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Holistic Professional Military Development

Growing strategic artists

Murray Simons

Education is the kindling of a flame, not the filling of a vessel.

-Socrates

**Holistic Professional Military Development:
Growing strategic artists**

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Abstract

Professional military education is a well-established system in most modern militaries. Like all things though, incremental and ad hoc improvements to legacy approaches typically lead to reduced quality. It is therefore, essential to periodically review the entire system for holistic effectiveness. For military education, this need is particularly important when the global security environment is experiencing such rapid change. Added to this is the emerging understanding of the 'new sciences' that provides a unique opportunity to improve cognitive agility when confronting complex adaptive systems. There is also an urgent need to acknowledge and enhance the intangible dimension of professional military education beyond mere content-centric subject expertise. From the literature on hidden learning and constructivism, there are a number of opportunities available for modernizing the legacy paradigm of professional military education.

This study investigated the role of holistic learning (formal, non-formal, informal, self-directed, and incidental learning) in the professional development of 29 mid-career military officers. It involved detailed study of their participation on the seven-month staff course at the New Zealand Defence College from May to December 2008. Mixed methodology data collection included observations, interviews, questionnaires, focus groups, and document analysis. Analytic procedures ranged from statistical comparisons through to qualitative theme constructs. The study found a number of dimensions (sources and influences) contributing to holistic learning. It also identified a number of opportunities to improve the learning experience.

The findings identify a number of important factors in developing strategic artists. Of these, the greatest need is for a strategic plan to extend the current content-centric syllabus into a full curriculum with intangible traits clearly linked to formal and informal learning activities. Specific components required in this strategic plan include an academic philosophy and a cross-referencing matrix. The study also recommends reviewing time allocated to cross-discipline learning of the profession and cognitive agility focused on deep learning. There is also a need to re-examine the directing staff requirements, management of learner stress, and shaping practical-value motivation strategies through cultural artefacts. Collectively, the findings recommend shifting from the traditional vessel-filling paradigm of formal courses to a sociological approach of growing strategic leaders.

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Ethics approval

This study was conducted in accordance with Massey University Human Ethics Committee approval 07/64. Additional approval to conduct the study was granted by the Assistant Chief of Defence (Personnel), New Zealand Defence Force in accordance with Defence Force Order 21/2002.

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Chapter 1 Introduction

Holistic professional military development confounds critics. Anyone involved with military education intuitively knows there is more to learning than the lecturer's script or diagrams in a textbook. Yet this most powerful phenomenon is largely unstudied, undervalued, and untapped.

This thesis provides a long-overdue exploration of a widely-accepted phenomenon. Its trace of related literature alone gives an esoteric voice to an otherwise neglected discussion. Yet despite the enormous value of awareness-raising, the study's real contribution is its revelation of holistic learning sources and influences in professional military development. From this investigation's findings comes clarity in mapping the way ahead.

Aim

The aim of this study is to investigate the contribution of holistic learning in growing strategic military leaders as artists in their profession. In doing so, it begins unraveling a complex system of formal, non-formal, self-directed, informal, and incidental, learning sources as presented during a mid-career professional development course in the New Zealand Defence Force.

Bounding the investigation to the staff course level, it moves beyond education to the deeper topic of learning. Importantly, it also takes a holistic approach itself by considering not only formal class instruction but the entire spectrum of learning sources collectively contributing to student's holistic understanding. This construct builds on the large body of literature regarding both deep learning and the hidden curriculum and applies them to the unique environment of military education.

The hidden curriculum's subcategory sources of non-formal, self-directed, informal, and incidental learning, combined with the formal curriculum, refine the study's deeper understanding of holistic professional development. These sources are evaluated in terms of their contribution to developing strategic leaders. The study then pans-back from this seemingly reductionist, micro-level analysis, to identify the

bigger picture of relative contribution, and inter-relationships, of the various hidden learning sources in growing strategic artists.

This study distinguishes the key characteristics of strategic artists into the two categories of *how* to think and *what* to think. These two aspects, referred to as cognitive agility and a comprehensive understanding of the military profession, focus the study's analysis of hidden learning. Cognitive agility development is assessed across a variety of learning activities, whereas learning the profession stems from a cumulative process of content-centric learning. Based on the findings of other research, this study explores the interrelationship of learning in three enabling areas: learning to learn, learning the game, and learning to be an expert. The study postulates that these three areas cumulatively contribute to overarching goal of learning the profession.

The collective acquisition of cognitive agility and understanding the profession represent *what* the staff course seeks to develop, while the hidden learning sources represent *how*. Ultimately, the aim of this study is to identify the most significant contributors of growing strategic artists. This increased awareness will not only facilitate promoting positive dimensions but also eliminating destructive ones. However, achieving this increased awareness is itself a complex task and requires a clear focus.

Research Question

Before drilling into detailed definitions, it is useful to foreshadow the study's overarching research question:

How does holistic learning contribute to professional military development?

To answer this question, the study investigates the following three enabling questions:

What are the dimensions (sources and influences) of holistic learning?

Which dimensions enhance holistic understanding of the profession?

Which dimensions enhance cognitive agility?

Holistic

I shall proceed from the simple to the complex. But in war more than in any other subject we must begin by looking at the nature of the whole; for here more than elsewhere the part and the whole must always be thought of together.

—Carl von Clausewitz (cited in Schmitt, 1998, p. 13)

Derived from Aristotle's *holos*, the term holistic describes how the complexity of an entire system determines the way its parts behave. Importantly, the notion reinforces the inability to reduce a holistic system into isolated parts without losing the collective essence. Aristotle famously defined this as the whole being greater than the sum of the parts (Aristotle, 350 B.C.E -a, 1045a10).

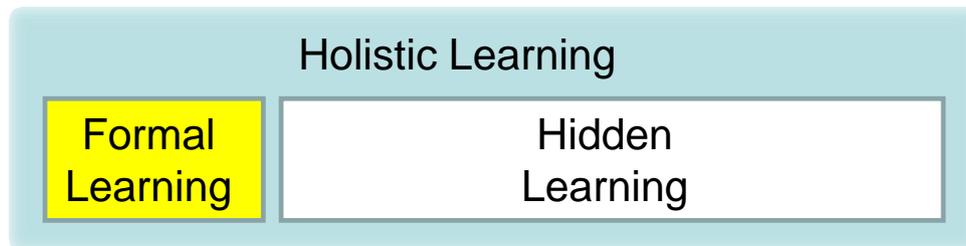


Figure 1 Holistic Learning

For the purposes of this study, *holistic* describes a number of dimensions. As will be argued, both warfare and the broader notion of global security, are complex systems. Therefore, mastering the profession of arms requires a holistic understanding (Chilcoat, 1995, p. 10)—not just the siloed study of isolated topics (Ottewill, McKenzie, & Leah, 2005). In turn, *understanding* is also complex (Phelps, 2005) and therefore requires a holistic approach to its development (Baxter Magolda, 2000)—the synergistic weaving of experience, knowledge, and intuition. Extrapolating this further, *learning* is also a complex system (Koch & Laurent, 1999; Osberg, 2005). Consequently, this study explores the way apprentices of strategic art holistically acquire their understanding from multiple, and interconnected (J. Miller, 1999) sources. The two main ones being formal and hidden learning (Figure 1); although the latter is further divided into non-formal, informal, self-directed, and incidental learning (see p. 54). Holistic therefore, defines both *what* and *how* staff course students learn.

Acknowledgement must however, be given to the popular and lay use of *holistic*. While holistic medicine and holistic education both honour Aristotle's original meaning, they are often considered fringe alternatives to mainstream thinking (R. Martin, 2002). In contrast, this study contends current professional military development systems are in fact already holistic—albeit the hidden learning dimension is often sub-conscious. Unfortunately, the absence of conscious consideration often results in hidden learning opportunities remaining *ad hoc*. This lack of structured awareness, in turn, compromises cumulative development.

This study however, does not advocate formalising every detail of hidden learning. Instead, through a holistic examination of the sources and influences it seeks not only acknowledgement of the most significant dimensions but informed debate about their constructive development. After all, growing strategic artists is complex enough without unnecessarily ignoring such a critical dimension.

Investigating the holistic acquisition of a holistic understanding of a holistic profession also requires a holistic research design. Due to the complex nature of tacit knowledge and hidden learning, a traditional reductionist paradigm would be inadequate in understanding the interconnected relationships (Poplin, 1988). This study, therefore, employs a holistic and emergent design to explore the phenomenon of holistic professional military development.

Professional Military Development

Internationally, the military term for internally provided professional development is professional military education (PME). However, the New Zealand Defence Force (NZDF) expands this concept in what it calls professional military development (PMD). This holistic approach incorporates practical military experience, mentoring and coaching systems, training (both formal and on-the-job), and education (D. Russell & Simons, 2007). While this study appears to focus solely on the bounded case-study of students attending a residential education course, a critical dimension to holistic PMD is the contribution of previous experience—including training, coaching, etc. This study therefore embraces this wider definition by acknowledging the contribution of experience in the learning process (K McKinney, Medvedeva, Vacca, & Malak, 2004).

Importantly, the distinction between education and development (or learning) is between what is externally imposed and what is actually acquired (Hales, 2005; Leicester & Twelvetrees, 2005).

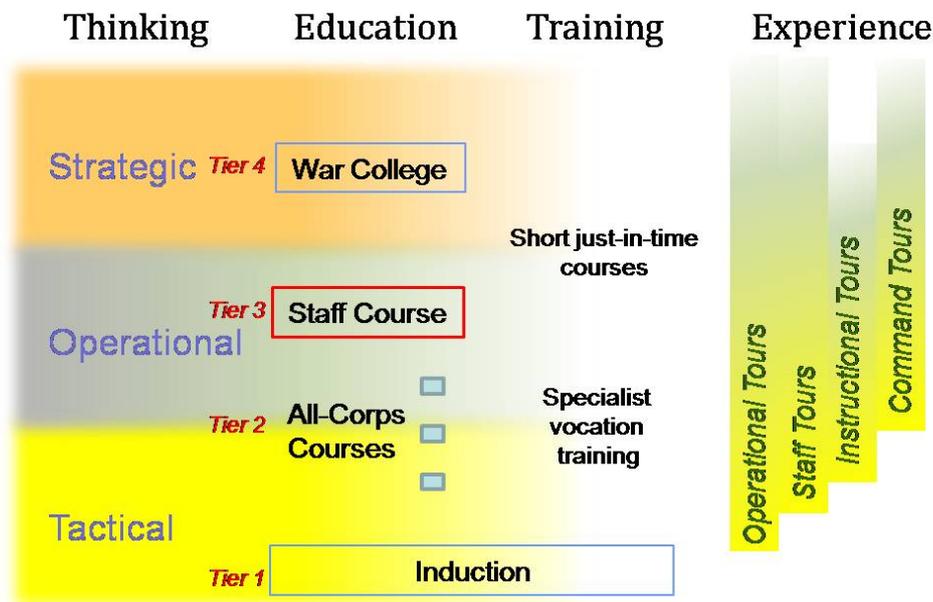


Figure 2 The Professional Military Development Continuum

Formal professional military education provides structure to whole-of-career PMD (Figure 2). Practically without exception, militaries induct their officers with the first of many formal professional courses (Service-wide) followed by their vocation training (corps or branch specific). After a period of time consolidating this tactical level knowledge with workplace experience, officers typically return for their Tier 2 PME courses. As these apprentices in the profession of arms mature to journeymen they gain experience and knowledge at the operational level. After 15–20 years of blending practical experience with junior level PME courses, high-potential officers are selected for staff course (Tier 3). For most large militaries, this is when the theoretical underpinnings of military operations (operational art) are honed. Through an ongoing meritocratic selection system, a small number of these graduates will eventually attend a war college to learn strategy (Tier 4). As will be argued later however, the skills required at the strategic level take time to mature and cannot be achieved through just-in-time training. For the same reason war colleges should be the *finishing*

schools for master strategic artists (Chilcoat, 1995), staff colleges should germinate the seeds.

Internationally, staff courses represent a significant milestone on the continuum of professional military education. It is typically an eleven-month residential programme preparing high-potential, mid-career officers for higher appointments. Course candidates generally have extensive experience at both the tactical and operational levels. During their junior officer phase, they master an area of military specialisation and become comfortable solving complicated problems using established linear-thinking models. This thesis argues however, staff courses should begin preparing them, as apprentice strategic artists, to excel in the complexity of higher command¹ where problem-solving rubrics seldom exist. These officers must develop the courage to go beyond their indoctrinated linear planning tools by confidently testing new and innovative approaches. The confidence to transition from operational level planners to strategic level artists requires both a holistic learning approach and a holistic understanding of the profession of arms. It also requires the skill and confidence to embrace complexity.

Complex Adaptive Systems

Complexity and complicated are not opposite concepts. Complicated literally means ‘to fold’ and is defined by scale in that it can have multiple components. The perception of complication is in the eye of the beholder and the depth of analysis. Complicated problems can be reduced to simple ones through logical and linear reduction. In contrast, complex, which means ‘to weave’, is on a different dimension to independence (Figure 3). A key tenet of complexity therefore, is its holistic interdependency and the inability to reduce it—when sections are viewed in isolation the overall pattern disappears (A. Ryan & Grisogono, 2008).

¹ *Command* in this context, captures not only the legal authority and obligations, but also the roles of leadership and management.

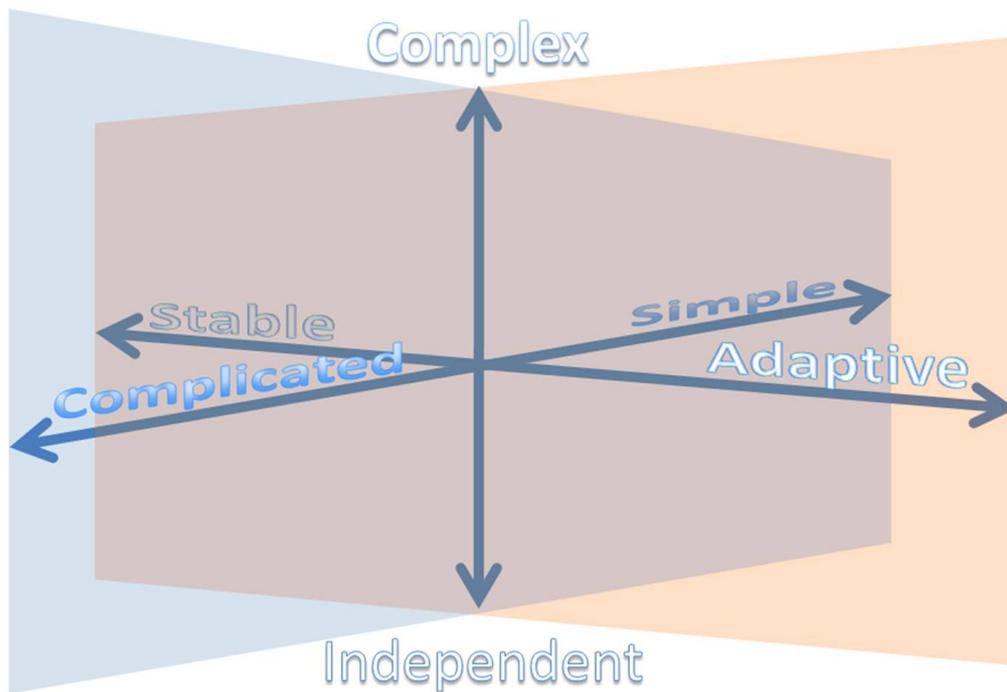


Figure 3 Complex, Adaptive, and Complicated Dimensions

Complex Adaptive Systems Theory

Complex adaptive systems (CAS) theory extends the concepts of both complexity and systems thinking.² Systems comprise multiple elements within an environment sharing relationships. The relationships are influenced by internal feedback loops, and—in the case of open systems—external inputs (Figure 4). Where the responses are logical and predictable, the system can be considered complicated. When the combined and cumulative effect of multiple interdependent relationships becomes unpredictable, the system is described as complex. This situation emerges when the system adapts or evolves as a result of the dynamic relationships.

Complex adaptive systems are defined as ‘systems in which mutually interdependent component elements constantly enter dynamic relationships with one another, in

² Systems thinking, as coined by von Bertalanffy (1968), refers how complex systems need to be considered as a whole. This approach contrasts with Descartes’ (1637) concept of reductionism.

which there are no clear cause-effect links to be established and which can be analysed in terms of systems functioning within systems' (Jodlowiec, 2005, p. 11).

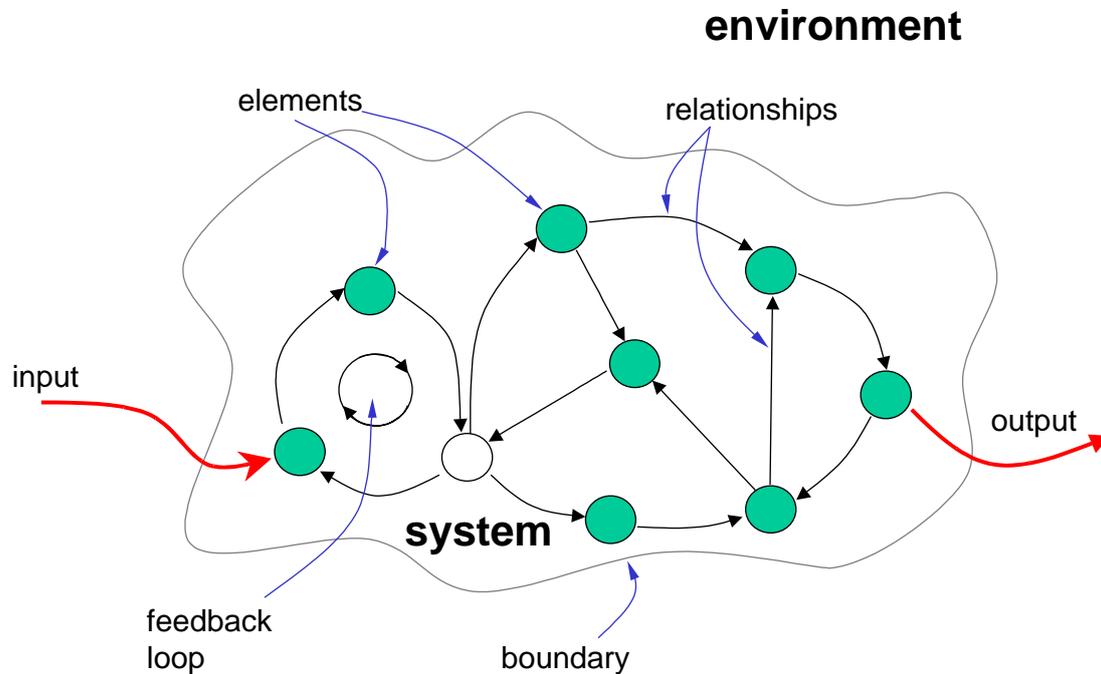


Figure 4 Systems Diagram (from Flood & Jackson, 1991a)

Complex adaptive systems are spontaneous and self-organising (Table 1). No single entity is in charge, rather they emerge through mutual accommodation and self-consistency (A. Ryan & Grisogono, 2008, p. 2). This point is just as relevant to holistic education as it is to the battlefield (B. Davis, Sumara, & Luce-Kapler, 2008). Except in the strictest of classrooms, learning takes on a life of its own—'a living spirit' described by Aristotle as *entelechy* (Checkland, 1999, p. 47). Through interaction and imagination, the process of actual learning at an individual level becomes spontaneous and self-organising. The secret to success therefore is to resist imposing rigid control but to remain adaptable and accommodating.

The military concept of complex adaptive systems is not new. Sun Tzu's *The Art of War* (476–221 BC) describes the challenges of outsmarting an adaptive enemy, while more recent military theorists have described concepts like 'the fog of war' (Von Clausewitz, 1832) and the 'military *coup d'œil*' (Frederick the Great of Prussia, 1797) as a skill required to combat such challenges. The nature of adaptive enemies has given rise to contemporary labels such as 'fourth generation warfare' (Lind, Nightengale, Schmitt, Sutton, & Wilson, 2001) and 'wicked problems' (Blackham, 2007).

