not so straightforward in a military environment, largely due to the rank structure. In their work, Contu and Willmott (2003) consider how *'power relations impede or deny access to its more accomplished exponents'* and suggest that this makes it difficult, if not impossible, to learn a practice. This indeed reflects the challenge that civilian lecturers and instructors have in establishing their position even when they are highly accomplished individuals academically.

Huzzard (2004, p. 351) in recognising that learning should be viewed as an *'integral aspect of social practice'* support Lave and Wenger's (1991) recognition that learning is contextually dependent, social and embedded in particular practice. This is very much the case with regard to RE Geographic training as is evident from the responses from the various focus groups. Campbell (2009)assertion that for the Australian police the *'learning within a community of practice cannot be divorced from the power relations that occur within the social setting'*, applies equally to the military environment.

4.4 Interviewing

As the researcher, I was keen to undertake all the interviewing myself, although some of my colleagues suggested that I could use them to run the focus groups as I was concerned that my position would constrain any discussion. However, by running the focus groups myself I felt that I would have a better understanding of the issues and the sentiments expressed. This also accorded with Charmaz (2014, p. 58) who argues that grounded theory methods work best when the researcher is involved with both the data collection and data

analysis so as to bring out nuances of meaning. With this approach I could delve further into areas as they came up whereas others may not have been aware of the broader context of discussions from other groups.

The line I adopted to interviewing was based on intensive rather than informational or investigative interviewing strategies. Charmaz (2012, p. 85) considers that intensive interviewing fits well with grounded theory because it is *'open ended yet directed, shaped yet emergent and paced yet unrestricted'* to enable in-depth exploration of participants' experiences. Informational interviewing on the other hand is focused on gathering accurate facts about situations and events, whilst investigative interviewing also seeks accuracy but with the aim of uncovering hidden meanings through more direct questioning. Although Charmaz (2014, p. 85)claims the researcher through intensive interviewing seeks to understand language, meanings, actions, emotions and body language, I only set out to understand meanings.

To achieve this, I employed a semi-structured approach to interviewing through the focus groups and individual interviews. A small number of structured, but open-ended questions were crafted prior to the meetings to keep the groups focussed on the emergent themes in the broad topic of research. Within those questions the participants were encouraged to explore the subject to identify the depth and diversity that exists within each group. This was broadly in line with the approach advocated by Morgan (2002)who sought to create a methodological continuity and a systematic approach, rather than free for all sessions that could ramble around the general subject. Goulding (1999, p. 8) advises that:

> *An interview should not be conducted using a prescribed formal schedule of questions. This would defeat the objective which is to obtain first-hand information from the point of view of the informant.*

Like Goulding (1999) and Burck, (2005, p. 240) I used the interview format as a loose guide to ensure that particular areas were covered but to enable me to explore unplanned but relevant avenues followed by the participants. Charmaz (2014, p. 65) takes this point further arguing that by using open-ended

questions the researcher encourages unanticipated stories to emerge. To avoid interviews becoming repetitive and allow them to become increasingly focused, Charmaz (2012) recommends that one should avoid asking the same kind of questions during data collection. A different concern is recognised by Fontana and Frey (2005), who whilst recognising that group interviews *'often produce rich data that are cumulative and elaborative'*, they warn that *'group think'* can take over. Examination of the transcripts from all the focus groups shows that all participants took an active part and in none of the groups did any one person dominate the discussion. The transcripts also show many examples of agreement amongst the participants with frequent expressions such as *'Yeah'*, *'Yeah, that's the same here'*, *'Yeah it was'* and *'I'd agree with you'*, often followed with new examples to illustrate the points being made.

Table 5 - Charmaz's Key Characteristics of Intensive Interviewing

Key Characteristics	
Selection of research participants who have first-hand experience that fits the research topic.	All the participants have been involved as either recipients or deliverers of training.
In-depth exploration of participants' experience and situation	The vast majority of talking was by participants with only occasional contribution from me.
Reliance on open-ended questions	Open ended questions used throughout.
Objective of obtaining detailed responses.	Where possible, no hard time limits were placed on the interviews.
Emphasis on understanding the research participant's perspective, meanings, and experiences.	The open ended questions were aimed at bringing out these three aspects.
Practice of following up on unanticipated areas of inquiry, hints and implicit views and accounts of actions.	Where unanticipated areas arose these were followed up in later focus groups and interviews

Table 5 sets out Charmaz's (2014, p. 56) key characteristics of intensive interviewing. All my focus groups and individual interviews achieved all the characteristics listed.

Just as Burck (2005, p. 240) identifies systemic clinicians as extremely skilled interviewers and thereby having considerable advantages as the researcher, my own experience within education and Defence has also provided me with an advantage. Having interviewed candidates for senior academic appointments across Defence, and being qualified in selection interviewing based on competency frameworks[25], combined with many years of experience in chairing viva-voces, I consider that I am reasonably well equipped to follow *'feedback and unpack meanings, able to entertain and elicit multiple and contradictory perspectives, and to keep an eye'* on myself as an interviewer. Burck (2005, p. 240-241).

This ties in with Schön's (1983) thinking on reflection-in-action and reflection-on-action. Reflection-in-action is associated with the ability to think-while-doing or 'thinking-on-your-feet.' Reflection-on-action is the ability to think about one's practice in an effort to evaluate and improve this practice. Schön emphasized that the two are not wholly distinct. I had to keep an eye on myself as the interviewer as the focus groups progressed, very much thinking on one's feet, so as to be aware of what is going on and not just to ask pre-planned questions and record responses. However, I also reflected on the range of research aspects that surround the individual focus groups to gather together emerging issues as the research progressed.

The reflection-on-action fits closely with grounded theory methodology, in particular following up on themes that came up in one focus group or interview, in a later meeting. So where a theme was mentioned and there was disagreement between two groups, for example in how civilians are perceived, then I used later sessions to pursue these differences in more depth to seek explanations for the differences. Even where there were agreements between

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[25]All selection interviews within the Ministry of Defence are now based on competency based frameworks that include areas such as working together, leadership, managing resources. It is the role of the interviewer to elicit examples of competency from the candidates.

participants and groups, I would introduce some probing questions in latter sessions to see if there were any exceptions.

4.5 The Focus Groups

Due to recruitment difficulties, one of the groups I planned to interview was delayed in starting by several months. This meant that I had to use a cohort of new trainees who had been in RSMS longer than I intended and had already received approximately two months of instruction from staff in the School. This in effect contaminated the data as I really wanted to involve those coming to the School with no experience of the RE Geo training environment apart from the few days on their aptitude testing which would probably have taken place up to a year before arrival in RSMS.

Running Focus Groups with soldiers who had completed their Class 2 training was also problematic as initially all prospective participants had already spent many months back in training following bridging modules designed to bring all Geo Techs to the same level before starting their Class 1 training. These bridging modules were required following a major review of RE Geographic training and education that moved from 3 trades to a single common trade. The Class 1 cohort used in the pilot study was the last to be required to follow bridging modules, and as such their perceptions proved to be different from the next cohort to start. This was apparent from the experience of external examiners through their interviews with the students.

The pilot study showed that through my research there are opportunities to empower the soldiers and instructors in a way that I do not think has happened before. Despite my concerns regarding my position, all the participants talked freely about their experiences and as a result issues emerged such as respect that had not been identified through other mechanisms.

At the start of my research the School had very few civilian staff. Those involved in teaching the soldier courses and who would be available were limited to only three people. This is generally accepted as being too small for a focus group, although Kitzinger (1995) used as few as four participants, but MacIntosh (1993) recommends between 6 and 10 participants. However, to follow up on issues

related to issue of respect, I ran a focus group in February 2015 with two civilian lecturers who joined the School in 2013 and are heavily engaged with soldier training.

As the analysis process within grounded theory is one of constant comparison, the data capture is not linear but concurrent and iterative. This approach is evident from Figure 2 and Tables 5 and 6, where it is clear that the sequence of focus groups and interviews does not follow the way in which they were introduced earlier in this Chapter, rather they are recursive. It is also evident that the data are captured over a period of five and a half years.
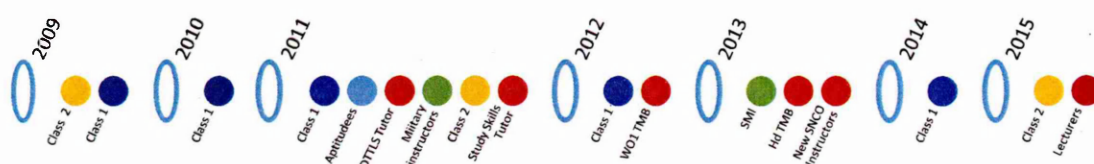
Figure 2 - Pattern of Data Capture

The pattern shown in Figure 2 shows my approach to theoretical sampling, which Charmaz (2012) defines as *'gathering data to fill out the properties of categories and in time to saturate the properties and not the data'*. This is a key difference between theoretical sampling and the conventional process of identifying populations to sample.

Table 6 - Focus Groups

Group	Participants	Date
Class 2	6	08 July 2009
Class 1	6	15 July 2009
Class 1	6	10 May 2010
Class 1	6	16 Feb 2011
Aptitudees	6	07 April 2011
Military Instructors	6	21 July 2011
Class 2	6	20 September 2011
Class 1	6	20 March 2012
Newly appointed SNCO Instructors	2	11 January 2013
Class 1	6	10 December 2014

Civilian Lecturers	2	23 February 2015
TOTAL	**58**	

4.6 Personal Interviews

Focus groups were used to gather a shared view of attitudes to teaching and learning within RSMS whether from the perspective of new recruits, experienced Geo Techs, or instructors. These alone did not allow for an external perspective of 'what is happening' and as such a valuable perspective would be lost. To address this, one to one interviews were carried out with those I thought could bring an extra dimension to the analysis. Initially I identified the following individuals for these interviews: Head of Training Management Branch (Hd TMB) within the School, an external Tutor, a FE College Tutor who delivered the Diploma to Teach in the Lifelong Learning Sector, and two Warrant Officers Class 1 (WO1) as shown in table 6.

Table 7 – Individual Interviews

Individual	Date
DTTLS Tutor	16 May 2011
External Tutor	11 October 2011
WO1 TB	11 December 2012
WO1(SMI)	08 January 2013
Hd TMB	10 January 2013

In organising these interviews I was conscious of Fontana and Frey (2005) who warn that "*it is not enough to understand the mechanism of interviewing: it is also important to understand the respondent's world and forces that might stimulate responses*". Having worked with all of the interviewees for many years I certainly had an insight to their worlds prior to the interviews. The interview with WO1 TMB represents other discussions when he said '*as you know we have discussed this many times before*' as similar sentiments were expressed in the other interviews. But I was also aware of the '*inherent dangers of interviewing people who are all known and who share the same social circle and that this is different to interviewing strangers*' (Cresswell, 1998). Although I

know all the people very well, this has been in a work place context. There is some socialising over lunch and formal events in the Officers' Mess with Hd TMB, occasional socialising with the SNCOs at whole School or Station functions in the Warrant Officers' and Sergeants' Mess, and even more infrequent occasions with the external tutors. Unlike Altheide and Johnson who argue that capturing words is insufficient and that contextual meaning derives from *"nods, silences, humour and naughty nuances"*, I made no attempt to watch the interviewees for body language, apart from looking for cues as to move on or wait for a further response (Altheide and Johnson in Denzin and Lincoln 1998, p. 297). Indeed it took enough effort to concentrate on the discussion in order to move the interview along without trying to record extraneous characteristics.

DTLLS Tutor

The first individual to be interviewed was the FE College tutor who delivered a part time Diploma to Teach in the Lifelong Learning Sector to 16 of my military instructors, ranging in rank from Corporal to Major. The first cohort ran from September 2010 to September 2011, and a second cohort from February 2012 to December 2012. Unfortunately it has not been possible to gain funding for follow on courses. As part of the course the tutor has observed a large number of instructors delivering their lessons within RSMS at various stages of the course and to different levels of trainees. In this capacity she has direct experience of the attitudes of the military instructors to learning and has seen the behaviours of the trainees in the classroom. One further advantage of this interviewee was that she has a wealth of experience delivering similar courses within many organisations such as the police and health service, as well as in FHE colleges.

External Tutor

For the past ten years or so, the RSMS has employed an independent External Tutor to raise the standard of the RE Geo Students in all aspects of External. The External Tutor was therefore chosen as she has developed a very good understanding of many of the issues associated with the soldier learning. In particular she assesses them on arrival in the School and then sees their

progress as they continue with their studies. As someone outside of the military environment, I thought she would bring a completely independent view of what is taking place in this learning environment. Although the tutor was happy to take part in the interview, she then decided that she would rather withdraw and consequently I deleted all records of the interview as requested.

WO1 TB

WO1 TB was the senior soldier employed in the Joint Aeronautical and Geospatial Organisation's Training Branch for four years and a key player in liaising with the RSMS as the customer's representative. Earlier in his career he has been an instructor in RSMS and a Sergeant Major in one of the employing units, so he is in a good position to comment on training from the perspective of trainer, sponsor and employer. WO1 TMB recently completed the Diploma to Teach in the Lifelong Learning Sector and is therefore able to comment on training delivery in recent years.

Head of Training Management Branch

The Head of Training Management Branch (Hd TMB) was chosen as he is responsible for all the course planning, course design, quality issues, external validation and assessments, as well as information services. Having been in post for several years, especially as RSMS went through successive RE Geo Reviews that looked at the Training Needs Analysis (TNA) for the RE Geo Techs, he has a good understanding of the programmes taught in RSMS. He also chairs the various Course Committees and End of Course Discussions with the students. In this capacity he has sight of all the issues raised by the students and is also aware of many of the instructors' views on training and the students.

Senior Military Instructor

Another perspective came from WO1 (SMI) who was the School's Senior Military Instructor, the senior soldier in RSMS equivalent in rank to a Regimental Sergeant Major. He has a wealth of experience as an instructor in the School and a recent graduate of the DTLLS course, but more recently has been a

Course Manager for the Class 1 course. As Course Manager he was intimately involved with the instructors and trainees.

4.7 Other Source Material

Another source of data was offered to me by my Senior Military Instructor. He had set an essay for Corporals on their Military Engineer (Geographic) Sergeants' Course. This course is aimed at those corporals who are in the zone for promotion to Sergeant and offers them an update on the trade before they take on greater responsibility as Senior NCOs. The essay title was:

> *The delivery of Geographic Technician training has undergone a number of revisions in the past. These changes were made to reflect the changing needs of the MoD and the increased availability of technology. How effective, in your opinion, has your training been to meet the needs of your previous and current unit or organisation?*

A number of observations in these essays reflect and reinforce the knowledge captured through the focus groups and the interviews. In challenging how we ensure that the efforts within the training organisation match those of an ever changing technology and needs of the students, A/Sgt S, an instructor in the School, noted that '*students are learning skills which are primarily based on the instructor's limits [limitations]*'. He goes on to say "*we are expected to deliver content which we are hardly expert at*". This relates to my discussion in Chapter 2 on the mentoring and handover approach for new staff in the School and reinforces Head TMB's comment on new instructors inheriting lesson plans and the lack of time and opportunity to develop both their technical knowledge and teaching competence.

4.8 Technical aspects

In capturing the data from the focus groups, there were three technical aspects to consider: recording and note-taking, transcribing, and coding.

Recording and Note-taking

Olympus recorders were available throughout to record the focus groups. The recording devices were excellent with good sound quality and being small they

were unobtrusive and easily ignored. To ensure no loss of data and to pick up comments from all contributors of the focus groups, the sessions were also recorded on my mobile phone. Data transfer was extremely easy with USB connectors built into the devices. Having successfully recorded the focus groups, the next stage was to transcribe approximately 20 hours of interviews.

To aid transcription I labelled each participant with letters and then wrote short phrases down as participants started to speak. In this way I avoided trying to work out who was talking from the accents. This allowed me to attach identifiers to the segments of transcripts with a high degree of reliability, a task that would otherwise have been very difficult.

Transcribing

Whilst the capturing of data through the focus groups went smoothly, the challenges of transcribing the records proved to be far greater than I anticipated, both in time and technique. Having experimented with different approaches during the pilot study, I gained a much clearer idea of what is involved and how to cope with the significantly larger volumes of information captured during the main research effort. Although some authors have suggested that it is no longer necessary for transcription with modern applications, the way I work still requires transcription as I need to read and annotate the transcripts to make sense. However, I did resort to the spoken word on many occasions, especially when travelling with work when I was able to re-listen to the interviews on my smart phone or tablet.

The process was laborious and proved a considerable distraction, or as Agar (1996, p. 153) wrote 'a chore'. The process was still undertaken in three stages: handwriting the transcript as I listened; typing up the hand written notes and then checking for correctness.

Later in my research, I experimented with more products including Music Speed Changer Lite and Audio Speed Changer (ASC). Both these applications on an Android Smart phone enabled me to slow down the recording with minimal distortion so that I could still transcribe by hand before typing up the text. However, the most significant improvement came when I combined these two

playback applications with Google's Voice to Text on my Android tablet computer. I listened to the recordings on headphones, controlled the start and stop by hand, and spoke what I heard in front of the Samsung tablet. In this way I found that I could get more than 95% accuracy in transcribing in this way. I still had to format the Word document to create paragraphs, correct global errors such as lower case i to capital I and replace unusual words that were specific to the military context. By replaying the recording I could correct any remaining typographical errors or missed word. Although still laborious, I was able to transcribe one hour's recording in about 3 hours of concentrated effort to get the 'rough' draft into text.

Many authors Kvale (1996, p.174) have debated the benefits of researchers carrying out the transcription themselves. In an excellent paper on transcription, Oliver et al. (2006) argue strongly that *'transcription is a pivotal aspect of qualitative research'*, and describe how other researchers (Lapadat and Lindsay 1999, Mischler 1984, Sandelowski 1994, Tilley 1998, Poland 2002) recognise the centrality of transcription in qualitative research. They also describe a continuum from naturalized transcription to de-naturalised transcription. In the former the transcriber attempts to capture everything, including pauses, stutters and even non-verbal actions, whereas the in the latter these features are removed.

The question is where to place the transcription of my focus groups and interviews on this continuum? My research is concerned with content rather than the depiction of speech and as such I have tended towards the de-naturalized approach. Oliver et al. (2006) argue that the approach to be adopted is a question of validity and representation, and as discussed by Bucholtz (2000), various signals can be difficult to interpret and have *'no bearing on the content of the interview at all, and instead obfuscate the participant's meaning, misleading the analyst'*. If one considers that the naturalised approach is best, in order to pick up the various response tokens, then I would argue that the only satisfactory way of recording the interviews would be to use video rather than just voice record, as the non-vocal expressions are surely just as relevant, and maybe more so since a participant could imply something by facial or hand

expression without saying anything, such as a wry smile or a thumbs up sign. Even here that would work for individual interviews but not for focus groups where it would be difficult for the camera to be positioned to simultaneously pick up all expressions.

Cameron(1996, p. 33) offers that the de-naturalized approach offers a verbatim depiction of speech, whilst still seeking a *'full and faithful transcription'*. Whilst Oliver et al. (2006) suggest that the social sciences frequently overlook transcription as an important methodological step, the pilot study offered me the opportunity to reflect on the method of transcription and to assess how these choices would affect my research goals.

Coding

In recognising Glaser's (1978) preference for coding with Gerunds, Charmaz (2014) considers that his approach helps detect processes and remain true to the data, whilst gaining a strong sense of action and sequence. Nouns on the other hand lend themselves to development of topics. She argues that the latter approach will lead towards an outsider's rather than the insider's view of the data. Coding with gerunds can be seen in Appendices 2 and 3, but the following example illustrates the approach I adopted:

They just think that they are amazing but the best way to describe is as losers really.	**Instructors thinking** they are amazing. Students **seeing** them as losers.	Lack of respect for instructors who shout.

Coding by topics or themes would have led to:

They just think that they are amazing but the best way to describe is as losers really.	Instructor attitudes Student perceptions of instructors	Students perceive some instructors as having an over-inflated image of themselves.

The approach I adopted was neither word-by-word coding nor line-by-line coding. Whilst Charmaz (2014, pp. 124-125) suggests that these techniques can be enormously useful, they are best suited to handling very detailed

processes such as accounts of a particular issue or problem. Glaser (1992) considered that line-by-line coding could lead to over conceptualizing an incident, whilst creating too many themes and categories without generating an analysis.

To bring the research together I adopted constant comparison methods to identify similarities and differences that emerged from different cohorts and individuals.

I believe this misses the point of modern software applications that have moved a long way away from procedural approaches. Charmaz sees interpretive work as gaining a sense of the whole – *'the whole interview, the whole story, the whole body of data'* rather than fragments of data. I would argue that on the contrary, packages such as NVivo and MS Word offer a better opportunity to see the 'whole picture'.

From my experience with NVivo, the software provides a wealth of capabilities to leave text untouched, but at the same time develop and pursue complex relationships that would otherwise be very difficult to do manually. Indeed I found a close analogy with the work I do in Defence, where I can very quickly appreciate the spatial content of a map though just a glance at the product, but if I want to undertake detailed analysis of a range of factors including soils, weather, hydrology, topography, culture, communications and more then I need to use geospatial analysis tools to look down through the layers and help me to make a decision. The software does not do that for me in an automated way; it is a decision support tool. I see the same with applications such as NVivo and MS Office that allow me to look down through all the information, whether from all the focus groups, interviews or questionnaires and to visualise the whole and those links that otherwise would be difficult, if not impossible to pick up.

Although Charmaz (2000, p. 520) talks about software offering *'shortcuts for coding, sorting, and integrating the data'*, I do not agree that the tools provide shortcuts as the process is still lengthy, and would rather replace *'shortcuts'* with *'effective and comprehensive tools'* in light of the tremendous advances in hardware and software developments in the past two decades.

Garland (2008) considered that the simultaneous collection and analysis of data was one of the major influences on her own Doctorate research. This represented her enthusiasm for transcribing her interviews herself. Undoubtedly some data analysis does occur during data collection and recorded through brief notes taken during the focus groups. I found that the transcribing process took all my time and effort, and left little time for reflection, whereas being able to read the transcripts, linked to marks in the voice recording undoubtedly helped with the retrieval and review of material.

4.9 Validity and Reliability

The validity and reliability of qualitative research has been challenged by numerous researchers, largely from a positivistic perspective. Merriam(2014) in asking '*How congruent are the findings with reality?*' argues that this issue of internal validity is associated with credibility. Charmaz (2012) looks to theoretical saturation where no new properties of the theoretical categories emerge. She requires that:

> *You have gathered compelling and robust data to support your theoretical categories. Therefore, your work gains substance and moves beyond interesting conjectures'.*

Urquhart (2001) claims that grounded theory '*is by definition a rigorous approach – it demands time, it demands a chain of analysis, and the relating of findings to other theories.*' But these characteristics alone are not unique to grounded theory as a methodology; most research approaches would require these attributes and these alone do not guarantee a rigorous approach.

In his paper, Theoretical Sensitivity, Glaser (1978) claimed that many concepts are 'in vivo', coming from the words of participants in the substantive area and warns that the participants usually give '*impressionary concepts based on one incident or even a groundless idea*'. However, he does not believe that the participants understand or are even aware of many of the patterns grounded theory uncovers. By using different focus groups and individual interviews, the risk of one incident or groundless ideas influencing the findings has been

minimised, thereby allowing the research to move beyond interesting conjectures.

In recognizing a degree of bias in qualitative research, necessarily brought about through the subjectivity of subjects, their opinions, attitudes and perspectives, Cohen et al. (2007) argue that validity should be seen as a matter of degree rather than an absolute state. Charmaz (2014, p. 89)argues that theoretical plausibility trumps the high accuracy many researchers strive for. She contends that it is by gathering data with broad and deep coverage that the theoretical plausibility of the analysis is strengthened by emerging categories. She goes on to assert that grounded theorists '*aim to code for possibilities suggested by the data rather than*

Table 8 - Shenton's Provisions of Credibility

Serial	Provisions	Reflections
a.	Adoption of research methods well established in qualitative methods	Despite arguments on various approaches, grounded theory is widely used for research in social sciences
b.	The development of an early familiarity with the culture of participating organisations before the first data collection takes place.	As Principal Lecturer in RSMS for 19 years and Principal for 9 years I have been closely entwined with the culture of the organisation.
c.	Random sampling of individuals to serve as informants.	For the focus groups, the participants were self-selecting after being asked by a SNCO. I played no part in their selection. However for the individual interviews the selection was mine due to the very limited number of individuals who could contribute.
d.	Triangulation.	Participants came from four distinct groups: students, instructors, training managers and from outside RSMS.
e.	Tactics to help ensure honesty in informants when contributing data.	All those interviewed were reminded of the opportunity to withdraw from the project. Assurances were given to all participants that anonymity was guaranteed and that frank discussion was encouraged.
f.	Iterative questioning.	Where themes emerged I have included these in later interviews and focus groups to get alternative perspectives.
g.	Negative case analysis.	With a wide range of participants differing opinions are inevitable. Examples of these are given in Chapter 5.
h.	Frequent debriefing sessions.	Throughout the research project I have regularly engaged with key staff to sound out themes that were emerging either from my research or through various course discussions.

	i.	Peer scrutiny of the research project.	Drafts have been read by colleagues both during the initial assignments and the final write up.
	j.	The researcher's reflective commentary.	My positionality is addressed in 3.4 and 3.5 and Chapter 7 offers my reflective commentary.
	k.	Background qualifications and experience of the investigator.	My qualifications and experience are discussed in the section on my positionality and role as a researcher.
	l.	Member checks.	Discussions took place with all the individual participants as the research progressed to investigate if the issues and themes had resonance with the participants.
	m.	Thick description of the phenomenon under scrutiny.	By including evidence from multiple sources to illustrate themes I aim to persuade a reader that the overall findings ring true.
	n.	Examination of previous research findings.	Although there has been no similar analysis in this environment I have related experience in RSMS to other organisation through far-out comparisons.

ensuring complete accuracy of the data'. On the subject of categories, Silverman warns:

> *Used unintelligently, it [grounded theory] can also degenerate into a fairly empty building of categories or into a mere smokescreen used to legitimize purely empiricist research. (Silverman, 2006, p. 96)*

To avoid the empty building of categories I have employed a number of 'provisions' which Shenton (2004) identifies to ensure confidence in research based on grounded theory. His four categories of credibility, transferability, dependability and confirmability are given in Tables 8 to 11 together with reflections on how my research addressed each.