The concept of *wicked problems* was coined by architects Rittel and Webber (1973) to describe situations where conditions change as soon as a solution is applied. These problems have no right answer, they constantly evolve, and no rubric can be heuristically developed or applied (Horn & Weber, 2008; Pacanowsky, 1995). Wicked problems are an extreme example of complex adaptive systems but are nonetheless quite common in both military and civilian settings (Blackham, 2007).

Symptoms of Complexity

- interdependence ie reduction by decomposition can not work
- open system, context is important
- simple cause and effect models fail
- impossible to optimise
- the 'rules' keep changing
- unintended consequences
- coherent behaviour is seen but uncertainty exists about outcomes of actions
- traditional command, management & systems engineering approaches break down

Symptoms of Adaption

- intelligent context-appropriate behaviour – discover and exploit opportunities, deal with threats
- resilient to shocks, damage – quick recovery
- robust to perturbations – core functionality unaffected
- flexible responses – a range of different strategies for any given end
- agile – rapid change of tack to more effective behaviours
- innovative – creation of new strategies and new structures
- system learns from experience – information about past context is encoded into the system and is used in future to be more effective
- structures and patterns emerge without external control

Table 1 Characteristics of Complexity and Adaption

(adapted from A. Ryan & Grisogono, 2008)

Global Security as a Complex Adaptive System

Colloquially referred to as VUCA (Volatile, Uncertain, Complex, and Ambiguous), contemporary security environments are complex adaptive systems. While this has been true since the earliest times, current technology exponentially reduces decision-

making cycles (English, Gosselin, Coombs, & Hickey, 2005) which in turn, increases both the rate of change and the impact. Fortunately, the phenomenon has also drawn increased academic attention, greater understanding, and opportunities to help artists respond. After all, today's military leaders need to not only comprehend 'the new sciences' of chaos, complexity and complex adaptive systems—they need to thrive in them (Alberts & Czerwinski, 1997).

According to practically every definition of complexity theory, warfare is considered a complex phenomenon (Schmitt, 1997; 1998). Contemporary military leaders, at all levels, must be agile enough to respond to the wicked problems produced by complexity (Adams, 2000; Davidson, 2006; E. A. Smith, 2006). They need to not only understand how complex adaptive systems work, but how to operate within them. In particular, staff course graduates must transition from operational level planners into strategic designers.

Designing requires more than just specialist knowledge and experience, it needs a systems awareness (Schmitt, 2007) of the profession and high level cognitive, social, and change capacities (R. W. Walker, 2006). Most staff course students are capable designers and are familiar with related concepts such as mission command and manoeuvre warfare, but cultural barriers remain (Bell, 2006). While traditional linear education models might help teach the *theory* of complex problem solving strategies, competence requires a deep and holistic understanding based on both theory and experience. This need however, is often hindered by the legacy culture of complicated (rather than complex) thinking. Developing designers is itself, a complex sociological problem.

Several staff colleges are now teaching the theory of complex adaptive systems. At the time of writing, both the Australian and Canadian staff colleges were offering elective modules to selected students, while in the United States the School of Advanced Military Studies has been exploring the subject for some time. Although these, and other colleges, are slowly becoming interested in this new form of thinking, its importance deserves greater attention (Aaron, 2006; King, 2006).

Developing strategic artistry means learning to cope with complex adaptive systems using any of the emerging approaches. One of the leading methods being taught is Systemic Operational Design (SOD) developed by Shimon Nahev (Davison, 2006). Others include Recognition Primed Decision Making (RPDM) (Checkland, 1999; Schmitt, 2007), Swam Systems (Adams, 2000), Total Systems Intervention (Flood & Jackson, 1991b), and the Cynefyn Framework (Kurtz & Snowden, 2003).

Education as a Complex Adaptive System

Complex adaptive systems are not unique to military environments. The 2008–09 global economic recession highlights how something thought to be manageable can turn into a wicked problem. In fact almost anything involving human agents is invariably complex and perhaps none more so than education (B. Davis, et al., 2008). The classroom is a classic open system with agents (students and the teacher) interacting in a dynamic way. Something that promotes learning for one person may be destructive for others and may not even work for the same person in a different context. Unpredictability permeates every interaction in learning (Jodlowiec, 2005)—especially those outside the formal setting. Thus, those responsible for guiding learning need to not only understand, but exploit the strengths of complex adaptive systems if they are to maximise the experience for learners (Osberg, 2005). For those involved in military education, then this exploitation must also accommodate the additional dimensions of military concepts.

Strategic Art

The concept of growing strategic artists requires an understanding of strategic art. This section contextualizes the military interpretation of strategic before considering strategic art, and then finally the growing of strategic artists.

Levels of Military Activity

Military activity³ divides into three vertically overlapping levels (Figure 5). Tactical is the lowest level and typically refers to small units (aircraft, ships, or small groups of soldiers) and is primarily associated with the procedure and actions on operations. Tactical units typically follow set procedures in a predictable and proven manner. In simplified terms, when two or more tactical units are coordinated to achieve a common aim, the organisational level is called operational. Due to the increased complexity and unpredictability of multiple units working together, operational level planners weave both standard operating procedures (science) with bespoke innovative approaches (operational art).

While [operational art] decisionmaking is often theoretically viewed as an *analytical process* of comparing options against some set of criteria, it can also be viewed as *intuitive*, whereby an experienced decisionmaker recognizes the key elements of a particular problem and arrives at the proper decision (Berry, 2006, p. 10).

The *levels of military activity* concept is typically credited to General Carl von Clausewitz (English, et al., 2005) but continues to evolve today. Recent developments in the way wars are fought (Lind, et al., 2001) and the impact of technology (English, 2005) have led to enclosed concentric circle (M. V. Simons, 2005) and non-linear variations (Schamburg, 1995), among others (Peskett, 2005).

The strategic level of military activity extends the tactical and operational systems by combining large-scale or multiple operations into a single cohesive plan. As in the civilian sector, *strategic* also describes three distinct organisational aspects. These include: the top level of an organisation; temporal in both time and space; and risk in terms of direct contribution to the entire organisation's success (Industrial College of the Armed Forces, 1997).

³ *Activity* describes all aspects the military during peace or war. Early writings refer to 'levels of war' (Peskett, 2005), however contemporary commentators often replace *war* with *the conflict spectrum* to emphasize the rise of military operations other than war (MOOTW) such as peacekeeping, aid to civil powers, etc. This however, neglects the international engagement dimension of forces-in-being through exercises, exchanges, training, mutual assistance programmes, etc.

The concept of the strategic level can be further dissected into sub-strata. At the highest end of national military strategy is theatre strategy (H. Coombs, 2005) and campaign planning (Chilcoat, 1995) with *coalition, alliance, or multinational strategies* bridging national policies to supra-national military strategies (Vance, 2005). Other strata at the grand strategic level include national security strategy and foreign policy (New Zealand Defence Force, 2004). Untangling these complex relationships is an essential step for those who work at the strategic level.

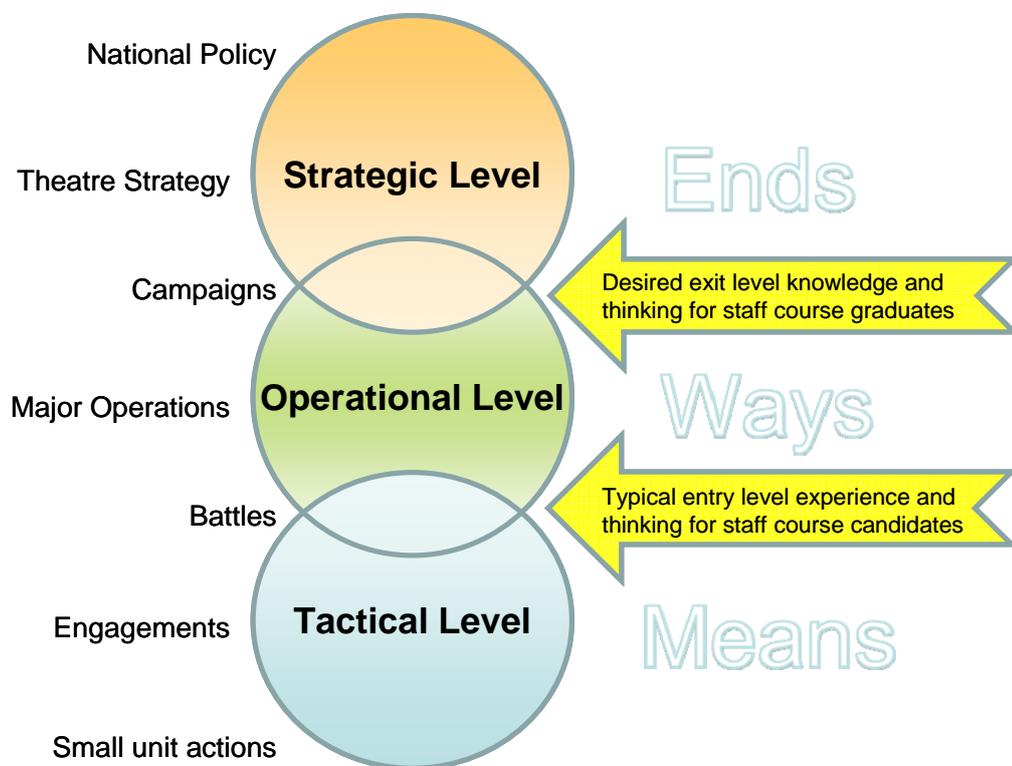


Figure 5 Levels of Military Thinking

Smaller militaries, such as New Zealand, require officers to work at the strategic level sooner than most (M. V. Simons, 2005). Combined with the absence of domestic war college courses at the strategic level, these militaries must exploit the opportunity to expose mid-career officers to strategic level thinking sooner; in other words, small military staff course's must begin growing strategic artists at the mid-ranking level.

However, the need to begin exploring strategic art earlier is not unique to just small militaries. Because intuitive decision-making is often discouraged in junior officers (Reed, Bullis, Collins, & Paparone, 2004; M. V. Simons, Laurens, & Parsons, 2009), and appears to take time to rekindle (M. V. Simons, 2009), the process of encouraging cognitive agility must begin sooner rather than later. Even the largest militaries must apply talent management (Berger, 2003; Frank & Taylor, 2004) principles to selected high potentials at the staff course level.

Strategic Artist

The term *strategic artist*, or even *strategic art*, seldom appears in mainstream military literature, despite being the subject of basic and advanced programs at the US War College (W. Murray, 2000; US Army War College, 2009). The concept is derived from, and builds on, the better-known notion of *operational art* (Chilcoat, 1995). However, even this ubiquitous phrase has evolved over time and receives diverse interpretations across the literature (English, 2005). Common themes in western thinking convey intangible notions of ‘translating strategic direction into operational and tactical action...[through] design, planning and conduct of campaigns and major conflicts’ (Canadian Forces, 2000, p. 3–1) as well as broad vision and the ability to anticipate (US Joint Publication 3-0, 2001, p. 11–3). These three elements of knowledge, experience, and intuition equate to the popular concept of wisdom.

A military decision is not merely a mathematical computation. *Decisionmaking requires both the situational awareness to recognize the essence of a given problem and the creative ability to devise a practical solution.* These abilities are the products of experience, education, and intelligence (Berry, 2006, p. 11).

Wisdom is another concept that defies universal definition. A synthesis of 39 authoritative dictionaries describe it as ‘the trait of utilizing knowledge and experience with common sense and insight’ (onelook.com, 2009). This study employs the pre-modifier *professional*, to emphasize the difference between life wisdom and wisdom within a selected field—in this case the profession of arms.

Professional Wisdom

Professional wisdom is a defining attribute of strategic artists who *design* solutions to complex problems (Figure 6). Its interpretation however, requires a holistic understanding of the various interdependent relationships between experience, knowledge, intuition, and common sense. As will be explored in greater depth in later chapters, its acquisition is also complex. The italicized sub text shown in Figure 6 are derived from other studies (Ahola, 2000; Bergenhenegouwen, 1987; Margolis & Romero, 1998; Wagner, 1977) and refer to how these components are developed (see p. 34). The remaining areas are either selected or developed indirectly.



Figure 6 The Professional Wisdom Taxonomy

Common sense is pre-selected on recruitment and progressively vetted through the military's meritocratic promotion system. Cognitive agility, while an important trait sought during enlistment, is often suppressed in the junior years where priority is given to conformity, predictability under stress, and emulating recognised masters of the profession.

Experience is provided to junior officers in their *apprenticeship* years, but typically only at the tactical-operational levels and largely focused on their specialised field. Knowledge is similarly limited to the lower levels of military activity and dominated by expectations of vocational mastery. Through *ad hoc* holistic learning during the early

years, and some opportunities to broaden their experience base (out of branch/corps postings), most develop into emerging operational artists.

To evolve into strategic artists however, this thesis contends mid-career officers need to rekindle their cognitive agility. This will not only improve their intuition, but also enhance their integration of experience and knowledge to produce a comprehensive understanding of the entire profession. This means rounding out knowledge of other corps, branches and Services, as well as greater understanding of strategic and grand strategic issues.

This thesis contends most staff course's curricula focus learning on subject expertise (to round out gaps and raise the focus to strategic level) but neglect the important next step of encouraging a comprehensive understanding of the profession. While various aspects of these courses do in fact help promote this holistic understanding, most influences come under the banner of *the hidden curriculum*. Because this area is largely unstudied in military education, its dimensions appear *ad hoc* and poorly understood. This study postulates greater understanding of holistic learning will help staff colleges not only improve student understanding of the profession but also reignite their cognitive agility.

Wisdom, however, is more than just the four key attributes described earlier (Figure 6). Sternberg (2003) for example argues wisdom only exists when it is used for the good of society. While others emphasize the importance of comprehending the holistic inter-relationship of actions with results. Aristotle, for example, distinguishes between theoretical and practical *Sophia* (wisdom) to emphasize not just knowing the right means, but also ends (Wisdom, 2009a). Contemporary military thinking extends this to ends, ways, and means (Figure 5).

Major General Chilcoat defines strategic art as 'The skillful formulation, coordination, and application of ends (objectives), ways (courses of action), and means (supporting resources) to promote and defend the national interests' (1995, p. 4). He goes on to define masters of strategic art as being 'those alone who can competently integrate and combine the three roles performed by the complete strategist: the strategic leader, strategic practitioner, [and] strategic theorist' (Chilcoat, 1995, pp. 7-8).

Chilcoat's (1995) three roles of a master strategic artist—leader, practitioner, and theorist—reinforce the complex and overlapping set of skills promoted on staff courses. Drawing on the work of Davis (1995), *strategic leaders* provide vision (intuition), inspiration (including peer leadership), and coordination of the military's end-ways-means. This coordination task in turn, flows into the *strategic practitioner's* role of developing and executing strategic plans. All of which requires a deep and holistic understanding of all levels of war and the 'orchestration of all the instruments of national power'(Chilcoat, 1995, p. 4). Both roles are complemented by the skills of the strategic theorist who, with the benefit of advanced education, develops strategic concepts and theories. Collectively, the skills of a master strategic artist emerge from the four key tenets of wisdom—common sense, experience, knowledge, and intuition.

Acknowledging historical and cultural variations, this study accepts the popular definition for wisdom as a synonym for strategic art. Taking common-sense as a given, potential strategic artists require a solid experience base upon which they overlay the academic knowledge gained on formal courses. The remaining strand of military wisdom, is the notion of intuition, sagacity, discernment, or insight (Wisdom, 2009b). This study synthesizes these four notions into *cognitive agility*.

Strategic art requires both high levels of cognitive agility and a comprehensive understanding of the profession (Simons, 2009). Artists at this level can no longer survive with detailed expertise in a specialised field, they must not only become generalists with expertise in all facets of military operations, but they need to appreciate the holistic integration of the entire profession—including its contribution to government strategies (H. Coombs, 2005). This understanding allows them to stand back and see patterns that would otherwise be invisible at the operational and tactical level (A. Ryan & Grisogono, 2008). Importantly, these patterns must be recognised in real-time as they emerge. Furthermore, they need to interpret the dynamic inter-relationships of this complex adaptive phenomenon.

Growing Strategic Artists

Senior military officers must be sufficiently skilled in military science before they can become artists (Chilcoat, 1995). After commissioning, junior officers serve an

apprenticeship to learn the profession of arms. This education begins at the tactical level but progressively escalates to the operational level. Schooled in the importance of predictable success, most default to science when stretched by new challenges (Ong & Lim, 2005). With experience and confidence though, most become comfortable applying a degree of art. This mastery however, remains largely within the tactical–operational continuum.

As officers reach the 15–20 year mark of their career, they are generally regarded as masters of their warfighting specialisation. The transition to the entirely theoretical strategic level is seldom smooth. Not only are they denied the archetypal ‘hands-on’, sharp-end of military operations but, they are relegated back to junior apprentice status on a new continuum. Their reluctance to leave the comfort-zone of tactical–operational thinking reflects a similar reluctance to apply strategic art (Chilcoat, 1995, p. 19).

Growing strategic artists is not easy. Students quickly *learn the game* and achieve high standards, but then their knowledge fades until the next course when they must flourish again. Such pavlovian-response surface learning (*cf* p. 44), however, is not their fault. They are simply products of instructivist (Ramsden, 1992) paradigms where rote learnt text-book answers are rewarded over deep understanding and long term recall. This educational construct reflects the workplace culture where innovation and creativity are often actively discouraged in junior leaders (Okros, 2008). As identified at the US Industrial College of the Armed Forces ‘they may improvise but rarely can they innovate because at their level of leadership, consistency of action is important (1997, p. 15). Such behaviour is even apparent at the war college level.

We have noticed among War College students ... a predominant personality type that has a penchant for details, specifics, early closure, and structure. In our profession there is a clear preference for objective, concrete, and pragmatic solutions (Reed, et al., 2004, p. 125).

Arguably, this is a peacetime phenomenon because of the bureaucratic restrictions placed on military leaders. In combat settings, or even on peacekeeping operations, innovation seems to be not only tolerated, but encouraged. The question now

however, is whether staff courses should be preparing graduates for bureaucratic peacetime duties or nurturing their cognitive agility (and moral courage to use it) for both peace and war.

The conforming mindset reflects the traditional, and necessary, linear approach to problem solving at the tactical level (viz. known responses to predictable situations). This systematic approach based on the science of flow charts and management algorithms is the basis of planning and is the foundation of all military operations. Junior personnel are trained to employ standardised planning tools in producing sound solutions to predictable scenarios (Ong & Lim, 2005). Among other challenges ‘...our doctrine, professional military education, training, and exercise design are over-focused on the linear application of planning processes’ (King, 2006, p. 2).

Learning is definitely complex and often wicked. Growing strategic leaders requires an adaptive and tailorable system to build on the unique backgrounds and abilities of these important people (M. V. Simons, 2005). At the most senior levels of PMD, unique programmes are increasingly personalised for selected officers (Chilcoat, 1995, p. 17). At the mid ranking level though, a largely complex solution should suffice. Treating PMD as a complex problem though, is a challenge.

The problem with mid-career PMD is that it must integrate with the linear training system used for tactical level leadership development. But, for the same reason students prefer superficial learning, staff colleges are also comfortable with delivering linear, expertise-focused, systems (Hoofnagle, 1982). Although this suits *ab initio* and junior level requirements (B. L. Walker, 2008), students identified for senior leadership positions require higher-level cognitive capacities—skills that cannot be taught through the ‘planned enculturation’ of ‘linear and deterministic logic’ (Osberg, 2005, p. 82). Ironically, those most successful in the regurgitative system at the tactical level are typically the ones selected for higher leadership roles—where a stronger and deeper understanding of concepts is required (Chilcoat, 1995, p. 18).

Senior military officers, as strategic artists and advisors to their governments, must be able to think beyond set-play battlefield tactics. Importantly, they need to be able to apply conceptual thinking to emerging challenges beyond their existing knowledge. As

Ruby (2009, p. 90), argues, 'By relying primarily on experience without putting that experience into an analytical or testable framework... [they] cannot conceptualize future threats...' He goes on to criticize military anti-intellectualism as a threat to good decision making. In doing so, he is arguing that unless military colleges facilitate cognitive skills development, they are only preparing graduates to fight historic battles. Professional military education (PME) 'needs to systematically provide officers opportunities to increase their mental agility and capacity to reason logically...' (Ruby, 2009, p. 87).

Designing educational courses to develop cognitive skills is a challenge for militaries trapped in content-centric training paradigms. Traditional training design methods typically focus on occupational analyses, followed by a reductionist approach to deriving behavioural objectives (TRADOC, 2004). This industrial-era philosophy works well for training predictable responses to known situations, but is counterproductive to a staff college's role of growing strategic leaders of a profession in an uncertain future.

Educational experts from the systems analyst school seek to impose research-based techniques on teachers in the place of the knowledge of teaching derived from experience, apprenticeship, and study of educational purpose. Such context-stripped research-based knowledge cannot substitute for professional knowledge (Kincheloe, 2003, p. 77).

While specific syllabus objectives provide a tangible framework to programme presentations, deeper themes need to be woven through the curriculum to promote longer lasting skill sets. Identifying these more abstract skills remains problematic.

Complex task domains such as those common in the military command and control environments necessitate the learning of deep task structure, task strategies, and adaptive performance skills (S. Kozlowski & DeShon, 2005, p. 3).

In practical terms, strategic designers require professional wisdom. However, from an institute's perspective, teaching wisdom is a challenge. Before considering how to develop it, organizations must first understand not only its broader definition but also the various dimensions.

This study postulates the three main components of strategic artistry—or military professional wisdom—are experience, knowledge, and intuition. Practical military experience is largely a pre- staff course component, addressed through course selection systems. Higher knowledge is taught through the course’s formal syllabus material; although it is argued this is often siloed content-centric material lacking holistic awareness of the profession and acquired through exchange-value motivated surface learning (Bradshaw, 1985). The final attribute of intuition, it is also argued, is developed through *ad hoc* non-formal and serendipitous informal learning (Ong & Lim, 2005). There appears to be very little deliberate attempt to nurture cognitive agility.

Increasing Cognitive Agility

...what we really need are leaders who are adept at learning almost anything very quickly, or skilled at recognizing patterns and converting abstract knowledge to action appropriate for a given situation (Reed, et al., 2004, p. 55).

Mid-career PME needs to promote cognitive agility. This means encouraging students to move beyond group-think solutions by having the confidence to push paradigm boundaries. After nearly two decades of following orders, these officers must now do the unthinkable—question conventional wisdom (Okros, 2008). While such heretical notions would be dangerous at lower rank levels (B. L. Walker, 2008), these people are going to be the future leaders and need to be open-minded thinkers (Ruby, 2009).

The concept of pushing boundaries is well documented in the literature. Zohar and Marshall for example, coined the term spiritual intelligence (SQ) to describe the inner desire to explore and test boundaries (Zohar & Marshall, 2000). They argue SQ is the innate passion to seek creative solutions to problems not even thought of. In short, this attribute represents the very spark required in modern military officers to confront the complexity of contemporary threats. After all, such environments seldom play by predictable rules (Schmitt, 1998).

Zohar and Marshall (2000, 2004) argue traditional intelligence is about recognising and playing *within* the rules, whereas SQ is about playing *with* the rules. They go on to claim those with high SQ explore new and uncharted territory and seek to understand

first principles. In the tradition of Socrates, these people will test and challenge conventional wisdom in search for the truth (Castle, 1964). The concept also parallels modern day concepts seen in the highest levels of Maslow's hierarchy of needs—self actualization and transcendence (A. Maslow, 1971; A. H. Maslow, 1969). Staff colleges need to reignite this suppressed passion by actively encouraging and rewarding such behaviour. However, this is more than just a psychological problem.

Improving cognitive agility is a sociological challenge (Okros, 2008). It requires an organisational cultural shift in tolerance toward freethinking; even if only within the temporal confines of a military college. To really question conventional wisdom and think for themselves, staff course students need to feel safe—they need to know that speaking their mind will not negatively impact on their career (Edmondson, 2008). To create this safe-environment, the entire college culture needs to actively celebrate innovation and tolerate heresy. This search for truth is as old as Socrates' elenchus dialogues where students construct understanding by combining previous knowledge (practical experience and previous courses) with newly acquired information. Contemporary literature describes this as constructivist learning (Gunstone & Mitchell, 1998).

The New Zealand Command and Staff Course

Because this investigation employed a bounded case-study method, it is important to contextualize the selection. As an *in vivo* exploration of a complex phenomenon, the New Zealand Staff Course provided a manageable environment. Because the course is fundamentally shaped by the College's culture, it is more accurate to consider this study as an exploration of holistic learning during a staff course *at the New Zealand Command and Staff College*. For brevity however, 'the course' is used to describe the complex phenomenon of holistic learning within the entire system.

Although its size⁴ is acknowledged as a study limitation (p. 229), the course still shares a number of similarities with sister institutes. While no global comparisons exist, the general demographics and curricula topics of western staff courses appear similar (Caforio, 2004; Hurst, 2000; W. Simons, 2000; Van Creveld, 1990). This penultimate section therefore, builds on the earlier discussion of professional military development (p. 4) with emphasis on the *sui generis* aspects of the New Zealand course. It outlines the setting, events, and processes—including distinguishing features relevant to holistic learning.

An important dimension to holistic learning is the after-hours interaction of students. Like most western colleges, the New Zealand Defence College provides onsite student accommodation—two notable exceptions are Australia and Singapore. While the students are free to live at home, all are given two rooms on the campus—one as a bedroom and the other as a study. These facilities are essential for those who commute on weekends, but even local students make extensive use of the facilities after-hours. This aspect is fundamental to the holistic learning and actively encouraged by the staff from the opening week.

The holistic learning facilities of the NZDF College include one main lecture theatre, several tutorial breakout rooms and shared (staff and students) social area known as the atrium. The campus also includes a dedicated library, staff offices, administration, formal entrance, and ancillary support facilities such as photocopying and printing rooms. In addition to the formal learning, accommodation, and communal social facilities on the College campus, there is the wider military setting of Trentham Military Camp and the community of Upper Hutt, north of Wellington. As reported in later chapters, local restaurants and sports parks proved to be useful venues for holistic learning.

Staff courses are intensive military-specific programmes of professional study at the postgraduate university level. While most are a full year, the New Zealand course is

⁴ The New Zealand College is very small; with around 30 students and 15 staff. By comparison, the College's sister institutes are much larger. Student numbers alone are between four and thirty times larger: Singapore (130), Australia (180), Canada (300), UK (350) while US colleges have up to 1200 residential students per course.

just 7-months and is divided into two semesters each containing two modules (Appendix 5 Course Timeline, p. 247). The first half of the course focuses on international relations (IR) and strategic studies (Strat) while the second half involves military operational planning (Ops) and command, leadership, and management (CLM). In addition to a number of military lessons and deliverables⁵, each of the four modules has an associated and embedded masterate level university course (known in New Zealand as a paper) delivered by a nearby university's Centre for Defence Studies.⁶ To allow individual flexibility, students are permitted to substitute one or more papers with alternate study including a research paper. This alternate stream option is generally only available to students who have either already completed the papers being offered or who would benefit more by alternate study. Even when students are not required to enrol in prescribed papers, they still attend all lectures. While there is limited flexibility in how the students structure their staff course experience, the overall course aim remains the same. This aim, as described in the NZDF's course management plan, is:

... to provide an advanced level professional military education to selected officers and civilian counterparts in preparation for high-grade command and staff appointments. (Course Management Plan, CSC, 2006)

During the course, the students engage in a number of holistic learning activities. The most overt being formal learning which is primarily conducted in the main lecture theatre. As explored further in Chapter 5, programmed formal learning averages forty per cent of the 8-hour working day. Other learning sources however, are more *ad hoc*. While most staff courses employ a traditional model of pre-readings, lecture, mass plenary, and then smaller syndicate (tutorial) discussions for each main learning point, the New Zealand College does not. This idealised approach may well underpin their original theoretical construct, anecdotal evidence leads to an *a priori* assumption that

⁵ *Deliverables* describes all submitted student work – written or verbal, formatively or summatively assessed.

⁶ The university papers are specifically chosen to complement the associated staff course module and are considered an integrated component of the syllabus. Although students can pass the staff course without passing the university papers, there is a requirement to undertake them and an expectation of passing. It is very rare for a student to fail either.

syndicate discussion time has been progressively pilfered for other content-centric formal learning. Despite this apparent degradation of learning opportunities, the College has introduced a number of new initiatives to promote holistic learning.

Holistic Learning Initiatives

Since 2005, several new initiatives have deliberately targeted strategic artistry by promoting cognitive agility and learning of the profession. Until now however, these initiatives have only been evaluated in isolation and at a superficial level (M. V. Simons, 2008a). Because of their holistic impact on tacit learning,⁷ they demand an in-depth and comprehensive study. The following holistic learning initiatives represent *a priori* areas expected to contribute significantly to growing strategic artists and are therefore afforded greater initial scrutiny in the study.

In an attempt to improve the emphasis on 'learning the profession', the NZ Staff College developed several new deliverables. These include new non-university, and non-assessed, activities such as personal command philosophies, peer reviewing, and personal critical reflective journals. In addition, the College negotiated with its affiliated university to substitute standard written deliverables with more holistically beneficial ones. These included replacing a 3000-word International Relations essay with a critical reflective journal, a 3-hour closed book exam with an online 10-hour one, and a 3000-word Joint Campaigning essay with a two-week operational planning exercise.

Visits

The off-site visits range from day-trips into military headquarters and government agencies through to three major tours. These include a one-week visit to military establishments in New Zealand, a two-week combined planning exercise in Australia, and a two-week overseas study tour (OST) in the Asia Pacific region.

⁷ Tacit learning describes the acquisition of tacit knowledge, or the cognitive unconscious. For more see Eraut (2000a).

During this investigation's 2008 case-study observation, the OST visited Japan and South Korea. The first week included three days in Tokyo and two days in Okinawa. The second half of the trip included four days in Seoul, two days in Gyeongju, and two days in Bussan. While the OST achieves several higher-level purposes (defence diplomacy, international engagement etc), for the staff course students, it also represents the culminating learning activity of the first semester. In particular, it ties together both the international relations and strategic studies module. The program is designed to include a mix of formal (briefings), non-formal (cocktail parties, official visits, and cultural tours), and informal learning opportunities.

Journals

The Overseas Study Tour represents the culminating activity for both the international relations (IR) and strategic studies module. Prior to 2006 however, the OST came before these two modules and was largely a wasted opportunity. Restructuring the module sequence coincided with the introduction of critical reflective journals for the seven-month course. Because assessment of journals is known to create surface learning (Boud, 2001, p. 16), the course journals were treated as private. However, because they competed with assessed deliverables they were seldom maintained beyond the first few weeks, if at all. To improve the uptake of journal writing, a separate assessed journal was introduced for the OST. Although this had the added benefit of increasing learning on the trip, it met with some resistance.

Journal writing embraces a number of andragogical (adult learning) principles (Knowles, 1980, 1986) and facilitates interdisciplinary learning. This is considered fundamental in moving beyond subject expertise to mastering the profession by 'studying complexity in action' (Phelps, 2005). While the Staff Course's industrial era, reductionist syllabus is built around subject expertise, military curricula must promote a more integrated understanding (Reed, et al., 2004). Most of this understanding is tacit knowledge and is acquired heuristically outside the classroom (Horvath, Forsythe, et al., 1996).

Personal Command Philosophies

Personal command philosophies (PCPs) are a learning activity intended to focus student's self-awareness and personal understanding of command. They are also intended to encourage deep learning and increased cognitive agility. This latter outcome is encouraged by keeping the instructions and expectations deliberately vague.

In addition to the learning value of completing the activity, the final product should be a valuable tool for future command appointments. Unfortunately, some students tend to focus more on the product than the process and—having seen them misused in the workplace—seem reluctant to fully engage. Their reduced commitment to this reflective learning activity, however, could be because they are not summatively assessed. In previous year's however, the final products have been used for a formal peer-reviewing exercise. As a vehicle for holistic learning, this activity will serve as a valuable area for investigation during the study.

Individual Research

In keeping with the concept of personalised learning, all course members were given the choice of taking alternative university papers (including research projects)—although some later reported not remembering this. This offer is typically made to those who have already completed the four university papers offered on the course. During 2008, two students elected to drop university assignments. One had completed one of the taught papers and another had already completed a staff course in his own country and felt he would benefit better from doing his own research.

Academic Faculty Member

Although common internationally, the New Zealand Staff College only appointed its first resident civilian academic in 2008. The position was deliberately designed to enhance holistic learning and was given a broad job description without any initial formal teaching load. The expected duties did, however, extend to the wide range of non-formal and informal learning activities during the Staff Course. These included shaping the academic culture in terms of both learning to learn and learning the

profession.⁸ This meant encouraging cross-discipline thinking by facilitating the reflection sessions, overseeing the OST journal writing, Socratic questioning during informal learning moments, and similar holistic learning opportunities.

Researcher's Background

This study's focus stems from a long-standing awareness of holistic learning by the researcher. The absence of authoritative data, however, often compromised efforts to implement new initiatives—particularly when they involved spending money, creating extra work for others, or breaking with traditions.

While the detailed structure of the study is informed by the literature and the findings by the data, most of the *a priori* hypotheses stem from 20 years teaching and observing adult education in the military, of which six years was specifically studying staff courses. This included attendance on the Australian Command and Staff Course (2003), formal studies (M. V. Simons, 1997, 2003a, 2003b, 2004), staff visits to the Indonesian (2003), Thai (2004), Vietnamese (2004), Australian (2005, 2006, 2007, 2008), Singaporean (2007), South Korean (2008), Canadian (2008), and United Kingdom (2008) staff colleges, as well as primary data interviews with both staff and graduates of the Kuwaiti, UAE, French, Swiss, German, Malaysian, Israeli, and various US colleges.

This awareness was complemented with four years on the faculty of the New Zealand Defence College (2005–2009) including two years at the Command and Staff College (2005–2007).⁹ Additional influences came from global dialogue in epistemic communities (international conferences and online fora), publishing (M. V. Simons, 2005, 2008b, 2009; M. V. Simons, et al., 2009; M. V. Simons & Russell, 2007) and presenting at international conferences (M. V. Simons, 2008a, 2008c). The researcher's ontological constructs were further shaped by 18 years of study at five

⁸ Being a civilian appointment, there was no expectation of expertise in warfighting, but all other dimensions of the course were well within the scope.

⁹ During the period of observation (2008), the researcher was not a member of the teaching faculty at the Command and Staff College and played no part in the assessment of the students (who were the participants in this case study).

universities. His formal qualifications include an initial degree in cognitive psychology (BSc) with subsequent postgraduate study in teaching (DipTeach), education (MEd), management (MMDS), philosophy (PGdipArts), and strategy and policy (MA).

Thesis Structure

Conducting a holistic study is easier than articulating it. While the data collection, analyses, and preliminary findings were performed in a holistic and circular way, the limitations of a written document mean their presentation appear more linear.

The thesis began with an eclectic context-setting introduction to provide some early definitions to frame the problems being addressed. This included an overview of both professional military development (PMD) and holistic learning. This led to an exploration of complex adaptive systems theory—not only as it applies to global security, but learning and this study’s research design. Consideration was then given to the term strategic artists. This chapter concluded with a synopsis of the chosen case-study setting.

Chapter Two provides a deconstruction of the thesis’ overarching conceptual framework. Because this is a complex system of multiple smaller frameworks, each one is sequentially explored and cumulatively built into the larger design. The main dimensions included are the five sources of learning, the four foci of learning, and depth of learning. Additional aspects explored include learning motivation (practical and exchange value) and the hidden curriculum.

Chapter Three represents a more traditional literature review section where the thesis’ various dimensions are reviewed. Although very little exists in military circles, a number of studies from different professions help illuminate this research vacuum.

Continuing with the more traditional approach, Chapter Four outlines the thesis’ tradition, approach, and methodology. Although the study employs a mixed-methodology, a reasonable amount of quantitative data helps illuminate the extensive qualitative research. The chapter, therefore, expands on the data collection and analyses of both types.

Chapters Five and Six present the study's results. While Chapter Five is a fairly traditional exposé of quantitative data, Chapter Six not only introduces qualitative data but it deliberately begins the holistic topic exploration by cross-referencing to quantitative results. The chapter concludes by coalescing data pieces into data patterns.

The study's main findings are presented as data themes in Chapter Seven. This begins with the specific threads identified from the selected case-study sample, but extrapolates them into the wider field of professional military development. The final chapter, Chapter Eight, concludes the investigation by drawing together the major findings and offering them to the international community for further consideration. These, combined with the study's limitations, lead naturally to suggestions for further research. After all, as a fairly new concept, this topic deserves greater understanding.

Chapter 2 Conceptual Frameworks

Holistic learning is a complex phenomenon. By definition, this means the various elements are interdependent and do not reduce to isolated sub-systems. Nevertheless, before investigating holistic learning, it is helpful to comprehend the amorphous concept through conceptual modeling. Unfortunately, no existing construct adequately captures the entire scope of this study.

To enable the investigation of holistic learning in professional military development, this chapter presents a bespoke overarching conceptual framework (Figure 7). This representation demonstrates the inter-relationships between various contributing concepts derived from the literature. Each of these contributing concepts are sequentially examined in the chapter; beginning with the broader topic of learning before delving into *what* is learned (both the explicit and hidden curriculum), *how* learning (depth) can be increased, and finally from *where* learning emerges (sources). These three constructs contribute to the development of professional wisdom, which, it is argued, is an essential characteristic of strategic artists and therefore an unstated goal of staff courses.

Conceptual Framework

The conceptual framework (Figure 7) shows the *a priori* hypothesis relationship between formal (syllabus), non-formal (institution guided activities), self-directed, informal including incidental (unguided) learning activities as they relate to the student's overall learning (see also Figure 14, p. 57). These holistic learning sources all contribute to the acquisition of the four foci of learning.

When combined with prior military experience, the lower three learning foci (expert, game, learn) cumulatively contribute to wisdom by providing a holistic understanding of the profession. The cumulative and cascading relationship of the four learning foci is symbolically represented with varying sized curved arrows. Development in all four foci also provides opportunities to hone latent cognitive agility by encouraging deep learning. This skill is in turn, used to progress from learning to be an expert (compartmentalised theoretical and propositional knowledge) through to the holistic

understanding of the profession. This understanding is considered synonymous with wisdom.