Table 9 - Shenton's Provision of Transferability

Serial	Provisions	Reflections
a.	Provision of background data to establish context of study and detailed description of phenomenon in question to allow comparisons to be made.	The environment in which the research has been carried out and the conditions under which training takes place is set out in Chapter 1 to offer a full description of all the contextual factors impinging on the inquiry Guba (1981). It also sets out the boundaries of the study This enables other researchers to establish whether or not this research maps across to their own positions.

Table 10 - Shenton's Provisions of Dependability

Serial	Provisions	Reflections
a.	Employment of overlapping methods.	The overlapping methods employed in this study are focus groups and individual interviews. However, no attempt was made at mixed methods in terms of qualitative and quantitative methods
b.	In-depth methodological description to allow study to be repeated.	See Chapter 3.

Table 11 - Shenton's Provisions of Confirmability

Serial	Provisions	Reflections
a.	Triangulation to reduce effect of investigator bias	To triangulate, I have explored the perceptions of soldiers under training at various stages, instructors involved with the RE Geo courses, other individual members of staff and those external to RSMS who have a direct interest in the training or are associated with the development of training. The ideas, perspectives, and experiences gained are those of a variety of informants rather than mine.
b.	Admission of researcher's beliefs and assumptions.	These beliefs and assumptions are exposed under My Positionality and My role as the Researcher earlier in this chapter.
c.	Recognition of shortcomings in study's methods and their potential effects.	Shortcomings include the inability to follow through longitudinal studies due to the long timescales involved with the training pipelines.
d.	In-depth methodological description to allow integrity of research results to be scrutinised.	Same as Table 11 b.
e.	Use of diagrams to demonstrate audit trail.	The use of concept maps has been integral to the research from the earliest research proposal, through the pilot study and into the design and writing up of the dissertation. These are included at Annexes 4-7.

4.10 Conclusion

Through my 'open ended yet directed' and 'unrestricted' interviews and focus groups with more than 60 participants over a five year period I have facilitated open discussions that have generated first-hand information and offered me an in-depth understanding of attitudes to teaching and learning. Over the five years it was not possible to undertake longitudinal studies due to the length of time soldiers are under training. However, by engaging with multiple cohorts of Class 2 and Class 1 students I have been able to follow up on themes that emerged as the project progressed. Together with external views provided by individual interviews I have gathered together compelling and robust data to support the emergent categories that are considered in Chapter 5.

Chapter 5 - Emergent Themes

The most difficult thing in collecting together these statements was persuading people to let me use their real names........... They finally agreed because they all believed that they knew the unique and definitive version of any event, however insignificant. During the recordings, I saw that things are never absolute; they depend on each individual's perceptions.

Paulo Coelho(2007)

Extract from 'The Witch of Portobello'

Unlike Paul Coelho, I had no intention of persuading participants of focus groups to allow me to use their real names. Indeed, as part of the process I assured anonymity for all taking part. I was not seeking a unique and definitive version of a single event, but a coherent story of what is happening with regard to teaching and learning for our Sappers. Nevertheless, like Coelho, I recognised that this story must be based on each individual's perceptions, such that the whole is more than the sum of the parts; that includes my own perceptions, position and role as a researcher.

However, as discussed in section 3.8 regarding ethics, where I interviewed individuals I found myself in the same position as Coelho in that I felt the need to persuade people to let me use their real names. This was not difficult as they all felt that they wanted to stand by what they had said and that they each could make a '*unique and definitive*' contribution to this piece of research.

However, in the following analysis of emergent themes, I have anonymised all references to the military instructors and students, but to be consistent I have used only the appointment for individuals who have agreed to be identified. By using appointments I have been able to bring credibility to my research whereas the use of names or pseudonyms would not carry the same influence. Where I quote a Spr and LCpl I refer to students on Class 2 and Class 1 courses respectively, even though occasionally there were Sprs on Class 1 and LCpls on Class 2. In this way I maintain anonymity whilst setting the context of the comments.

To gather ideas and see relationships I used Concept Maps throughout my research, from project proposal stage through the pilot study to the analysis phase. The concept maps not only enabled me to rally my thoughts but also allowed me to brief my supervisors and advisors at the various stages. Appendix 4 shows my mapping of the overall research work. Figure 3 and Appendix7 represents the analysis as it has grown throughout the various focus groups and interviews. As themes emerged they were added to the map and linkages developed.
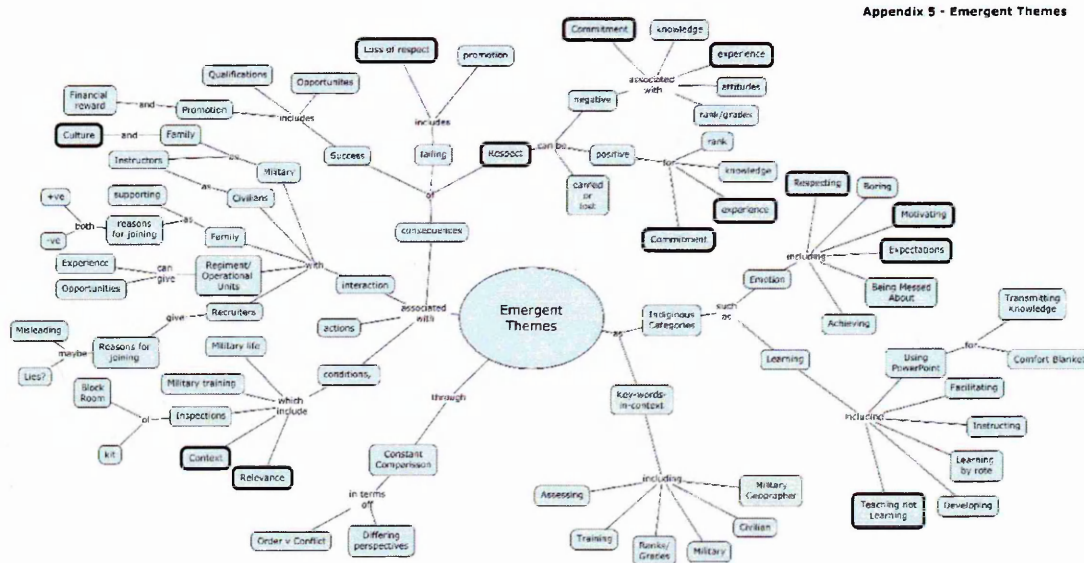
Figure 3 - Concept Map of Categories

Strong agreement between the groups and individuals is essential to ensure that the themes identified are valid and confirm my own perceptions, and not just a figment of my own imagination. Dey (1993, pp. 110-111)noted that *'there is no single set of categories waiting to be discovered. There are as many ways of 'seeing' the data as one can invent'.* This view is echoed by Ryan and Bernard (2003) in recognising that theme identification is unlikely to produce a unique solution. However, they also recognise that researchers must decide which themes are most salient and how themes are related to each other.

Ryan and Bernard (2003) argue that in identifying themes, it is necessary to go beyond indigenous themes that characterize the experience of informants to questions that are of importance to social science. They reiterate Spradley's (1979, p.199–201) stance that we should look for evidence of:

...social conflict, cultural contradictions, informal methods of social control, things that people do in managing impersonal social relationships, methods by which people acquire and maintain achieved and ascribed status, and information about how people solve problems.

Other perspectives suggested by Bogdan and Bilken (1992, pp. 156-162)include the analysis of the setting and context, the perspectives of the informants with regard to people, objects, processes, activities, events, and relationships.

A major challenge in reporting the evidence concerns the extent to which transcribed quotations are used, the manner in which they are presented and how much editing should be employed. As it is impossible to include all the views expressed on all the themes it is necessary to down select significantly to offer representative views. Starting with the volume of quotations, Vicsek (2010, p. 135) considers the selection process to be an art. Litosseliti (2003) suggests that consideration should be given to whether they are selected for their variety of answers or typicality, or whether special cases and deviant comments should be used. Vicsek (2010) also argues that quotations should stand on their own without a lot of add-in comments to explain them.

A second aspect concerns the way they are presented. Kitzinger (2004), Myers and Macnaghten (1999), Pomerantz (1984) and Wilkinson (1998)advocate the use of text of several comments, and at least adjacency pairs, rather than single standalone quotations to help make sense of the discussion.

The third aspect is associated with how close to the original recording should the presented transcribed text be. Should the quotations show length of pauses, change of pitch or other speech effects by a marking system or should we simply record other oral non-speech signals such as laughter.

My approach has been to include representative views of the issues raised, but where possible from across focus groups or supported by comments made in the individual interviews. I have used stand-alone comments mainly from the individual interviews where the comments are frequently in greater depth on a particular point. With regard to accuracy of text, I have tidied up the text by

putting in punctuation where it was obvious and would help the reader, but have made no attempt to correct bad grammar.

My analysis starts with the setting and context by looking first at military culture and then back to what happened to the RE Geo Techs at school before addressing the learning environment at RSMS. The key themes are then considered and it is through these that many of Spradley's (1979) conflicts, control and status will be considered along with Brogdan and Bilken's (1992) other factors. In discussing the themes I have brought together perspectives gained from the different focus groups and interviews to compare answers to questions across people, space, and time.

5.1 Military Culture

In Chapter 2 I discussed the work of Kirke (2012) on the influence of military culture on training. His definition of culture focuses on learnt behaviours, attitudes and thought process rather than innate ones. Throughout all the focus groups and many of the individual interviews the issue of culture was a constant theme. In one focus group Spr J clearly recognised that although those joining the RE Geo community come from a wide variety of backgrounds their training has a major influence on their thinking.

Spr J: *I would say that as diverse as we all are as individuals we all think the same. We are all the same type of person.*

Whilst the same was the case at school as LCpl T recognises, the outcomes were very different.

LCpl T:*When you are at school you all come from different backgrounds and you are all doing different things but here you all have different backgrounds but the last 2 or 3 years you have all done exactly the same thing so you know, all know where is your mother are coming from, what you have done and you want to do the same job. At school everyone goes off and does their own thing.*

However, LCpl T recognises that by the time they have gone through their basic military training and Combat Engineer training, they all think the same and are even the '*same type of person*'.

The intakes to RE Geo in recent years have certainly become more diverse with more graduates and trainees with A Levels joining the ranks, but the attitudes and behaviours converge. There is also a sense of common bond which develops during the soldiers time in the Army and goes beyond the learning environment as LCpl V recognises.

LCpl V: *I don't think that is just with the learning side I think that it is with personal issues as well.*

These views reflect some of the core values of the Services, particularly with regard to teamwork, support and leadership.

5.2 Learning at School

To understand the attitudes of RE Geo Techs to learning in RSMS, I considered it important to explore their experiences of learning at school and how those experiences influenced their journey through their military careers. This provided a common starting point for all the groups. From the evidence gained through all the focus groups, the reasons for joining the Army and past experiences at School are closely aligned in many cases.

Poor performance at school came up in all the focus groups but the reasons were varied. The following extract on why school was not a success for some of the Class 2 students is fairly representative with boredom, poor attention spans, lack of discipline frequently raised.

Spr D: *I was a class sleeper.*

Spr B: *I had the attention span of a goldfish.*

Spr E: *I got bored in class too easily.*

Spr B: *Wrong crowd at the wrong time.*

Similar responses were given by the LCpls on the Class 1 course, but joining the army was seen as a way out of dead-end situations that the soldiers found themselves in on leaving school with poor qualifications as the following illustrates:

LCpl A: *I was told not to come back by my potential sixth form tutors, so I saw the Army as the best way to get a career and trade.*

LCpl B: *I wanted to get out of a dead end town and get out of school and away from home.*

LCpl C: *I just didn't enjoy being in a School environment. Once again a dead end town situation. I had relatives in the Forces, it seemed like a good idea.*

LCpl E: *…but I just hated the education system, still hate it….kept you in, so I ended up getting into a spot of bother with everyone. ….Joined the Army because I figured that would be the best way of getting out of the dead rut that I was in and getting away from everything.*

LCpl B: *I was disruptive at school.*

Whilst some recognised that they had been disruptive in school, as evident from the previous extracts, others were frustrated by the disruption caused by fellow students and the lack of control in school.

LCpl D: *I wasn't [disruptive]; far from it. It wasn't a good environment to learn, teachers didn't have control of the classes. A lot of people running wild. Yeah, I didn't feel like I was learning stuff but I should have been.*

Others felt that learning at school was not stimulating or inspiring and they could have achieved more had the environment been better:

LCpl F: *No I liked school to be honest. I enjoyed it. I think the grades I've got weren't bad grades but I think they could have been a lot better.*

LCpl B: *It wasn't very inspiring, so I wanted to get out of there as quickly as I could.*

LCpl C: *I've got a personality where I've got to be constantly challenged, and if I'm not challenged I get bored and then I start being disruptive.*

But even where the trainees had done reasonably well at school, there was a feeling that the teachers could have done far more:

LCpl B: *If the teachers had tried different types of teaching styles rather than reading out of text books, they weren't, well for the subjects I chose, they weren't very good teachers.*

For some, they experienced teachers who lacked the knowledge of the subject matter to cope but this is also a theme that has also cropped up in discussions about teaching in RSMS. The participants could readily recognise teachers who were learning their subject just ahead of them, a just-in-time approach to teaching. This approach would inevitably lead to surface learning as it would be impossible for the teachers to develop a deep understanding of their subjects.

LCpl E: *One set of teachers had to teach a whole range, and when they didn't want to teach something, you could tell if they didn't want to teach.*

LCpl C: *….yeah cos when you get into that sort of situation, the teacher might not have the knowledge of the subject and it's always hard to teach something that you've recently learnt yourself.*

This perception is not confined to teachers in Secondary education, but to some instructors in RSMS and is reflected on by Hd TMB and WO1 TB and the DTLLS Tutor when discussing the use of PowerPoint ad nauseam:

DTLLS Tutor: *It's a comfort blanket and it's very structured and in some ways you don't actually have to know that subject really well if you have the backup of lots of slides with lots of detail on them.*

The reflections were not all negative as some recognised that they had benefited from inspirational teachers.

LCpl T: *If they are passionate about what they're teaching they're going to get it across no matter what the subject is.*

However, whilst discussing their time in school, many expressed regrets for not making the most of the opportunities. Others also regretted decisions they

made following school. The following extract from a Class2 focus group is fairly representative of most of those who have taken part in this research.

Spr M: *I think I should have stuck to 'A' Levels. Having known what the Army is like now I would probably have stuck to 'A' Levels and gone in as an officer, but hindsight is a beautiful thing.*

Spr P: *Yeah, I find sometimes you join the Army to be a man but all you do is get treated like a kid. It's weird.*

Spr Q: *When you look back you think school was brilliant. Just paid no interest to anything, and then as soon as you leave High School you regret doing nothing because you could have done so much more.*

Spr K: *Should have stuck it at school... but hindsight is a beautiful thing. You learn a lot when you leave.*

The reference to being treated like a kid is at odds with many of the comments regarding how the trainees are treated at RSMS. This is also reflected in Section 4.3 where the benefits of being treated like an adult helps develop self-respect.

Some felt that they had been lied to when joining up and choosing the Geo trade. So the reasons for choosing Geo are far from clear or consistent and in a number of cases seem to be poorly considered. What emerged was a general lack of understanding of the trade the soldiers were entering, despite attendance on a one week aptitude course. The experiences of trainees at school are also quite varied, but the majority of participants did not enjoy their experiences for a variety of reasons including poor teaching, lack of interest, disruptive environments and mixing in the wrong company. Joining the Army was seen by many either as an escape from dead-end situations (negative motivator) or a chance to grasp the opportunity to grow and develop themselves after missing opportunities at school (positive motivator).

The transition from school to RSMS is clearly recognised in the following extract from a Class 1 focus group at the end of their training reflecting back on School and their Class 2 training.

LCpl J: *Yeah, what I can remember of my Class 2 instructors, there was a complete different style of teaching to the school [RSMS], you were treated more like adults and there's banter between instructors and students. It's the banter that made it enjoyable. Whereas at school the teachers don't tend to have banter because they just see them[selves] as the instructor and the students as children. There's no in between. Whereas because it's a mixed bag of 16 year olds to maybe 30 year olds in the classroom, instructors have a good relationship with students I thought in Class 2.*

LCpl N: *I think on that point they're going to end up working with them at some point.*

LCpl N's point is important as he recognises that if the students mess around and fail to become competent then that will adversely affect the relationships between the SNCOs and JNCOs especially on operations.

5.3 Training in RSMS

Turning to training in RSMS there is one clear difference, that of compliance, between the military environment and school as noted by the DTLLS Tutor:

DTLLS Tutor: *They are compliant of course and of course I expected that. But that is completely different environment to the ones I would normally see where students aren't always compliant. But overall my impression is that they want to learn, that they are there to learn and they know they're there to learn, and therefore they do their utmost to learn.*

However, she also recognised the desire of the Geo Techs to learn. The students recognised other differences in the approach to learning, but again related to being treated like adults.

JAK: *What differentiated the approach? You mentioned one thing already, the banter.*

LCpl N: *Learning environment. You're not getting talked to, you're not getting talked at. They're trying to get stuff out of you and I don't know if it's in a good way or a bad way. I don't know if it's because the instructors were good or bad. The first point of call was as soon as you get to any point where you're struggling, your automatic instinct is to say are you happy with this? I don't know if it's because they didn't know they were doing it themselves or because it's their teaching style, you're encouraged to try and work it out yourself and work as a team, whereas in school you weren't encouraged to work as a team. A military spin gets you to bond as a team. I thought that was good.*

JAK: *That very much came out this morning when I talked to the instructors. They wanted you to work things out for yourselves rather than a spoon-feed type of approach; to work with yourselves as a team.*

The approach mentioned above reflects the changes in teaching style as observed by the DTLLS tutor from a discussion with one of her course, a SNCO Instructor following an observation of his teaching.

DTLLS Tutor: *But one of the things P just said to me after that observation was how great it was that he gave them a research task, a discovery learning task they went away and came back with stuff he didn't know and I said to him 'How did you feel' and he said 'That's brilliant because I can't possibly keep up, and if they come back I can say to them 'go away and find out about that because I need to learn that too.' He said it really made him feel that he was working in a team rather than being the leader. I mean he does lead but he's got past that fear*

This shows a growth in confidence among the instructors and a willingness to try different methods. The approach also reflects the military culture of teamwork, support and task focused approach. It also reflects a move towards learner autonomy that was encouraged during the DTLLS courses, but it is still constrained by a highly formalised teaching environment associated with DSAT. It is worth reviewing a perception of training in RSMS as expressed A/Sgt B in an essay written in August 2012 as part of the Geographic Sergeants Course:

*The RSMS has been pivotal in providing geographic training to future squadron technicians. Initially my technical training was **based on a***

*syllabus derived from TDT [the previously established Training Development Team in JAGO]. This allowed instructors the **freedom to teach using various methods**, especially from the experience they'd gained throughout their careers. The technical training was adapted to and geared towards the requirements of the squadrons and Defence when based at home or deployed on an operational tour. **Over the years there has been a shift towards an academic based theme to technical training.** Gone are the days of acquiring an HND after completing a Class One, an FDSc in Applied Computing is now the targeted qualification. **My understanding of this is that as a result the School have been mandated to teach specific modules.***

This perception is one that I have encountered before and documented earlier as an ethical consideration during one of the focus groups. Not only is it factually incorrect, for example the syllabus was not defined by TDT since that branch was closed in the late 1990's but it was defined by JAGO Training Branch. The text suggests that the mandated teaching of specific modules is to meet the academic requirements of the FDSc, but this is not so; all the modules are delivered to meet the requirements of Defence and are defined by a Training Needs Analysis carried out by Training Branch, not by RSMS. Some of the observations that could be interpreted as best practice are indeed challenged by other participants in this research. The same misperception was reflected on by Hd TMB during his interview.

Hd TMB: *The fact that we are linked into a civilian qualification is a key driver for people coming into the organisation. The difficulty we have to face is the misunderstanding of that relationship by some of the older staff who have no time for it because it is not what they ever got, so it's not needed [in their eyes], not required. The fact that we have this partnership [with SHU] and we have this culture I have been trying to develop is taking shape, because the students appreciate what the staff are trying to do, they appreciate the diversity of the programme.*

These views of misunderstandings resonate with others. This observation was followed up by explaining specifically what the partnership has brought to the training.

Hd TMB: *…but we are far more transparent in what we do, and the students have more confidence that they can complain or make a comment about the way they are being taught, the way they are being assessed, feedback; it is all explained.*

However, Hd TMB is concerned that within our training system we are unable to cater for the independent learner and sees this as a major shortcoming.

Hd TMB: *Teaching staff are unable in many instances to cater for the brighter student. They develop a package that will fit the brighter student or the less able student irrespective, therefore I detect an element of frustration, an element of boredom, and an element of the student wanting to do more but are hampered by the fact that we are not equipped to cater for that.*

This was also picked up by the DTLLS tutor through her observation of instructors and discussions with them with regard to differentiated learning".

JAK: *When you've observed the classes what has been your impression of the trainees, in terms of things like responsiveness, or academic attitude or… Have you noted them at all?*

DTLLS Tutor: *Yes, absolutely. They are, I think their academic ability is good. I think it is underestimated in some cases and therefore because the instructors were not differentiating for those different abilities within the class, some were getting left behind and some were racing ahead. They need to be encouraged to respond. And when they respond they do really well, mostly.*

They would all benefit from more engagement and more interaction.

It is worth remembering that it was boredom that turned many of the Geo Techs off learning at School. A particularly interesting perspective on the nature of training delivered at RSMS is provided by DTTLS Tutor who has delivered teacher training at an FE College for 8 years. Employed to deliver the first

Diploma to Teach in the Lifelong Learning Sector (DTLLS) to be run at RSMS, DTTLS Tutor has extensive experience with private companies, the Health Service and the Police where staff have a role in training other professionals. These staff would include a wide range of ranks and grades and as such would bear comparison with RSMS. I chose to interview DTTLS Tutor for my research because she would bring an external view of what is happening with teaching and learning at the School. In discussing the delivery of the DTLLS course, DTTLS Tutor had to remember that *'most of the instructors here have only ever worked and taught here'* and saw one of her challenges as *'broadening their understanding of the fact that just because it happens at Hermitage doesn't mean it happens everywhere else'*.

DTTLS Tutor's first impressions certainly supported the concerns I had that led me to embark on this piece of research in the first place.

DTTLS Tutor: *My first impression was that it was rigid. And it was very knowledge based and there was an expectation that the soldiers being taught would learn it no matter what the instructor did. I suppose that was my first thing was – "Whoa, we need to change that!" And they are changing it. I think it was the inflexibility.*

The response from staff she taught was equally interesting when she said this seems really inflexible, was *'people would say to me "Yes, Yes but we don't have time to do anything else"'*. This inflexibility was also linked to *'and the use of PowerPoint – ad nauseam shall I say'*. On asking DTTLS Tutor why she thought this to be the case she thought it was because:

> *That (PowerPoint) was viewed as the best way to get lots of material across. I now think that is still the case but I think it's to do with confidence because the PowerPoint is the lesson, rather than the teacher being the facilitator of learning.*

The approach to teaching and learning identified by the DTTLS tutor resonates with aspects considered by Maxwell(2009, p. 461). She reflected on the differences perceived by Spenceley (2007, p. 91) and those of Avis, Bathmaker

and Parsons (2002). Spenceley observed a *'traditional'* view of the teacher in FE associated with the idea of *'educator as expert'*:

> *Many felt that teaching in FE was about 'standing up in a classroom, in front of people', or being able to 'keep control of the class.' (2007, 91)*

Being seen as the expert and standing up in front of the class was regarded by some instructors as doing their job.

DTLLS Tutor: *Yes, it's probably the biggest thing. And getting them past the fear, that just because they don't know everything it doesn't mean that they are less valuable in classroom and for somebody actually - I think I might have said this to you before - one of the guys said to me 'But maybe if I'm not actually standing at the front talking, I'm not doing my job' and I said 'well actually maybe you aren't doing your job when you stand at the front, maybe you should do something else to make your job more effective.' And that's the bit that they have grasped and today I've seen the students go off, do some research and feed it back, so it is happening. It's really interesting.*

As noted by the DTLLS tutor on students being compliant, keeping control of the class is less of a problem in the military as discipline is a part of military life, although for civilian instructors this has not always been so straight forward. Avis, Bathmaker and Parsons found that others saw themselves' as facilitators of learning:

> *'identifying learners' needs; enabling students to learn; [and] encouraging them to reach their potential' (2002, p. 35),*

and

> *'someone who would enable and assist students to learn, but would not take a pro-active or directive role in the teaching process' (Bathmaker & Avis, 2005, pp. 55-56).*

From the focus groups with military instructors in RSMS, it was clear that they sat on the whole of this spectrum.

The image DTTLS Tutor observed was very much the former type, that of the traditional teacher, or more accurately instructor. Maxwell (2009) identified a difference between pre-service trainees, who considered subject knowledge to be the most important characteristic of a 'good' teacher, and in-service trainees who thought that understanding how people learn was most important. Those entering an instructor role could be considered like in-service trainees, but the evidence from DTTLS Tutor and other instructors indicate that their perceptions were more aligned to pre-service trainees. However, Maxwell (2009) identifies a transition from a subject frame in an earlier study, and the transmission of knowledge to a learning facilitation frame:

> *I tended to work more in isolation thinking in terms of the subject knowledge [...]. At that time I was actually thinking in terms of the subject knowledge rather than what people might want to do with it (Mike) (Maxwell, 2004, p. 10).*

Maxwell (2009) identifies this with the transition that Spenceley (2007) observes in trainees as they develop more engaging approaches to teaching when they recognise that delivery strategies need to match learners' needs. This also reflects the transition brought about by attendance on the DTTLS course.

Returning to DTTLS Tutor's noted comment on lack of time to do things differently, this resonates strongly with an observation the Hd TMB made on facilitating time and education for new instructors:

Hd TMB: *They inherit lesson plans and that is the way it is done. It is not until they are given time and education on how to teach more effectively that they start to break out of that and could do it a different way.*

So teaching in RSMS was seen by some very much as standing up in front of class and the transmission of content rather than facilitating deep learning in the same way as Spenceley (2007) noted. The approach is echoed in some of the Class 2 Focus groups as represented by the following:

Spr Q: *If there was a negative for me it was monotony, sat through PowerPoint theory.*

Spr R: *When you know you're starting a new module you're going to be sat there for a week, or a week and a half of theory, PowerPoint. That was always the downside of the course for me.*

Spr A: *Yes, a few modules where it was quite a lot of verbatim – definitions and things. That's where we got a little bit fed up, but in many of the modules the knowledge of the instructor has always been above my expectations.*

Spr D: *I think the main use of it is it's used to trigger the instructor who then emphasises on the points which are in PowerPoint.*

However, Spr D goes on to say:

Spr D: *A lot of instructors realize that it could be quite a boring method of teaching but you could see that they were addressing that issue because they didn't want be bored delivering the lesson as well.*

Whilst recognising that instructors posted into RSMS need a structure to work with, DTTLS Tutor was concerned about people's inability to move away from it. But again as she acknowledged, the poor practice with PowerPoint happens elsewhere. She recognised it as a comfort blanket, one that is very structured and in some ways the instructor does not have to know the subject really well if you have the backup of many slides with lots of detail on them. But she also commented that '*a lot of the time I have to balance what I think is best practice with reality*'. This raises the question of what is meant by best practice through the lens of the instructor, trainee and Defence. These first impressions seem to be at odds with A/Sgt B's assertion that '*This allowed instructors the freedom to teach using various methods.*'

In discussing her perception of attitudes of teaching staff, DTTLS Tutor noted their focus on teaching rather than learning:

DTTLS Tutor*: I think they [the instructors] only saw teaching, they didn't consider learning possibly. It was very much about delivering learning, delivering facts and figures and I get the impression; and I think they knew it in*

their hearts that the students or the soldiers pass their courses because of what the students or soldiers do rather than what goes on in the classroom, so I saw it very much as a teaching role and not as a facilitation of learning role.

Conscious that the Defence Train the Trainer (DTTT) Course is now mandatory for all instructors responsible for Phase 1 and 2 trainees, DTTLS Tutor had mixed responses from her cohort of instructors on the benefits of that course; some finding it really useful, but for others it was considered a waste of time. She thought that those who had undertaken the DTTT since starting the DTLLS course got most out of it, whereas those who completed it before the DTLLS didn't get very much from it.

Reflecting on DTTT, Hd TMB recalls comments by one of the Captains in RSMS who reported that [the course] '*was one of the very best courses I have ever done*' but he also noted that whilst the course is well regarded by those who have attended it, '*the medium of Defence training versus the delivery of HE is a completely different animal*'. Hd TMB went on to question the balance between subject matter knowledge and ability to teach. In comparing the roles of military and civilian instructors he recognises the different backgrounds.

Hd TMB: *The military are in a slightly different boat; they are already trained to a level therefore they are training what they have been taught. They are not training what they have learnt in advance of what they have been taught and in many cases they are not training to the level that they have been taught and that is because they are not given time to get back into the subject; they are not given the pre-requisite training they need before they come in to take up an appointment. So, that contributes to a level of confidence that is not as high as you would expect when you have got to teach people. And of course the greater the level of academic complexity, the more difficult it becomes. So they have quite a difficult task.*

Hd TMB's comments on level of knowledge that instructors bring with them is also problematic. As the GEOINT discipline has moved on with rapidly developing technology, systems, doctrine and data sources, many of the SNCOs do not have the same level of knowledge of current in-service systems

and applications that our junior soldiers have. These same issues of training for role, confidence and time constraints have been raised by DTTLS Tutor and the instructors.

A/Sgt S: *I do believe that such essential position within the training environment should not be primarily based on a good quality handover, or how good someone was in his/her previous role, as this has minimal impact on their potential capabilities in a teaching environment.*

This line was also followed by Hd TMB who reflected on how staff are selected for posts within the RSMS.

Hd TMB: *The staff unfortunately are clearly picked based on their availability rather than their aptitude to teach, we then have to grow that aptitude while they are here but at the same time they are trying to get on top of the subject they are trying to teach.*

The consequence of this is to put pressure on staff on arrival in the School and it impacts on the quality of teaching and learning.

Hd TMB: *Clearly these are areas they are not confident in and what happens is they are regurgitating material that has been delivered year on year. I'm not wholly convinced that the quality therefore reflects the level of education we are supposed to be delivering and the level of learning that the students are supposed to be achieving.*

A similar perspective came from A/Sgt S when reflecting on how training in RSMS has affected his own career. He argues for a change of mind-set.

A/Sgt S: *...the point must no longer be aimed at teaching skills and processes, but to facilitate in-depth thinking, problem solving skills and limitless development mind-set. .....On graduating from RSMS, I was infected with such belief and values, which led me to pursue and accomplish an MSc in GIS*

A/Sgt S wasn't alone in his desire for personal development.

A/Sgt W: *there is a massive requirement for personal development.*

To have the confidence to promote the ideas of A/Sgt S, it is necessary to have a good grasp of the technical subject being taught. This is where picking up other instructors' notes or PowerPoint presentations will not work without a deep subject knowledge.

Hd TMB: *You could I would argue, go into a classroom having never taught before, ever, and if you know your subject and know it well, and you know roughly what you have to teach, you could develop it on the hoof because you know what you are talking about. Knowledge is everything because it gives you the confidence, you know, to handle questions, talk about things, deviate if there is interest in a particular aspect, as opposed to not knowing the subject but knowing how to teach, and delivering content which is superficial and is largely irrelevant but doing it well. I know what I would pick.*

However, I would argue that is not to say there is no requirement to develop our teachers or to make them aware of how students learn. Evidence of a positive change in attitudes can be seen in the enthusiastic discussions DTTLS Tutor has had with the instructors.

DTTLS Tutor: *The reason I was late today is a typical example of how a simple bit of feedback about eye contact and positioning in the room has led to a 20 minute conversation and what we do here and how do you think I can do it that way, and if I do this would it be a good idea?*

The changes she observed are reflected in comments she received such as *'Did I tell you that I did so and so?'* DTTLS Tutor considered it was all about making her approaches to teaching and learning relevant to the instructors in RSMS. These positive changes are also reflected in comments from LCpls who completed the Class 1 in 2014.

In this section the different perspectives on training in RSMS have been brought together from the students, instructors, training managers within the School as well as participants like DTTLS Tutor who are external to the School. All recognised where poor practice exists, the problems of bringing about change and the impact on learning. However, it is evident from DTTLS Tutor's perspective that there has been a change in attitude to teaching and learning,

and a willingness to do things differently. The risk is that those who have gone through DTTLS Tutor's training have now moved on and we have not been able to replicate that training. In consequence the progress that DTTLS Tutor saw has been diluted and could disappear if we are unable to resurrect this training.

5.4 Motivation

In looking at the impact of single Service loyalties on the effectiveness of Defence, the Defence Reform Review (2011) found no direct evidence, but it recognised that motivation among the military reflects a range of influences, both from their single Service and from the joint operations and training and education that has been the norm over the last generation. It is not clear if those influences over the past generation are positive or negative. Some of the range of influences came out from a focus group with new Class 2 students held within weeks of arriving in the RSMS. The responses to questions on motivation were quite varied, but unsurprising.

Spr A: *Success*

Spr B: *Determination.*

Spr C: *Money*

Spr D: *Competitive, very competitive.*

Spr A: *Interest in the subject*

Spr B: *Gaining knowledge. Learning new skills as well. You wake up and you're learning something new every day.*

Motivation is also linked to drive and commitment as shown in the response from Spr X towards the end of his Class 2 course:

Spr X: *But for me personally I'm quite lazy and don't motivate myself very well towards education, so especially looking at this course I've just done, being the Geo course, it's just been a marriage of something I wanted to do and having somebody to shout at me when I'm not doing it to make sure I do it – that's helped me.*

Enjoyment and the knowledge that the training had practical value was also seen as a strong motivating factor, unlike many experiences at secondary school.

Spr D: *Enjoyment of the subject and knowing that it'll actually come in handy in the future. Like when you're back at school you don't really, you just think it's quite pointless but doing this course you know it's your job so it's relevant to what you're going to be doing.*

Spr P: *I went to college three times, three different courses, three different years and dropped out and got nothing to show for it. So having only had GCSEs before now I feel like I'm reaping the benefits and having been in this environment for a year. I, you know, knowing that if I apply myself I can get good grades, so it was more worth for me to do it for the future.*

But this is not quite so straight forward, as those under training do not have the experience to know if what is being taught is relevant and sometimes comments will be made that they '*don't need to do such and such because it's not used on operations*'. This is more evident from interviews with Class 1 students who may base their understanding on a fairly limited deployment experience whereas today's contingent operations are far more varied than at any time in the past 30 years.

Others in the same cohort considered the link to promotion, advancement and more money as very big incentives. But motivation can also be seen from a fear perspective as evident from the following Class 2 discussion:

JAK: *What scares you about coming here from a learning perspective?*

Spr A: *Lots and lots of writing.*

Spr A: *Having trouble grasping what you've been taught.*

Spr B: *Falling behind.*

Spr C: *Yes definitely.*

Spr D: *Yes, falling behind.*

Being weak and the risk of failure is almost certainly linked back to basic training where a number of their colleagues will have left the Army due to a variety of reasons including injury and failure on various mandatory military tests.

Spr F: *Also if you are struggling, because you don't want to put your hand up and say to your sergeant 'I don't understand this because it's not something you'll do.*

Spr E: *Failure is not an option.*

Spr C: *Exactly.*

Spr A: *That's the impression you get though – failure is not an option.*

Spr B: *So you are reluctant to put your hand up.*

JAK: *You said 'That's the impression you get'. Where does that come from?*

Spr A: *It's just the Army in general. From outside.*

Spr A: *You have to be the best. You have to be the best to get ranked up, in ranks.*

Spr E: *If you put your hand up two or three times more than everyone else then you're going to stand out like a sore thumb really aren't you. You want to stand out for the right reasons not the wrong reasons.*

The right reasons almost certainly have nothing to do with a passion for learning, but to impress those in authority, to demonstrate competence and an ability to succeed by volunteering to answer questions. The wrong reasons would include asking for help or explanations as evident from the following; instead the students prefer to struggle.

Spr G: *And if you put your hands up for the wrong reasons then you don't want to so you don't put your hand up, so you try and graft and if you still can't*

get it, it's still not explained to you in the way you want it explained, then you're going to struggle big time.

Spr A: *I think that failure isn't an option comes from looking at the Army. I think it comes from within your own head as well, not wanting to fail, which makes it seems like you can't fail.*

The reluctance to ask questions is not confined to the military as evident from Leung et al.(2008, pp. 252-254) in discussing students who are afraid to ask inappropriate questions. In these cases it is more likely that fear of embarrassment was the factor whereas with the military it could be the fear of failure. This raises a question as to what are appropriate or inappropriate questions. Some of the students in the focus groups were quite disparaging about fellow students asking lots of questions. Fear of failure was also raised by two JNCO instructors as illustrated in the following extract.

JAK: *What motivated you to learn as a student?*

Cpl W: *To be a qualified soldier and be out there doing that you joined the Army to do. Sounds cheesy.*

Cpl T: *Fear of failure. Petrified for fear of failure coming back on the Class 1 Course.*

The fear of failure raised by many during the various focus groups, was addressed by A/Sgt L in his essay.

A/Sgt L: *By not seeking guidance when confronted by problems, I missed the opportunity to develop myself fully within that particular specialism. On reflection I know that self-efficacy issues were holding me back and I didn't want to appear a failure to colleagues and superiors alike. ....I know that I have shied away from developing myself in some cases; not because I am lazy or idle, but through a fear that I may fail or not fully understand what is required to achieve the aim. I know now that I need to address this and take charge of my own development.*

But there was also recognition of waste of time and money through failing a course, but A/Sgt L's reluctance to ask questions could have increased the risk of him failing the course.

Spr A: *Yea, from the Army in general and once you're on the course, you know, you're on to that course and the Army are going to invest all that money into you for your learning and I mean like that's why failure really isn't an option.*

This fear of failure and the idea that failure is not an option, has undoubtedly been the main cause of academic misconduct over the years that the Foundation Degree has been running. Often someone has struggled with an assignment and as the submission time approaches, they take what appears the only option and either copy or collude rather than speak to an instructor and explain the circumstances.

Motivation of staff is also a key factor in the quality of training and education, as recognised by the World Bank (1994) which observed that '*a high quality and well motivated teaching staff and a supportive professional culture are essential in building excellence*'

Another aspect of motivation came out from several of the Class 1 students with regard to sequencing of training.

LCpl G: *Um the problem I didn't want to come [onto the course] because I was not in the right frame of mind because as we both mentioned we have been on tour and promotion courses, cadres and stuff like that. I had literally just got back off tour not even finished all my post operational leave before I came here so I was and I had come back in July threaders with the Army because the minute I got back to the squadron they pretty much just threw me back into the meat grinder as in literally the first day I got back they didn't even let me go on leave, went on another 10 exercises whatever it was places for the majority of them. Then I did my cadre which again was just horrific. I was thinking about signing off when I was told you will do your Class 1 in January or you will leave the Army not that they can make us leave but they can make it very difficult for us to do anything else.*

The issue raised by LCpl G and echoed by others on the course also came up in the lecturers' focus group when discussing perceptions of attitudes to learning.

BL J: *I think one of the biggest things that has come out through several of the meetings with the soldiers is some of them are not here by choice, some of them are here by command and the ones that are here by command are not engaged with the learning process as the ones who are here by choice. So until we realised that, it was very difficult to try and manage attitudes and we weren't understanding perhaps why there were certain pockets of negativity within the programme.*

Motivation for RE Geo Techs therefore can be seen in a number of guises, some of which are positive, others negative. This accords with Taylor's (2006) positive and negative impacts associated with Foundation Degrees. In Defence, positive motivating factors identified include sense of achievement, success, competitive personalities, and more functional rewards such as promotion and money. The negative factors come from fear of failure, needing to be seen not to fail as failure is perceived as '*not being an option in the Army'*.

5.5 Relevance

Returning to Keller's (1983) ARCS model, which consists of four components, attention, relevance, confidence and satisfaction, his focus on relevance was based on content, but relevance should also be considered in terms of context and culture as argued by Lave and Wenger (1990). So relevance can be thought of in terms of content, context and culture. The notion of relevance kept cropping up during most of the focus groups and interviews.

Spr A: *The enjoyment of the subject and knowing it would come in handy. When you are back at school you think it is quite pointless. Doing like this course is as relevant to what you are going to be doing.*

This was supported by Spr D when comparing training on the Geo Class 2 Course with school:

Spr D: *They're not teaching you a specific job or a specific task [at school], it's just broad brush and that's what lost my interest. Because I couldn't see, I was quite naïve, and I couldn't see the light at the end of the tunnel, I just thought they were teaching me this because they have to, whereas in this environment they're teaching you because they know what you're going to do and it's a lot easier to learn, if you see what I mean, on this sort of level.*

Two issues come out of this. When Spr D talks in terms of a specific job or a specific task, this is not the entire picture. Whilst there are some specific tasks that will be carried out in practical exercises, there is no single specific job that the Sappers will go into. As discussed in Chapter 1, in recent years they have been deployed in a wide variety of formations to undertake a wide range of tasks. This is why the employer moved away from Operation Performance Statements to Competency Framework for RE Geo Techs. Following on from this, the second issue that *'they know what you're going to do'* is not necessarily the case as there is a greater emphasis on coping with uncertainty and complexity in today's operational environments. Knowing what you are going to do also assumes that those designing and delivering courses have a good understanding of what the Geo Techs could or should do rather than what they have done individually in the past.

Alexander(2003), Renninger (2000) and Schiefele (2001), have shown the relationship between interest and knowledge and that interest is connected to positive affective experience. From all the focus groups it is clear that for RE Geo soldiers interest is closely related to relevance and context. In their training a constant challenge exists between what soldiers do on operations, what they could do and what they should do. What they do on operations is often governed by what those tasking them understand their capability to be. So this is a function of what their SNCOs understand and what a commander's appreciation of Geo capability is. Class 1 students are taught a lot of material that is not widely exploited on operations but there is an argument that if they are only taught what currently happens then the opportunity to grow capability will be lost. This links back to Kaldor's (2010) assertion that *'nor are future wars likely to look like the wars of the twentieth century'* and the Army's (2010)

expectation that education will equip individuals with wider and deeper knowledge to meet the complexities and uncertainties of today's operational environments.

The third aspect of what should be taught addresses the same issue, but also encompasses comments such as *'that is not the way it is done on operations'*. But then just as with instructor development based on learning through observing existing practice, it does not mean that it is either correct, good or best practice.

Throughout the period of the war in Afghanistan there has been pressure to focus training on Afghanistan data sets so that the trainees become familiar with the data. But not everyone took the view that the data had to be from Afghanistan to make it relevant. WO1 TB commented:

WO1 TB: *If you can see the bigger picture then the Afghan data becomes not irrelevant but less of an issue, but [it does] if you cannot see the big picture and [you] just follow colour by numbers.*

This view is supported unanimously by a Class 2 Focus Group in January 2015 who considered that it is not necessary to use live data sets for practical exercises; is better to use good, appropriate data sets with realistic scenarios to support the teaching.

Relevance is therefore difficult for those undertaking training to appreciate until they have exploited their training in operational units. However, Class 1 students who over the past decade will have completed at least one operational tour may not see the relevance if they are not doing what they could or should be doing rather than what has always been done. Even the SNCO instructors can find this difficult as their own experience can be limited to a specific operation, theatre or exercise; in WOI TB words *'not seeing the bigger picture'*.

On the subject of relevance, which has been raised by both instructors and students, the following extract from A/Sgt W's essay could be placed in Hodgson's (1984) category of extrinsic experience and demonstrates the need to see the bigger picture:

A/Sgt W: *remembers saying on numerous occasions on my Class 1 how something I was being taught was pointless as I would never use it; I wasn't the only person guilty of this though.*

A/Sgt W's choice of the word guilty is a powerful one since he goes on to reflect:

A/Sgt W: *I think that depending on your job this could be true, but in my case going into a technical job supporting theatre on a daily basis it wasn't the case.'*

This does raise the issue of how to ensure the students understand the context, and hence the relevance of what is taught if they have not experienced the use of the techniques themselves or seen the capabilities exploited. One reason for employing military personnel as instructors is to contextualise the training, which resonates with Hodgson's (1984) vicarious experiences of relevance, but maybe this is not being achieved as well as it could be.

However, the military instructors found difficulty in seeing the relevance of what they were covering at the start of the DTLLS Course.

DTLLS Tutor: *And I think to start with they didn't think it would be particularly useful. I think they thought 'Oh we can do this and this will be handy to have' ... There were two or three who were negative; a couple of those we lost anyway fairly early on. Not negative, but perhaps, what's the word I want, they were a little bit suspicious about some of the things I said we were going to do. Now I would say they can almost to a person have turned that around and they can really see the benefit of what they're learning.*

In the same way the soldiers on their Class 2 course who have not been exposed to the field army and operations also may not appreciate the relevance of what they are being taught whilst on course.

5.6 Context

Scribner and Cole(1973) discussed how information is taught out of context in school based learning, whereas out of school learning affords learning through imitation and observation in the context of knowledge use. In the focus groups

with aptitudees and both Class 2 and Class 1 students the lack of context was frequently raised as a reason for lack of motivation in school years. They simply could not see the point of what was being taught; an experience the author can relate to. In my own case, at school the subjects of matrix algebra and Eigenvalues were taught but without real world examples to illustrate their use. It was only when they were applied to solving large sets of geodetic equations in later professional practice that they became clear to me, both theoretically and in application.

The contextualising of training was recognised by the DTLLS tutor as being an effective device particularly in helping to make the learning relevant.

DTLLS Tutor: *One of the things a lot of them now do is they will talk about – they always did use their experience – but they talk even more about their experience and say 'when I was at so and so' or 'when I was on operations' or 'what I've seen is' and that really helps. And we've talked a lot about relevance and a lot of them use relevance a lot more.*

Contextualising the learning is also a major challenge for the civilian staff in the School and has led to some of the respect problems that they face. This is where they have difficulty in seeing the bigger picture that WO1 TB referred to and this could make the context of their training delivery seem irrelevant to the soldiers. The other danger is that they try to create scenarios that they have never experienced and the soldiers will challenge them. This is evident from Spr D's comments on civilian staff with regard to respect.

But imitation in the context of knowledge can be problematic in that bad practices can, and have, developed in the field on operations that then get handed down as successive roulements[26] take place. The same applies to teaching within the School where the practice of a new member of staff

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[26]Roulement is the term used for successive deployments of soldiers on operations. Current practice is that most soldiers will deploy on operations for 6 months and then hand over to new individuals or units.

shadowing the outgoing instructor for one module leads to imitation. Rogoff and Lave, (1984) regard structured social arrangements for non-school based learning as crucial learning contexts. Their work, and earlier work of Scribner and Cole (1973), and that of Lave(1988) assert that cognitive efforts are closely aligned to tasks in specific situations, and that practices are adapted to fit routine tasks and available resources.

So, whilst relevance can be considered as concerned with applicability, context is about delivering training in a military environment, with military examples and supported by experienced military staff.

5.7 Experience

The relevance of experience can be viewed through three different lenses.

    a. Experience of trainees before arrival at RSMS.

    b. Experience in operational units between Class 2 and Class 1 training.

    c. Experience of Instructors before taking up appointment in RSMS and during their time in the School.

Looking at the first, a key aspect of experience for Class 2 trainees is the training they have received in the Army prior to attending their first trade training course at RSMS. They will have spent 14 weeks basic training at Bassingbourn[27], another 4 months at Minley[28] undertaking combat engineer training and then another three months driver training at Leconfield[29]. WO1 TB sees this first year in the Army as a stage when the soldiers are very impressionable and has a massive effect on their opinion and identity, but it can

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[27]From 1993 until it closed in 2012, Bassingborn Barracks was home to one of the Army Training Regiments.

[28]Gibraltar Barracks at Minley is home to 3RSME Regt and Battlefield Engineering Wing. On completion of Phase 1 training, all Royal Engineers proceed to RSME Minley to complete their Phase 2a training in which they will qualify as a combat engineer.

[29]Normandy Barracks, Leconfield is home to The Defence School of Transport (DST).

also lead to motivational issues and disillusionment on arrival in RSMS. In working with the Class 2 trainees he has found mixed messages coming from instructors at Minley, in particular questioning why trainees have chosen to go down the Geo route.

WO1 TB: ....*generally soldiers are like sponges, all the views and opinions they give are a direct result of their experience with their instructors and where they are presently.*

This understanding closely reflects Mannheim's (1985)view discussed in Chapter 2 that it is incorrect to say that the single individual thinks and Hofstede's (1991) assessment that culture is based on the collective programming of the mind.

The second experience between Class 2 and Class 1 training plays an important part in shaping attitudes to the Geo trade and to training. The experience of Sappers can vary considerably depending on the Unit they join, the exercises and operations they take part in and their own willingness to put themselves forward to take on demanding roles. It is through these experiences that Sappers can develop their own competencies beyond what is taught in the School.

The third experience, that of staff, affects their competence, both as technicians and teachers. Hd TMB raises some issues associated staff appointments to the School:

Had TMB: *The staff unfortunately are cherry picked based on their availability rather than their aptitude to teach, we then have to grow that aptitude while they are here, but at the same time they are trying to get on top of the subject they are trying to teach.*

However, the problem is not just with aptitude to teach.

Hd TMB: *I don't think that the knowledge of the subject is the key driver in them being selected to come to the School.*

This reflects A/Sgt S's concerns over the instructors' capabilities:

A/Sgt S: *students are learning skills which are primarily based on the instructor's limits [limitations]. We are expected to deliver content which we are hardly expert at.*

Hd TMB goes on to question whether the quality of education is at the right level.

Hd TMB: *Clearly there are areas where they are not confident in and what happens is they are regurgitating material that has been delivered year on year. I'm not wholly convinced that the quality therefore reflects the level of education we are supposed to be delivering and the level of learning that the students are supposed to be achieving.*

Having raised these concerns he recognises that it is not all bad. Indeed all the external inspections, audits and external examiner reports are very positive.

Hd TMB: *It is not broken, the students leave here and deploy and seem to be able to achieve and undertake what they are there to do based on some of the post exercise reports I have read.*

This view is also supported by two A/Sgts:

A/Sgt W: *In summation and based on my experiences, I think the training provided by the RSMS to Class 1 technicians is very good and provides them with the necessary base skills in order to carry out all jobs expected of them.*

A/Sgt N: *The training the Geographic Technician now receives in the RSMS is excellent and gives the Geographic soldier an enormous amount of knowledge and leaves them very well rounded, however, the diverse roles these soldiers are expected to fill means that this training can never be exhaustive. Trained technicians must take it upon themselves to develop their skills through other means.*

5.8 Commitment

The impact of the level of commitment of both instructional staff and students was recognised by a number of interviewees. Whilst discussing attitudes to learning in the Lecturers' focus group there was a perception that some of the

students treat the training as a 9 to 5 job rather than a learning environment that requires personal self-direction and commitment.

BL F: *Some soldier students who would like to see this as an 0800 to 1630 job and are particular about not over-running into break times or staying on after work. They will is it is a military command to do so but they will not listen to our command to do that.*

WO1 TB clearly recognised the changes that have taken place from when he entered the army and went through technical training. As the lead person for assessing Aptitudees he was involved in interviewing all those interested in joining RE Geo for several years during the period of this research. From this perspective he considered there has been a shift from his generation that joined up as a career to those who now seem a lot more independent and accept that they may only be in the army for a few years and then use it as a stepping stone.

WO1 TB *…they seem to have their heads screwed on a little bit more than my generation. We just joined the Army and that was it. A lot of soldiers we see on aptitude courses are fully aware that they are just joining the Army to get a trade, to do a tour in Afghanistan and then they will be out of the Army in 4, 5, 6 or 7 years' time.*

In my role as Principal of RSMS, I welcome each new cohort of students to the School. During these half hour sessions I always ask the students what they are doing on the course, why they are here and what they expect of their future careers. In welcoming a Class 1 course in January 2015, four out of 15 students were very certain that they wanted to get their qualification, the FDSc, serve their time following the course and then leave to carry on in the same field but in the civilian world. Two others were uncertain, but expressed the view that they would leave at the earliest opportunity if they weren't given the opportunity to exploit their technical skills following the course. With the course that started in June 2015, not one student indicated an intent to see a long term career in the Army.