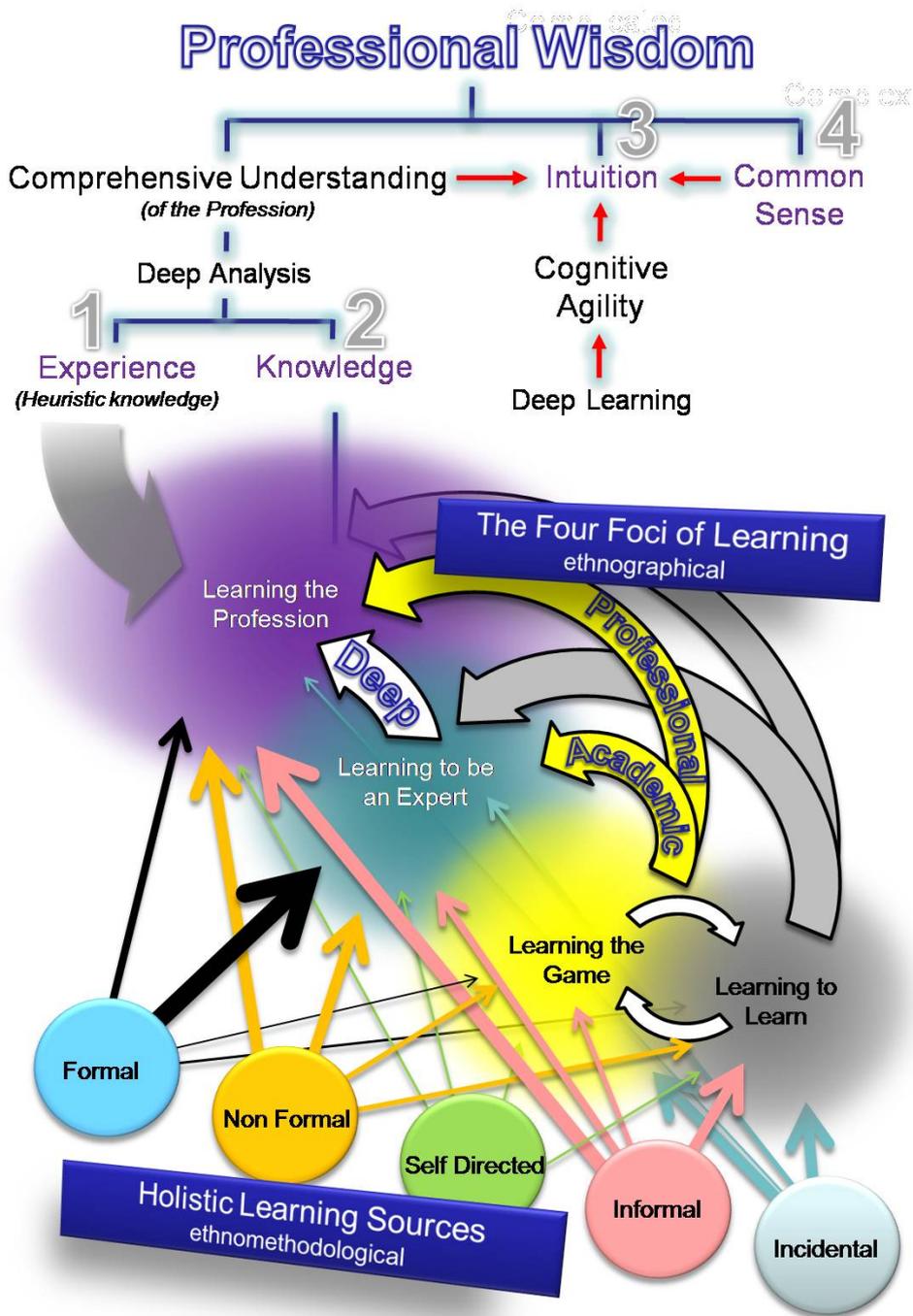


Figure 7 Conceptual Framework

Both wisdom and cognitive agility are identified as essential attributes of strategic artists when designing solutions to complex adaptive systems. While this study does not devalue the importance of developing good planning skills (for complicated problems), it merely argues their focus currently dominates the zero-sum competition for limited time on most staff courses. Design, in contrast, is less well developed prior to the course (probably even actively suppressed), is harder to grasp, and difficult to teach—especially in legacy instructivist learning environments.

Learning

Types of Learning

This section summarises, then synthesizes, a selection of adult learning literature on both what and how adult students learn. While the labels have changed, the concepts effectively revive Ausubel and Robinson's (1966) four quadrant plot for learning (Figure 8) by linking depth of learning (adjective) with types of learning (verb). Their two axes span how material is learned (informal to formal)¹⁰ and how well it is learned (surface to deep).

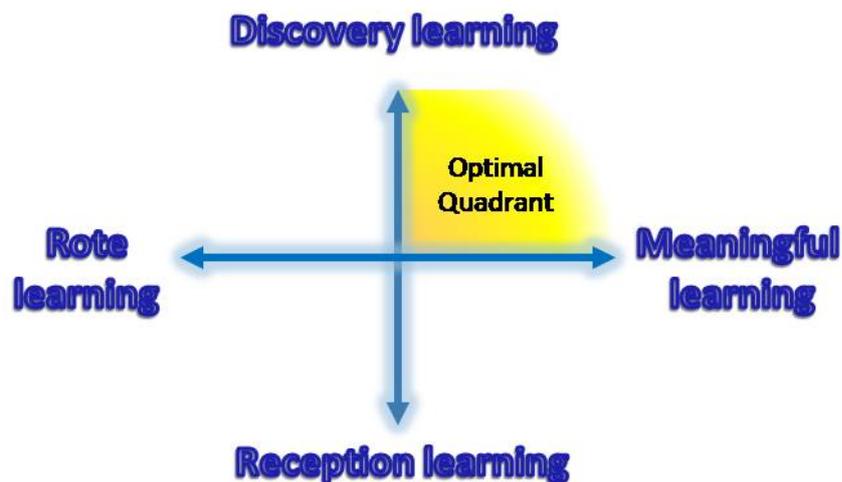


Figure 8 Ausubel and Robinson's (1966) Learning Grid

¹⁰ The concept of Discovery Learning is also referred to as Expository Teaching (Ivие, 1998).

To better understand these two dimensions, the section begins with Sakari Ahola's (2000) four foci of learning (what) before considering the levels, or depth, of learning (how well). The section then considers ways of encouraging deeper learning before exploring the dimensions of hidden learning (how).

The Four Foci of Learning

Students learn more than they are taught. Based on the initial work of Wagner (1977), Bergenhenegouwen (1987) and Margolis & Romero (1998), Ahola (2000) reduced learning into what he described as four distinct categories (p. 2). This study recognises the difficulty in distinguishing some activities between multiple or overlapping types and therefore extends the construct by considering learning by dominant foci, rather than discrete categories. The four foci include learning to learn, learning the game, learning to be an expert, and learning the profession.

Learning to Learn

'Learning to learn' emphasizes increased efficiency and effectiveness in knowledge acquisition. During the seven-month staff course, the students improve their ability to quickly identify quality readings, glean the important information, interpret what is important and then synthesise new understanding. These tacit skills emerge over time and are often underestimated even by the students themselves. The noticeable difference comes when they find themselves producing quality work in less time. Through strategic learning approaches, they move increasingly from surface to deep learning.

'Learning to learn' is an important precursor for the other three. While students are not summatively assessed in this dimension, any improvements will enhance their achievement of the other three. For many students, post-graduate level learning differs from their previously acquired learning techniques. According to Spencer and Spencer (1993) many organisations use university qualifications as an indicator of potential employees' ability to learn. Ironically, there is seldom any deliberate development of this important characteristic.

Traditionally metacognition awareness involves exam techniques and learning to write academic papers at the required level. Other aids along the way are heuristically absorbed such as shorthand note taking, library procedures, and study techniques. Today, additional skills are required to master technologies in particular software applications such as statistical analysis programs, chatroom netiquette, word-processing and PowerPoint. Other skills, such as online discussion lurking however, begin to transcend into the parallel focus of 'learning the game'.

Learning the Game

'Learning the game' is a broad area covering both academic and general life skills. In terms of professional workplace, 'the game' can be likened to cultural understanding, situational awareness, and emotional intelligence. It is the ability to recognize when limits can be pushed in social settings and when to conform. When considering the academic world as an extension of any other workplace, there are written and unwritten rules about conformity. Of the unwritten rules, there are heuristically learned work-arounds and shortcuts which have proven to successfully bypass the stated rules. These include determining how many of the prescribed readings really have to be read, or what lectures can be skipped without impacting on academic assessment. Students who learn the (academic) game may employ surface learning approaches to achieve higher grades with less effort. A differentiating characteristic between learning the (academic) game and learning to learn is the difference between intrinsic motivation to understand (*practical value*) and the extrinsic motivation of gaining a qualification (*exchange value*).¹¹

Playing the academic game is a skill most staff course candidates are already well versed in. Their competence stems from many years of training courses and, for most, previous university education. Notwithstanding this, the abstract nature of post graduate academic study in social sciences is still a challenge for many. For those with science and engineering backgrounds, the move to liberal arts requires new heuristics to learn the material. Some students revert to surface learning strategies to maintain

¹¹ For more on *exchange* and *practical* value of education, see p. 42 and Bergenhenegouwen (1987).

the façade of competency or to meet concertinaing deadlines. Intrinsically motivated students however, will usually achieve some deep learning even though they are often unaware of it themselves (Bateson, 1973).

As soon as one starts learning the rules one can also learn to play better, and eventually, as one proceeds in the studies and gains academic expertise, one can even start to set the rules (Ahola, 2000, p. 3).

‘Learning the game’ is not limited to students. Staff are also products of this system and are equally prone to taking the path of least resistance (Anderson, 2001). Both teaching and assessment methods are often selected for their efficiency when large student numbers are involved. At the institutional level, delivery is often about economic mass production (Bergenhengouwen, 1987), while assessments must provide clear metrics of individual performance. In other words, subject-specific objectivity is favoured over professional subjectivity.

‘Learning the game’ should not be seen purely as a negative outcome. While the linkages to surface learning and façades are obvious, there is an important life-skill dimension too. Bourdieu and Wacquant’s (1992) Social Survival theory suggests we all need to recognise and play within the rules to succeed. They describe the *game* as having stakes created by the players and the ferocity in which the players oppose each other is determined by the extent they believe in the game and its stakes. Agreement of the game’s worth is endorsed by player participation rather than any contract.

Those who are astute at learning (and playing) the game are not only likely to be high in intelligence quotient (IQ) but also more likely to score higher on emotional quotient (EQ) (Goldman, 1996) and cultural quotient (CQ) (Earley & Ang, 2003) tests. Much of playing the game involves sensing the appropriate behaviour required to succeed in social and academic settings. There can however, be a difference between knowing and doing. Some people still cross social and cultural boundaries even though there are consequences (Ang, et al., 2007). For example, playing the game may give the appearance of learning but in fact the façade masks deep understanding. This superficial surface learning is often tempting when time is limited.

A constant threat to deep learning is time compression. Many academic staff offer students more readings than can be realistically digested. While this is certainly true of staff course students, Benson Snyder (1973) coined the phrase *selective negligence* to describe how Massachusetts Institute of Technology (MIT) students learn to ignore some readings.

The concept of *selective negligence* straddles both learning the game and learning to learn, but perhaps more the former. Indeed, an outcome of staff course education is for graduates to quickly scan articles and determine their value for more in depth reading. In this context, the skill is considered learning to learn. If however, the students are learning to shortcut imposed academic demands by discovering loopholes in the assessment system for example, then this would count as learning the game. If the new found time is used for deep learning then there would be value in the sifting process, conversely, if material is deemed essential by the lecturer then the students may well be missing out on valuable expertise and ultimately, understanding of the profession.

Learning to be an Expert

‘Learning to be an expert’ captures the essence of topic specific knowledge. This is where students acquire expertise in terms of knowledge and skills. Anderson for example, describes it as ‘the acquisition of the specialised skills and practises that distinctively mark discipline-based or professional expertise’ (2001, p. 33). It may extend to written and verbal communication skills, but is often thought of in terms of the declarative knowledge associated within a single subject area. Compared with a holistic understanding of the profession, expertise is easier to teach based on measurable and observable objectives in a syllabus. Similarly, it is easier for staff to assess and for students to play the academic game. Reed et al. (2004), even suggest ‘An overly detailed, list-based approach could result in professional military education that is contrary to that which is actually needed’.

The rate of change in global security issues means subject expertise is dynamic. In fact, the shelf-life of many Defence subjects mean material is often obsolete before graduation. Furthermore, being an expert in siloed topics may earn university degrees

(*exchange value*), but on its own is insufficient for excellence in the workplace (Ottewill, et al., 2005). Compartmentisation of knowledge (expertise) is destructive to design (profession).

Learning the Profession

'Learning the profession' is the best description for what, this study argues, should be the ultimate goal of any staff course. It represents the holistic understanding of the siloed areas of expertise, based on both formal instruction and hidden learning (Bradshaw, 1985; Sternberg, 2003). This comprehensive understanding of 'the big picture', combined with sufficient practical experience and cognitive agility, is considered an essential component of professional wisdom (*cf* p. 3) which in turn is considered an essential attribute of strategic artists. Consequently, if staff colleges intend preparing graduates for the challenges of complex environments, they must go beyond subject expertise (Everwijn, Bomers, & Knubben, 1993) and teach the profession.

Ahola describes learning the profession as 'learning the specific ways of thinking and the different practices of one's discipline...[and]... the thinking and practices of the profession' (2000, pp. 2-3). This study however, recognizes these skills as more aligned to 'playing the professional game.' Consequently, learning the profession is better described as 'grasping the holistic concept of the profession'—in the military's case, the profession of arms (Figure 9).

The profession of arms is similar to other professions in that it provides a higher purpose to society, is self regulating, self-developing, and has a robust sense of community (M. V. Simons, 2008c). Similarly, as von Clausewitz noted 'warfare has its own grammar, but not its own logic' (Bentley, 2008, p. 3). Consequently, to be competent strategic artists, officers must learn both the grammar and logic of the profession. This includes the comprehensive and integrated understanding of both propositional knowledge and culture (including ways of thinking), as shown on the two sides of Figure 9.

While grasping sections in isolation is a convenient way of structuring development, holistic understanding is the defining criteria of a strategic artist. It is when the students 'get it'. Often described as 'joining the dots' or 'filling in the gaps', it is where the students appreciate the big picture and make sense of the learning in a meaningful way. This has strong links with deep learning (Biggs, 2003), practical value (Bergenhengouwen, 1987), and long-term application (Sternberg, 2003), as discussed in the next section. Given the return on investment period for a staff course is around the five year mark, learning the profession is far more important than subject expertise.

Students skilled at 'learning the game' will typically shortcut deep learning of the profession (Elliot, McGregor, & Gable, 1999). This situation, it is argued, exists only because the institute allows—or perhaps even encourages it. To test this hypothesis, the study examines tacit messages of valuing qualifications over learning (Bergenhengouwen, 1987; Hales, 2005; L. Russell, 2005), structure of assessment rubrics (Case & Marshall, 2004), and evidence of an inverse correlation relationship between learning the game and learning the profession.

'Learning the profession' cannot occur in isolation. Similar to wisdom, understanding the big picture of a profession requires both subject matter expertise and experience. Members of staff courses are mature students who bring a wealth of workplace experience. The diversity of their backgrounds adds to the mix of learning and is a fundamental reason why collaborative learning¹² is such an important component of 'learning the profession'. This cross-pollination of ideas and understanding is also a fundamental element of hidden learning.

Parallels can be drawn between the military and other similar professions. For example, Codd (2005) argues for greater emphasis on processes, rather than products, in the development of educationists. His comments could be equally said of professional military development:

¹² Collaborative learning is used here rather than peer learning because of the important distinction between categorical and socially constructed knowledge (which includes personal experiences and episodic memory). For more, see Ney (1991).

A culture of professionalism...emphasizes processes more than products and has a more open ended approach to curriculum design, enabling the emergence of unanticipated outcomes and the development of diverse human capabilities such as creativity, imagination and critical thinking. This implies a more self-reflective culture within a context of collaborative educational [or military] leadership' (Codd, 2005, pp. 201-202).

Learning the profession also involves enculturating the profession's ideology¹³ (Bentley, 2005; M. V. Simons, 2008c). Importantly, this differs from bureaucratic and market ideologies which promote order and self-interest respectively. In the words of Shortis (2009) such an understanding provides a 'kind of informed theoretical awareness which sows seeds for the deeper roots of longstanding professional practice' (p. 2).

A further extension of 'learning the profession' is Codd's (2005) cultural reproduction aspect of education. Although, unlike the compulsory schooling level Codd refers to, staff course students are already products of the military culture and with around 18 years of exposure. They therefore bring their respective artefacts and habitus (Manning, 2000) to the course and become part of the acculturation process—both shapers and recipients. This role of education therefore reinforces the contribution of the hidden curriculum to holistic learning of the profession.

¹³ *Ideology* refers to shared knowledge, culture, and goals (Bentley, 2005).

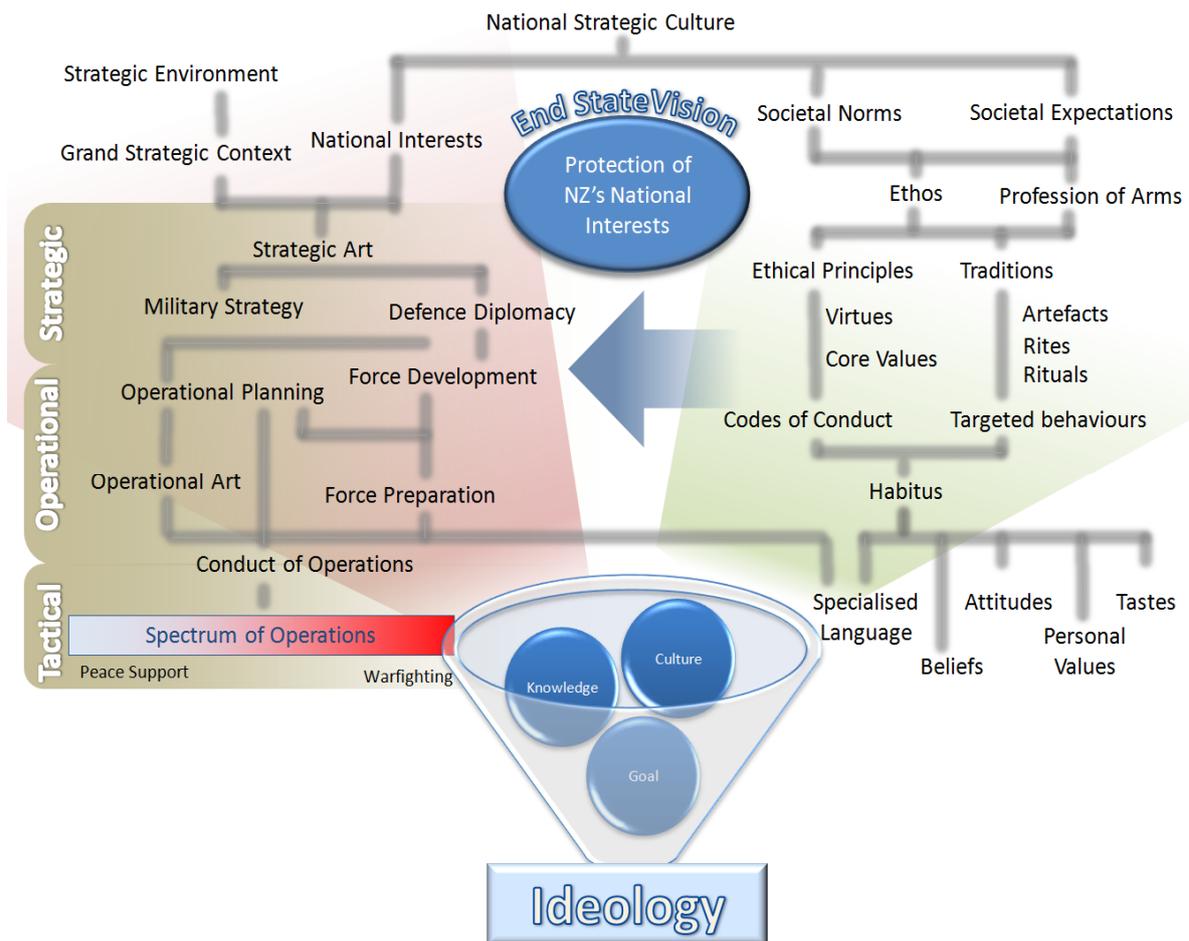


Figure 9 The Holistic Concept of the Profession of Arms (from Simons 2008b)

There is of course an opportunity for the institute to promote cultural reproduction as well. In addition to facilitating peer learning through sustained interaction (such as encouraging on-site research after hours through the provision of facilities), the institute can also promote positive cultural reproduction in new environments. This is particularly relevant for strategic level workplaces to which few students have been exposed. From the literature, there are various suggestions on how this can be achieved. Anderson for example, reinforces the need for exposure to the workplace visits such as higher headquarters and exposure to alternative role models. This also extends to diversity in guest speakers, detailed case studies, and shared class expertise (Anderson, 2001, p. 32). Research by McKinney, Saxe and Cobb (1998) show that the most widespread technique used for learning the profession is 'out of class' activities to increase professional socialisation.