But it is not just about the commitment of students. A common view of the commitment and sense of professionalism of staff is summed up by Spr F:

Spr F: *But they've always been there though if you need them. Even if they weren't in the classroom. Even out of hours, they'd leave their phone number. If you were really stuck you could still get hold of them and they'd either help you down the phone or actually come out and help you in their own time.*

5.9 Respect

Another theme that emerged, and one that I had not contemplated at the outset, is that of respect and this could also be connected with relevance and experience of instructors. Throughout the various interviews and focus groups the issue of respect was raised on many occasions, initially by those being interviewed, but then in later sessions by me to follow up on the theme of respect. Three different aspects of respect emerged: respect for the teaching staff, respect for the students and respect for each other.

Teaching Staff

Looking first at student respect for the teaching staff, there was a clear difference for military and civilian instructors, and some contradictory opinions. In discussing ethical issues earlier the subject of respect raised some concerns when Spr A referred to *'Military instructors and [we are] respected now'* and this was followed by Spr B with *'they [civilian instructors] treat you like an add-on'.* But a quite different view was given by another Class 2 soldier who commented:

Spr C: *It's quite a break from basic training so it was quite enjoyable in that respect because it was all civilian instructors and it gives you just a break even if it was half-a-day away from that [military training].I*

However, a different perspective was more common:

Spr R: *Civilian and military has changed now we've got onto military topics. Military instructors are respected now. That sounds crap but….*

Spr B: *Civilian instructors tend to teach you like you're a high school student rather than like a soldier like the forces instructors do.*

Although some Class 2 Sappers found teaching staff at secondary school supportive, this was not the general view.

Spr D: ....*whereas here, our military instructors – will if you ask them then, if they think you don't understand, they will give their time and they'll make sure you understand rather than just leaving you hanging.*

A similar line was taken by Spr E, but in doing so he denigrates teachers in secondary school as only being there for a day job:

Spr E: *I think here on this course we've got a lot more respect for the instructors because unlike school where that's just a day job just to be a teacher but here they're hand-picked. Your instructors are deemed one of the best at what they're teaching so you've got quite a lot of respect and they also use their experiences, like their past experiences to kind of connect you, whereas in school they're just there because they're the teacher of that subject, and they live nearby and it's their choice to be there.*

As the principal employing officer of staff in the School, this shows a rather rosy picture of the posting of instructors into the School. Not all the military staff are hand-picked, as Hd TMB noted, and are not necessarily the best, largely because of the challenge faced by the manning authorities in meeting all the wider RE Geo commitments with a relatively small pool of specialists.

WO1 TB brings a different perspective to respect based on his close work with courses over a number of years.

WO1 TB: *It might be that an instructor will go into a module and he may not be as proficient as he would like to be or you would like him to be as the chain of command and that can, can affect respect. However, I do honestly feel that militarily as long as you do have knowledge gaps and are not quite as proficient as you want to be, if you are a professional dedicated soldier, instructor, this should not make a massive difference. So long as you are open, honest with the students and you involve other people who maybe do have that knowledge, then I think they can still respect you. It is when you try to hide or blag or bluff, you know, students don't bother, just give them something...that's when loss of respect comes in.*

The lack of proficiency also came up in the Class 1 focus group when discussing learning at school. The subject suddenly switched to instructing in RSMS with reference to their Class 2 course which is predominantly delivered by Sgts:

LCpl K: .... *You see other teachers in the School [RSMS] who aren't particularly interested in what they are doing; they're just doing it because they are told to do it and their lessons are dry, dull and they don't really get where they want to go.*

The other challenge posed by Spr E's view is the assumption that in using their experiences, the instructors will have had the right experience and development on operational tours. With the withdrawal from Afghanistan in 2014, gaining high quality operation experience may become more difficult in the future, although there will be undoubtedly a much wider variety of opportunities.

A more challenging issue concerns the perception of civilian instructors. Again WO1 TB throws some light on the reasons for some of the negative comments received at end of course meetings.

WO1 TB: *I have got to be honest, at the end of course discussions they [the civilian instructors] get hammered, eh, my personal opinion is, I think it lot of it is unfair, again it comes back to identity and comes back to, when we get, I have been an instructor, done cadres and junior soldiers and all that, you try to get an identity and drive into them the military is the best. You are trying to drive that into them, that civvies are rubbish; you are special; you are in the army now; you are special; you are special. And we have to do that, the extent sort of environments, so when a Class 2 comes here and has had that driven into him for a year, and he has got female, civilian instructors, or male civilian instructors, try to say to him. Already that instructor is on the back foot, because there is a certain lack of respect in that, so I don't worry overly when civilian instructors, they do get a lot of stick. Again I have seen Mrs J and that, the amount of effort she puts into her lessons is as much, more than, probably anyone; that she cares, but students don't see that at all.*

The view that WO1 TB reflects here on the military as special fits well with the very negative stereotypical view of civilians reported by Palmer (2012, p. 113).But a telling comment from another student in a Class 1 focus group which I shared with WO1 TB.

LCpl P: *the big difference, is that the military have respect through their stripes, and have to lose it, whereas the civilians have to earn respect.*

WO1 TB: *Yes whoever said that is exactly switched on because it is exactly right, and is completely wrong.*

However, this view isn't universal as the following from a Class 1 focus group. Whilst the rank structure is respected it doesn't necessarily mean the individual who carries the rank is respected in the same way.

LCpl F: *Well the way this world is now the British army of the fifties up to the nineties if you will do what you're told and you have to respect the military rank structure that's fine, and I do respect the military rank structure. However, it does work both ways and if they are going to treat me like rubbish, yes I am not going to have any respect for them back. I will still do what they tell me but that is as far as I go.*

LCpl G: *Yeah.*

One of the challenges for civilian instructors is the way in which they discipline the class. During a discussion on 'wretches', a general term used by the soldiers for someone who slips up, the issue of discipline came up.

Spr D: *I think that with regards to the wretches here, it's just a case of, if you're with a civilian instructor they will quite simply send you outside to speak to somebody with rank and instantly you're going to listen because they can bounce you any way they want really, and then again with military instructors again it's a higher ranks so naturally you've got that respect and so naturally you're going to sit and listen.*

JAK: *I'm interested in attitudes and you have just raised a couple of points there about the difference between military and civilian instructors. Do you feel that the civilian instructors don't feel they have the authority to…..*

Spr D: *They just pass you on.*

Spr E: *They feel that, but I also feel that they shouldn't have the authority because they are civilians.*

This is a telling comment in itself of a perception of civilians.

Spr C: *I think they know they have, but I think if they know that if they sit there and say we'll go and get whoever, instantly the whole class is like that. It's jumping straight - It's not like going to get a sergeant or something, it's like jumping straight to the high ranks. It does get you to listen, inevitably, it does get you to listen.*

Spr A: *They are say, Lord it, Lord it above you.*

Spr B: *Usually can tell quite quickly by the way they talk to you, you can see really quickly, because the instant they look at your rank and they choose how they're going to talk to you based on what …. You will notice how they talk to you and then they'll talk to a Warrant Officer or something, it just changes like that, which is the same for everyone but it's not so much the paying respect it's the looking down at you.*

Spr D: *Yeah it's the looking down on you*

JAK: *You're into respect aren't you? I'm Interested in your comment on they shouldn't be able to do anything because they're civilians. Is that another aspect of respect thing?*

Spr C: *I think a lot of it is the way we see it is, we've worked damn hard to get to wear this uniform and then we've got civilian instructors just coming in saying – I'm equivalent to a rank of captain or a major, I can punish you*

Spr B: *We've grafted for this.*

Spr B: … *worked hard. They don't seem to understand the various things that you do to get to the physical demands and …*

Spr D: *They've gone to university and they've gone through all the ladders in the civilian side of it to get to the equivalent rank but it's a very different thing and we view it as anyone [the military] that's done it, they've done that, they've done more, they've done so much harder things than this and instantly you've got a lot of respect there for knowing and having the general gist of knowing what they've done, whereas you get the feeling that civilians come in because they get the equivalent rank and powers of … they don't actually understand where you're coming from and the things you've done and stuff, but – I don't really know how to explain it.*

This was based on the notion that it is the rank that carries the respect and not necessarily the individual. This issue of respect was also picked up by Hd TMB in three ways; between uniformed and civilian staff, self-respect and recognition of competence in others. There is no recognition of the grafting of civilians to get academic and professional qualifications and recognition.

Hd TMB: *Lack of respect between the, and I am generalising, between the uniformed staff and civilian staff, and that doesn't help.*

On self-respect:

Hd TMB: *Self-respect is a huge issue. …. The lack of self-respect in some of the civilian and uniformed staff to be perfectly honest with you, so is it any wonder the students pick up on this because, you know, I've not seen it but heard third party, sniping, publicly at other people in front of students, that is not good.*

The third aspect revolves around rank and came out of discussion on instructor monitoring.

Hd TMB: *Some staff think they are above it all [instructor monitoring]. Some won't accept that staff who are qualified to do the monitoring, who are of a junior*

rank to them 'could possibly have the understanding to be able to monitor me, are you serious?'

This led onto discussion on rank dependent instructor monitoring rather than the best qualified person.

Hd TMB: 'Is it reasonable for me to expect as a SI, a Major, to be monitored by a SSgt?' The SSgt has done his teaching qualification, done his instructor monitoring qualification, done all the qualifications required of him, yet because he is a SSgt, and this chaps a Major, by definition he [the Major] knows far more than he [the SSgt] will ever know, and therefore is completely opposed and it doesn't work. You and I know this is nonsense.

Respect for students

Generally the students felt that they were well treated by the instructors:

Spr F: I think we get respect as a course. As we show respect to our instructors because when you hear accounts of other courses [within RSMS], if they've maybe not shown respect then they're not going to get it back are they.

This was explained to me by the particular course as having more life experiences and able to play the game better whereas the other courses in the School at the same time had mainly younger trainees.

Respect for other students

Whereas a number of participants expressed concern over the lack of discipline in school, and the messing about by fellow students, here at RSMS there is an expectation that

Spr E: if you do something wrong, like messing around, I think you will be punished a lot more.

Spr B: I think you will progress a lot quicker as well because no-one is going to mess about. They all want to be here.

Spr B: If you don't do something then basically the person above you is just going to come down on you.

This is in stark contrast to Spr B's experience at school:

Spr B: *Still, half the people in my school just didn't want to be there. I wasn't one of them, but the teachers just couldn't control my school. Literally half the pupils just ran riot round the school.*

The following exert from Class1 students shows how respect, or lack of it, for fellow Geo Techs extends into the operational units and is intertwined with trust.

LCpl F: *There are a lot of guys who shirk out of things. So there a lot of guys who can't be trusted so the same people do all of the exercises because we are the only ones that can be trusted to actually do it. You get thrown under the bus a lot.*

JAK: *Because trust is a big part of army life isn't it.*

The issue of respect is not confined to instructors in RSMS. Perry (2012, p. 67) reflected on his own experience moving from industry to academia in particular his relationship with established academic:

> *I keep on being referred to as an 'academic'. I cannot agree, as I don't fully understand the term, even though I believe that established academics are indeed 'academic'. It is confusing. I consider myself an industry professional that teaches, although I feel that my professional identity is changing. I am uncertain where it will lead, as I currently would not want to be identified as an academic, based on the attitudes of some of my colleagues and my current perception of them.*

This uncomfortable position mirrors a similar distance between some military staff and civilian lecturers and instructors within RSMS.

The issue of respect emerged in the variety of ways discussed in many of the focus groups and individual discussions, but respect cannot be seen in isolation as it is associated with experience, competence, rank and expectations. Respect is a complex issue, not least it depends on what is being respected; is it rank, experience, knowledge, or personality. From the various interviews and focus groups, it is not clear what is respected, be it rank or competence? If it is

rank, I think that it is clear from the interviews that rank alone warrants a superficial respect. Whilst one Sapper suggested that respect has to be earned by the civilians, it seems to me that hidden behind the rank structure respect needs to be earned by the military too.

5.10 Expectations

Another theme that emerged was that of expectations, which came up in a number of focus groups; expectations of a career in RE Geo, expectations of training and expectations of what the training could offer. Many of those entering training had little or no idea of what they were going into. Although they all have to complete an Aptitude Course before joining the School, there was a clear lack of understanding of what lay ahead.

Spr D: *In civvies you need like electricians, plumbers and stuff like that, but before I came here I'd never met a cartographer. I'd no idea what one would look like. I imagined someone in tweed suits – I really did imagine tweed suit, Landrover, Labrador, the works! I had no idea.*

Common answers from those coming to the end of their Class 2 course were:

Spr P: *getting a trade,*

Spr Q: *to gain some qualifications,*

Spr R: *Skills. Skills was the main thing.*

Spr E: *Build your confidence as well. Confidence is the thing.*

And for some it was looking ahead and recognising a time would come when they would move on. The following links well to WO1 TB's view on commitment when he considered today's recruits being more 'savvy'.

Spr Z: *What they can actually put into civilian life as well and actually do something so that when your time's – after the Army- you've learnt something that you can put into civilian life and actually carry on or having to.*

Reflecting back on their own time as Class 2 students, some two years previously the Class 1 cohort felt that the expectations were not well set out.

LCpl K: *The lies we got told I think. Expectations.*

LCpl L: *I personally went for training at 16 and I got told when you finish your training you get promotion and you get a degree and I thought brilliant. Absolutely brilliant. Then obviously you don't.*

As previously discussed under commitment, during my welcome to new courses the answers to my questions *'what are you doing here?', 'why do you want to join the Geo branch of the Royal Engineers?'* are more and more to get a qualification.

The lack of clarity of what new entrants can expect is not restricted to the RE Geo trade as observed by the Adult Learning Inspectorate (2007):

Recruitment procedures and materials which sometimes mislead and which are poorly connected to training establishments.

5.11 Qualifications

A number of different perspectives have emerged with regard to qualifications. I was involved right from the start of the Foundation Degree for RE Geo Techs when we had to look for alternative qualifications for our soldiers with the demise of specialist HNDs such as those in RSMS. This coincided with the introduction of Foundation Degrees and RSMS was one of the early adopters of these qualifications and certainly one of the first within the Armed Forces. The main reasons for the Royal Engineers to seek external qualifications for military training were recruitment and retention, but at the same time to tie in with Defence policy that long courses should offer civilian qualifications where possible.

Since then qualifications have been perceived in very different ways by different groups. Some have seen the accreditation through SHU as very positive in enhancing the standards of teaching, learning and assessment. WO1 TB sees the Foundation Degree as being massively beneficial to the Geo Community.

WO1 TB: *I'll be honest with you. When I was Sergeant Major in 16 [Sqn] my impression was the polar opposite. Now I see the benefits of it from the recruiting point of view when we are trying to convince the top of the top why they should choose Geo. ...... the academic part is a huge motivational factor for the top people who could choose aircraft technician, telecommunications, Int [Intelligence] Corps.*

But it is not just in recruitment and retention that he sees a benefit.

WO1 TB: *...where it is really beneficial is for the soldiers you can see that getting their Level 4 and I found a SHU degree is a part way to the top of the tree as is shown by the huge amount of Geo soldiers who in their own time are going and doing MSc's ...... they would have found it very difficult to progress on without this new system [the Foundation Degree and the RE Geo training programme].*

This view was echoed by Spr X when reflecting on the Foundation Degree:

JAK: *What about the Foundation Degree? What's your perspective on linking the course to a Foundation Degree?*

Spr X: *Massive Bonus.*

Spr Z: *Yes, Incentive as well.*

But they recognised that the qualification wasn't essential to be employed as Geo Techs.

Spr W: *For a lot of people who maybe haven't got the qualifications but want to do the job, you know, regardless of whether they've got qualifications anyway it's just there. It's something you can think about if and when you leave the Army.*

The opposite view has frequently been expressed by staff who considered that the course has been driven by the academic qualification rather than the needs of defence. The students have frequently been told by some instructors that the only reason they are taught a particular subject is because it is to meet the requirements of the university.

There have also been misunderstandings over the impact of qualifications on military decision making. For example, the reduction in pass mark to 50% was seen to mean by some that the soldiers only needed to understand or be capable of completing only 50% of the material taught. Likewise, there was a perception that to assess students effectively it was necessary to assess everything that the student was taught, but this led in early days of the FDSc to more than 50% of a module being spent on assessments rather than learning. This also meant that staff were spending a disproportionate amount of time marking assignments.

Another issue concerned the apparent inability to fail students because of 'university regulations'.

5.12 Change

One of the questions I set out to answer was: How do the attitudes of RE Geographic Technicians change throughout their training? Returning to my interview with DTTLS Tutor, which took place in the second year of this research project, she recognised the need to change with '*Whoa, we need to change that!*". Since starting my research there have been some significant changes in attitudes.

The following extract from a focus group held early on amongst Sgt Instructors illustrates the barriers to change that some instructors introduced through the '*not how it was done in my day*' attitude and brings out some of the challenges in developing military teaching staff.

JAK: *Have your attitudes to trainees changed?*

Sgt S: *I try to put myself back in their shoes – was I as bad as that?*

Sgt M: *.....they are not motivated to help themselves. …….. They are too lazy and sit around ………….*

Sgt S: *Why did I waste my time with them?*

Sgt M: *When I was in the School my course was much smarter, more professional……….. They have no ………*

Sgt W: *….. a more intelligent time back then.*

Sgt D: *Not the highest of educational spectrum.*

This brief extract, involving four of the six focus group participants, highlights several issues that needed further research into attitudes amongst instructors including respect for the trainees, the role of the instructor in motivating trainees and their understanding of how students learn.

One thing that appears to have changed is the development of team work between military and civilian staff. Whilst discussing the impact of civilianisation of some posts within RSMS the following extract from a Class 1 focus group in December 2014 brings out the effects of this change.

LCpl F: *I personally prefer that a lot, and I think the civilian with the military.... one military instructor with a BL [Burnham Lecturer] to them is probably the best thing the School has done because the best example is S and C. So S will come in, SSgt S, and introduce the module, go through some of the PowerPoint in his way which is more militarised, then C will actually come and support us because she knows a lot more in depth about the subject.*

LCpl G: *Fantastic. It's fantastic, because you can ask. I find the civilians teach you it and then the military put what how we contacts into context.*

JAK: *That was certainly the intent of going down that route.*

LCpl G: *It was a lot better in some modules, it was a lot better in some than others.*

JAK: *So in general what you are saying to me is the right combination is a good thing.*

LCpl F: *Yes. Oh yes, just having them attach to the department they don't have to shadow every single military instructor but having them, one or two in each department, in GIS 2 was massively uplifting by the fact that it has two BLs.*

LCpl G: *Yeah. And they can come in and introduce other concepts and things. J was definitely involved in the module and that was fantastic.*

In a recent interview I held with a Sgt Instructor at the end of his tour in RSMS he recognised the changes that have taken place. Having completed a number of Defence courses, the DTLLS course and an external MSc through distance learning he was in a position to comment on the changes in RSMS.

Sgt Instr: *Come a long way, but still have some way to go, but have achieved a lot in comparison with other military establishments and civilian universities. The level of support our guys get is exceptional. What is key is the quality of the trainees. This has been improving and we as instructors also need to continuously improve.*

5.13 RSMS as a Community of Practice

Having considered the range of themes that emerged during my research, in particular those of respect and culture it is worth returning to Lave and Wenger's (1991) community of practice as a framework. Appendix 9 identifies Wenger's indicators of a community of practice together with my assessment of how the RE Geographic training community matches up to each indicator. They also include assessments based on collaborative exercises amongst RSMS military and civilian staff during a Continuing Professional Development seminar that I ran. The session set out to inform staff of my research but was also intended to challenge them on how well RSMS fits into the concept of a community of practice and what could be done to bring about a more effective learning organisation and community of practice. Whilst the session generated a lot of discussion, much of that was over the meaning of the indicators. Many of the indicators can be related directly to the themes that emerged through my research; these are shown in bold text in the table. From the staff responses there is much still to do in order bring about an effective community of practice in RSMS that is inclusive, and where learning becomes what Huzzard (2004) refers to as an integral aspect of social practice. However, as with Campbell's (2009) research into the Australian police, the power relations that exist within RSMS could be a limiting factor.

5.14 Conclusions

In this chapter I have examined the principal themes associated with attitudes to teaching and learning which have emerged through my research. These are motivating self and others, seeing relevance, appreciating context, exploiting experience, showing commitment, respecting others and understanding expectations, but each is not mutually exclusive. Gubrium and Holstein (1997) argue that *why* questions in theorising can be addressed by considering the relations between the *'whats'* and *'hows'* of social life. In presenting the themes that have emerged throughout my research, I have addressed *what* is happening within the RE Geo training and *how* the various *whats* manifest themselves. In this way through my interpretation of the participants' views of reality I have been able to understand and explain *why* certain situations arise, issues come about or perceptions held. Whilst the emotions and views expressed by the participants are subjective, as indeed are my own interpretation of those views, the number and breadth of individuals involved in the research have allowed substantive categories to be identified rather than one-off isolated concerns.

Chapter 6–Summary and Conclusions

The knowledge of the people within an organisation is an invaluable asset. In Defence we have expertise and good practice throughout the MoD and the Armed Forces – our challenge is to harness it, make it accessible to the right people at the right time. We are on our journey, but have a long way to go before we can match the very best of the public and private sectors. My intent is for this seminar to bring together different perspectives and practices, to enable Defence to identify appropriate changes and actions to improve how it learns.

<div align="right">

Air Chief Marshall Sir Stuart Peach
Vice Chief of Defence Staff (2015)

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6.1 Summary

Through my research I have explored Light and Cox's (2001) *'weave of learning'* to gain a better understanding of how learning takes place within the Royal School of Military Survey (RSMS)so that in ACM Sir Stuart Peach's words we can harness the expertise and good practice within the School to enhance the training and education of Royal Engineer (RE) Geographic Technicians. Through my research question I set out to determine how the RSMS could enhance the quality of teaching and learning through a better understanding of the attitudes of RE Geographic Technicians to education and training. There are common aspects, not least developed through association and culture within the military environment that could be considered like Weber's ideal type. It is these common aspects that I have investigated.

To understand the Geo Techs attitudes to learning I have critically examined different perspectives and practices gathered at various stages of their career, both as students and then instructors. I have achieved this through a grounded theory approach that combined focus groups, selected interviews and supported by other documentary evidence. However, an 'internal' perspective from the Geo Techs would not tell the whole story even from 11 different focus groups, totalling more than 60 individuals over a 5 year period. Rather, an 'external' view gathered from individuals associated with the trainees enabled me to explore their experiences through the eyes of others whereas my own

intrusion on lessons, meetings and discussions would have undoubtedly changed the atmosphere of those sessions.

In reviewing the criteria for evaluating research, Charmaz (2014, p. 337) argues that the way in which constructed theory renders the data should be considered. She identifies four key criteria that should be considered: credibility, originality, resonance and usefulness. It is against these criteria that I assess how my research measures up.

Credibility

Being immersed in the training and education, and teaching and learning that takes place in RSMS I have enjoyed an intimate familiarity with the subject of my research. By exploring a range of different groups at different stages of their careers, and incorporating external perspectives I have gathered the *'compelling and robust data'* that Charmaz (2012, p. 11) demands to support the emergent themes and to enable my work to *'gain substance and move beyond interesting conjectures'*. The range of evidence gathered from the Geo Techs has been strengthened by individual interviews with key contributors to enhance the credibility of my research.

Originality

Through my research I have opened a different door to the traditional, well defined methods of assessing training in Defence training establishments. A voice has been given to students and instructors which otherwise would have remained muted by the formality of the course committee meetings, end of module and course discussions and anonymous questionnaires which by their nature prevent follow up enquiry. My approach is the first time such a study has been undertaken within RSMS to get beneath the surface and understand what is happening and why.

The social significance of my research relates primarily to the cultural differences between the various groupings in RSMS. Those taking part felt they were able to open up with their thoughts in the anonymous focus groups, opinions that I have no doubt would have remained private in the wider, mixed, formal meetings from the various minutes I have reviewed. My grounded theory

challenges some of the assumptions, in particular with regard to respect, about the way in which military and civilian staff work together, the way staff are perceived by students and students by staff, and the utility of the formal quality gathering processes.

Resonance

It has not been easy to follow up with focus group participants to see if the emergent themes are valid to them before they have moved away from the School to a wide range of posts. However, having asked colleagues in RSMS to read draft versions of my dissertation, and discussed the emergent themes with them, there has been acknowledgement that my analysis makes sense. I have looked to my colleagues to seek ways in which my conclusions can be taken forward. Later discussions with the individuals following on from their interviews have also indicated a sense of resonance.

Usefulness

As this research remains focused on one situation and one environment it can be regarded as substantive theory generated from one grounded theory study rather than more formal theory that could be developed from multiple studies to enable greater generality (Glaser & Strauss, 1967, p. 145).However, it set up the opportunity for frank discussions amongst colleagues, both in the focus groups and informally, and as such could be regarded as a useful part of their own reflective professional development. Of greater importance and benefit is the way in which there is scope for taking forward my recommendations in Section 6.4 to enhance the teaching and learning in RSMS.

Whilst my research has been limited in scope to RSMS it has wider generality as the knowledge base gained has resonance with varied vocational training communities. As discussed with reference to communities of practice in 2.8, the similarities between RSMS and the LLS are evident. In this respect the knowledge base and lessons learnt in my research with regard to practitioner-teachers, staff development, community engagement, student motivation and issues of respect could have relevance to other vocational learning sectors.

If learning is seen as a process of participation then the way in which all staff within the RSMS engage with each other as a community of practice is critical to the development of teaching, learning and assessment. The complex group dynamics present in the instructor cadre of RSMS create a challenging environment in which a community of practice could develop, and indeed staff developed as educators, especially one that is enduring and inclusive. However, as discussed in Chapter 2 learning in the form of staff development can occur within *'complex social histories and relations'* as exist at RSMS, and in what can be *'a contested process'*(Johnson, 2007). However, that contested space and process can be beneficial in opening up ideas and challenging existing practice, although as reported by Perry (2012)that can prove difficult for the newcomer. As evident from Appendix 9, the concept of a community of practice within the teaching staff of RSMS is not without problems.

6.2 Conclusions

In undertaking this research, I set out to answer my principal research question:

> *How can the Royal School of Military Survey enhance the quality of teaching and learning through a better understanding of the RE Geographic Technicians' attitudes to education and training?*

Through my research I have critically investigated some of the challenges and contradictions of education, training, teaching and learning in RSMS, a Defence training environment, which delivers long courses leading to HE qualifications. The contradictions are evident from the way terms like teaching and students are often replaced with instructing and trainees respectively to emphasise training rather than education. By engaging with instructors and trainees through focus groups and individual interviews I have gained a more informed understanding of attitudes to education and training, and with these teaching and learning, within my School.