As with most hidden curriculum dimensions, cultural reproduction can be a double-edged sword. While negative 'playing the game' implicit learning may be necessary for academic success, other aspects of the alternative culture can add to the student's multicultural tolerance and appreciation. Drawing on the work of Ziegahn (2001a, 2001b), Anderson highlights 'the very tools that give rise to the awareness of potentially disruptive barriers, can also be used in reflective manner to abet growth and even transformation in cultural outlook' (Anderson, 2002, p. 128).

Exchange and Practical Value Motivations

An important aspect of the four foci construct, as conceived by Wagner (1977) and extended by Bergenhenegouwen (1987), is the relative emphasis students place on each based on their attitude to study. Both researchers distinguish between the *exchange value* and *practical value* of university education, where the former acknowledges the value of qualifications when applying for jobs and the latter emphasises the intrinsic motivation of improved workplace performance. Two of Bergenhenegouwen's foci (theory-orientated and curriculum-orientated) claim no discrepancy between the perceived value of the education, whereas the other two (profession-orientated and practice-orientated) recognise vast discrepancies.

Students seeking *exchange value* of education qualifications are a reflection of society's commodification of education (J. Clark, 2005; Codd, 2003; Lee, 2003). This bred-obsession with formal accreditation means hidden learning is often under-valued by students and under-funded by governments (Coffield, 2000, p. 8). Even within most staff colleges, assessment systems paradoxically reward 'learning to be an expert' while hoping students 'learn the profession' (Kerr, 1975; Stone & George, 1997)

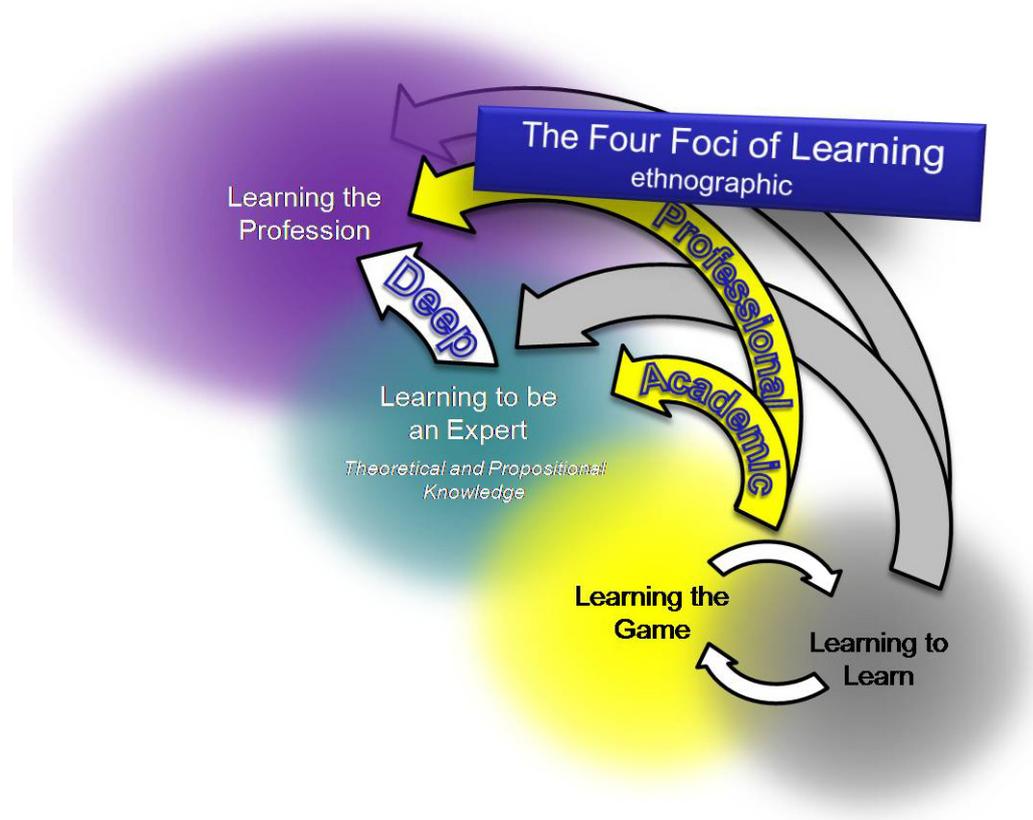


Figure 10 Inter-relationship of the Four Foci of Learning

Although this study uses the same labels as Ahola, their application is influenced by the earlier thinking of Wagner (1977) and Bergenhenegouwen (1987). The concept of inter-relationships therefore is extended to a working hypothesis that *learning to learn* and *learning the game* are both co- and pre-requisites to the other two foci, although a degree of *learning to learn* is necessary before *learning the game*. *Learning the game*, however, differs with the students immediately applying their heuristically acquired academic game skills to improve their recognized (apparent) expertise, while their increasing awareness of the professional (workplace) game contributes to their life-long practical understanding of the profession. *Learning to be an expert* is in turn seen as a necessary precursor to *learning the profession* (Figure 10), with the former being the only requirement for Bergenhenegouwen and Wagner's *exchange value*. *Learning the profession* emerges from a holistic understanding of all areas with the *expertise* focus yet, because it is not typically assessed on staff courses, it often relies on students being motivated by *practical value*.

Depth of Learning

Depth of learning is interpretable through models. Perhaps the most famous of these is Bloom's Taxonomy (B.S. Bloom, 1956), however there are many others (Rayner & Riding, 1997). Some extend Bloom's cognitive construct (Krathwohl, Bloom, & Masia, 1964; Simpson, 1972) while others focus more on motivation and approaches.

Depth of learning and approaches to learning are different. While the first considers how well a subject is explored and understood, the second defines the method used to learn. Marton & Säljö's (1976a) construct explains student motivation for learning while Bateson's (1973) model reveals the depth of metacognitive¹⁴ skill. These concepts are not only interrelated but interdependent (Crawford, Gordon, Nicholas, & Prosser, 1998).

Approaches to Learning

While some authors have identified multiple approaches to learning (Ramsden, 1997), most commentators limit the concept to three—surface, deep, and strategic. A fourth, but less commonly discussed, approach is *disorganisation* (Entwistle, 1988). This concept refers to students who struggle to establish or maintain an organised approach to learning. While the notion resonates with anecdotal evidence of students on staff courses, it is ideally only a transitory phase. Students should emerge from this state once they heuristically develop techniques to improve performance—ideally toward deep learning.

¹⁴ *Metacognitive* refers to 'the processes individuals use to acquire and understand knowledge' (Ang, et al., 2007, p. 337)

	Bloom (1956)	Biggs & Collis (1982)	Bateson (1973)	Marton & Säljö (1976a)	Giorgi (1986)
		Pre structural	Zero Learning		
Surface	Knowledge	Uni-structural	Proto-learning	Increasing knowledge	Manner of acquiring new information
				Memorising	Rote learning
	Understanding	Multi-structural	Deutero-learning	Acquiring facts or procedures for later use	
	Application				Application
Deep	Analysis	Relational		Abstracting meaning	Understanding
	Synthesis	Extended abstract			Interpreting to understand reality
	Evaluation				
			Trito learning	Conception of changing as a person (Marton, Dall'Alba, & Beaty, 1993)	
			Tetro learning (Bridoux & Mann, 2002)		
Focus	Depth of comprehension		Heuristic development	Motivation	Approaches

Figure 11 Learning depth construct comparisons

Marton and Säljö were among the first to research and report on the distinction between surface and deep learning as an approach (Marton & Saljo, 1976a, 1976b). They constructed a taxonomy of approaches, or motivations, employed by university students. These included: increasing knowledge, memorising, acquiring facts or procedures for later use, abstracting meaning, and, interpreting to understand reality. Perhaps the most interesting level—conception of changing as a person—was added much later (Marton, et al., 1993).

With the surface approach to learning, 'the intention is just to cope with the task, which sees the course as unrelated bits of information which leads to much more restricted learning processes, in particular to routine memorisation' (Entwistle, 2000, p. 3). Deep approach to learning is where students deliberately seek a deeper understanding of a subject by prolonged and wide exploration of a subject.

Strategic learning is an approach to learning where students make use of digestible sized sub goals to achieve recognised milestone achievements—such as university qualifications (Atherton, 2003; Moon, 1999). The incremental achievement system ensures a focused and deliberate study plan. Students are usually aware of their preferred learning style (Rayner & Riding, 1997) and exploit it to maximise learning within a resource-constrained setting (Ramsden, 1992).

A strategic approach to learning relies on metacognitive awareness. It requires students to have an understanding of both their own and general theories of learning. From here they can approach learning goals with a deliberate plan (Entwistle, 1996). The ontology of this theory has its origins in the work of Miller et al. (1960) and has close links with Vygotsky's theories on *zone of proximal development* (Nissen, Axel, & Jensen, 1999). Belmont also links the strategic approach to learning with Flavell's (1979) *cognitive enterprize*, which he describes as 'self-aware, goal-oriented users of deliberate strategies [who] become active thinkers, active planners, and active learners' (Belmont, 1989, p. 142).

Various studies have found deep learning improves student performance. A UK study of medical students, for example, found a correlation between final assessments and learning approaches. Students who performed best in their finals, employed deep and strategic learning approaches (McManus, Richards, Winder, & Sproston, 1998). In a separate study, the same researchers found students who broadened their education with extra non-core subjects (known as intercalated degrees), scored higher on deep and strategic learning assessments than their colleagues who only studied medicine (McManus, Richards, & Winder, 1999). Other studies supporting this finding are discussed later in the thesis.

Depth of Learning to Learn and Learning the Game

According to Bateson (1973), depth of learning occurs on four levels. At the lowest level (Learning 0), a student will show no, or minimal, change as a result of instruction. This was attributed to strong habituation in the area due to prior learning or a biological response. Examples of this on staff courses are students with extensive experience or strong opinions on a topic who do not modify their behaviour as a result of material taught on the course—including peer pressure regarding unacceptable attitudes.

The next level of learning is simple (or operational) learning. Later renamed proto-learning (or Learning I), this level refers to basic behaviour modification following reinforcement. It does not imply comprehension in either the material or learning process, but simply an awareness that it works.

When a student begins to recognise the pattern in *how* material is taught and tested they learn at a faster rate. Bateson named this level deutero-learning (or Learning II) and likens it to Gestalt learning. Others have referred to it as *acquisition of insight* or *apperceptive habits* (Visser, 2003).

The final level of learning proposed by Bateson, is trito learning (or Learning III).¹⁵ This is the most exciting level and closely relates to a common, albeit unwritten, goal of staff courses: character development. Visser (2003, p. 276) describes it as 'learning about the contexts of the contexts of proto-learning.' It involves profound changes to the inner character of the learner and is the hardest to achieve. Suggested triggers for trito learning are psychotherapy, religious conversion, relationships, and other significant life-changing experiences. While those on staff courses are probably too close to the experience, many graduates describe their time at the College in such terms. This delayed awareness is consistent with Bateman's own description of trito learning. 'Change of this kind, however, almost exclusively occurs at the unconscious levels and only afterward is given a rationale' (Visser, 2003).

¹⁵ Tetro-Learning (Learning IV), referring to learning about schools of accelerated learning, was subsequently added (Bridoux & Mann, 2002).

Depth of Learning to be an Expert and Learning the Profession

The *Structure of the Observed Learning Outcome* (SOLO) Taxonomy breaks learning into five levels (Biggs, 2003; Biggs & Collis, 1982). These range from pre-structural, through uni-structural, multi-structural, and relational, to extended abstract. Each of these levels involves increasingly higher cognitive processing.

Pre-structural

This is where unrelated information is used without any meaningful application. Students at this level will store and retrieve information without any logical connection to the issue at hand. It is typically found in training courses and is a default setting for most students if they are faced with large volumes of material and if the course material—and in particular, the assessments—allow. Students will use rote-learning techniques to ‘cram’ for exams and then subsequently ‘dump’ the information in the following days.

Uni-structural

Students at this level have limited understanding of material and are limited to discrete and single linkages to relevant aspects. They are likely to give simple answers that are linked to the issue at hand but only in one dimension.

Multi-structural

The students grasp multiple relevant points to link the new information to existing information, but there is no collective linkage between all of the points. In terms of research, this is where the raw data has been analysed in several ways with separate findings being drawn. An example of staff course students engaging in multi-structural learning is the e-mailing of supplementary website links or articles to other class members. This information typically adds new understanding to the formal learning material presented by the lecturer. Using their wireless tablets in lectures, students frequently surf the web and explore new learning triggered by lecture material. These e-mails are sent both during lectures and after hours, suggesting students not only

engage in hyper-learning (Kawachi, 2003) during formal class time but deep learning reflection at night and in weekends.

Relational

At this level the student is able to link together several parts into a coherent whole. They comprehend the bigger picture and understand the meaning. This is ideally the minimum level goal for students on a staff course. Using the research analogy, this is where multiple analyses are clustered together into themes and the patterns of analysis are analysed for globalised conclusions.

Extended abstract

This is the highest level and exemplifies deep learning. Students at this level will be able to take the relational level understanding and apply it to new situations beyond the information given. Their comprehension will not only enable knowledge creation but will permit evaluation or creation of first principle concepts.

The concept of knowledge creation through deep learning (extended abstract) parallels theories in other disciplines. For example, the quantum mechanics concept of syntropy, as developed by Luigi Fantappiè (1993), describes the antithetical behaviour of entropy. While entropy describes the scientific cause and effect relationships of closed systems' internal reorganisation leading to equilibrium (Fuller & Applewhite, 1975), Fantappiè's concept (also known as negentropy) defines a positive growth model where energy is created. Such adaptive mutations result from multiple and unexpected influences and avoid the 'entropic death' of equilibrium. The notion of entropy is similar to group think and other innovation killing paradigms prevalent in both the workplace and education. Labels alone, however, are not enough to promote knowledge creation in education.

Practice in deep learning should not only lead to knowledge creation, but also develop the skills required for ongoing syntropy. Wheatley and Wegner (2001) coined the term *automaticity* (also known as *contingency adduction*) to describe 'the sudden appearance of new learning without further instruction once component skills have been learned to fluency' (C. Johnson, 2007). This notion resonates with Aristotle's

concept of *energeia* which conveys the desire or striving for *entelechy*, or the actualization of something's ultimate essence (Aristotle, 350 B.C.E -b). A similar notion from general system theory is *equifinality* which describes how multiple, or divergent, outcomes come from single experiences (von Bertalanffy, 1968). But it is the learning of these skills which is the challenge. Slavin, advocates *top-down teaching* where complex problems are presented as a catalyst for students to heuristically develop (with the teacher's guidance) their own problem solving skills (Slavin, 1991, p. 259). Similar approaches are interwoven with learning naturalistic decision making (Zsombok & Klein, 1997) at military colleges (Salas, Gurthrie, & Burke, 2007).

Holistic situational awareness is critical to naturalistic decision making. As argued by Endsley, there is a growing body of research supporting the importance of holistic processing, situation recognition, and pattern matching in authentic decision making (Endsley, 1997).

Improving Learning Depth

While time restrictions prohibit exclusive employment of a deep approach to learning, it should—it is asserted—be a goal of staff courses. Mulvaney, Calderón, and Fallesen (2008) argue deep learning occurs when individuals combine cognitive and metacognitive strategies¹⁶ to acquire new information. This in turn refines their existing mental models to improve their understanding.

Entwistle (2000) describes deep learning as having two possible dimensions: holistic and serial. For the holistic deep approach to learning, the student must relate new material to existing knowledge (constructivism and inductive learning) from a big-picture perspective. In contrast, the serialist deep approach to learning involves sequential critical thinking where the learner considers the evidence and argument's logic to identify patterns and general principles (Entwistle, 2000). Deep learning also

¹⁶ Cognitive strategies are defined as mental activities that facilitate knowledge (surface and deep) acquisition and application. Metacognitive strategies are self-aware knowledge and control over cognitions (metamemory, metacomprehension, problems solving and critical thinking). From Mulvaney, Calderón, and Fallesen (2008).

requires students to analyse their understanding of a subject in order to continue developing it further (Entwistle, McCune, & Walker, 2000).

Pask (1976) makes the point that most students prefer one type or the other (holism or serialism), those who excel in both are known as *versatile*. He also argues that teachers are prone to employing one over the other. When the teaching style differs from the student's preferred approach then there is a significant reduction in learning (Pask, 1976, p. 133). Like many aspects of education, variety and choice are essential if learning is to be maximised for all students (Knowles, 1980, 1986). Another important aspect is the depth of learning encouraged by the curriculum.

Gunstone and Mitchell (1998) found courses that encourage deep learning report a slower coverage of the curriculum and student learning is more parabolic than linear. They also found an important contributor to deep learning is the level of trust between the staff and students. Trust is generally considered to be slow to earn, but easy to lose. The importance of a trust relationship also features strongly in the literature on constructivism (Case & Gunstone, 2002).

Attending classes in study skills need not be a causal factor in improving depth of learning. Ramsden, Beswick, and Bowden (1986) for example found no difference in students who had attended such classes and those who did not. In fact, the findings showed an increase in strategic learning where students became more aware of 'the game' and increased their use of surface learning to achieve higher grades for less effort. Marton and Säljö found that: 'Students adopt an approach determined by their expectations of what is required of them' (1976b, p. 125). Case and Gunstone (2002) also attribute increased surface learning to an increased awareness of learning expectations and the superficial nature of many assessment systems. This potential trigger for surface learning on staff course will therefore be investigated in this study.

Inductive Learning

Inductive learning requires converting surface (pre-structural) tacit knowledge into deep (extended abstract) understanding. As outlined by Horvath et al. (Horvath, Forsythe, et al., 1996; Horvath, Sternberg, et al., 1996) and visually represented in

Eraut (2000b), students must consciously link episodic and semantic memories¹⁷ together before converting event knowledge into generalized propositional knowledge. When combined with formally taught expertise, the students are able to build a greater understanding of the profession.

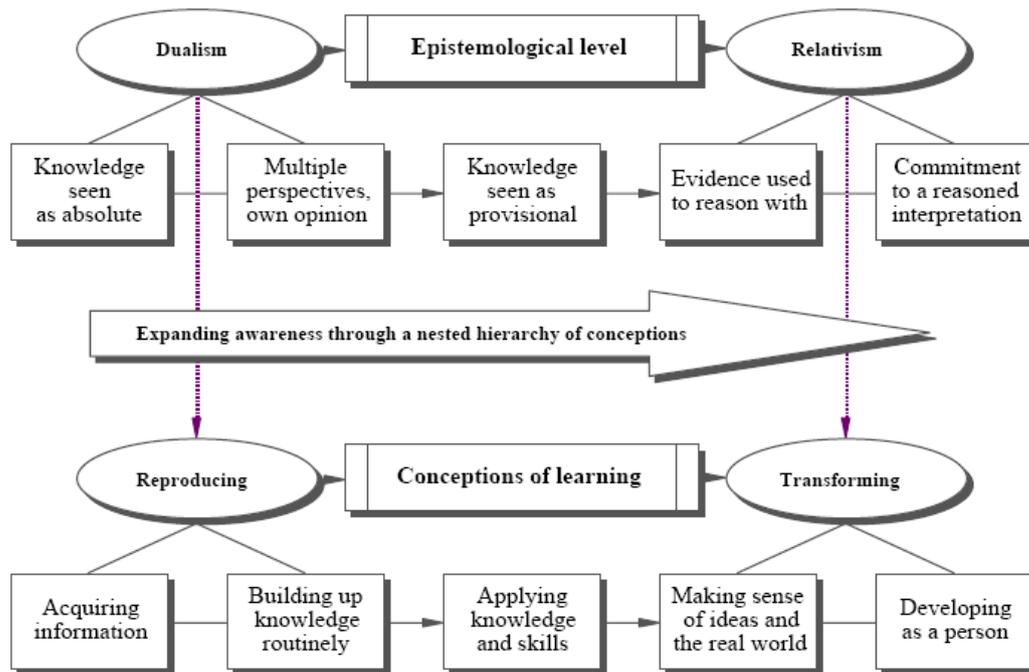


Figure 12 Conceptions of learning and levels (from Entwistle, 2000, p. 2)

Entwistle (2000), provides a graphical model for understanding the complex inter-relationship of learning dimensions. As shown in Figure 12, students ideally move from the top left corner (surface/expert) to the bottom right (deep/profession). This journey requires both epistemic knowledge gained through inductive learning the profession (practical experience combined with knowledge expertise) and an awareness of the learning process (learning to learn) as captured in Figure 6 (p. 15) and Figure 7 (p. 32).