The RE Geo Techs attending courses in RSMS are quite distinct from those attending civilian Higher Education (HE) establishments. Most still arrive with minimal academic qualifications that would have excluded them from opportunities to attend HE. Some could be regarded as dysfunctional learners

who have been failed by secondary education for various reasons including a mismatch between the learners' goals and those of formal education. However, these same students could have been successful learners under other circumstances. Whilst they come from diverse backgrounds, they are assimilated into a military culture through basic military training, combat engineer training and driver training. Therefore, by the time they arrive at RSMS to undertake their technical courses their attitudes to learning have been heavily influenced by their past experiences at school and in military training. The training they receive during their first year in the Army is essentially didactic and instructor focused whereas the specialist education they receive at RSMS requires understanding, and higher cognitive and critical thinking skills. To achieve this the expectation is for Geo Techs to develop a greater level of learner autonomy, but this also requires a change in the approach of staff to course design and delivery.

Initially student motivation is a challenge that commences with some ill-defined expectations of the career they are entering. Some may have left school feeling disillusioned with the education they received, and through their career choice still find themselves in a training environment two years after enlisting. This can be difficult to handle, when most of those going in to less technical streams can be in the field army within six months.

The context and relevance of the subject matter is considered by most of the students interviewed to be strong motivators in their training, whereas at school many failed to understand the relevance of subjects taught. The recognition that military instructors are better able to bring context through operational experience must be exploited in developing the mixed military civilian teaching teams.

The attitudes of RE Geo Techs to training and education changes as they go through their careers from basic recruit to SNCOs. During their initial technical training they still find it hard to appreciate how their learning relates to an operational context, simply because they have yet to experience the field army. As returning students on their Class 1 training (see Figure 1), they will have served in operational units, have worked with SNCOs some of whom may well

become their instructors, and can see opportunities for promotion and challenging technical postings.

With military personnel posted to the School as instructors for a maximum of three years, and often less than two years, there are real challenges which were highlighted by the instructor participants in my research. One of the main challenges is a lack of time for newly appointed instructors to refresh or enhance their own knowledge and skills, in particular with regards to theory. One of those interviewed considered that it took him almost a year to feel competent and confident enough to deliver his modules. However, the staff development needs are not confined to better understanding of their specialist subject. Many of those posted into RSMS as instructors only have their own lived experience of being taught either at school or in the Army. Whilst Defence mandates the Defence Train the Trainer (DTTT) course for all lecturers and instructors, this alone is not enough to prepare them for the nature of courses that takes place in RSMS. The responses from the participants of the first two instances of the DTLLS course, which goes well beyond the short DTTT course, clearly demonstrated the benefits to both staff and students. Instructors need the confidence or experience to move away from 'talk and chalk', to encourage learner autonomy and to exploit a range of approaches that include experience based learning, team learning and problem solving.

The attitudes of some instructors to teaching and learning has clearly been influenced by the DTTLS programme. Those who completed the programme have recognised and implemented changes to the way they teach, students have perceived enhancements to the teaching methods between their Class 2 and Class 1 courses and those involved with staff development or managing training have also recognised the changed attitudes. In effect the DTTLS courses created a functional community of practice amongst the RSMS military instructors where ideas and experiences were shared and challenged through their own participation in learning. The positive attitudes of SNCOs to learning is also evident from the number of instructional staff who undertake distance learning Bachelor and Master's Degrees whilst employed as instructors in the School.

From the staff focus groups, it is apparent that with the increased civilianisation of instructor posts within RSMS over successive Planning Rounds since 2009, the change in balance of military and civilian staff needs more consideration to improve the way in which they work together. Evidence from the most recent student focus groups indicates that these relationships have improved in some area but this is not evident across the School.

Closely linked to the relationships between military and civilian staff is the matter of respect which emerged early on in the research and was then explored in greater depth through later focus groups and interviews. Only in the most recent focus groups in 2013 and 2014 was there evidence of improved respect from the students for civilian staff. As certain subjects become more analytical, some students recognise and appreciate the depth of knowledge and competence amongst the civilian lecturers. However, there is still a strong feeling of respect for the military instructors who are considered by many of the students to be more committed and willing to go the extra mile to help the students. However, respect can be more aligned to rank than to the individual. This again is an area where a community of practice with wide representation from the military and civilian teaching staff could help to eliminate misunderstandings and generate respect.

6.3 Limitations

Glaser and Strauss (1967, p. 145) in recognizing a movement towards greater generality, differentiated between substantive theory generated from one grounded theory study and more formal theory that can be developed from multiple grounded theory studies. Whilst my research has been based on one grounded theory study, that of the RE Geographic community, there are implications for the wider defence training environments, particularly technical training establishments, as evident from comparisons with the police, Australian military and other similar forces.

Another limitation relates to the limited timescales of this research. It was not possible to undertake a longitudinal study that would involve Geo Techs as they progressed from aptitudees through to SNCO instructors in RSMS.

6.4 Recommendations

My research has provided evidence to confirm some of my original concerns regarding the quality of teaching and learning; the reason for undertaking this research programme in the first place. However, it has also raised a number of new issues that otherwise may not have appeared through established formal mechanisms.

From my research I now need to ensure that the trainees' experience is the best that can be delivered and so prepare them for those *'indeterminate zones of practice'* (Dewey, 1916) in support of Defence operations. To do this I recommend that:

1. The Aptitudees Course for prospective RE Geo Techs must be developed further to better prepare trainees for a career as military geographers and to minimise the misunderstandings that currently exist. It should also be delivered in an operational rather than a school context so that those attending can see how Military Geography is exploited.

2. Whilst recognising the constraints placed on a military training environment, such as separate messes, more should be done to develop collaborative working that exploits military experience and civilian expertise.

3. To overcome some of the deep-rooted negative feelings of respect that are held by military instructors, civilian lecturers and trainees, staff induction for both military and civilian staff must be reviewed to raise awareness of roles and responsibilities of each.

4. The changes brought about through the DTTLS course in 2011 and 2012 must be followed up with an ongoing development programme to educate and professionalise the military instructors in their role as practitioner-teachers to make the training more effective.

5. Following on from 4, the methods of teaching, learning and assessment need to be reviewed to develop staff as facilitators rather than transmitters of knowledge, thereby freeing up time to overcome the perception that *'we don't have time to do anything else'*.

6. For civilian staff it is essential that they engage with the military, both in RSMS and in deployed units, to gain a better understanding of the context in which their subjects are exploited, thereby enhancing the relevance of their teaching to the professional activity of the RE Geo community.

7. As civilian staff generally have a deeper theoretical knowledge of their subjects and are permanently employed in RSMS, they must take the lead in their sections, develop their military staff and provide the academic rigour required by our partner university.

8. To overcome the structural problems associated with rank and different Messes, the Learning Resource Centre should be further developed to become an attractive environment that encourages staff/student engagement.

6.5 Conclusion

Charmaz (2014) recognises that for the researcher the boundary between process and product can become blurred after a long period immersed in the subject and argues that we need to consider our audiences, as they will judge the usefulness of our methods by the quality of the final product. Through the process of my research I have identified areas of training and education where enhancements can be made to the teaching and learning within RSMS.

Whilst my research is designed to enhance the learning of Geographic Technicians in RSMS, the training delivered today is not all bad, far from it, as evident from participants on the RE Geo Sgts' Course in 2013.

A/Sgt W: *In summation and based on my experiences, I think the training provided by the RSMS to Class 1 technicians is very good and provides them with the necessary base skills in order to carry out all jobs expected of them.*

A/Sgt N: *The training the Geographic Technician now receives in the RSMS is excellent and gives the Geographic soldier an enormous amount of knowledge and leaves them very well rounded, however, the diverse roles these soldiers are expected to fill means that this training can never be exhaustive. Trained*

technicians must take it upon themselves to develop their skills through other means.

Both of these pick up on the challenges of meeting diverse operational roles and encouraging individuals to accept responsibility for their own personal development beyond the base skills they are given through formal training and education. In doing so, the practice at RSMS has created opportunities for wider access to HE for those students with non-traditional backgrounds.

Chapter 7 - Reflections

My research journey began at a staff meeting that took place in the first month of my tenure. At that meeting I was challenged by an established academic who asked me, directly, and in what I considered a confrontational manner, what my ontological and epistemological positions were. I admitted to having little idea as to what he was talking about and left me feeling embarrassed, humiliated and exposed. Whilst my initial objective, during my first year, was to establish and develop my teaching practice, this experience made me realise that I needed to expand my knowledge base. I would not feel vulnerable again and so my research journey commenced as I enrolled on the EdD programme.

(Perry, 2012, p. 76)

Whilst Neil (2006) considers reflexivity to be an important part of data analysis, Glaser (2001) is more cautious and warns researchers that too much dependence on reflexivity can cause a loss of focus. In Chapter Three I reflected on two important issues, my positionality and my role as a researcher, but here I reflect on my journey through the Doctorate programme.

Wenger (2010) recognises the vulnerability to power that Perry experienced when he writes '*In academic circle you can make people feel very defensive by asking them what they think of this and that esoteric theory or author*'. I have considerable empathy with Perry (2012), a fellow Doctorate of Education researcher at Sheffield Hallam University from an earlier cohort, when he narrates an event at the start of his teaching experience. My own journey began in January 2008 when I travelled to Sheffield Hallam University for a day to be interviewed by an established academic and senior member of staff in the Faculty of Development and Society. Having explained why I wanted to undertake the EdD and carry out research into teaching and learning at RSMS, the discussion then moved on to more academic matters. Like Perry, I was asked about ontology and epistemology, and what I thought of some of the grand theories, and their relevance to my area of interest. I was simply stumped

and went away feeling thoroughly depressed and wondering what I was doing even contemplating embarking on an EdD.

Surprisingly I was accepted on to the EdD programme despite my lack of theoretical knowledge, and so started the first two years of directed study. My weekends away from Hermitage in Berkshire were intense, and my spare time between the weekends taken up with reading in preparation for the four key assignments (8000 words each). The cohorts were very mixed with practitioners from FE, HE, primary and secondary schools and from the nursing sector. The weekend sessions were stimulating, often challenging and occasionally seemed designed to send me back to Hermitage in the same frame of mind as on the day of my initial interview.

Throughout the research programme I have experienced moments of isolation, but not in the way Glaser (2001) considers it.

> ....demands moments of isolation to get deep into data analysis, an openness to emerging evidence that may change the way the researcher thinks about the subject matter, an ability to conceptualize to derive theory from the data, and creativity to do things in different ways.

My own moments of isolation occurred once I embarked on my research and started working remotely from Sheffield, I missed the weekends that went into the first two years of the programme where there was mutual support, discussion and a sense of progress. My moments of data analysis and emerging evidence extended over 5 years due largely to personal circumstances in 2010 and then the knock on effects over the following years. My situation was also made more challenging by running the RSMS over two sites approximately 90 miles that required frequent journeys between sites, often twice a week.

To conclude, the journey on this part-time EdD programme has been extremely challenging in many aspects including motivation, the language of theory, balance between work, family and study, and travel commitments. Indeed many of these coincide with the very categories I identified in the RE Geo Techs world of learning. However, I set out to understand the culture within teaching and

learning on the Royal Engineer Geographic soldier programmes and through my research I have identified aspects that need to be addressed and improved.

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Appendix 1 – Letter of approval

I am writing to invite you to take part in a research project that I am undertaking as part of my studies for a Doctorate in Education through Sheffield Hallam University.

The aim of the pilot study is to carry out and report on a programme of research into the attitudes of Royal Engineer Geographic Technicians entering and during their geographic training at the Royal School of Military Survey.

The key research question that I am attempting to answer is:

How can the Royal School of Military Survey enhance the quality of teaching and learning through a better understanding of the RE Geographic Technician?

Sub questions include:

    a. *What are the distinguishing characteristics of the RE Geo recruit?*

    b. *How do the attitudes of trainees change during their training?*

    c. *What are the attitudes of instructors to teaching and learning?*

I have run a number of focus groups for Class 2 and Class 1 trainees and for military instructors. I would now like to follow up with civilian lecturers and so invite you to a focus group at 1400 on 23 January 2015 in my office.

The focus group will be asked to address a number of broad questions that are designed to gather first-hand information regarding the research questions from the point of view of you as individuals within the group. The session is expected to last no more than 60 minutes and has been scheduled to minimise disruption to your work. I will be recording the focus groups and taking notes throughout the meeting.

All information gathered will be stored securely according to MoD and Data Protection Act practice and will be used by me alone. The recordings and notes will not be passed to any other MoD or 3rd party personnel, but may be examined by my academic tutor in support of the research project.

Any publications resulting from my research, including my dissertation will make anonymous all contributions so that no comments or opinions may be attributable to individuals. None of the raw information gathered will be passed onto your chain of command. However, results of the research, which will not contain references to individuals, will hopefully help to form opinions on how to meet our training commitments more effectively.

You have the right to withdraw from this project at any time and should you wish any comments and discussions to be deleted after the focus group, then all references to your contributions will be edited out.

If you are willing to take part in this research, please complete the proforma below.

To: Mr J A Knight   From: ....

I have read Mr Knight's letter inviting me to take part in a focus Group on the 23 January 2015.

I am content with the way information gathered will be protected and understand my right to withdraw from the research at any time.

Signed: ....

Date: ....

Appendix 2 – Transcription of Class 1 Focus Group

Time	Speaker	Transcription	Codes
00 30	JAK	**If we could start by going around and say something the flea about where you left school and your reasons for leaving school when you did vacation so you have got and why you left school when you did?**	
00 47	LCpl P	I left school in my 5th year of high school. Did a couple of subjects at higher level and that is about it really. I left because I didn't really enjoy school anymore wanted to get a job so I got a job. That's about it.	Not enjoying school Wanting a job
01 08	LCpl Q	I went to college after school and did a BTEC national diploma for 2 years and then in graphics design also for a year and then went on to Amersham and Wickham college to do a National Diploma HND but I didn't complete that and just started working and joined the Army.	Failing to complete HND Working before joining Army
01 34	LCpl R	I came straight out of school and joined. I had 10 GCSEs and I was making the wrong choice just joined up.	Joined straight from school Making wrong choice
01 49	LCpl S	I went to school got a few GCSEs and started a BTEC at college in motor vehicles and let the course build up and never actually completed it towards the end I went and worked for a few years and joined the Army .	Achieving a few GCSEs Letting BTEC course work build up Not completing course Working for a few years before joining up
02 06	LCpl T	I join the army straight after school at 16. Just fancy a change. Didn't want to stay in the school environment.	Wanting a change Not wanting to stay at school
02 17	LCpl U	I left school at 16 as well. Got 11 GCSEs just didn't really like school to be honest and I want to join the Army anyway	Not liking school
02 29	JAK	**Some of those I would like to explore a bit further. This is an open discussion. First of all why did you dislike? Some of you said just stopped and moved on. What was it about school like that you didn't really like?**	
02 57	LCpl T	I just got bored with the type of environment. I mean going to school every day for like the main part of 6 years. It just got boring to be honest. I mean I wanted a change, get out of the place, and do something different that's why I left.	Getting bored at school Getting away Doing something different

2-1

Time	Speaker	Transcript		
			Boring	Needing **Motivation**
03 15	LCpl Q	I couldn't just sit there to sitting there all day.	Sitting doing nothing all day	
03 17	LCpl U	I was just sitting there doing nothing all day because you just sit and look at a whiteboard basically didn't like that really so I thought I'd do something that would get you out and about. couldn't think of anything better search on the Army.	Sitting doing nothing all day Wanting to do something Getting out and about Couldn't think of anything better than Army	
03 35	LCpl R	I just wanted the money. [Laughter}	Wanting the money	
03 37	LCpl Q	That's true definitely.	Agreeing, wanting money	
	LCpl T	Definitely same for me.	Agreeing	
	LCpl S	I just wanted the money that's why I left education as I wanted to support myself.	Wanting the money Wanting to support self	
	LCpl P	Yep		
03 50	LCpl S	Same for me I just wanted to get a job.	Wanting to get a job	
03 55	JAK	**So what are your reasons then OK money. For joining the Army and Geo.**		
04 02	LCpl P	I didn't join up as Geo. I joined as an infanteer. Transferred over as a driver and found it Geo is it. So went with it.	Joining as infanteer not Geo Transferring in Finding Geo Going with it	
04 13	LCpl S	I sort of got told when I joined that I was going to be Geo as well. But I always wanted to go into the army in anyway and didn't care. There wasn't anything to think about it like that. My career office said you could be a Geo so I said yes ok, but didn't know what they were talking about and then i'm here.	Being told to join Geo Always wanting to join Army Not caring – nothing to think about Not knowing what career office was talking about	
04 32	JAK	**I've heard this before.**		
04 37	LCpl P	I was ponged for Geo. Before I was doing my p3. Decided to change my trade to Geo.	Deciding to change to Geo	

2- 2

Time	Speaker	Text	Notes
04 42	JAK	Why?	
04 47	LCpl T	I thought I wanted to do it. Didn't want to do pong really	Not wanting to do ?? No idea what pong means
04 58	LCpl U	I wanted to join the Military Intelligence Corps but because of my graphic design background they pushed me down the Geo route,	Wanting to join MI Being pushed into Geo because of graphic design
05 09	LCpl R	I've always wanted to join the Army as a kid. So joined the Army as electrical technician. Did the assessment course at Chatham. Didn't cut the grade for being an electrician. So they brought me back to Gib and said you have got 3 choices: Geo, infantry or discharge.	Always wanting to join Army Joining as Electrical Technician Failing to achieve grade Given choice of Geo, Infantry or discharge
05 32	LCpl R	So was the better of the 3 I think.	Seeing Geo as the best option
05 34	JAK	Anyone else .	
	LCpl U	Yeah. Well I saw the advert in the recruiting office and that sold it to me for Geo..	Attracted by advert in recruitment office
	JAK	So that sold it to you, did it?	
05 46	LCpl U	Yes. Technical would be interested in it	Technical work would be interesting
05 56	JAK	So how familiar were you then with what you were letting yourself into with Geo .	
06 05	LCpl T	I didn't have a clue of what Geo was.	Not having a clue what Geo was
06 06	LCpl R	I didn't have a clue.	Not having a clue
06 08	LCpl P	I asked the Corporal on P3 and he sort of laughed and told me to treat myself and tell him what it was when I got here.	Recruit Sgt laughing at lack of knowledge of Geo.

2- 3

06 15	LCpl T	I didn't really know until I got here either.	Not knowing until getting to Hermitage
06 25	JAK	**Anyone else?**	
06 29	LCpl S	Same.	
06 30	LCpl S	Nothing really.	
06 31	LCpl R	I don't think people outside of Geo know what Geo does.	Outsiders not knowing what Geo is
06 38	LCpl Q	No one really knew no does. Hard to explain to people that we come with in the Army low-ranks and that. They don't get much experience with Geo people out on tour. Something get the Geo.	. .
06 51	LCpl Q	I think the basic information they put across is about making maps and that is pretty much about it. Isn't it. The recruitment office knowledge on Geo.	About making maps.
07 02	LCpl P	Maybe that's partly why I joined cuz it's something I didn't know something I wanted to learn.	Wanting to learn about something he didn't know.
07 19	JAK	**OK. That's quite interesting actually because you're no different to other groups I have interviewed about what you're letting yourself into. It is quite interesting that some of you left school because you didn't like the classroom but then joined us in a classroom and 2 years on you still haven't in any way that is an aside.**	
07 46	JAK	**With one exception you left school and didn't enter HE. Looking back at your school years what made you give up education. But what helped? What do you think worked and helping you to learn at school?**	
08 05		**I assume you learnt something. I don't know if you read yesterday in the papers that a third of children beyond 11 don't learn anything which I found a bit staggering but am but looking back to those days what was it that helped you to learn whether in a subject or interest?**	
08 21	LCpl U	Definitely interest.	Interest helping to learn
			Motivation

2- 4

Time	Speaker	Transcript	Notes	Theme
08 26	LCpl R	A lot of the subjects I took at GCSE where hands-on subjects electronics and resistant materials and could get my hands on. Trial and error and that I'm working out for yourself quite a lot of freedom to learn in your own stuff. Main reason.	Taking hands on subjects at GCSE. Working things out for self Enjoying freedom to learn in own way.	Motivation
08 45	JAK	**Come back to that one later on.**		
08 49	LCpl R	I sort of thought I got to a certain point and had done a lot and hadn't started work either because you have to pass GCSE use to get good job. That's all you get told at school; you need to get good grades and stuff so just started working a bit harder but my subjects were well of interest as well.	Needing to pass GCSEs to get a good job Being told to achieve good grades Working a bit harder Enjoying subjects as they were of interest	Recognising benefits of **Qualifications** **Motivated** to work harder
09 11	LCpl Q	I think it's also down to who is teaching as well. If you get a good instructor who knows what he is on about you are going to learn more from him and if you get someone who doesn't know anything to do with the subject and just follows off a script you are less likely to learn a lot from them.	Influenced by who is teaching Learning more from a good instructor Not learning from someone working from a script.	+ve and –ve **motivating** factors
09 31	JAK	**Was that common at school?**		
09 33	LCpl P	No when I was at school I had a couple of teachers I didn't like because they just read from the book the teachers other teachers had a lot of enthusiasm.	Disliking teachers reading from books. Other teachers showing enthusiasm.	
09 44	LCpl T	Information overload as well. If you're just reading from text or books of the board it's harder to take it in compared with something visual like enthusiastic teachers will teach away from the text as well.	Reading from books Information overload Boring Enthusiastic teachers teaching away from text.	**Demotivating** facors **Motivating** – Needs good knowldege of subject to do this
10 02	JAK	**Any other thoughts?**		
10 09	LCpl Q	The environment you are in. The teaching environment.	learning environment affecting students	

Time	Speaker	Transcript	Notes	Themes
10 16	JAK	**What was the environment at school? You all presumably went to different schools. Was it a run-down environment?**		
10 26	LCpl Q	It depends on the sort of school you went to really. Buildings tables and chairs.	Seeing environment as the physical aspects	
10 40	LCpl Q	My school is quite up to date actually. It was classed as an IT college so more computer based so I did computer-based subjects at school. It was fairly up to date.	Up to date school. IT College Studying computer based subjects.	
10 50	LCpl T	Whereas when I went to school it didn't have like Internet or that sort of stuff. Used to learn and all that sort of stuff. It was pretty much text books and reading off the board and that.	Missing out on technology Using just text books Reading from the board	
11 02	LCpl T	It was blackboards and over-head projectors.		
11 08	LCpl P	You are showing your age a bit.		
11 15	JAK	**Have you looked at things that encouraged you to learn? What did motivate you to learn at school? We have already touched on boredom. What other things hindered you?**		
11 23	LCpl Q	I've always found since being in the Army right, since at school you didn't really... can't you just shut up whereas here you can't just can't mouth off the instructors you do get it comes with its consequences. I found that at school it's too easy to mess around.	Being rude to teachers in school Finding it easy to mess around in school. Not mouthing off instructors. Knowing consequences of bad behaviour	**Respect** for instructors
11 46	LCpl Q	I didn't want to be classed as a geek in school so never really apply myself.	Not wanting to be class geek Therefore not applying self	Fear of losing **respect** from peers
11 50	LCpl P	Yeah, yeah! I am one of those easily led person so to speak, where I stood with my mates and that carried more for me than what grades I came out with apart from the last 6 months when I applied myself I managed to pull the grades out the bag.	Being easily led How being seen by mates more important than grades Last minute realization	Peer pressure Seeking **respect** from mates

2- 6

Time	Speaker	Transcript	Notes	Category
12 07	JAK	Is that similar for you fellas?		
12 11	LCpl T	Social tribe you try to fit in, you try to express yourself too much you get something in.	Fitting into the social tribe	
12 21	LCpl T	I was more interested in sport. Went to see far as going to be a professional footballer. So I didn't worry about maths and English.	Wanting to do sport rather than study. Neglecting maths and English in favour of becoming professional footballer	**Relevance** of studying to planned career in sport?
12 31	LCpl U	Look what happened then!		
12 49	JAK	You are now right at the end of your Class 2 so you have been here for a year. What do you see as the principal differences between the way you learnt at school or in other places and here?		
13 05	LCpl R	I feel it's a much better environment because your instructors…that at school you knew your teachers but here your instructors I know they're not meant to be, but become more friendly with you. Become your like friends, you listen to them more, you understand them more and they can relate to you as an individual whereas at school they didn't really take that time to understand their pupils that well.	Enjoying a better learning environment Becoming friendly with instructors Listening to instructors more that to teachers at school Relating to trainees as individuals Teachers at school not taking time to understand students.	**Respect** for attitude of instructors
13 30	LCpl T	They are more approachable here.	Finding it easier to approach instructors	
13 32	LCpl Q	Yep		**Respect** develops
		I think that is to do with the training we go through before we get here respecting them	Going through training helps develop respect	
13 42	LCpl Q	it's a military environment		

Time	Speaker	Transcript	Code	Theme
13 44	LCpl R	Yeah, it's a military environment. You know you have to knuckle down and get on with it whereas at school	Knowing you have to knuckle down in military environment	
13 47	LCpl P	There is more discipline here.	Recognising impact of discipline	Relationship between discipline and respect
13 51	LCpl P	I also reckon it's like because you are doing modules towards one thing and they are all sort of based on same kind of thing, so like you know you can't fail one without having to do the other so you have to do them all. you know you're going for an overall goal.It's not so bad you know. You need to get your qualification for your career.You don't want to be stuck here for ages re-doing stuff do you?	Seeing a common cause through learning Knowing you need to pass everything Going for overall goal	Needing to **qualify**
14 08	LCpl U	It's your choice we made as well. At school you are given, you're going to learn these subjects but we all chose in roundabout ways to do this. So you have done this under your own steam so you have not been forced into it so therefore you want to do it, you want to progress in it so that you can do the choice you made.	Needing qualification for career Avoiding resits Making own choice Working under own steam	**Qualifications** seen as important Taking ownership Seeing studying as part of job could be good and bad. 9 to 5 mentality
14 31	LCpl R	We all chose this job, we get paid to do this job so this is part of the job. We are all a bit older than when we were at school as well so attitudes have changed towards learning	Choosing job, being paid... seeing studying as part of job	
14 43	LCpl Q	A means to an end and paid as well.	Seeing studying as means to end	
1447	LCpl Q	If we have been paid to go to school we would probably have done better.	Could have done better if paid at school	
14 56	JAK	**Any other differences?**		
14 59	LCpl R	Adult learning is a lot different to learning when you're a kid.	Learning as an adult is different	
15 08	LCpl P	I wouldn't say I was an adult ...		
15 10		More focused I think the older you get, if you're doing a course to do with work.	Being more focused.	