¹⁷ Episodic memory is the personal recollection of historic experiences while semantic memory covers general knowledge that transcends events (Tulving, 1983; Tulving & Thomson, 1973).

Limits to Learning Depth

It is possible not all students are interested in, or capable of, deep learning. Even in higher education, where a selection process supposedly screens for academic ability, some students do not display deep learning—even after deliberate curriculum structuring. Case and Gunstone (2002) conducted a study of 12 chemistry students. Their pre-test results indicated three existing learning styles within the student group (information-based, algorithmic, and conceptual). Despite the deliberate course structuring (teaching and assessment) to promote deep learning, only the algorithmic group showed a capacity to mature into deep learning (four students) and only one fully developed to this level. The three information-based (surface learning) group continued to employ the same strategies and only achieved surface learning. One student remained unchanged on her mixture of information-based and algorithmic approach. The remaining four students were already operating at the conceptual (deep) level and remained there throughout the study.

Limits to cognitive capacity, and deep learning ability, are attributable to individual differences. Mulvaney et al. (2008), for example, identify self-efficacy and goal orientation as the two most important factors in learning. Self-efficacy influences important aspects such as task choice, task effort, and persistence in task achievement (Lane, Lane, & Kyprianou, 2004). Improving student's self confidence 'has consistently demonstrated a positive relationship' in improving 'motivation to learn, learning, and transfer of learning' (Mulvaney, et al., 2008, p. 13).

Goal orientation is another important factor in achievement-related behaviours. This influence can be further broken down into mastery goals and performance goals. Wolters (2004) found mastery orientated learners will be highly focused on improving their level of competence and will strive to overcome barriers. They will also actively 'seek challenging tasks and treat failure as a type of constructive feedback' (Mulvaney, et al., 2008, p. 14). They have also been found to use more deliberate learning strategies when learning a new topic (Weinstein, Palmer, & Schulte, 1988).

Not all goal orientations are constructive. Many of the surface learning students on the staff course also have goals, but these do not necessarily translate in deep

learning. This second type is known as performance goals. Students with a performance orientation 'will practise such that they will perform well in a test and will appear skilled or knowledgeable (Mulvaney, et al., 2008, p. 14)'. Unlike mastery orientation, where long term retention is facilitated (Elliot, et al., 1999), performance orientation is predicative of assignment grades and 'other short term indicators of success' (Mulvaney, et al., 2008, p. 14). The student's perennial criticism of insufficient time is supported by Case and Gunstone (2002) who found rushed deadlines and high workload to be an inhibitor to deep learning. Gunstone and Mitchell (1998) also argue less formal syllabus content coverage needs to be accepted if deeper learning is required. In the United Kingdom Joint Services Command and Staff College, for example, a formulaic plan allocates formal, non-formal, and informal learning time during the working day (Rollo, 2005).

Holistic Learning Sources

Holistic learning has differing meanings in the literature. This study however, extends Aristotle's concept of *holis* (cf p. 3), by defining holistic learning as the acquisition of knowledge, skills, and attitudes, (R. Martin, 2002) from any source—formal, non-formal, and informal (La Belle, 1982). Multiple sources extends to multiple learning styles, or preferably, flexibility for students to employ their preferred learning style (Sadler-Smith, 1996). These various sources of holistic learning however, are complex (p. 11) so isolating them can be difficult.

A further important distinction is the difference between hidden learning and the hidden curriculum. Despite the literature referring almost exclusively to the hidden curriculum, this study argues in fact hidden learning is a more appropriate label. This is primarily because *curriculum* implies an externally imposed intent, rather than something actually accomplished—this raises not only an intended versus actual distinction but also an etic versus emic authenticity issue. As will be discussed in more detail later, there is also an issue to do with aspects where either no one, or possibly only the recipient, influences. These are defined as incidental and self-directed learning respectively. Arguably, neither constitute a curriculum but they do result in learning. Given the literature's inclusive acceptance of all these concepts as the hidden curriculum, this thesis will use both terms synonymously.

This study accepts the general differentiation (but not the exact definitions) offered by Mocker and Spear (1982) for the key sources of learning. Their 2 x 2 matrix (Figure 13) separates formal, non-formal, informal, and self-directed learning in terms of control, for both objectives and means. They describe *formal learning* where both the objectives and means for learning are determined by the teacher (instructivism). Non-formal is where the learners control the objectives, but not the means. *Informal learning* describes where the learners control the means, but not the objectives. Self-directed learning occurs when both objectives and means are controlled by the learners 'without the assistance of an *educator*' (Schugurensky, 2000, p. 3). While Mocker and Spear's model does not include the concept of incidental learning, this would be identified when neither the institute nor the learner controls the means or the objectives (Marsick & Watkins, 2001).

		Objectives	
		Institution	Learner
Means	Institution	Formal	Non-formal
	Learner	Informal	Self-directed

Figure 13 Learning Matrix adapted from Mocker and Spear, (1982, p. 4).

While this matrix is useful for showing the interrelationship of control over objectives and means, its omission of some sources and inference of discrete categories detracts from its value. While some aspects of learning fit neatly into boxes, many aspects do not. The notion of control for example, may be too strong in some instances and more accurately described as *dominant influence*. Similarly, since the time of Plato, it has been more popular to think of learning in terms of continua. Differing examples of formal to *other* learning continua have been offered by Srinivasan (1977), Stern and Sommerlad (1999), and Eraut (2000a); while others have synthesized two-dimensional plots (Conner, 2007; Cornell, 2007). Typically, continua span variables such as primary agency, voluntarism, intentionality, physical location, knowledge structure, knowledge status, and mediation of learning (Livingstone, 2001).

Drawing on the work of Longstreet and Shane (1993) and Eisner (1994), Ahola also argues the complexity of learning can be simplified with 'a taxonomy of different curricula: official, written, taught, tested, learned, null and hidden curriculum' (2000). Holistic learning however, extends this concept even further by distinguishing between what is learnt and what is taught. While the various curricula focus on what external actors impose, holistic learning captures both formal and hidden learning.

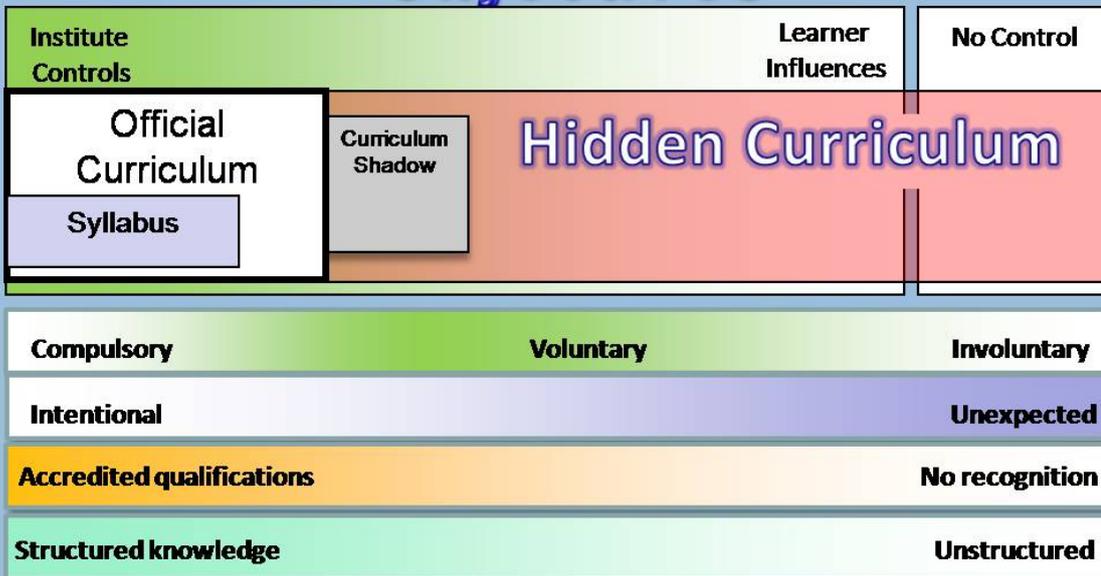
As shown in Figure 14, hidden learning excludes learning completely controlled by the institution (formal learning). It does, however, include non-formal learning resulting from environments or activities influenced by the institution. The important distinction being *student control* over *what* is learnt, rather than how or where. Self-directed and informal learning (including incidental) are also components of hidden learning.

The *curriculum shadow* is a subset of non-formal learning and refers to by-product learning, resulting from formal learning activities, but is not detailed in the curriculum (Uhrmacher, 1997). Uhrmacher argues the concept differs from popular interpretations of the hidden curriculum, as well as null curricula (Eisner, 1994; Flinders, Noddings, & Thornton, 1986), on the grounds that the hidden curriculum is not about social control or the subtle messages conveyed through organizational structures. This study, however, has adopted the more liberal definition of the hidden curriculum, which is broader and extends beyond psychosocial influence.

Holistic Learning



Objectives



Environment



Figure 14 The Learning Spectrum

Formal Learning

'Formal learning is typically institutionally sponsored, classroom based, and highly structured' (Marsick & Watkins, 1990, p. 12). The formal curriculum is what an educational institute has identified as the subject content being taught (Montero-Sieburth, 1992). In the military at least, it is usually written in behavioural terms so that it can be both observed and (often importantly) measured.

In the military, the formal curriculum (often only a syllabus) typically focuses only on the cognitive and psychomotor domains of learning. However, as Martin (1976, p. 137) asserts, the 'curriculum proper can and often does quite directly and openly aim at what is normally taken to be non-academic learning, be it of moral values, religious attitudes, political preferences, or vocational skills'. This raises the question of why military curricula do not formally link their macro course aims (which usually include holistic character development) to their micro level learning objectives.

The notion of intentionality sometimes distinguishes formal from hidden learning. Non-formal learning, for example, is considered intentional from the learner's perspective (Colardyn & Bjørnåvold, 2004) while incidental learning is typically unintentional. Intentional formal learning—from the institution's perspective—can also differ from the actual formal learning from the student's perspective.

Formal learning is sometimes further subdivided into the *in use* and *espoused* curriculum, to differentiate between what the institute claims to teach and what is either actually taught or actually learned (Thomas, 2006). While this can be interpreted as an internal validation¹⁸ difference, it also introduces notions of the hidden curriculum and hidden learning.

¹⁸ Internal validation is the comparison of a course's written syllabus objectives with what is actually delivered. It differs from external validation (comparing a syllabus with a workplace or job requirement) but does not consider the gap between what is taught and what is learned.

Hidden Learning

Hidden learning is a continuous process occurring daily in any setting. For the purpose of this study, however, the definition is limited to all learning (tacit or declarative) not described by formal learning objectives in the course syllabus, but which contributes to the stated course aim. It includes all learning that is not formal learning—viz. non-formal, informal, incidental, self-directed as well as all sub-variants covered under these concepts. A collective term for some of the sources of hidden learning (including triggers and influences) is the hidden curriculum. However, the hidden curriculum typically refers to all learning resulting from existing institutional influences. This potentially excludes some informal and incidental learning as well as most self-directed learning, if it occurs independent of the institution.

Non-Formal Learning

Eraut considers non-formal learning as existing toward the latter end of a continuum, between formal and informal learning (Eraut, 2000a, 2000b). He maintains it includes implicit, unintended, opportunistic and unstructured learning, without the presence of a teacher. He goes on to sub-divide the category into implicit, reactive and deliberative learning. *Implicit learning*, using Reber's (1993, p. 5) definition, is 'the acquisition of knowledge independently of conscious attempts to learn and in the absence of explicit knowledge.' In contrast, *reactive learning* conveys more of a conscious process and includes activities such as reflecting, discussing, questioning, and engaging. The initiation of reactive learning can be either spontaneous or intentional (Furner, 2005), and occurs either during or after an event (Schön, 1995). Eraut also introduces time as a dimension, when he differentiates between past episodes, current experience, and future behaviour as influences on non-formal learning (Eraut, 2000a).

It should also be noted that some studies consider non-formal learning as a process of life-long learning in the workplace (Beckett & Hager, 2002; Hodkinson & Hodkinson, 2001; Hunt, 1986). This study, however, takes the wider definition by looking at the symbiotic relationship between non-formal learning and all other learning sources contributing to a specified course aim within a formal learning institute.

Not surprisingly, there is also disagreement in the literature on the exact meaning of non-formal learning. Some authors, for example, treat non-formal and informal learning as the same concept, or at least treat the latter as a sub-set of the former (Bjørnåvold, 2000), while others have made clear distinctions (Watkins & Marsick, 1992). Colley, Hodkinson, & Malcolm (2003) went as far as deriving 20 main criteria for distinguishing between non-formal and informal learning, while Livingstone (2001) distinguishes between informal education and informal learning based on the presence or absence of a teacher. This study defines non-formal learning as the secondary¹⁹ outcome of institution-initiated and guided activities (not completely controlled). While most non-formal learning outcomes would ideally be articulated in the curriculum and overtly cross-referenced to syllabus objectives, it is also possible for *curriculum shadow* benefits to occur.

Curriculum Shadow

The *curriculum shadow* is a subset of non-formal learning (Figure 14, p. 57), and refers to by-product learning, resulting from formal learning activities, but is not detailed in the curriculum (Uhrmacher, 1997). Uhrmacher argues the concept differs from popular interpretations of the hidden curriculum, as well as null curricula (Eisner, 1994), on the grounds that the hidden curriculum is not about social control or the subtle messages conveyed through organizational structures.

An example of the curriculum shadow on the NZDF Staff Course is the tacit learning skills resulting from the various assignments. Because the course currently has a syllabus but no curriculum,²⁰ all non-formal learning falls into the curriculum shadow and consequently lacks any structured development. An expansion of this example could be an essay set by the international relations module manager, which details the essay question with little or no reference to the skills required in producing the

¹⁹ The term secondary is only used because it is not the stated objective in the formal syllabus. If the curriculum was better written, the associated tacit learning skills would take primacy.

²⁰ *Syllabus* refers to a course's prescribed learning objectives. A *curriculum* is much broader and, although it includes one or more syllabi, it describes various additional dimensions of the learning process (philosophy, assessments, suggested resources, learning activities, etc). The two terms are sometimes simplified to the *what* and *how* of learning.

paper. The stated syllabus (formal learning) outcome will employ words like *increased understanding of international relations theory*, yet, to produce this declarative-knowledge outcome, numerous tacit skills are developed through non-formal learning. Such skills could include: research approaches and methodologies, critical reading, analysis, creative and persuasive writing, word processing, time management, and much more.

Because the tacit skills are not currently documented as learning outcomes in a curriculum, there is no planned structure to their development. Ironically, due to rapid change in global security issues, formal curriculum subject matter is often out-of-date before graduation. Yet the tacit learning skills developed in the process of writing the essay will often have life-long value.

Another important aspect of the curriculum shadow is the potential negative side-effects of isolated changes to the official curriculum or syllabus (Uhrmacher, 1997). Because education is a complex system, changes to one component will always impact on others. While this can be positive, the danger is unintended, and unnoticed, negative consequences. Typically, the more strategic the change, the greater the cascading influence. This issue reinforces the need for multi-order thinking for small changes, but holistic studies for major reviews.

Informal Learning

The term informal learning originates from *non-formal education* as defined by UNESCO in 1947, but documentary evidence of the concept can be traced back (in modern times) to 'self-help' and 'self-directed learning' (Lovett 1876 cited in Colley, et al., 2003). More recently, the emphasis moved from education to learning when it took on the emancipatory notions born during the radical and student-centric movements of the 1970s and 80s (for example Freire, 1970; Knowles, 1980) and continue through today.

Straka (2004) sees value in the label but describes informal learning as a metaphor because it lacks 'systematic and empirically grounded valid evidence on why, where, when, how, and what is learned...' (p. 2). He goes on to employ Bronfenbrenner's

(1979) ecologically based, human development system to show how informal learning can be considered on a four stage continuum spanning from macro, through exo and meso, to micro. The macro pole refers to dominant ideologies and cultural patterns binding all social institutions, while the other extreme—micro—involves personal experiences unique to a learner.

Marsick and Watkins (2001) define informal learning as ‘usually intentional but not highly structured’ (p. 25); the control of which rests with the learner. Unlike Mocker and Spear (1982) however, they do not break the control down into means and objectives, presumably, therefore, implying both. They describe informal learning as either deliberately encouraged by the institution or occurring independently (1990). They cite the following activities as examples of informal learning: self-directed learning, networking, coaching, mentoring, and performance planning that includes opportunities to review learning needs.

This study defines informal learning as when the learners are the dominant influence over the means but not the objectives. The learning must contribute to the overall course aim and is bounded by the duration of the course. Informal learning in the context of a staff course occurs as a result of semi-planned activities where students are free to engage and develop understanding, as they wish. Examples include post-lesson morning or afternoon teas with presenters, hosting lunches at the Mess, and other similar scheduled activities, outside the formal classroom environment. These are activities that the institution deliberately shapes to promote informal learning. However, they have not been documented as learning activities in the formal curriculum and are not summatively assessed.

Incidental Learning

The concept of incidental learning is similar to informal learning, but is typically more spontaneous and unintentional. It is sometimes referred to as serendipitous (Schrum & Lamb, 1996), *en passant* (Reischmann, 1986, 2004), or accidental learning (Conner, 2007), because of its unplanned nature. This study accepts Marsick and Watkins’ (1990) broader definition of incidental learning as a subset of informal learning:

Incidental learning is defined as a byproduct of some other activity, such as task accomplishment, interpersonal interaction, sensing the organizational culture, trial-and-error experimentation, or even [consequential to] formal learning (p. 12).

Marsick and Watkins also indicate that although incidental learning is occurring all the time, people are often unaware of it happening (1990). In contrast, Schugurensky (2000) argues incidental learning requires awareness with its tacit equivalent described as *socialization*. This study however, limits socialization to the internalization of cultural norms (values, attitudes, beliefs, etc) and therefore accepts incidental learning as the conscious, subconscious, and unconscious (*cf* p. 69), acquisition of both knowledge and culture. The lack of metacognitive awareness component in tacit learning creates obvious problems for researching through purely self-reporting—and hence this study’s employment of mixed methodologies.

This study defines incidental learning as the outcome of unplanned and unintentional activities, over which neither the institution, nor the learners control the means—they just happen. Typical examples of these unplanned events are spontaneous student discussions while engaged in personal fitness activities, while watching relevant television programmes, or during commercial breaks in the TV lounge. Although such learning could be considered self-directed, the key difference is deliberate intention.

Major research specifically focusing on incidental learning includes Marsick and Watkins’ Informal and Incidental model for adult learning (Marsick & Watkins, 1990, 1997, 2001; Watkins & Marsick, 1992), and Eysenck’s study into age differences in incidental learning (1974). A number of other studies have been conducted in the area of computers and animation (Rieber, 1991), literacy—where it is known as Quick Incidental Learning or QUIL (Oetting, Rice, & Swank, 1995; Rice, 1990; Rice, Buhr, & Oetting, 1992)—as well as related neurological studies (Paller, Kutas, & Mayes, 1987).

Self-directed Learning

Self-directed learning, as previously defined, is where both objectives and means are controlled by the learners (Mocker & Spear, 1982). For the purposes of this study, it will be limited to learning contributing to the course aim. This type of learning is typically limited to the more capable students who have the capacity to extend

themselves beyond the programmed deliverables. Examples of this type of learning include student requested Te Reo or haka classes at lunchtime and additional readings or research beyond what is required for assignments. Although student interest in the area of this additional learning is likely to be enhanced because of attendance on the course, it falls outside the traditional notion of the hidden curriculum.

The Hidden Curriculum

The general notion of the hidden curriculum 'has a recorded history since the time of Plato' (Barrow, 1976, p. 137). Its more recent discussion however, is often linked to the work of John Dewey (1933), William Kilpatrick (1926), Harold Rugg (Rugg, Rugg, & Shumaker, 1928) and Jules Henry (1960), with the actual label coined in Phillip Jackson's seminal book *Life in Classrooms* (1968). This was quickly followed by one of the first empirical studies conducted in the area by Snyder (1973), who focused attention on the hidden curriculum in higher education.

In terms of a singular definition for the hidden curriculum, Jackson, the originator of the phrase, describes it as follows: 'The hidden curriculum refers to ways in which pupils learn to accept the denial and interruption of their personal desires and wishes' (Jackson, 1968). Like most sociological phenomena, however, there has been a constant refining and redefining process in the literature. Gray (1991) for example, refers to the phenomenon as both the unintended messages delivered and lessons learned by students. Focusing on the teacher, or other individual role models, permeates through the thinking of other writers:

The implicit messages being conveyed continually to students through a lecturer's, or role model's example, rather than the person's spoken words. The hidden curriculum also involves the imprinting of attitudes and values onto impressionable students by their more experienced educators (Adler, Hughes, & Scott, 2006, p. 463).

Adler et al.'s (2006) connotations, of the vulnerable being preyed upon unwittingly, are shared by other writers. McGookin (1999), for example, warns of the hidden curriculum's sinister side by arguing it involves subliminal ideas inculcated to the point of uncritical acceptance. Similarly, van der Zanden and Pace, (1984) define it as 'the unarticulated values and attitudes unwittingly taught by educational institutions or

systems' (cited in McGookin, p. 72). Although such descriptors make up an element of the hidden curriculum, this study also includes conscious and willing learning in the definition. Furthermore, this study emphasises the fact that hidden learning need not only be considered a negative influence—it can also be considered positive or neutral.

In an attempt to shift the focus away from both the teacher and curriculum, some educologists place greater importance on the institute. Haralambos and Holborn (1991) for example, suggest the hidden curriculum consists of things students learn through the experience of attending educational institutes rather than the stated objectives. This approach is also promoted in Meighan and Siraj-Blatchford's (1997) claim that the hidden curriculum is taught by the school, not teachers.

Anderson (2001) reinforces popular reformist connotations when he describes research into the hidden curriculum as 'studies that focus on unveiling the supposed *real* agenda of formal education' (emphasis in original). He goes on to say 'it seems to be defined as much by a lurking suspicion of conspiracy as by any single or precise definition' (2001, p. 30). Anderson then offers the following synthesis of historical definitions in the literature:

- 1 A kind of indoctrination that attempts to maintain social privilege—or esoteric knowledge and practices—and that is imposed together with the formal, taught curriculum [learning the profession (Ahola, 2000; Bergenhenegouwen, 1987)].
- 2 Refers to the subtle effects of the setting in which the formal education occurs [influences of hidden learning].
3. Refers to the un-stated rules necessary for successful completion of formal studies [similar to *learning the game* (Ahola, 2000)].

The key message from Anderson's historical trace is the evolving interpretation of the hidden curriculum. From its earliest days, conspiracy theorists saw the hidden curriculum as a purely negative influence within learning settings, yet contemporary literature seems to offer a more balanced view. The current interpretation is one of both positive and negative influences—but importantly, the search for control. Typically, the first goal of researchers today is consciousness-raising through

exposure. From here, some studies go on to advocate deliberate harnessing of the powerful informal learning. This usually takes the form of minimising or mitigating the negative aspects and constructively shaping the positive.

Finding a single definition for the hidden curriculum is problematic. As a widely studied, yet evolving concept, there are multiple attempts to understand how, where, and when it occurs. There is also the wider challenge of understanding concepts falling outside the hidden curriculum, but within hidden learning. Appendix 2 lists 45 different terms used in the literature to describe the broad notion of hidden learning (including the hidden curriculum).

Hidden Curriculum Taxonomy

Some authors speak of 'various hidden curricula' (Chiang, 1989, p. 192), to capture the essence of the multivariate (multiple, complex and intertwined variables), individualised, and ever-changing influences. The term *curricula* is also used when an author is referring to multiple institutes or disciplines, the generic construct, or if they have developed a multidimensional interpretation of a single environmental phenomenon.

Anderson (2002) categorised the various definitions of the hidden curriculum into three broad themes. The first captures indoctrination and cultural inculcation. In this form, the hidden curriculum promotes and perpetuates an institution's or profession's culture through intangible and often unconscious artefacts, rituals, and systems. The main researchers of this type have been Illich (1971), Apple and King (1977), and Ehrensall (2001). Others have looked at the discriminatory or stereotyping influences on minorities such as gender, (Curry, 2001; Frazier & Sadker, 1973; Goulding & Cleeve, 1997), unemployment (Muzzin, 2001), and technology (Winner, 1997). These latter studies have explored the impact of discrimination, overt or otherwise, through education programs. While the formal syllabus has not sought to promote such values, the structures and personalities involved have collectively contributed to the learning of specific cultural messages.

The second major research focus has been on the physical environment of the educational setting and the impact this has on the learning. Anderson (2002) cites major research in this area having come from Gordon (1988), Gair and Mullins (2001), and Orr (1966).

The third distinction in the literature that Anderson (2002) draws is the socialisation process where students learn to cope with the institutionalised requirements of the institute. This is usually labeled as 'learning the game' and is the focus of several studies (Ahola, 2000; Bergenhenegouwen, 1987; Snyder, 1973).

Based on the literature explored above, the hidden curriculum can be considered in terms of multiple dimensions, each with complex layers (P. W. Jackson, 1966). The first of these is a favourability (positive–neutral–negative) spectrum. The second is awareness (conscious, preconscious, subconscious, and unconscious levels). Other dimensions include aspects such as permanence over time and individual perceptions.

Favourability

The hidden curriculum has long been considered a negative influence in education. Jackson (1968) was the first of many to identify the negative impact on learning for those students who fail to internalise aspects such as school and classroom rules. More recent commentators refer to it as *unreflective learning* (Downey, 1986) and 'subliminal ideas which are inculcated in learners so that they come to accept them uncritically' (McGookin, 1999, p. 72). Sambell and McDowell (1998) use terms such as 'shadowy' and 'ill-defined' while Czajkowski & King raise concern about how 'expectations can be a strong vehicle of negative tacit learning in traditional education...' (1975, p. 282).

Other, more balanced critics however, see the hidden curriculum as a scapegoat. Chiang argues the hidden curriculum 'has only been identified when schools are failing to perform...' (1989, p. 193). While Bloom (1981) and Baltzell (1996) are among several commentators who acknowledge the complementary positive and negative dimensions of the hidden curriculum (D. J. Wren, 1999).

Despite the early domination of conspiracy theories (Cornbleth, 1984), there now is an increasing awareness the hidden curriculum can be positive. Czajkowski and King for example, advocate 'the hidden curriculum of the open classroom must be studied from the view of what is valued, tolerated and encouraged.' (1975, p. 282). While Ottewill et al., argue for conscious positive shaping of tacit learning through a 'coherence between the explicit course goals as expressed through the formal curriculum, and messages emanating from organisational setting, the hidden curriculum' (2005, p. 90). Meanwhile, Ryan and Lickona (1987) discovered how a series of school readers deliberately targeted a number of socially acceptable values such as respect for authority, good conduct, punctuality, and discipline.

Deliberateness

Martin (1976) argues there are two types of hidden curriculum. She maintains the word *hidden* could imply the deliberate act by an individual or institution (as argued by Gair & Mullins, 2001), or it could simply mean it has not yet been discovered. In either case, she maintains the concept of *hidden* is a relative term. While it might be hidden to some, it need not be to all. This raises the question: once everyone knows about it, is it still hidden?

Being *hidden* need not imply deliberate hiding, but could still be performed with deliberate intent. Yet the absence of deliberateness need not automatically imply deception (Portelli, 1993, p. 355). Reflecting the zeitgeist of the 1970s, Martin initially states 'We may assume that all the elements of the hidden curricula discovered to date are unintended' (1976, p. 143). But she later extends the definition to:

A hidden curriculum consists of those learning states of a setting which are either intended or unintended but not openly acknowledged to the learners in the setting unless the learners are aware of them (p. 144).

Husen and Postlewaite consider the hidden curriculum as either covert, unintended, implicit, or simply unacknowledged (1985). This suggests it might not be simply a case of intention versus deception, but awareness.

Awareness

A common goal of many hidden curriculum studies is awareness raising. Many authors argue that 'once revealed, the hidden curriculum becomes negotiable and visible to all participants including teachers, students, and society in general (Anderson, 2001, p. 30). This belief is premised on the notion that many in education are either oblivious of the hidden curriculum, or at least of its full extent. Bergenhenegouwen, for example, argues 'the teacher's informal demands are made partly consciously and partly unconsciously' (1987, p. 536).

Conscious hidden curriculum captures any specifically intended learning not detailed in the formal curriculum. It includes any activities, words, or actions deliberately employed by staff to shape students' learning. While some may choose to debate the semantics, this study contends any learning outside the formal, declarative-knowledge syllabus is part of the hidden curriculum. When the application of moral, ethical, and social standards is left to the subjective interpretation of individual staff, then the process is unstructured and its exact direction remains hidden.

Awareness-raising involves subconscious and preconscious understanding being made conscious. Although Freud (1923) disagreed with the concepts of sub and preconscious, today they are often accepted as memories (or knowledge) either yet to be made conscious, or in the process of becoming, respectively. For the purposes of this study, the concepts serve as useful labels to identify aspects of learning which can be, or are in the process of being, recognized as the hidden curriculum, but have not been fully considered.

Unconscious hidden curriculum captures tacit learning beyond what could realistically be revealed. Because of the complex and indeterminate nature of the hidden curriculum, there needs to be an acceptance that it will never be fully understood. This is equally significant for research attempting to measure or shape its influence.

The degree of sub-, pre-, or unconsciousness can be temporal in both time and space. For example, it can include individual staff action, or the cumulative combination

effect of multiple actions, on the institutional culture or directly to students without awareness by the staff yet consciously noticed by one or more students.

Individual differences

As both Martin (1976) and Curry (2001) highlight, the hidden curriculum is experienced individually; particular students receive different messages from, and respond differently to, hidden curriculum influences. Similarly, Gordon's (1995) claim that any research on the hidden curriculum must be approached using a hermeneutic methodology implies the phenomenon does not exist except in the minds of those involved. Each person, in turn, has a different interpretation of utopia and dystopia.

Heterotopia, in particular, acknowledges that what is seen as *utopia* by one social/cultural group can be considered as *dystopia* by different social and cultural groups and/or within different social and historical contexts (Milojevic, 2005, p. 180).

Martin (1976) gives an example of how a teacher hanging Picasso paintings on the wall might initiate (possibly unintentionally) a student's appreciation for art. She goes on to assert that, for that individual student, the influence of the paintings was part of the hidden curriculum. She defines the phenomenon as being 'of some setting, at sometime, and for some learner' (p. 138). This complexity reinforces the need for a mixed methodology design with detailed triangulation. It also suggests the dynamic nature of the hidden curriculum is not limited to individual differences either.

Impermanence

Individual students, staff, the organisation's culture, and a host of other factors are always changing. Given the influence of the hidden curriculum appears to be in the eye of the beholder, by default, it too must be constantly changing over time. As Martin highlights, 'New settings with their own hidden curricula are forever being created and old ones are forever changing.' (1976, p. 139). This problem is also recognised by Czajkowski and King, who argue 'The realities of hidden curriculum must constantly be examined and re-examined in the light of the ongoing educational process' (1975, p. 281).

Martin identified 1960s research examining racial discrimination and overtones, but not sexist ones (1976, p. 6). As she points out, this is unlikely to be because the latter did not exist, rather because it was not even considered. She also concludes 'Even if a hidden curriculum does not change over time, we change.' (1976, p. 140). This truism reinforces the need for continual staff development over time and ongoing research into the influence of the hidden curriculum.

Summary

This chapter has contextualized the thesis' conceptual framework (Figure 7, p. 32). Building on Chapter One's exploration of professional wisdom this chapter looks at how staff colleges can facilitate its acquisition through cognitive agility and holistic understanding of the profession. For this study, holistic learning has been divided into four foci (learning the profession, expertise, the game, and to learn). By way of examining how these four foci can be improved, and therefore how cognitive agility in general can be enhanced, the chapter reviewed depth of learning. Focus then turned to the various sources of holistic learning and their respective relationships (Figure 14, p. 57). This highlighted the important contribution of hidden learning on holistic professional military development. The next chapter continues this discussion by examining empirical research in the field.

Chapter 3 Literature Review

Holistic professional military development involves the complex integration of extensive military experience with professional military education (PME). The latter, in turn, involves a holistic learning experience comprising of both formal and hidden learning (Figure 1, p. 3). Although formal learning is a vital component of this system, it is constantly monitored and evaluated through established systems in most military colleges. In fact, when investigating holistic learning, it is impossible to consider one without the other. This study incorporates the process and outcomes of formal learning in the results but recognizes hidden learning as most challenging to identify. This chapter therefore focuses on the relevant research in the field of the hidden curriculum.

As discussed in Chapter 2, this study contends hidden *learning* is a more appropriate label for a phenomenon that only exists from the perspective of the recipient (the learner). Unfortunately, most hidden learning research only employs the label *hidden curriculum*. For the purposes of this chapter therefore, *hidden learning* and the *hidden curriculum* are treated synonymously.

Scanning the hidden curriculum literature not only illuminates understanding of the complex phenomena, it provides an insight into appropriate research methods. While Chapter 2 has already employed an extensive literature review to understand the concepts, the following section continues with a summary of selected work to further the understanding and consider appropriate research methods. The chapter concludes with an overview of the tension found in the literature.

Compulsory Schooling

By far the greatest amount of literature on hidden learning comes from hidden curriculum studies in the compulsory schooling sector. Although this study focuses primarily on adult education, there is value in exploring some younger age investigations where commonalities exist. One obvious example is the hidden learning's influence on acculturation.

A major focus of research into the hidden curriculum has been on institutional culture and ethos. Brady (2005) for example, examined the impact of secondary school culture on what he refers to as 'the dual outcomes of academic achievement'. While Wren's (1999) study of school culture and the hidden curriculum defined culture as 'the values and symbols that affect organizational climate'. This linked with Owens' (1987) symbolic aspects of traditions, rites, and rituals. Similarly, Manning (1989) explored the cultural meaning of rituals and ceremonies in higher education. Each of these studies found the institute's spirit and ethos had both a positive and negative effect on the teaching/learning environment. In his doctoral dissertation, Wren (1993) asserts 'all students must internalise a specific program of social norms' (p. 3) to function effectively both in the schooling system and then later in society.

Henry (1990) compared a Waldorf school with an elite college-preparation school to seek social and symbolic (hidden curriculum) messages in the respective institute's rituals. Over a one-year period, she observed lessons and ceremonies, conducted interviews, and examined a wide range of documentation. She divided the learning into the following categories: socio-historical, mythical/philosophical, curricula, ritual, temporal, spatial, and social-relational. She discovered two aspects to the hidden curriculum in the two schools. The first being the establishment of value-laden symbolic order that is organic and aesthetic in form. The other influenced the academic, instrumental, and rational context of the learning. She therefore concluded that the hidden curriculum influenced both the cognitive and affective domains of learning.

General Tertiary Education

Sakari Ahola's (2000) study of 280 medical, teaching, and sociology students at the University of Turku (Finland) significantly shaped this thesis. Of greatest influence was his crystallizing and validating the four foci of learning (cf pp. 34–44). Using primarily quantitative questionnaire data, Ahola explored the four learning foci with the goal of identifying antecedent causal relationships. He sought correlations with previous university experience, parental influences, gender differences, and between university disciplines. While these dimensions were not explored in this study, many of his

questionnaire items remain valid. Questionnaires, however, are considered only one of many data sources necessary to explore such a complex phenomenon.

Ahola's study has limited application for comparing the findings with this study. Apart from exploring different dimensions of the four learning foci and potential cultural differences between New Zealand and Finland, Ahola's sample was undergraduates. The acquisition of all four foci is considered to be heavily influenced by previous experience. This means staff course students in New Zealand (average age 39 years) will both perceive and develop the four foci differently to Finnish undergraduates with little or no previous work experience.

Ahola's study does reveal some useful insights about the hidden curriculum at university. Ahola (2000, p. 1) identified 'the official curriculum [at university level] tends to be rather loose and uncodified' compared with school curricula. Furthermore, he found the actual student learning to be at odds with the espoused goals of the institution. This disconnect is a consistent theme in many hidden curriculum studies (for example Gray, 1991; Ottewill, et al., 2005).

Solomon (1988) questioned why higher education institutes ignore research supporting the integration of the affective domain with intellectual (cognitive domain) to improve academic performance. She highlights the paradox of courses targeting emotions, feelings, experiences, and personal development being considered less academic. Using ethnographic techniques she studied students in a psychology of personal growth course and found a hidden curriculum of intense competition, despite knowing that this interferes with their education.

With significant parallels to the military PMD system, Solomon found the *institutionalisation of separation*—or removal of emotions from academic study. She believed the students were conditioned to value traditional masculine gender-role prescriptions. These include intellectuality, individualism, objectivity, and separation of professional and personal lives. Simultaneously, the students denigrated any attributes considered to be traditionally feminine gender-role such as emotionality, connectedness, subjectivity, and the holistic combining of personal and professional lives. Such traits are clearly evident in military education where the combat masculine

warrior culture (Dunivin, 1994), is valued—through both self selection and reinforcement (M. V. Simons, 1997).

Medical

In a quite different study, Haidet et al. (2002) surveyed 673 undergraduate medical students looking for differences between egalitarian, patient-centric care and disease, or doctor-centric. Despite the espoused curriculum promoting the former, student doctors tended progressively more toward the latter as they progressed through medical school training. Apart from the gender and racial differences found, the overall significant finding was the difference between espoused and in-use curriculum. This study replicates similar findings in values education during military courses. Simons (1997) for example, found new recruits to have much stronger collectivist values than those who had progressed through the system and had become more cynical and self-protecting. The combined findings of these studies provide a useful framework to study the hidden curriculum in professional military development.

Business

A study by Ottewill, McKenzie, and Leah (2005) looked at the hidden curriculum in higher education business degrees. They found that despite the overall aim of the degree being to promote seamless integration between the various aspects of business management, the structure of the degree contradicted the espoused curriculum. Through alternate (zero-sum) elective papers, the students were forced to exclude certain areas—a form of self-selected null curriculum (Flinders, et al., 1986; Uhrmacher, 1997). This in turn undermined the concept of a holistic education (learning the profession) in all areas of business education. By default, the students were being forced to compartmentalise their education (into expertise) when the very message the department sought to promote was one of complete integration. The parallels of learning to be an expert and learning the profession have obvious relevance to holistic professional military development.