Time	Speaker	Text	Codes
15 16	JAK	**When you at school were you taught how to learn?**	
15 21	LCpl P	I certainly wasn't.	
15 24	LCpl T	I don't think you something you can teach really.	Not seeing studying as a skill you can learn
	LCpl T	You just learn how you do it really.	Intuitive learning
15 32	LCpl U	There were some small courses every now and again my school did and we had to sit. They would teach us how to learn with sort of diagram thing.	Being taught how to learn with diagrams (Mind Maps)
15 45	LCpl R	You know 3 different types of learning. You know the way you move about there's a visual learning and the audio and they did that quite a few times, but.....	Knowing three types of learning styles
16 00	LCpl R	several introduction	
1602	LCpl R	It got boring after a while.	Feeling bored with study skills
16 10	LCpl Q	Everyone learns in different ways. What we did at the beginning of the course the something test everyone learns in the same way if you've got a class of people how can you make them learn in the same	Learning in different ways. Making students learn the same way.
16 24	LCpl Q	It is difficult	Difficulty of managing a class in different ways for different people.
16 25	JAK	**So did your cohort have study skills at the start of the course?**	
16 32	LCpl P	Oh yes	
16 38	JAK	**How did they go**	
16 39	LCpl P	Was on note taking wasn't it.	
16 47	LCpl R	I was in a different position because I did it twice. I did it on the first course I was put on to and this course as well and the second time round with this course I found the way I learnt had slightly changed from when I did that before. Just about note taking and the way you write notes and that I learnt this time round that the way I have I learnt has slightly changed it was only the year before and just through doing that again.	Learning how to learn The way I learnt had changed Note taking and writing notes
17 15	JAK	**So how's that been beneficial?**	

2- 9

Time	Speaker	Transcript	Notes
17 18	LCpl U	I think so	
17 20	JAK	**Anyone else?**	
17 31	LCpl S	It's a year ago it's a long time ago	
17 36	JAK	**Ok how much control do you think you have had over your learning here in terms of the pace of learning, the extent of learning, and style of learning?**	**Control over learning?**
17 48	LCpl Q	Quite a lot to be honest being more in an adult environment if you are not getting something the instructors will stop and rewind and go over it again. If you're not understanding they will put it in different terms because they obviously know this subject, so it makes it easier knowing the subject to put it in different terms for you so that you can go at your speed and if something quickly you can go through it quicker with more time for stuff you don't understand.	Learning in adult environment Getting something Not understanding Instructors knowing the subject Rephrasing in different terms Going at your speed Time for understanding
18 16	LCpl U	There's definitely room for, there's more time available on this course even though there is a lot of information to take in for the year there is available time	Not enough time on course Large amount to take in
18 27	LCpl R	Especially out of hours. There are a lot of instructors will give you their number for after work if you need help to ring them at any time which is really good.	Instructors giving contact details Making a difference from when at school
18 37	LCpl T	It makes a difference from when you were at school and well learn it at home, *'we are moving on now'*.	Moving on Not waiting for students to understand
18 40	LCpl Q	There's always help if you need it does definitely	Instructors helping when needed

Extra notes in far column (aligned to rows above):

- Trainees showing **respect** for instructors knowledge. Instructors aware of student learning
- Time pressures **Expectations** of what can be learnt in time available
- Support from instructors appreciated (gains **respect**)
- Students feel they were not being supported at school.

Time	Speaker	Statement		
18 43	LCpl P	There's definitely always support.	Recognizing support available	
18 47	LCpl T	The fact you live literally hundreds yards away from the School environment means you can come here later in the evenings.	Living close to the School Enabling evening work when necessary	
19 00	JAK	**How much of that did you do of your own bat?**		
19 05	JAK	**I guess the question I'm coming to is did you learn what you had to learn to get through the assessment or did you get enthused and want to learn as much as possible.**		
19 18	LCpl U	I think that depended on the module some modules where obviously more interesting to learn than others. For me personally SQL and databases is more interesting whereas something more visual isn't interesting…	Enjoying more interesting modules	
19 36	JAK	**Is or isn't?**		
19 38	LCpl U	Isn't at all. It's just numbers and letters. As looking at the computer screen something more visual appeals to me more. I'm more inclined to do extra learning to find ways round things where as for SQL I will just sit there and read the book and get on with it.	Extra learning to find ways around things.	Interest in the subject helps **motivation**
19 55	LCpl Q	I think that I found a lot of time, especially when I was doing the theory papers I just learnt the words. I knew the questions, I knew the words to answer them. I didn't actually know a lot of the time. Some of the time I learnt the words just to get the points.	Just learning the words. Knowing the questions. Knowing the words to answer them. Sometimes learning words to get points.	Surface learning Lack of challenge in assessments Playing the system
20 15	JAK	**I'm worried there that you knew the question.**		
20 17	LCpl Q	When you're doing them so many times		
20 19	LCpl Q	You can match the questions if you understand	Matching questions if you understand	Key is understanding – implying deep learning
20 24	LCpl R	Yes. You learn key phrases and words that will be in the question link key phrases so that you get a point		
20 30	LCpl U	Wasn't like I had a detailed understanding of that question	Lacking detailed understanding	

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20 33	LCpl U	You sort of knew what the answer was	Knowing answer because questions were too obvious?	
20 38	LCpl S	Sort of knew what to get a point for the question but not able to expand on it too real cool knowledge of it	Unable to expand on answer	
20 50	JAK	**So over all learning was good?**		
20 58	LCpl T	I think it's not and changes. I mean navigation. We only had four days on that because of the Bank Holiday so it was quite a hectic week, so there wasn't enough time in there especially as it is one of the more sort of I think call subjects about a * learning about datums, spheroids and things like that to be rushing. Laughter	Lacking time to learn subject.	
21 16	LCpl P	It was really rushed week	Rushing the learning	
21 17	LCpl Q	Yes it was really rushed	Rushing the learning	
21 18	LCpl P	And then another module where we sort of we were on a formative and everyone finish the formative in a day with a few hours left and everyone was sitting around doing nothing weren''t we, most of us	Finishing early. Sitting around doing nothing.	Leading to boredom **De-motivating**
21 36	LCpl Q	They were raised at the end of each module so they knew which ones sorry got to change it because some modules need more time and some modules are too long. I can't remember a certain module where we didn't need so much time on river or sat around after course had finished and we were just sat around waiting for a deadline which we had met obviously	Sitting around waiting for a deadline.	
22 00	JAK	**Do your instructors then, ... supposing your content they are content do they no?**		
22 13	LCpl T	No there is always work to do isn't there		
22 15	LCpl R	Sometimes bring forward tomorrow's work for today		
22 28	LCpl T	They do let us sometimes you know		
22 31	LCpl T	To give us some time off we've been knocked off like ridiculously early and sent away	Knocking off early Sending away ridiculously early	Not engaging with learners to develop passion for learning beyond what is given.
22 36	LCpl P	Generally they do		

2-12

Time	Speaker	Transcript	Coding	Theme
22 41	JAK	**We touched on instructors there. Have you noticed much difference in the approaches of the instructors**		
22	LCpl U	We have had a fair number of instructors this year		
	JAK	**It has been brought up before but I think I don't know if most of the calls me that**		
22 59	LCpl R	I have found the military instructors better than the civilian instructors	Preferring military instructors better than civilian	
23 11	LCpl Q	I prefer the military instructors because they throughout the difference subjects they are specialist in their subject. Because it's what they do and they are in to see a stick with it so you. Not got the ones doctor for the whole course who knows a little bit about everything that doesn't know a lot about one subject. The specialist instructors helped quite a lot because they know how to answer questions better person checked	Preferring military instructors. Specialists in their subjects because it's what they do. Not got ones who know a little of everything. Knowing how to answer questions.	
23 32	JAK	**I got confused there what were you saying**		
23 40	LCpl R	Throughout the School the military see instructors are all specialist in the subject so it is easier to take in at different levels because of course smarter than me the theory but they can break it down for certain people like me so they help quite a lot.	Military instructors specializing in a subject. Easier for taking in at different levels. Breaking it down for weaker students.	Recognising **expertise** in instructors
23 56	LCpl P	The thing is that military instructors can relate to us military whereas the civilian instructors don't know the military ways. So they are not able to relate to us if you know what I mean.	Military instructors relating to the students. Civilians not knowing the military way.	**Respecting** military staff for way they relate to students Civilians not understanding military. Leading to lack of **relevance** and **context** and then **respect?**
24 10	LCpl T	It was a different perspective		
24 12	LCpl U	So it comes easier to grasp		

2- 13

Time	Speaker	Text		
24 20	JAK	**Any other thoughts on this are there different approaches between the military contractors instructors**		
	LCpl P	I think they are more laid back. Depends on the individual.	Approaches to teaching depending on individuals	
24 20	JAK	**This is about respect**		
24 27	LCpl P	Teaching styles.		
24 30	LCpl T	They have more respect for us.	Perceiving military instructors as having more respect for the students.	
24 37	LCpl Q	They all do things in different ways don't they? It depends how they were taught to do it themselves.	Imitating how they were taught by their own instructors	Learning how to teach from own experiences
24 42	LCpl U	I wouldn't say there is that much variation between them to be honest	Not seeing differences between civilian and military instructors	
24 45	LCpl P	With the military instructors to what you're going to be doing once you leave the School and I in the squadron and you're taught. They sort of they give you a reason doing why you're doing and what sort of jobs you're going to be doing in the unit, you know in the field army I think um that helps a lot more.	Military instructors knowing what you are going to be doing in Field Army. Giving reasons and describing sorts of jobs.	Demonstrating **relevance** Knowing **context** Exploiting **experience**
25 09	LCpl U	You know the reason that you are doing it		
25 14	JAK	**What about their methods of teaching? [Laughter]**		
25 23	LCpl T	We've had quite a few different methods. We had sort of instructors that go off the PowerPoint information thrown in. We have had workbooks that we have gone through with PowerPoint and walk through. There was a lot of visualisation at the end with work books and there was also the instructor went through how to do things on the large board at the front, on the white board, and we went through it afterwards and we were doing so I think 3 different styles pushed into 1 module I think that was probably the best.	Exploiting more than PowerPoint. Using different techniques. Visualising at the end.	
25 55	LCpl P	The one module the instructors		

26 01	LCpl P	That one module I think was brilliant actually it was near the end	A brilliant module.
26 08	JAK	**Which one**	
26 10	LCpl S	Visualisation. The last module that we did.	Visualisation the best module (brilliant)
26 12	LCpl P	Yes	
26 15	LCpl T	Yes I think that was the best module as a course that we performed on	Performing best on visualization module
26 20	LCpl T	Just because there were so many different learning styles in there it's sort of covered everything	Exploiting so many different learning styles. Instructor **expertise**
26 27	LCpl Q	We found that with certain instructors that we followed on the board that we had no interest in what so ever. It was very tedious just watching him doing it on your screen	Following on the board Leading to no interest Just watching the instructor Watching rather than doing. Passive **Notmotivated**
26 42	LCpl Q	Honest	
26 49	LCpl R	It was a bit monkey see monkey do	Monkey see, Monkey do. Not challenged
26 52	JAK	**So do you do any problem solving?**	
26 54	JAK	**Just following someone doing something**	Following someone doing something
26 55	JAK	**Have you been given any tasks where you knew nothing about it and you had to go and problem solving?**	
27 06	LCpl Q	We haven't really.	No learning prior to lessons.
27 09	LCpl Q	Been the odd one	
27 10	LCpl U	Yes, one	
27 12	LCpl S	To learn how to use the software properly though.	

2- 15

Time	Speaker	Transcript	Notes	Notes
27 16	JAK	**Just thinking. No to give you an idea I was wandering down the corridor the other day and instructor was just reading through bullet points on the screen and the subject lent itself to different approaches and also I thought why not ask people questions on what they understand by these things. It was just look one way and you'll see the instructor just talking, talking, talking and reading through bullets and you look the other way at the students; no interaction at all.**		
27 49	LCpl P	I think one module we had the first 4 days was PowerPoint with no interactive study or anything just look at the screen and read bullet points for 4 days then it got into the practical side but by the time you get to the practical side you have forgotten half the bullet points that was on the screen.	No interactive study. Following PowerPoint fo four days Forgotten the bullet points on the screen.	Theory first leading to overload and then loss of relevance to practical sessions. **De-motivating**
28 08	JAK	**So when you are looking at PowerPoint are you writing things? Do you depend on the PowerPoint?**		
28 14	LCpl P	We are normally given handouts and you normally handouts you are given.		
28 19	LCpl U	But the handouts have a lot of slides on handouts which are exactly the same as on the PowerPoint and you might put down an extra bit of information every 3rd or 4th slide. The rest of the slides are exactly the same you might as well he given that and read that yourself for some of them.	Most of handouts are same as the PowerPoint Slides. Reading PowerPoint oneself may be better.	Taught lessons adding little to the handouts. Taking notes is not a key part of the learning.
28 36	LCpl Q	To be honest I haven't really use the handouts	Not using handouts.	Handouts have no benefit?
28 39	JAK	**You don't use them?**		
28 40	LCpl Q	They are given to us but I don't have read them back through them	Not reading back through handouts.	So what is the purpose of the handouts? How do the students relate what happens in theory lessons to the practicals?
28 46	LCpl R	Especially when they are just bullet points you and when you are reading back and they are just bullet points I don't understand that explain to you.	Reading back bullet points. Not understanding the bullet points.	Handouts are inadequate due to superficial information.
28 58	LCpl U	I mean some instructors know that in PowerPoint you can put notes in the bottom. Some of the instructors actually print them out need and have the notes which is quite good but I mean if you get little tiny ones it's just the PowerPoint understand what is saying from the bullet points.	Instructors putting notes with PowerPoint	Good instructors are providing supplementary information to help students.

Time	Speaker	Transcript	Notes	Analysis
29 07	LCpl R	The only module vision aid in was in imagary because that was a book it wasn't the PowerPoint it was just a book which had all the dates of the subject in we had extra information and that easier to use PowerPoint		
29 26	LCpl P	Explanations		
29 27	LCpl P	The theory and practical work that we have had for the last few modules are better than just having a slideshow	Theory and practical for last modules Better than PowerPoint slideshow	
29 32	LCpl Q	Some of the slides as well the instructor would have liked bullet points and then a picture coming into the same slide and then more bullet points but when you print it you just get a picture so you don't know what is under you can see what is underneath you don't get the bullet points and what it is referring to. So the work books with it all listed out is definitely the way to go	Problems with PowerPoints that build when they are printed. Missing Information. Work books definitely way to go.	Lack of appreciation by instructors
29 55	JAK	**I'm just going to challenge you on your comment about military knowing their subject. One of the comments that has come up in the past has been that they are dependent on the bullet points or some of the instructors know what is on the slide and use that as a comfort blanket but if you asked questions they don't know any more behind that. Is that the case?**		**Returning to military expertise.**
30 12	JAK	**Do you find that is the case?**		
30 14	LCpl S	It's been a bit on and off it. Depends on the instructors. A couple of instructors just stand at the lectern reading from the slides and a couple are around the room going around the sides but hardly even looking at the slides because they have done it either so many times the order they really know the subject and just reading it off.	Instructors standing at lectern Reading from slides. Some are very familiar with slides. Done it so many times they really know the subject.	Reading from slides rather than **engaging** with the students. Just because the instructors know the content of slides doesn't mean they know the subject. Lack of **expertise**
30 34	LCpl Q	I would say I was saying most to be honest	Most using PowerPoint as prop.	Lack of **confidence** and possibly **knowledge**

Time	Speaker	Transcript	Notes	Notes
30 36	LCpl U	I wouldn't say they will rely on the slides. The only instructors to rely on the slides are the ones that are new to taking over that module. They know their subject but they don't know what is going to come up on the screen so they will talk you through the module and find that they have gone ahead of the slides so they have just gone through the slides.	New instructors tending to read from slides. Knowing subject but not knowing what is coming up next.	Instructors lacking preparatory **time** for learn subjects.
31 00	JAK	**Any other thoughts on the instructors**		
31 04	JAK	**One of the things you didn't touch on there you mention the word respect. Respect has cropped up in discussion before. I think there are three different aspects to respect. One is respect for each other within a cohort that how does that compare with school? Looking back to some of the comments made right at the beginning about how you were perceived at school. I think you made a comment**		
31 33	LCpl Q	Yes because we have all done the same training and have all been through the same things	All undertaking same training	Develops a common **military culture and ethos**
31 46	LCpl T	When you are at school come you all come from different backgrounds and you are all doing different things but here you all have different backgrounds but the last 2 or 3 years you have all done exactly the same thing so you know all know where is your are coming from, what you have done and what you want to do the same job. At school everyone goes off and does their own thing. Going off doing different jobs, college and everything like that but here everyone is doing the same job.	All enlisting from a range of backgrounds. All following same course whilst in Army. At school everyone doing own thing.	Common direction within Army compares with wide variety of interests in school and different directions people go in after school.
32 12	LCpl R	We live in the same environment with each other, we socialize with each other. So you are more you know each other better then you did with people at school so that you can help each other out and can learn from each other because you have been spending your life with them	Living in same environment. Socialising with each other. Knowing each other better than at school. Helping each other out. Learning from each other. Spending life with each other.	Links into **military culture** of looking out for and after one another. **Common cause** to get through courses.
32 27	LCpl T	I would say that as diverse as we all are as individuals we all think the same. We are all the same type of person.	Although diverse individuals now all thinking same way. Same type of person	**An ideal type?** The RE Geo Tech Thinking same way.
32 40	JAK	**So have you helped each other out? Have you been there for each other?**		

Time	Speaker	Transcript	Notes	Notes
32 42	LCpl P	Yes some people are stronger than others	Recognising strengths in some of peer group	
32 45	LCpl V	I don't think that is just with the learning side I think that is with personal issues as well	Concern for others going beyond learning and into personal issues.	Looking out for each other. Ties in with **military values**
32 51	LCpl Q	General life		
32 52	LCpl P	Generally with everything.		
33 03	JAK	**What about respect for instructors**		
33 09	LCpl Q	I have found that from being at school been given, how do I put this into words, you would give them more respect because they would give you respect. Do you know what I mean that at school, teachers would just talk at you instead of with you? So the instructors here are respecting you, show you respect them more, whereas at school you didn't really get that respect. They were the dogs and we will like pups at school.	Showing respect because others giving you respect. Talking at you rather than with you. Instructors at RSMS respecting students. Teachers at school behaving like dogs with their pups.	Showing **respect** goes both ways Instructors **engaging** with students Shows **little respect** for teachers at school
33 40	LCpl P	The teachers expect respect here it is more on the level playing field because might be a instructor for this year but next year alongside but next year might be working alongside then something all the time	Expecting respect	
34 00	LCpl U	so the attitude is that they are more colleagues than teachers at school there was very little respect for teachers	Not respecting teachers at school	
34 13	JAK	**Why was that?**		
34 16	LCpl P	I don't know, it was just the area. Comprehensive. The attitude the students had was that they couldn't be bothered to learn but here but here with the basic training you get respect for rank and it is applied here as well at the school	Area school was in influenced attitudes Students not bothering to learn. Respecting rank.	Attitudes of students have changed through Army training. Respect for rank or individual?
34 36	JAK	**How does that compare with the way you are treated here? How does that compare with you basic training?**		

		[lots of laughing]		
34 42	LCpl S	Very different. I mean instructors here have more rank than the ones in basic training but they are a lot more chilled out.	Higher rank and more chilled out instructors compared with basic training.	Bigger rank difference at RSMS, but instructors are more liked.
34 46	LCpl T	I think they realise that shouting at you all the time, for me personally someone shouting at me, I just shut down. I just stare at them to what and don't listen to what they are saying but here they don't shout at you at all they just talk to you to try to get you to understand it as they talk to you rather than just being shouted at.	Shouting at me just makes me shut down. Not listening to what they are saying. Trying to get you to understand here at RSMS	
35 09	LCpl P	In the infantry you get shouted at		
35 12	LCpl Q	It makes you angry really	Being shouted at makes you angry	
35 17	LCpl P	It doesn't make you angry just not interested in what they are trying to say	Shouting doesn't make you angry but not interested.	
35 22	LCpl Q	I think that is to do with the job though you have to have a certain amount of intelligence to do the job in Geo so the instructors have that certain intelligence that they don't need to shout as there are other ways of whereas with the infantry and like its training and that is to do all day know how to do	Needing intelligence to do the Geo job Therefore no need to shout Other ways of instructing (unlike the infantry)	
35 47	JAK	A couple of years ago I was talking to some of the soldiers who went to the Sapper games talking to colleagues who had gone off to other are the units and comparing notes the general consensus was that they are treated like adults here		
36 08	LCpl P	We found that when we went to Gibraltar Barracks the other week for RE CLM course that week		
36 19	LCpl P	And the Corporal would sort of stand there and shout at you. Expect everyone to do as they are told.	Being shouted at	**Military culture? Respect? Motivation?**

			Thinking they are amazing but are seen by students as losers.	Lack of **respect** for instructors who shout.
36 22	LCpl P	They just think that they are amazing but the best way to describe is as losers really.		
36 25	LCpl S	They've got no real respect for the other people there whereas here so they sort of you will do this you will do that and you do it the way they want you to do it but you got no reason to do it off your own back whereas here you are given a task and you can go about it your own way.	Giving no reason for doing things. Going about it your own way (at RSMS)	Not **respecting** other people
36 42	JAK	I could be the devil's advocate. The sort of tasks that we do have no wrong or right answer whereas I guess if you are putting a bridge up it only goes up one way and come down one way. Whereas in the Geo analysis on this is that you are doing you could end up with different ways of coming to a result. You then have to stand by the results you come to. That is why I mentioned right at the beginning the academic peace. It is much more thought provoking than doing things by rote so I can understand how that happens but it was interesting to hear your views. So I sense from that you have seen another world where the instructors have no respect and here you are seeing instructors with respect for you.		
37 42	JAK	Did the instructors go with you?		
	LCpl U	No		
37 52	LCpl Q	Us dumped there.		
38 07	LCpl P	Our instructors don't need to go the other units for a military course. A familiarisation thing for field craft		
38 08	LCpl Q	Half the stuff need for there was no need for.	Half stuff taught at Gibraltar seen as not needed by students.	De-**motivating**
38 10	LCpl T	While we have been here we have done MATT training twice while you are on a class 2 course. You do it twice in the year and in that one week CLM course is pretty much maMATT training with one night exercise. So for the three or four days you are down there, a complete waste of time. It is just the exercise isn' it, that we need to go there for.	Seeing CLM as a complete waste of time	
38 29	LCpl U	At that stage you go there for the battle field skills because the actual MATTS are covered here throughout the course	Going through battlefield skills	**Relevance** of training
38 38	JAK	Was the exercise good?		

2- 21

			Not engaged. **Poorlymotivated**
38 42	LCpl P	It wasn't really an exercise. You are going to sleep in a field and we will tell you have to do stuff that you have to do for yourself when you go back to a FOB.	
38 53	LCpl Q	Learning out in the field.	
38 55	LCpl R	You are going to have a lesson on this, you're going to have a lesson on that and that was it really.	
39 00	LCpl R	You've got to think that it isn't just a specific course for us is it it is for all the others as well	Recognising bigger picture
39 10	LCpl U	I think some of the people there hadn't done them at	
39 16	LCpl R	You can't just do an individual course for us, can you?	
39 18	LCpl R	the stuff that we didn't know from here like something patrol that could be done to PowerPoint here get and go through it here	Looking for alternatives
39 30	LCpl P	You could the chill virtually	
39 32	LCpl s	In a day [laughter]	
39 34	LCpl P	still not sleeping	
39 45	JAK	**A few observations I can't remember who mentioned coursework build up right at the beginning**	
40 00	LCpl P	Oh from previous learning	
40 02	JAK	**Yes**	
40 03	LCpl P	Oh yes	
40 05	JAK	**How has course work been managed here?**	
40 12	LCpl R	Everything is deadline	
40 14	LCpl S	You do it all in work in the class it is not something you take away with you as there is not an opportunity to build up graph wouldn't allow it to build up	
40 30	JAK	**If you were to start the Class 2 again what would you do differently**	

2- 22

40 36	LCpl P	Change jobs		
40 46	LCpl Q	Nothing really.		
41 02	LCpl P	Towards the end I sort of lost interest personally	Losing interest towards end of course	Course is too long.
41 07	LCpl R	I think when you get close to that finish date the hard part really done, now get to the final	Getting to the finish	
41 20	LCpl T	I do think that with the course a year long you are sat in the classroom for a whole year the course needs to something a little bit more. It gets tedious	Needing variety on a yearlong course	Needing **motivation**
41 28	LCpl R	There was a week in May when we got a week off but I think something more constructive to do during your course it does get a bit tedious. The week out you go away and do something for a week	Wanting to do something constructive Course getting tedious	**Time**. Too long under training
41 39	LCpl P	Like adventure training.	Breaking up class work with adventure training	
41 41	LCpl T	Yes, other than sitting in a classroom. I think that would help the course to come back refreshed have something to do so have so have something to look forward to rather than sitting in the classroom for a year. Really tedious.	Refreshing the course through AT Wanting something to look forward to.	**Motivating** through a break in training and AT
41 53	JAK	**That is why I picked up on the point that you left school and here you are still in class into the Army. graph yes that is being brought up in conversation**		
42 03	LCpl R	At least it's your paid job isn't it		**Motivation**
42 08	LCpl P	You know there is something at the end of it whereas at school even if you get your GCSEs there is no guarantee of a job.	Getting paid to study Seeing end goal	**Achievement Qualifications**
42 17	JAK	**I was going to ask what we should do differently but that is obviously one thing, the year is a long time.**		
42 28	LCpl Q	I would rather get it done and out of the way to be honest I think looking back at the week when was a bank holiday rather than shortening the module is to extend it for that extra day	Rather get it done Not wanting to shorten the module	**Commitment** – not wanting to lose out
42 31	LCpl R	Juggle the week around		
42 50	JAK	**So you are saying work to the bank holiday**		

			Commitment
42 54	LCpl T	Not work to the bank holiday	
42 57	JAK	**At Chicksands the Defence School of Intelligence works through bank holidays**	
43 01	LCpl R	Well I think it's important to keep the same amount of days	
43 06	LCpl Q	Bet that something leaves as well	

2- 24

Appendix 3 – Transcript of Interview with DTLLS Tutor – May 2011

Time mm ss				
00 20	JAK		What I've done, is to put together a number of fairly open questions so that it is semi structured and just work through as many as we can and see what your views and thoughts are and what's going on. To start off if I could ask you to explain your role in developing and delivering teaching and learning training and education at the Further Education College or anywhere else that you're involved in?	
00 46	DTTLS Tutor		Yes. OK. I've been in teacher training for about 8 years altogether and at the college I deliver the course that I'm delivering here which is accredited by City & Guilds, but I've got a wider background in delivering Cert Ed for University etc. I now only work half the week at the College and the other half of my week is delivering all types of teaching and learning activities for a couple of private training companies, so that gives me quite a broad view of the different types – the different aspects – of the sector which is very broad, and that is one of the things we're just about to do with the guys - how teaching here differs so much, or is similar in lots of cases, to teaching in colleges, prisons, hospitals, Police training areas. It's such a broad sector that it's good for me to deliver in lots of different parts of it. And then the Army contacted the College and asked if we could talk about delivering it here and my role is to deliver it but also to change it and develop it to meet the needs of the guys that I'm teaching.	
02 05	JAK		So this is your first experience with Army training?	
02 10	DTTLS Tutor		Yes it is	
02 13	JAK		You've Teaching staff. You mentioned private companies – you also mentioned there in passing there the Police, and Health Service?	
02 25	DTTLS Tutor		Yes, what happens is my role at the college is fairly narrow in terms of the fact that we teach those that come to us. With the other companies that I work for, quite often we do in-house training so they will send us twelve people from their organisation to do a qualification, so it has a slightly different approach, and occasionally I do that work with, say, a group of - for instance a couple of weeks ago I was down at Portsmouth Hospital talking to clinical staff who train on the wards. So we did some work with them on how to assess competence on the wards. It might be that I will go out and talk to a group of Police officers about how to assess or how to use learning strategies. It will just depend and it is always very different,	Experience working with different groups in different environments Teaching those that come to college Training in-house for companies Taking different approaches Teaching clinical staff who train ward staff Assessing competence on wards

			Talking to police officers on using learning strategies Loving the variety of work
		which is why I love doing it so much, because there's a lot of variety.	
03 20	JAK	Within that you talk about variety of organisations, what about the variety of levels of staff you are developing. You mentioned the Police there, ………and likewise you mentioned clinical staff, are you talking about nursing staff?	
03 35	DTTLS Tutor	Those particular people were a whole range of clinical staff either working in laboratories or on the wards or in other parts of the hospital, but they all had a role in training other staff. So it was from a Sister on the ward right up to somebody with an incredibly long list of qualifications, which I couldn't even begin to talk about. But the point is they didn't know about how the best way to go about assessing learning. So that was what that particular thing was. Sometimes I will go out and I'll teach a group of part time staff, and others time I'm teaching their middle management, but it will just depend on how the organisation – you know - where they are pitching the learning.	Teaching whole range of staff Involving sisters on wards to higher management Not knowing the best way of assessing learning Teaching part-time staff and middle managers
04 26	JAK	So with our people here, who range from Corporal up to Major, is that possibly the sort of representative spread you come across?	
04 36	DTTLS Tutor	Yes absolutely, it is very typical in terms of the cohort.	RSMS spread of staff is typical
04 42	JAK	Moving on then, and again we may have touched on this. Are there any key differences between, and approaches to, learning here and those in other organisations?	
04 54	DTTLS Tutor	Yes there are. The key difference in terms of my delivery, is that I have to remember that most of the instructors here have only ever worked and taught here, so their wider experience is not present. So for instance when I'm teaching this course at the college they come to us. I might have a First Aid trainer, I might have someone who runs a company, or I might have a brand new lecturer who teaches French, somebody who teaches motor vehicle, it's quite a broad thing. Whereas here of course I've got a group of people who have only ever taught here, so their experience is different and that's been actually one of the challenges in terms of broadening their understanding of the fact that just because it happens at Hermitage doesn't mean it happens everywhere else or in fact this happens at Hermitage and it does happen in other places. It's that compare and contrast approach.	Instructors only teaching in RSMS Lacking wider experience of FE At a college cohort is much broader based Military having only ever taught in RSMS Challenging tutor to broaden their understanding Comparing and contrasting what happens at Hermitage with elsewhere

3 - 2

Time	Speaker	Transcript	Notes	Analysis
06 04	JAK	So the subject matter, from what you just said, your course at the FE college could have all sorts of different skills, people with different work areas, whereas again here, although they might teach different subjects they are broadly Geospatial.		
06 16	DTTLS Tutor	Yes, absolutely. Yes and part of my role is to try and make the generic teaching and learning approaches fit different subject areas and different levels of teaching. So that's not been so much the challenge, because I could teach a hairdresser at the College and teach a Geospatial engineer here. The approaches I would encourage them to use are exactly the same. It's about how you make them relevant to them, and the other thing you have to be wary against, and maybe this is another question you are going to come up with, is about just because they teach something like Geospatial technology, doesn't mean that they have a basic understanding of some things I want to do. So it's about where people's expertise is.	Needing to make teaching and learning approaches generic Adopting same approaches irrespective of level Making subject relevant to the students Not assuming that because they teach Geo theory they have a basic understanding of teaching and learning.	**Relevance** in teaching and learning resonates with relevance in RE Geo courses. Same applies to **experience**.
07 14	JAK	Yes – OK we are going to come back to that. Are there any other differences in the way you've had to do it here? What about time-wise – is that one?		
07 24	DTTLS Tutor	Certainly, yes. Finding - trying to maximise the use of my time here in terms of coming out to do observations and trying to do two or three in the same afternoon – that type of thing.		
07 40	JAK	But from the point of view of the course itself, am I right in saying that this has been done, carried out, in one year rather than two years?		
07 50	DTTLS Tutor	Yes we would normally do it over 70 sort of weeks and we're doing it in 40. and I did think that was going to be a real problem but actually the group are so enthusiastic and so keen that they always do their homework, so from that point of view I've been able to give them work outside of the classroom which they've then brought back and that's made it easier to maximise the time. But yes, there are things about that 40 weeks that I would change next year without doubt. I can see...	Doing course in 40 weeks, not 70 as normal Groups showing keenness and enthusiasm Completing homework in time	**Motivated** as evident from keenness and enthusiasm.
08 33	JAK	OK we will come back to that. Maximise time – we can pick that up later on. A more tricky one: What was your first impression of the quality of the teaching and learning in our - and you can be open about this.		
08 50	DTTLS Tutor	OK. [Laughs] My first impression was that it was rigid. And it was very knowledge based and there was an expectation that the soldiers being taught would learn it no matter what the instructor did. I suppose that was my first thing was – "Whoa we need to change that!" And they are changing it. I think it was the inflexibility.	Teaching in RSMS was rigid. Mainly knowledge based. Instructors expecting soldiers to learn no matter what the instructor did. Needing to change Instructors are changing	No flexibility (contradicts impression some of the trainees have) Transmission teaching Role of instructor unclear

3 - 3

Time	Speaker	Transcript	approach	
				Time pressures are a major constraint.
09 22	DTTLS Tutor	And then my second impression was the very generic lesson descriptors which just simply would not be acceptable in a college; so the way that the planning is done - of course as I've got to know them better, and I've been here more, I understand lots of the reasons for that now, whereas in the first few weeks I hadn't got the reasons there. But Yes I suppose that was it, the inflexibility and the immediate thing when I said this seems really inflexible, people said to me "Yes, Yes but we don't have time to do anything else" So they were the things that just sort of challenged me really, as the deliverer of the learning I guess.	Using too generic lesson descriptors – not acceptable in college. Challenging how lesson planning was done. Understanding reasons for approach. Training delivery really inflexible. Lacking time to do anything else	
10 08	JAK	I thought there might be.		
10 12	DTTLS Tutor	And the use of PowerPoint – ad nauseam shall I say.	Using PowerPoint extensively	
10 10	JAK	It tends to be all pervasive.		
10 12	DTTLS Tutor	Yes absolutely.		
10 18	JAK	Why do you think that is?		
10 25	DTTLS Tutor	At first I thought it was because that was viewed as the best way to get lots of material across. I now think that is still the case but I think it's to do with confidence because the PowerPoint is the lesson, rather than the teacher being the facilitator of learning and I also understand about people being drafted in and needing a structure that they have to work with, and that's absolutely fine but it's about people's inability to be able to move away from it.	Seeing PowerPoint as best way to get information across. Associating PowerPoint with confidence. Seeing PowerPoint as the lesson. Not seeing teachers facilitating learning. But newly posted staff need a structure	Transmission teaching. Lack of **confidence** and **experience** as teachers
11 00	JAK	So it becomes a comfort blanket.		
11 04	DTTLS Tutor	And that's not a criticism because I realise that happens everywhere John to be fair. You go into an organisation and I've never taught this before but I've got the slides – and that's reality. And a lot of the time I have to balance what I think is the best practice with reality.	Employing PowerPoint as comfort blanket. Seeing it as very structured. Instructors not needing to know subject really well if you have the	

Time	Speaker	Transcript	Notes	Notes
				slides Tutor not criticising instructors – not their fault the position they find themselves in Recognising same problems happening elsewhere Tutor balancing what she thinks is best practice with reality
11 35	JAK	Is SgtR on your course?		
11 39	DTTLS Tutor	He is Yes.		
11 40	JAK	I thought so because he and I had an interesting discussion on PowerPoint the other day. Giving a presentation and just sowing some seeds about how we can use PowerPoint more effectively and then the way it's done in the School tends to be a one word heading and then a bullet list that fills the screen. I'm trying to move away from that. Away from that and he wasn't aware of the different thinking		
12 08	DTTLS Tutor	I so rarely use it myself that I don't really investigate it. P has just done some interesting things where he's given the students a copy of the slides with loads of blanks on them, and then he has the full slide and that makes them a little bit more interactive and it helps them to take notes if they're not good at note taking. That was quite an interesting approach. And he had also quite a lot of graphics with links to video clips or some sound bights and things like that, which was quite useful.	Not using PowerPoint her self Exploiting PowerPoint in more interactive way Helping students with note-taking Linking graphics with video and sound	Seen how efforts are made to move away from transmission teaching
12 44	JAK	I was talking to him about things like assertive headings, rather than just one word headings so what you see at the top is an assertion.....such as *the overuse of PowerPoint turns the students off*, so you make an assertion. Most people just read a heading. It just gets me.		
13 20	DTTLS Tutor	So quite a useful discussion on that. He was very enthusiastic about it – do you have any information on this? I thought it was really nice		
	DTTLS Tutor	Yes he is very keen. I quite often use the PowerPoint slides with a set of instructions on them so I can leave them up and that just frees me up to walk around the room, and if I'm not with a group	P is very keen Tutor using PowerPoint with a set of instructions. Freeing her up to engage with students.	Using PowerPoint in ways that allow instructor to facilitate learning
13 36	JAK	I just wondered about that because of a professional approach. I'm getting into these as well as you!		

3 - 5

Time	Speaker	Transcript	Notes
13 54	JAK	Moving on – what attitudes to teaching and learning do you think exist amongst the staff here when you first started to - sorry, we'll stick with that one for now. – the attitudes of the instructors to teaching and learning.	
14 03	DTTLS Tutor	I think they only saw teaching, they didn't consider learning possibly. It was very much about delivering learning, delivering facts and figures and I get the impression; and I think they really knew it in their hearts, that the students or the soldiers pass their courses because of what the students or soldiers do rather than what goes on in the classroom, so I think they saw it very much as a teaching role and not as a facilitation of learning role.	Instructors only seeing teaching / Not considering learning / All about delivering learning / Delivering facts and figures / Knowing in their hearts the shortcomings of their approach / Soldiers passing course irrespective of what goes on in class. / Seeing roles as teaching not facilitating learning
14 50	JAK	Right OK. Any other aspects of attitudes to this? What about the attitudes to this course What was the general perception and general feeling about it?	
15 02	DTTLS Tutor	Yeah, I think they thought it was going to be easier than it is. I think they hadn't quite grasped how broad it would be. And I think to start with they didn't think it would be particularly useful. I think they thought 'Oh we can do this and this will be handy to have' I don't think we mis-sold it I think they just didn't hear the messages about how much work it would be. Not negative. There were two or three who were negative; a couple of those we lost anyway fairly early on. Not negative, but perhaps, what's the word I want, they were a little bit suspicious about some of the things I said we were going to do. Now I would say they can almost to a person have 'turned that around and they can really see the benefit of what they're learning; but yes suspicion is probably my over-riding - and of course not knowing me.	Expecting DTTLS to be easier / Not appreciating the breadth of the course / Not expecting it to be useful / Thinking they knew it already / Some negative participants / Many suspicious of some things / Changing views / Now seeing the benefits of what they are learning **[Relevance column:]** Relates to soldiers misunderstandings of what they were joining on Geo courses. / Not seeing usefulness (relevance) / Students wary of the new civilian lecturer – relates to civilian staff in RSMS
16 13	JAK	Have they discussed with you their attitudes towards the DTTT	
16 22	DTTLS Tutor	Yes, and it's mixed. I would say some of them have said they found it really, really useful and some of them said it was a waste of time they didn't really learn anything. I think I've mentioned this to you before that I think those who have done the DTTT since they started on this course, have got more from the DTTT and those who did it beforehand didn't get very much from it. Now whether that's because they've just been made aware of the different approaches or whether they've seen the benefits of what the DTTT covers, I don't know and I don't know very much about the DTTT. In fact somebody has just given me a completed	On DTTT, some found it useful / others a waste of time. / Benefitting more by doing DTTT after or during DTLLS / Not knowing real reasons

Time	Speaker	Transcript	Codes	Codes
		folder for me to look at and I haven't had time to look at it this week but it will give me a better understanding of what they cover. But, yes, very mixed views of how useful the DTTT is.		
17 17	JAK	I sense it's different from where's it's delivered, at Pirbright or Halton, Those who have done it at Halton seem to be more impressed than when they have done it elsewhere.		
17 36	DTTLS Tutor	I don't know about that to be fair. They've not mentioned that to me.		
17 41	JAK	We have actually just touched on this next question - Have you seen any changes in attitudes to teaching and learning from those taking part in the course after almost seven months?		
17 51	DTTLS Tutor	Absolutely. My conversation and the reason I was late to you today is a typical example of how a simple bit of feedback about eye contact and positioning in the room has led to a 20 minute conversation and what we do here and how do you think I can do it that way, and if I do it this would be a good idea. So Yes definitely I've seen a great improvement in, well I call it an improvement, certainly a change in their approaches, their willingness to try something new which has been really pleasing.	Engaging with students on feedback Seeing a great improvement Changing approaches are apparent Willing to try something new	Importance of feedback in **motivating** Changing attitudes
18 32	JAK	Are they just trying that when you're observing or are they trying it all the time?		
18 36	DTTLS Tutor	That's a good question. They're certainly trying it when I'm observing because they want to get that feedback. No, I think they're probably trying it in other areas because they quite often say to me 'Did I tell you that I did so and so?' and that's great to hear. Often if it works – my maxim with them is, because we've talked about all these different approaches, and they say 'Oh we can't change everything', and I say I'm not asking you to change everything. And I've encouraged them to change one or two small things per lesson, try them out, and when they get success with that, that builds it. Yes definitely.	Wanting feedback from observation sessions Showing excitement at things they try Not changing everything but somethings Trying out new small things Building on success	
19 16	JAK	What about changes in their attitudes, the attitudes of those taking part in your course to trainees. Has that been discussed at all?		
19 29	DTTLS Tutor	A little bit. We discussed it at the beginning. It's interesting; you gave the example earlier about somebody having to carry out a consequence for yawning in the classroom. And I have evidence, probably in their reflective logs more than anything else and most of its anecdotal but they've said actually I did stop and ask myself why that learner was behaving in that way. You know, was it because – early on – I haven't had any recent examples, but early on – a couple of examples – actually when I said to the soldier 'What's going on here' it turned out there was something like he had a problem at home, or he hadn't been well the day before, or there was something worrying him and that had facilitated that lack of interest	Exploiting reflective logs Stopping to ask why learners are behaving in a certain way Raising awareness of outside	Change in approach of instructors to question their own position rather than blame students. Awareness of students'

Speaker	Dialogue	Notes
	or slightly different attitude in the classroom. And it just was great for me because we talked a lot about environment and understanding. Most people don't misbehave or disengage deliberately, there is usually a reason behind it. In most cases. It's certainly true with younger learners. Unless they're particularly disaffected or had particularly bad experiences most young people who come in late and throw their bags down and then sulk, is usually because they've had no breakfast, or they've had to take their little brother to school or they've had an argument with their Mum that morning, or they've missed the bus or whatever. There's nearly always an underlying reason. And there's no reason why that would be any different for soldiers. So yes I think their attitude has changed. I think they will not immediately jump and say 'discipline', they will try and uncover it first. I'm not sure all of them would but certainly some of them would.	needs. Understanding situations factors that can affect student behaviour. Discussing learning environment Understanding reasons for misbehaviour or disengagement Underlying reasons with school children, why different for soldiers? Not reaching for discipline first.
JAK	We've certainly seen less come through.	Could reflect this change in attitudes of instructors.
DTTLS Tutor	Really?	
JAK	Yes	
	Excellent.	
JAK	What has been your biggest challenge in delivering this course, in particular with regards to the attitude of the participants?	
DTLLS Tutor	Biggest challenge? I suppose the biggest challenge is getting them to see that there are different ways and actually that they work. That's probably the biggest challenge.	Seeing different ways of learning – biggest challenge Showing that they work
JAK	And how have you done that and getting them to see that it works?	
DTLLS Tutor	Modelling it to start with, and now using loads of praise when they try something whether it works or not, but it generally works	Praising students when they have tried something new.
JAK	You touchedon some of the other ones earlier – their expectations – I think you've already discussed that. Do they expect it to be easier?	
	I think they expected it to be easier. I think they were surprised at the amount of underpinning	Students expecting DTLLS to be This is the same

3 - 8

Time	Speaker	Transcript	Code	Notes
		theory that supports all the things I do. I try and not just say *'This is her idea so therefore it's got to be good'*. It's all based on research and theory. But that's fine. They're – some of them are a little bit sceptical about some of that theory. But that's fine. They should question it. I think their expectations are different now. But you know you get these peaks and troughs when you do a long course don't you, and it's longish in terms of suspicion and not being sure and then really enjoying it and then a dip because you've got an assignment referred and then back up and now they're getting towards the end and there's a slight, I can feel a slight dip but I would expect this at this time of the year.	easier Surprised at the underpinning theory Basing arguments on evidence Getting students to question the theory Motivation waxes and wanes on long courses	challenge the Geo Techs face in taking on the theory behind the technology. Needing **confidence** to let students ask questions. Instructors able to link their own experiences with their students
23 24	JAK	What about maturity then of those taking part?		
23 30	DTTLS Tutor	Has that changed, do you mean?		
23 33	JAK	I guess so, with regards to their maturity – your challenges in delivering the course with regards to their maturity, because most of these are quite mature aren't they?		
	JAK	... would be Cpl S?		
23 44	DTTLS Tutor	No that's not been an issue for me, because I teach anyone from 18 up to 80 really. But if you widen that and talk about their maturity in terms of them being learners, they have definitely matured in terms of learners	Maturing as learners	How to get RE Geo Techs to mature as learners?
24 03	JAK	What about expertise?		
24 09	DTTLS Tutor	In terms of their delivery?		
24 13	JAK	Yes expertise as delivers of training rather than expertise as Geospatial.		
24 20	DTTLS Tutor	Yes, I think where they have embraced it. The issue for me and I think I've probably said this to you before; is that I'm really only looking at what they do and it's still in this environment. My only concern, and that's why I've tried to encourage them to go to the college, is that when they go and deliver learning somewhere else, they're going to come up against a whole lot of all different sets of issues and problems and I can't see whether or not they have got those transferable skills. But within the environment Yes I think their expertise has improved.	Embracing their own experience as trainers and growing expertise through DTLLS Needing to gain experience outside of this environment Improving expertise in RSMS	

			environment	
25 01	JAK	That links in with my last item on that one which is their experiences; when you said right at the beginning that they are fairly narrow and they've only worked in this type of environment, and now you're saying again that it's narrow from the point of view that they are being assessed in this type of environment.		
25 22	DTTLS Tutor	Yes, absolutely and I would almost, if I was ever to do a reference for any of them to go and teach elsewhere, I would almost want to say my opinion is based on the fact that I've seen them teaching in a military environment. Having said that of course some of them have been to the college and done some teaching and have done really well and have come back and said "Whoa!" I would really love to build that into the course more.	Only seeing teaching in RSMS Some have benefited from teaching in college.	
25 48	JAK	OK - It's something to think about.		
25 50	DTTLS Tutor	Yes definitely.		
25 54	JAK	How do you think the teaching staff regard learning across Defence Do you have any idea what they think about teaching and learning across Defence?		
26 01	DTTLS Tutor	My feeling is that, now, they feel privileged to be doing the .... Course because they know stuff that other people don't know and I think they spread the word wherever they can. Because I think they see, can now see the inflexibility that's across, because I don't know because I've not had any experience. My experience is limited too, just to this one barracks, to this one school.	Feeling privileged to do DTTLS	Privileged becoming a motivator
26 36	JAK	Before they started did you get them to think about Defence training? You've talked about DTTT but what about other training they've undertaken?		
26 45	DTTLS Tutor	I don't think we did really. One of the models we've done is for them to audit their skills and experience to look at how they can develop that. So they've done it individually, but I don't think I really did that. Again that might be something that could be a good thing kick-start for them next year.	Auditing skills and experience to exploit them	
27 08	JAK	It's something I will be doing anyway with the next cohort – but I want to run this with the cohort that starts this September before they've been involved and in fact Sergeant Routledge was asking me why, when I was talking about doing this and having a session with his cohort, he said it's a shame we didn't ask at the beginning.		
27 34	DTTLS Tutor	Yes good point.		

Time	Speaker	Transcript	Codes	Themes
27 36	JAK	Movitation to learn?		
27 40	DTTLS Tutor	Yes I think they do have a motivation to learn and I think their motivation has increased. But again that's very much to do with that 'Oh this isn't going to work'. All of it does work so I think I will find out more. Yes I think they are motivated to learn, definitely.	Having motivation to learn Seeing things that do work helps motivation	**Motivation** helped by seeing things that work
28 02	JAK	How receptive are the staff to different methods and practices to teaching and learning?		
28 10	DTTLS Tutor	Most of them are very receptive – now! I have to put that caveat in because the first six weeks I think they thought I was mad – I was a mad woman coming in here. But it's interesting that when, there is some culture there of trying different things, because when've been observed by other people like T and B they've been getting very similar feedback to what I've been getting. So because those two people had Cert Ed or a similar - perhaps it's just that they hadn't ever thought to get people to change their approaches, because they knew about it but didn't use it, so to speak. Does that make sense?	Instructors have become receptive to different approaches. Course initially thinking tutor mad Knowing about different approaches but not trying them.	Change taking place Receptive to change Lack of **confidence**?
28 58	JAK	Yes it does. But when you introduce something on a Monday night for instance, now is it more accepted or is it 'Oh she's off on one again'?		
29 10	DTTLS Tutor	Well what they think privately I don't know. But no they do embrace things now because they do from experience all know that I don't just teach them something because I feel like teaching it, it's got some sort of - and I think that was about their confidence in me, they had to be confident in me, they've never met me before, I'm in a completely alien environment and ...	Embracing change now Learning from experience Relevance of what is taught is important Confidence in the trainer	Seeing the **relevance** is key **Confidence** in tutor – links to the trainer's experience and expertise.
29 31	JAK	But not hostile		
29 36	DTTLS Tutor	No not hostile at all. But I think they underestimated that I was as nervous as they were and I don't think they quite grasped that, and also because I do have a very relaxed style of teaching. I'm very facilitative and I do expect it but my expectations are high in terms of their input and maybe in those first few weeks they hadn't quite grasped that, that they actually had to do something here to learn, that I wasn't going to spoonfeed them and even now sometimes they laugh but say 'Can't you just tell us' and I say 'No' and they say 'We knew you'd say that!'	Tutor feeling just as nervous as students Relaxed style of teaching, facilitative Having high expectations	Resonance with instructors feeling nervous (lacking **confidence**) Resonance with Geo Techs wanting to be told

3 - 11

			Not spoon feeding	what to do rather than exploring and problem solving.
30 17	JAK	That aspect has rubbed off on them in their teaching		
30 20	DTTLS Tutor	Yes, it's probably the biggest thing. And getting them past the fear, that just because they don't know everything it doesn't mean that they are less valuable in classroom and for somebody actually – I think I might have said this to you before - one of the guys said to me *'But maybe if I'm not actually standing at the front talking, I'm not doing my job'* and I said *'well actually maybe you aren't doing your job when you stand at the front, maybe you should do something else to make your job more effective.'* And that's the bit that they have grasped and today I've seen the students go off, do some research, feed it back, so it is happening. It's really interesting.	Overcoming fear factor Expectation that the instructors stand at the front and teach Going off, doing research Interesting to see change in approach	Fear linked to **confidence** Expectations of what teaching is about
31 02	JAK	You sat in on a number of training sessions … staff; how do these compare with those you see at other colleges and organisations – touch on that a little bit.		
31 11	DTTLS Tutor	Yes, interesting. I think there is an element of the sector that you're observing in, so for instance one of the companies I'm working with at the moment are a health and fitness organisation and they automatically do loads of kinaesthetic stuff – they just do. It's difficult to compare because they're completely different – it's like comparing apples and pears really; it's all fruit but they taste different, they look different, they feel different. And that's what happens. When I came here it was completely different and my comparison was *'Oh dear it's not working as well here as it could do.'*	Recognising different approaches in different training sectors	
32 05	JAK	That difference was it in terms of rigidity and everything highly structured?		
32 09	DTTLS Tutor	Yes, very structured, one-dimensional teaching. Talk and Talk if you can call it that. Not even Talk and Talk really, PowerPoint and Talk. No recap of learning, no checking formatively that people understand, very little question and answer, very little inter-action. And that's what's changed hugely. But I wouldn't want to say that – I would also say that probably that that is typical of brand new teachers who need that structure and it takes confidence and experience to be able to let it go, doesn't it?	Teaching in highly structured way One-dimensional teaching PowerPoint and talk Lacking recaps, formative checks on understanding, interaction, questioning. Representing new teachers Confidence and experience to let go	Letting go requires **confidence** and **experience**

3 - 12

Time	Speaker	Transcript	Notes	Themes
32 48	JAK	I think the last time you talked about PowerPoint and reading rather than PowerPoint and talk		
32 56	DTTLS Tutor	Yes absolutely, just reading the bullet points one after the other and perhaps not even giving any more explanation around the bullet point	Reading bullet points often without further explanation	
33 05	JAK	Why do you think that was?		
33 10	DTTLS Tutor	Probably it's a combination time, lack of confidence in what they are saying perhaps, and assuming that if it's on the PowerPoint, that's all they need to know. One of the things a lot of them now do is they will talk about – they always did use their experience – but they talk even more about their experience and say 'when I was at so and so' or 'when I was at operations' or 'what I've seen is' and that really helps. And we've talked a lot about relevance and a lot of them use relevance a lot more.	Lacking confidence in what instructors are saying If it's on PowerPoint is that all they need? Exploiting experience on operations or on exercise to illustrate teaching Using relevance a lot more	**Confidence** based on **experiences** Using **experience** to bring out **context** and **relevance**
33 45	JAK	When you've observed the classes what has been your impression of the trainees, in terms of things like responsiveness, or academic attitude or.... Have you noted them at all?		
34 11	DTTLS Tutor	Yes, absolutely. They are, I think their academic ability is good. I think it is underestimated in some cases and therefore because the instructors were not differentiating for those different abilities within the class, some were getting left behind and some were racing ahead. They need to be encouraged to respond. And when they respond they do really well, mostly. They would all benefit from more engagement and more interaction.	Instructors not differentiating between different abilities in a class Some Geo Techs being left behind, some racing ahead When encouraged to respond, they do well Trainees are compliant (being in Army) Wanting to learn Knowing they are here to learn BUT All need more engagement and interaction	
35 18	JAK	Couple of key words there. The last one I think – second to last one. Respect. Has respect been a subject of discussion at all amongst the staff.		
35 39	DTTLS Tutor	Respect in terms of?		

Time	Speaker	Transcript	Coding	Coding
35 42	JAK	Respect for trainees and trainees respect for them. Maybe the same could apply for their respect for you and your respect for them. Has there been any discussion on those lines at all?		
36 00	DTTLS Tutor	No, we've talked about values and professionalism and how respect is part of that. I think there's a lot of respect within the whole school. I feel that there's respect. But respect is something you earn. And whether the young soldiers as learners respect people teaching them because they have to, or whether they do anyway, they would anyway, that's very difficult for me to judge because of the compliance in the classroom.	Linking values and professionalism and respect. A lot of respect in the whole School	DTLLS Tutor questioning if respect is because of duty or true respect for individuals. Difficult to separate out due to compliance in the classroom
36 46	JAK	I just wondered whether it was something that had come out in discussion		
36 51	DTTLS Tutor	I've never had anything but total respect, even when they've not really liked what I've done with them. I've challenged them perhaps. And I respect them because I'm just awestruck by their knowledge, their subject expertise, their whole approach just engenders respect as far as I'm concerned and I think the young soldiers who are taught also feel that. Whether the instructors totally respect the soldiers as individuals is a question I would ask but I think they have respect for the fact that the young men mostly and the few young women that I've seen, are coming here to do a very difficult job and they've got lots to learn and I think there's a mutual respect there and about what they're doing with that stuff when they've learned it.	DTTLS tutor has challenged the course She respects their subject knowledge (awestruck) and approach Lacking certainty if instructors totally respect the students Mutual respect for what the trainees and instructors will be doing on operations.	
37 48	JAK	The reason I ask is because it's a word that has come up		
37 55	DTTLS Tutor	that's interesting		
38 06	JAK	Last one then – having experienced the delivery of the current .. course, what would you do differently next time and why?		
38 12	DTTLS Tutor	I would probably review the structure because I made quite a lot of assumptions about what they would already know, so I would come in with less assumptions about what they knew which I hadn't built in, because I think we all made the assumption that the DTTT covered stuff which I assumed it had and it didn't, so that needs reviewing. I would certainly try and build in either more outside speakers or more interaction outside of the school here, perhaps getting people to the college or experience different types of learning create	Making less assumptions about what students on DTTLS know at start DTTT does not go as far as she expected	

3 - 14

40 00	JAK	So overall your impression … course has been quite effective in regards to what we're doing.	
40 08	DTTLS Tutor	Yes absolutely; yes without a doubt I can see the changes in the group and in the individuals. In some cases lots of changes, in some not so much change, but change all the same – they're tough cookies.	Seeing changes in the group and individuals
40 32	JAK	I think that's probably all I've got. Is there anything you think I might have missed out in what's going on here?	
40 37	DTTLS Tutor	No I don't think so.	
40 41	JAK	Obviously I'm concerned with what's going on soldiers I think what the instructors do an important part of that which is why I'm asking you	
40 47	DTTLS Tutor	Yes absolutely. So what's your overall impression of how well the course has been accepted, how useful it's been in terms of changing things?	
41 01	JAK	I think initially enormous shock amongst everyone I've spoken to have been staggered at the amount of work at a busy time. I think there is utter shock at the, all but 3 people referred on the first assignment, including people who had achieved Masters that was a real eye opener.

Commitment. I think the commitment has been impressive to give up every Monday evening and do your work in between has been a tremendous achievement.

Pleasure. In terms of when I hear discussions going on amongst staff about curricula, things that I thought I'd never hear my staff talking about in their spare time, I think that must give me pleasure here to deliver training, but they're actually thinking about it. So I've had some interesting discussions with a range of people - whether it's the or Sergeant R and how things can be done differently and there's acceptance or willingness to accept that there can be different ways. The example I gave earlier of Sergeant R talking about the PowerPoint – he wasn't aware of the different ways of exploiting PowerPoint that… and why I do it. from the point of view of a Geo Study Day from 0800 – 1700. Listening to a talk and using PowerPoint with one word headings and bullet points, all yellow on blue backgrounds brain dead. So when we started talking about it he was very susceptible. | |

Time	Speaker	Transcript	Notes
		So that, from my perspective, is very pleasing. I just think overall I'm really pleased it's happened. I'm happy that it has been funded again for next year. Personally I'm disappointed that the importance of teaching and learning is not freely recognised elsewhere in Defence and there are people who make decisions based on technology whereas I think Chris and myself take the view let's sort the staff out first. We have super technology here but technology alone is not the answer to improve what we do and again to get the staff to understand how people learn and how we can deliver training better to me is important.	
44 09	DTTLS Tutor	That's great. One of the things that Sergeant – Staff Sergeant (Got told off for calling him Sergeant earlier I'm after Staff Sergeant)	
44 20	JAK	If I'd done that it would have cost me a drink!	
44 22	DTTLS Tutor	Well fortunately it's not costing me a drink. A very young soldier who was helping me and I said to him I'm after Sergeant... and he said 'Madam he's Staff Sergeant'. It was really good that he corrected me in the politest possible way. But one of the things P just said to me after that observation was how great it was that he gave them a research task, a discovery learning task they went away and came back with stuff he didn't know and I said to him 'How did you feel' and he said 'That's brilliant because I can't possibly keep up, and if they come back I can say to them 'go away and find out about that because I need to learn that too.' He said it really made him feel that he was working in a team rather than being the leader. I mean he does lead but he's got past that fear.	Demonstrates respect for the ranks

Examples of instructor using discovery learning but not afraid for the students to know more than he does.

Getting ranks rights

Giving research task, Using discovery learning

Having confidence to let students learn more and ahead of instructor |
45 11	JAK	And that's back on to the respect thing. So you've got respect for someone else to be able to do that type of work and feed off them.	
45 22	DTTLS Tutor	And I said to him 'Are you happy that he will go away and do it?' He said 'Yes he will, I'll also look it up (I can't remember what it was now – something to do with operating systems) he said 'and we'll be able to have that discussion.' I said that's great, but six months ago they all would have been petrified if a learner knew something they didn't, and now they don't which is so enormously valuable.	Overcoming fear of learner knowing something the instructor didn't
45 40	JAK	I think we've all been through that have this big big fear ask questions	
45 52	DTTLS Tutor	that you can't answer	
45 56	DTTLS Tutor	Yes absolutely and they're finding the ways to manage it now which is really good	
46 00	JAK	And P is right when he says that you can't, like on the MSc project, there's no way my staff	

			can be up to speed on every subject that's being taught however they can ask questions and challenge questions.
46 16	DTTLS Tutor		Yes it's good
46 20	JAK		Thank you, that's been really useful. There are lots of things I recognise coming across there. It's good to get someone who has been outside the school looking at it almost independently. Thank you very much.
46 32	DTTLS Tutor		You are very welcome, I'm glad to have been of help.

3 - 17

EdD Research

Chapter 1 Introduction

Chapter 6 Conclusions & Recommendations

RE Geo Training Environment

Chapter 5 Emergent Themes/ Analysis

- military
- civilian

difference between

staff — of — Experience

staff

fellow students — for — Respect — from — from staff

Qualifications

- Context
- Expectations
- Commitment
- Relevance
- Motivation
- Training in RSMS
- Learning at school

Chapter 4 Methods

- Validity & Reliability
- Transcribing
- Documents — including
  - End of Course Minutes
  - External Examiner Reports
  - Link Tutor Reports
- Interviews — with
  - Hd TMB
  - SMI
  - WO1 TB
  - DTTLS Tutor
  - Study Skills Tutor
- Focus Groups — with
  - Instructors
    - Class 1 Trainees
    - Class 2 Trainees
  - Aptitudees

Chapt Method

- Validity & Reliability
- The Particpants
- Access Issues
- Ethical Issues
- Methods — adopted — Grounded Theory
- M Positio — inclu — Power
- Obje

events

situations

about

accurate facts

gathering

hidden meanings

to uncover

direct questioning

through

questions

of

accuracy

seeks

Investigative

Informational

elaborative   cumulative

which is

Ethics Committees

sponsors (Cutliffe, 2005; Dunne, 2010)

no prescribed schedule (Goulding, 1999)

produce rich data

to

required by

directed

yet

open ended

is

emergent   shaped

yet

paced   paced

yet

unrestricted

Intensive (Charmaz, 2014)

approaches

group think (Frey, 2005)

avoid

Literature Review

role of

Grounded Theory Concepts

discovery of

the

enables

in-depth exploration

of

participants' experiences

Reflection in action (Schön, 1983)

requires

Interviewing

practical issues

Data Collection

involved with both

Researcher (Charmaz, 2014)

Analysis

first presented by

suited to

Theoretical Sampling (Charmaz, 2012)

defined as

Glaser and Strauss (1967)

involves

gathering data

fill out properties of categories

to

systematic method (Charmaz, 2012)

All that GT is: Generation of emergent conceptualisations (Glaser, 2002)

study of behaviours (Goulding, 1998)

div

Saturate the properties

to develop

into

'in grounded theory we do not know, until it emerges' (Glaser, 1992)

not

the data

which is

of data

mid-range theories

integrated patterns

Classical grounded theory (Glaser, 1992)

comparative

collection   analysis

through

denoted by

iterative   interactive

informs

inductive inquiry

categories

focused on

Dynamic interplay (Payne, 2007)

explanatory theory (Hernandez and Andrews, 2012)

Glaser on Strauss. (Glaser 1992, p 123)
Strauss' 'distortions and wrongs .....devastated me'
'he himself certainly was not trained to see and understand the ideas I wove into grounded theory such as........'
'I was trained in a methodology that was out of view of his perspective and program'
'...presented innocence is astounding and it totally blankets his guilt, his exploitativeness
and immorality. He does not get it'

Glaser on Corbin
'an immoral act in co-authoring the book, having 'smooched in' as a co-author while she is obviously not,
because tagging along is where her talents lie'
'I do not know Julia, ..., She was never in any of my classes, I have never read any of her papers'
'Julia unlike Ansell, is not a scholar'

Glaser on Charmaz (Glaser,2002)
'GT concepts have such grab that they can become jargonized in the hands of someone [Charmaz] who
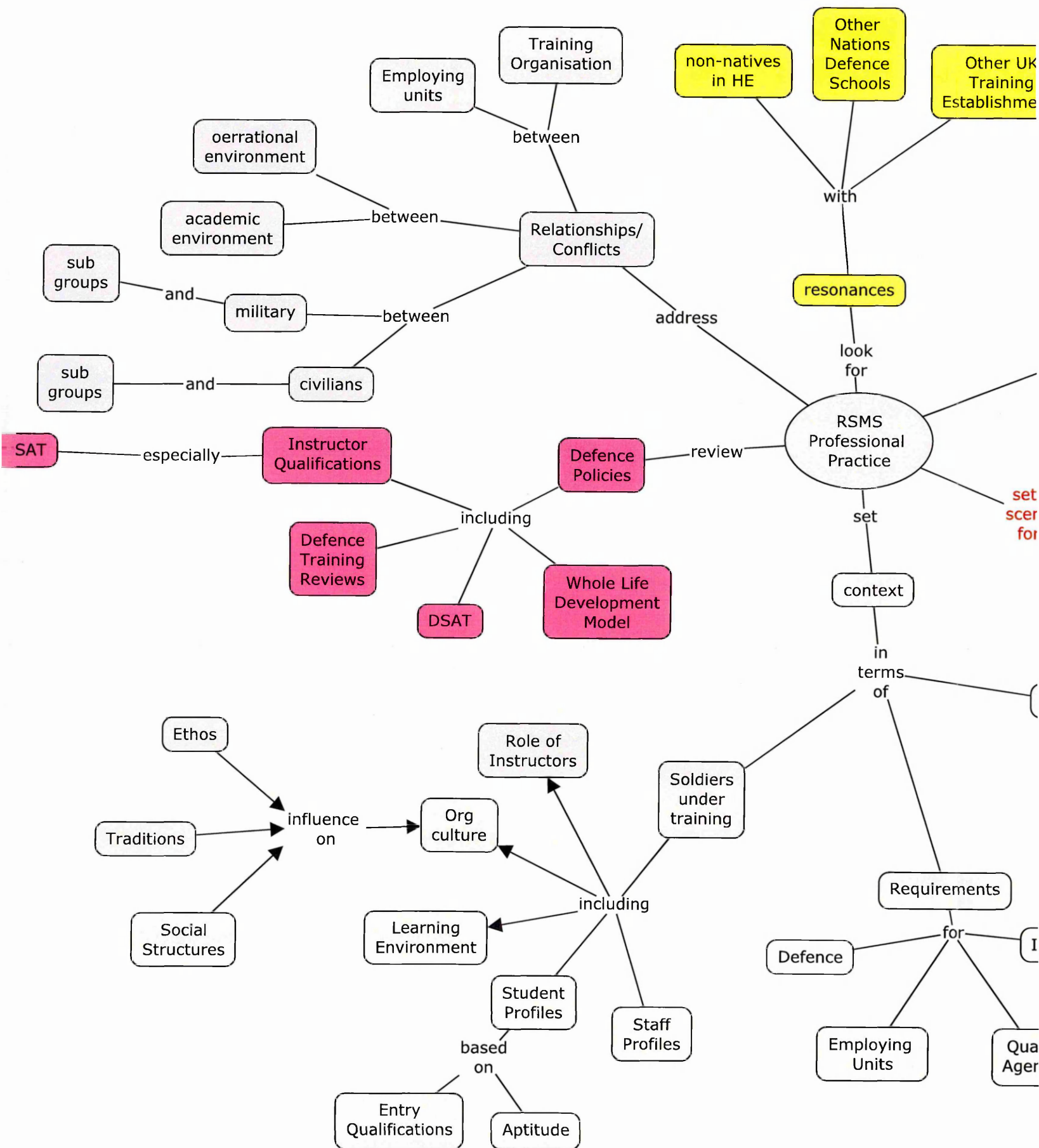uses them in theory bits'
'CHARMAZ does not have these variables in her armamentarium of arguments.'
'her discussion has none of the properties of conceptual theory generation of pure GT. It is all accurate
description (imagery), not abstraction'

Not a single, unified m

Flexible feel to it (Glaser and Strauss (1967)

Smorgasbord Table (Strauss and Corbin 1998)

Concept Map

- **Training Organisation** — between
- **Employing units**
- **oerrational environment**
- **academic environment** — between — **Relationships/Conflicts**
- **sub groups** — and — **military** — between
- **sub groups** — and — **civilians**

Relationships/Conflicts — address — **RSMS Professional Practice**

- **non-natives in HE**
- **Other Nations Defence Schools** — with
- **Other UK Training Establishme...**
- **resonances** — look for

RSMS Professional Practice
- review — **Defence Policies**
- set — **context**
- set scen... for...

SAT — especially — **Instructor Qualifications**

including:
- **Defence Policies**
- **Instructor Qualifications**
- **Defence Training Reviews**
- **DSAT**
- **Whole Life Development Model**

context — in terms of — **Soldiers under training**

- **Ethos** — influence on — **Org culture**
- **Traditions** — influence on
- **Social Structures** — influence on

Org culture including:
- **Role of Instructors**
- **Learning Environment**
- **Student Profiles** — based on — **Entry Qualifications** / **Aptitude**
- **Staff Profiles**

Requirements — for:
- **Defence**
- **Employing Units**
- **I...**
- **Qua... Agen...**

Appendix 8 – Defence Train The Trainer (DTTT) v2 Course Scalar

Training Objective	Enabling Objective	Key Learning Points
1. Manage trainee behaviour and attitudes	1.1 Develop positive attitudes in trainees	1.1.1 Explain why trainers need to be role models
		1.1.2 Identify ways of promoting core V&S to trainees
		1.1.3 Identify ways of promoting military ethos to trainees
		1.1.4 Demonstrate trainer behaviours which can inspire trainees to achieve
	1.2 Identify ways to maintain discipline in the training environment	1.2.1 Identify ways of reinforcing positive behaviour
		1.2.2 Identify ways of managing disruptive behaviour
		1.2.3 Identify ways of managing inappropriate behaviour
		1.2.4 Identify options for managing poor performance due to attitude and behaviour
2. Foster a supportive environment	2.1 Provide leadership to trainees	2.1.1 Inspire trainees
		2.1.2 Provide positive motivational feedback
		2.1.3 Use direction and guidance appropriately in training
		2.1.4 Identify strategies for encouraging independent, self-regulated learning
	2.2 Promote equality, diversity and inclusion in	2.2.1 Demonstrate how to promote an inclusive culture in training

	training	2.2.2 Describe how the trainer can mitigate against unlawful discrimination in training
	2.3 Identify the role of the trainer in providing welfare support	2.3.1 Recognise potential welfare issues
		2.3.2 Identify techniques for managing welfare discussions
		2.3.3 Describe the trainer role in signposting to appropriate support agencies
3 Prepare learning activities	3.1 Plan group learning	3.1.1 Identify learning outcomes
		3.1.2 Identify trainee start state
		3.1.3 Establish boundaries and constraints
		3.1.4 Develop a lesson plan
	3.2 Plan individual learning	3.2.1 Identify strategies for agreeing individual learning goal
		3.2.2 Identify strategies for planning how goals will be achieved
	3.3 Prepare a constructive learning environment	3.3.1 Identify the factors involved in preparing the physical classroom or training environment
		3.3.2 Identify types of specific learner needs that may present barriers to learning
		3.3.3 Identify a range of support strategies for specific learner needs
	3.4 Prepare appropriate resources	3.4.1 Conduct media analysis
		3.4.2 Select appropriate trainer resources to support delivery of training
		3.4.3 Select appropriate trainee resources to support independent, self-regulated learning

4 Facilitate learning	4.1 Prepare trainees for learning	4.1.1 Set a positive learning culture
		4.1.2 Motivate trainees
	4.2 Deliver group learning activities	4.2.1 Implement lesson plan to meet outcomes
		4.2.2 Engage trainees in learning
		4.2.3 Adapt lesson plan to optimise learning
	4.3 Support individual learning	4.3.1 Use coaching techniques
		4.3.2 Identify ways the trainer can provide learning support (see 3.3.3)
	4.4 Support blended learning	4.4.1 Identify a range of learning technologies that can support lesson delivery
		4.4.2 Identify a range of learning technologies that can support trainees in self-regulating their learning (See 3.4.3)
5. Assess learning	5.1 Assess for learning	5.1.1 Select formative assessment approach
		5.1.2 Evaluate level and quality of trainee achievement
		5.1.3 Provide formative feedback to trainee
	5.2 Conduct assessment of learning	5.2.1 Establish required standards or end-state goals
		5.2.2 Select appropriate blend of assessment tools and techniques
		5.2.3 Prepare for assessment
		5.2.4 Conduct summative assessment

		5.2.5 Provide summative feedback on performance
6 Identify training administration responsibilities	6.1 Identify the role of the trainer in maintaining trainee records	6.1.1 Identify different types of trainee records
		6.1.2 Explain why accurate trainee records must be kept
		6.1.3 Identify Defence policy guidelines for recording Remedial Training
		6.1.4 Identify local unit policy for maintaining and storing trainee records
	6.2 Describe trainer responsibilities for supporting internal validation	6.2.1 Explain the purpose of internal validation
		6.2.2 Describe the trainer role in gathering trainee feedback
		6.2.3 Describe the trainer role in providing feedback
	6.3 Identify the trainer role in administering formal disciplinary procedures	6.3.1 Identify the different types of formal disciplinary procedure
		6.3.2 Identify Defence policy guidelines on recording Minor Administrative Action (MAA)
	6.4 Describe the Formal Complaints Procedure	6.4.1 Identify examples of when the Formal Complaints Procedure should be applied
		6.4.2 Identify Defence policy and guidelines on Formal Complaints Procedure
		6.4.3 Identify the role of the Assisting Officer
	6.5 Explain how to maintain a safe training environment	6.5.1 Comply with lesson risk assessment
		6.5.2 Identify sources of guidance on Health and Safety in training
7 Develop own skills and	7.1 Reflect on performance	7.1.1 Explain the purpose of critical self-analysis

practice		
		7.1.2 Identify sources of feedback on performance
		7.1.3 Engage in critical self-analysis
	7.2 Identify development needs	7.2.1 Identify areas for professional development based on feedback
		7.2.2 Identify areas for professional development based on critical self-analysis
	7.3 Plan to engage in CPD	7.3.1 Identify examples of CPD activities relevant to the trainer
		7.3.2 Identify relevant CPD activities based on critical self-analysis
		7.3.3 Identify ways of sharing innovation and good practice

Appendix 9 - Wenger's Indicators of a Community of Practice

	Indicator	My Perspective	RSMS Instructional Staff Perspectives
1.	Sustained mutual relationships – harmonious or conflictual	Strong, generally harmonious, within military across the board from sapper to snco level. Some conflictual relationships between military and civilians. **Context, respect**	A degree of conflict between military and civilians. Personality driven. Increased involvement at all ranks and grades. Not in competition with each other (military and civilian) Good relationships within departments but not across the board.
2.	Shared ways of engaging in doing things together	The military have very well documented standing operating procedures (SOPs) for most activities. **Culture, context, experience**	Time dependent. Cultural differences. Competing priorities. Strong departmentally.
3.	The rapid flow of information and propagation of innovation	Use of various meetings amongst staff including O Groups, Quality meetings, course committee meetings. This is changing at RSMS through CPD, use of Moodle VLE. **Change, culture,**	Improved communication. Staff development leads to innovation. Helped by external courses, new blood in recent years. Innovation limited by timetable.

4.	Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process	The military instructors have worked in a tight community on operations and in the RE Geo community. Not so clear understanding where civilans have joined with no prior knowledge of Defence, Royal Engineers or Defence training systems. **Culture, experience**	Inevitable due to skill fade. Change of attitudes.
5.	Very quick set-up of a problem to be discussed	Military are quick to address problems, but sometimes problems can be discussed in narrow groups. **Motivation, Change**	Common approach to a solution. Ownership of problems Recognition of problems. Use of pre-meetings seen as excluding.
6.	Substantial overlap in participants' descriptions of who belongs	As evident from interviews and focus groups there is a strong understanding within groups but not between groups. This relates to issues of respect and recognition of the experience of others. **Culture, commitment, experience, qualifications**	Are you part of the gang? Departmental rather than whole school
7.	Knowing what others know, what they can do, and how they can contribute to an enterprise	The military have all come through the same courses and have all experienced geo support on operations. Growing recognition amongst military of depth of civilian knowledge in specialist subjects **Experience, relevance, context, qualifications.**	Recognition of SMEs.

#			
8.	Mutually defining identities	This is a wider problem. Do individuals have a sense of belonging to the MoD, or Royal Engineers, or RSMS or JITG? Uniforms clearly define military identities. **Culture,**	Military have pre-understanding of ranks, trades. Civilians' previous experience can affect this. Shared goals. Common experiences. Values and standards.
9.	The ability to assess the appropriateness of actions and products	Often set ways of doing things that have been 'handed down' DTLLS course is a good example of breaking out of these constraints. **Culture, Experience, Respect, Change**	Flexible, reflexive, accommodating, fluid experiences.
10.	Specific tools, representations, and other artefacts	These are quite evident from uniforms, in particular the use of rank slides. **Culture, Experience, Respect**	Aspirations are curtailed by reality of external factors.
11.	Local lore, shared stories, inside jokes, knowing laughter	Whilst military posted in can assimilate relatively quickly, it is not so easy for civilians from outside Defence. Banter can be quite strong however it can also create issues of respect for those outside the community. **Respect,**	
12.	Jargon and shortcuts to communication as well as the ease of producing new ones	Military is full of acronyms which can exclude people who are unfamiliar with the environment. However, academia and education has its own jargon. **Culture, experience**	Mixed opinions from group. Wider MoD issue, but recognise jargon is present in any organisation.

13	Certain styles recognised as displaying membership	Obvious aspects are those of uniform. Rank also demonstrates membership of groups including Messes. **Culture, commitment, expectations**	Common goals. Common training programme. Various styles in separate areas of the RSMS. But they combine into a cohesive membership.
14.	A shared discourse reflecting a certain perspective on the world	This is closely aligned to military culture can have both positive and negative impacts. **Culture, respect, experience, expectations**	Peer level but can splinter above/ outside a Training Wing.

From: Wenger E. *Communities of Practice: Learning, Meaning, and Identity*. New York: Cambridge University Press; 1998, p 125.