The business education study also found a negative dimension to the hidden curriculum with the absence of cross-disciplinary dialogue. Compartmentalising of the

profession was further reinforced with emphasis on divisive activities taking priority over uniting ones. Further messages from the hidden curriculum were identified where territory protection was valued over collaboration. While they acknowledged the occasional benefits of specialisation, they concluded this was counterproductive when the course sought to breakdown silo thinking. Interestingly, Snyder (1973) discusses a similar dilemma at MIT in trying to 'cultivate' ingenuity and creativity (as a profession) yet simultaneously *training* engineers in 'technical competence'.

Despite lacking empirical data, or even expanding on their methodology, the study by Ottewill et al. (2005) provides some useful insights into studying holistic PMD. The erosion of cross-branch silo mentality, and indeed acculturating an atmosphere of inter-Service collaboration, vice competition, is an unstated goal of the New Zealand Defence Force Staff Course. Given that the military's course is effectively a specialised variant on business education anyway, it is not surprising parallels can be drawn.

Teacher training

In a study of the hidden curriculum in pre-service teacher training, Gair (2003) used grounded theory to derive prevailing discourses in the learning. Based on interviews with 33 subjects, Gair found evidence to support the *existence, interaction, and functioning* of a hidden curriculum. She then divided this influence into three categories: *Culture Talk* where faculty actively sought to breakdown existing paradigms in student teacher understanding of school regimes and replace them with enlightened teacher habitus; *Methods Talk* captured a similar tension between institute and students where the latter resisted adopting methods contrary to their own personal experience of success at school; and *Market Talk* which addresses the challenges between the conventional wisdom on standards and assessment with the more humanistic notions of democratic learning.

Gair's hidden curriculum study not only had the ubiquitous goal of consciousness-raising, but sought to do so by giving *shape* to the components and advocating a *denaturalising* process for any behaviour which reinforces the negative messages. By this, she gave purpose and labels to the phenomena in a way that all involved could easily understand. She actively sought to break paradigms where people automatically

repeated old methods that were unintentionally promoting negative learning. Her goal was reinforced with a clear message of hypocrisy in the system that paradoxically is supposed to be aware of good pedagogical practices yet appears to be ignoring its own teaching.

In a study of ongoing teacher professional development programmes, Gray (1991) discovered the paradox of educationalists being aware of the hidden curriculum in classrooms yet apparently ignoring it when offering packages to staff. Her study found a discrepancy between the espoused and in-use curricula of teacher professional development. Despite advocating flexibility and choice, with spin-doctored phrases such as 'suggestion', participants in the training reported a lack of control and status. Her line of investigation has useful parallels for the verbally espoused (yet tacit) staff course curriculum that currently encourages self-respect, identity and status in the students.

Military

Very little published research exists on the hidden curriculum on military staff courses. Exhaustive searches of academic search engines over a four-year period and personal communications with the Australian, Singaporean, Swiss, Canadian, United Kingdom and selected US Staff Colleges indicates this area is largely unstudied.

Within the unpublished arena, a few PhD studies have investigated staff course education—although none considered holistic learning of residential students. Reese (2007) for example, looked at informal learning in online environment of US staff course students while Rusnack (2007) investigated whether problem-based learning at the US Air Force Academy actually helps develop lifelong problem solving skills.

Chipman (1990), investigated the quality of instruction at The Canadian Land Forces Command and Staff College in Kingston, Ontario. He concluded teaching styles were largely andragogic in nature, but restrained by elements of military tradition, resistance to change and confusion in the goals of Staff College attendance. These same findings are expected to be found in this study of the New Zealand Staff College, twenty years later.

Although dated and outside staff course settings, other studies have included elements of hidden learning in military courses. Doherty (1983) reviewed foreign language training across the five US military academies with a brief exploration of extracurricular activities which enhance students' language-learning experience. Meanwhile, Hawkins (1988) compared the success of US Reserve Officer Training Corps members with non-ROTC students and found military students share the same individual differences and study motivations as civilian ones.

Curriculum development is another area of relevance to this study. One of the *a priori* concerns of the New Zealand Staff Course is the long history of incremental curriculum evolution without holistic reviews. Similar concerns in the US led Gest (1990) to review the history of curriculum development at the US Industrial College of the Armed Forces. He found there was no rigour to the curriculum's development since 1924.

Despite minimal empirical research, there is no shortage of professional military education (PME) debate in the literature. Various books (e.g. Caforio, 2004; Franke, 1999; M. V. Simons, 2005; W. Simons, 2000; Stevenson, 1996; Van Creveld, 1990), military journals (e.g. *Armed Forces and Society* and *Parameters*), and Defence College publications explore the broader topic of PME. A number of technical reports, primarily from the US Military, investigate related topics such as tacit knowledge (Horvath, Forsythe, et al., 1996) and deep learning (Mulvaney, et al., 2008). While these offer partial insights into the general topic of holistic learning, none replicate this study.

The area of teaching complex adaptive systems (Mulbury, 2007) and associated calls for major updates to PME (Hutcheson, 2009; Martinez, 2008) are also commonly found in related military journals, yet there remains a dearth of empirical research on both. Military conferences, such as the International Military Testing Association (IMTA), have received papers related to improving learning in the military (e.g. Kozlowski, 2005) and a number of non-refereed discussion papers are available online (eg. Davidson, 2006). The need for a detailed study into holistic learning on staff courses is, therefore, well established.

Tensions in the Literature

As with any esoteric construct, there is debate in the literature on the hidden curriculum. Perhaps the most prolific critic is Lakomski (1988, 1989) who argues there is no empirical evidence for the hidden curriculum. Chiang agrees ‘there is no such thing as the hidden curriculum’ (1989, p. 192). While Petty (1978, p. 15) warns ‘the argument that the hidden curriculum of schooling has a profound effect on the adult behaviour of students is plausible, but it should not be accepted uncritically—its acceptance requires too many inferential leaps’. In contrast however, others argue, ‘the hidden curriculum is so deeply embedded in our whole conception of schooling that while it no longer needs to be made explicit, neither can it merely be washed away.’ (Vallance, 1973, p. 19).

While not so much arguing against its existence, Wren (1999) highlights the paradox of the hidden curriculum in that, by most definitions, it is spontaneous and therefore not only difficult to measure and articulate, but near-impossible to influence—a claim not supported by this study. Wren goes on to speculate that, if it can be controlled, this may in fact alter its influence. Finally, he questions whether it is desirable for educators to control the hidden curriculum when one of the desired outcomes is flexibility, spontaneity, innovation, and creativity in the students. This point is particularly relevant in the military environment where most espoused curricula advocate this as a desired trait of graduates.

Other tensions in the literature revolve around the approaches to studying the hidden curriculum. Skelton (1998) for example, conducted a metadata analysis of studies over 25 years and found numerous critics of the various perspectives. He also identified the inherent weakness of reductionist thinking with such a holistic phenomenon. Of perhaps greater interest, is the apparent shift away from questioning hidden learning’s existence to how it could and should be studied. The absence of more recent tension in the literature suggests the notion of hidden learning is now widely accepted.

Summary

This chapter built on the earlier conceptual design chapter to review how applied research has investigated the general concept of hidden learning—albeit under the banner of hidden curriculum. Emerging from the work in compulsory schooling is a strong sense of the sociological dimension to hidden learning. The institution's culture is seen as a significant influence of what and how students learn. From the research conducted in general tertiary level education comes a stronger understanding of what is learned (the four foci) and the influences (exchange and practical value motivation). This integrates well with the how (the sources) identified in Chapter 2 to provide this study's conceptual framework (Figure 7, p. 32).

Further research into hidden learning in adult education found divergence between espoused and in-use curriculum where the written documents differed from what the teaching staff actually conveyed. There was also a maturation process found in medical students moving away from the idealized patient-centric health care toward doctor-centric thinking in their final years. Studies into business education courses revealed similar problems between espoused and in-use curricula where students were encouraged to embrace a holistic approach to their profession yet were taught in a stove-piped manner.

Teacher education studies found similar evidence of divergent espoused and in-use curricula. Ironically, despite teaching students the theory of hidden learning, the institute neglected its contribution in their own courses by not empowering learners to influence their own education. Additionally, tensions were found between new methods and paradigmatic thinking (reflecting the observations of patient- and doctor-centric health care).

Military education studies found a wide range of similar studies reflecting the concerns of this thesis. These included an absence of adult-learning principles, *ad hoc* and reactionary curriculum development, and the importance of hidden learning. Although no research exists, there are numerous calls to increase teaching the new sciences in military education. This reinforces the earlier identification of both

cognitive agility and holistic understanding of the profession as being critical in developing strategic artists.

The chapter's final section reviewed the tensions in the literature. While some earlier critics argued there is no empirical evidence of hidden learning the overwhelming literature in the field simply focuses on increasing our understanding of it. The absence of contemporary critics is perhaps the most telling point. Other commentators have traced the historical development of this understanding and the changing way this research is conducted. This exploration is continued in the next chapter where the various research options are considered in greater depth.

Chapter 4 Method

This chapter begins with a literature review of methods used in the field before detailing the mixed-methodology techniques employed in this study. A short section outlines the participants, sample size, ethics and risks before a more detailed exploration of the various qualitative and quantitative data sources. The chapter concludes with an overview of the analysis techniques employed.

Literature Review of Methodologies

A problem with exploring holistic learning sources is their complex interconnectedness (symbiotic influences) and adaptive impermanence. The list of what might, or might not, be considered part of the hidden curriculum never ends (J. R. Martin, 1976). Yet finding hidden learning may not be as difficult as some claim. Gair and Mullins (2001) for example, believe the hidden curriculum is 'hidden in plain sight' and is often easy to find. They claim 'the hidden curriculum is not something that we must look behind or around in order to detect; in most cases it is plainly in sight and functions effortlessly' (p. 23). This study employs an emergent, or constructivist enquiry, approach to uncover any sources that appear. To ensure a comprehensive starting point however, it is appropriate to consider traditions, methods, and sources identified in the literature.

Research into holistic and hidden learning sources draws heavily from the field of the hidden curriculum. Jackson's (1968) initial publication introduced the 'schooling triumvirate' of crowds, praise, and power as well as the 3 Rs of rules, regulations and rituals. Anderson (2001, p. 30) adds 'setting, technologies used, and the nature of learning activities'. While Vallance (1973, pp. 6-7) identifies the social structure of the classroom, the authority exercised by the teacher, and the rules governing the relationship between teacher and pupil. Hafferty (1998) recommends examining the understandings, customs, rituals, and taken for granted aspects of what goes on. Each of these areas influences the blended starting point of this study's investigation into holistic learning.

Research Traditions used in the Field

This study employs an eclectic synthesis of research traditions from the post-positivist paradigm. By definition, all hidden learning sources of the holistic PMD are largely ineffable in nature and therefore require a complex combination of approaches and design methodologies. This study employs a mixed methodology approach with both quantitative and qualitative data contributing to the topic's deep understanding. Although the findings are presented as theme interpretations, quantitative data retains an important place in identifying dimensions not easily measured with qualitative methods. Because the study employs a mixed methodology approach, neither pure ethnographic nor pure quantitative traditions dominate.

Ethnography

Ethnography is not itself a method, rather it is a combination of different methods; hence it is a theory of the research process—an idea about how we should do research (Skeggs, 1995, p. 192).

Ethnography typically combines the key features of context, over a prolonged period of time, immersed the participant's world. In doing so, it investigates shared patterns of behavior, beliefs, values, and language of a group of people. The researcher can be either a participant or passive observer. Because both approaches present challenges, attention must be given to the relationship between researcher and the researched and any impact this might have on the findings. In addition to etic (1st order) perspective, where the researcher records their own impressions, ethnographers also seek emic (2nd order) understanding from the participants and third party members (3rd order) such as college staff. This study combines both emic and etic sources including the researcher acting as both an active and passive observer.

Ethnomethodology

Ethnomethodology, as a variant of ethnography, goes beyond just thick descriptions of cultures by analysing 'the methods individuals use to make sense of their social world and accomplish their daily action' (O'Leary, 2004, p. 125). Based heavily on the foundation work of Garfinkel (1984), ethnomethodology has developed a number of esoteric concepts to enable a specialised approach to deep analysis. These include

indexicality, reflexivity, practice, accomplishment, accountability, and member (Coulon, 1995).

Indexicality involves identifying patterns in social interactions and making sense of those patterns. The concept was originally taken from the field of linguistics where it is used to denote words having multiple meanings depending on the context and other symbiotic factors such as antecedents and the zeitgeist. In educational-sociological terms, the notion places similar importance on the relationships between cause and effect and predictability.

The notion of sequential cause and effect is captured in the ethnomethodological term *reflexivity*. It defines the pattern where the response from a previous situation is used to generate the next one (Coulon, 1995). The concept also extends to unwritten, or tacit, social rules governing behaviour. These can sometimes be subconscious even to the participants. Given prolonged observations, the predictability of behaviours will tend toward recognisable trends. This process of actualizing the rules (sometimes referred to as codes) has been described by (Wieder, 1974, p. 152) as *reflexive formulation*. The aim of this study is to understand how holistic learning contributes to professional military development by observing the antecedents and concurrent phenomena—such as context, environment, activities, other actors, and anticipated activities.

Practice, and accomplishment, refer respectively to the concepts of practical activities in daily life and to completion of social meaning through construction of those activities. To paraphrase the commentaries of Psathas (1980), Garfinkel (1984) and Coulon (1995), ethnomethodologists conduct empirical research into the methods—trivial or complex—people use to make sense of their world and complete daily action. These methods are mainly practical activities based on practical circumstances. They include communicating, reasoning, and decision making.

Ethnomethodology uses the term *accountability* to describe the observable and predictable nature of social rules as revealed in practical settings. The concept also acknowledges social rules and norms as intelligent, reportable and analysable. Yet these rules are unique. In a critique of mainstream sociology, ethnomethodologists

dispute *a priori* assumptions about pre-existing norms, structures, and rules from the outside world. They see every setting as distinctive in terms of how the participants interpret and reason their world. 'What sociology names "models" is considered by ethnomethodology as a "continuous accomplishment of the actors"' (Coulon, 1995, p. 16)

The concept of *member* in ethnomethodology is one of social mastery. While the term appears to have evolved over time, the contemporary interpretation is not one of simple membership in a social group or institution but the status of individuals who are accepted into the culture through their unconscious behaviours. 'They know the implicit conditions of their conduct, and they accept the routines woven into the fabric of everyday social practises' (Coulon, 1995, p. 27).

Discourse Analysis

Discourse analysis is a multi disciplinary technique with wide ranging interpretations. This study employs Potter and Wethell's (2001) open-sense definition which includes analysis of 'all forms of spoken interaction, formal, informal, and written texts of all kinds' (2001). Through the exploration of communication (context, environment, body language, word choice, speaker sequence and spatial proximity, etc) messages are evaluated in terms of depth, emotion, and power. Through member checking and triangulation, multi-order analysis enhances understanding of both sender intent and receiver interpretation. Discourse analysis approaches enhance the ethnographic and ethnomethodological dimensions of this study.

Research Methods used in the Field

Studies in holistic learning vary between large-scale quantitative data methodologies through to smaller qualitative studies, although many employ a mixture of both. The following section explores these various methods to refine this study's methodology (0).

Quantitative methods

Although hidden curriculum studies are often qualitative, quantitative methods offer an alternate lens to cross-reference other findings. They also permit detailed explorations into unique dimensions not otherwise measurable. In the interest of comprehensively exploring hidden learning, this study selectively employs quantitative methods to explore both subjective and objective data.

Quantitative methods are however, fraught with the well-known problems of mortality and low return rates (which raise questions of validity). Ahola's (2000) study for example, sought 280 students in total but only achieved a 50% return rate, with some subcategories as small as 25. Similar issues were found with Menard (1993) who administered 75 questionnaires when studying informal and incidental learning by military nurses during the Vietnam War. Of her target group, 36 returned questionnaires (48%) and three agreed to be interviewed.

To retain validity, quantitative studies require appropriately sized samples. As this particular study is constrained to the bounded case-study sample (n= 29), the value of quantitative data needs to be contextualised. Excluding document analyses, the statistical results in this study are cross-referenced with other sources to provide greater richness to the findings.

Another major concern of purely quantitative data is the potential distortion due to reductionism. While appropriate for complicated phenomena, symbiotic relationships are missed when examining isolated parts of complex adaptive systems. Averaging data in complex systems is also problematic (A. Ryan & Grisogono, 2008). Given the holistic nature of learning, quantitative data is of limited use.

Qualitative Methods

This study employs a number of qualitative methods. The following section outlines the three main techniques found in hidden learning literature and considers the merits of each for use in this study.

Interviews and observations

Due to the complex nature of holistic learning, there is a strong preference in the field for qualitative data. Anderson, (2001, p. 34) argues 'the most comprehensive and most valuable research approaches undoubtedly will focus on in-depth interviews combined with direct observation.' Both techniques are indeed a focus of this study, however a wide variety of complementary *in vivo* techniques are also employed. Coelho's (1997) study into the Physical Education Program at the United States Military Academy is one of many examples where formal interviews are used to collect data on holistic learning.

Delphi Techniques

The Delphi method seeks the expert opinion of multiple individuals in a way that compensates for potential bias. Rowe and Wright (1999) identify anonymity as a characteristic of Delphi which, in terms of this study, means there is a need for anonymous questionnaires. A variant however, known as the mini-Delphi or Estimate-Talk-Estimate (ETE) technique suits face-to-face interviews, while collective expert groups (such as focus groups) are known as wide-band Delphi (Wieggers, 2000). This study utilises all three Delphi technique types, at different times, to maximize emic perspectives.

Adler et al. (2006, p. 459) 'developed an ethnographic adjunct to traditional curricular evaluations' by employing two first-year students to act as participant-observers immersed in the target classes. The two 'moles' engaged in all activities but were specifically monitoring predetermined hidden curriculum themes, in particular culture and integrative medicine. The value of participants reporting the perception of colleagues, rather than self-reporting is known to offer benefits (Snowden, 2001). Acknowledging the weakness of hearsay, this method offers a degree of anonymity and therefore potentially greater honesty. Participant moles were only used in this study as a retrospective data collection method and only when volunteered by participants. Moles were not actively recruited for the study.

Document Analysis

Document analysis, including discourse analysis of documents, is a popular method for examining curricula and the influence of written documents. Document analysis were employed by Neiberg (1996) and Gest (1990) to review curriculum developments of the US Reserved Officer Training Corps and at the Industrial College of the Armed Forces respectively. Document analysis combined with qualitative follow-up interviews is also employed in curriculum evaluations (D. E. Owens, 2006).

This study extends the work of others (Christensen, Nielsen, Rogers, & Volkov, 2005) by including emerging sources available during the observation period. These included student logs, journals, diaries, personal notes, draft essays, e-mails, blogs, social network site postings, as well as the more traditional syllabi, curricula, and official institute correspondence.

Mixed Methodology

Mixed methodology is a pragmatic strategy for untangling complex phenomena. Its eclectic methodology 'frequently results in superior research (compared to monomethod research)' (R. Johnson & Onwuegbuzie, 2004, p. 14). While traditionally researchers have fallen into one camp or the other—and some even claim the two are mutually exclusive (J. Smith & Heshusius, 1986)—others claim intensive literature reviews reveal 'mixed-model studies are the growing trend in the social and behavioural sciences' (Tashakkori & Teddlie, 1998, p. x). Tashakkori and Teddlie go on to assert that the paradigm wars are now over and there is great value in employing a mixed approach (Teddlie & Tashakkori, 2003).

Numerous examples exist in the wider literature, but more relevant to this study is the examination of hidden learning within military environments. Joubert (2007), for example, used a mixed methodology approach to investigate the effectiveness of self-directed team learning in South African Air Force air traffic controllers, while Myers (2007) used survey instruments, focus groups, and individual interviews to evaluate leader cognitive development at the US Army War College.

Because there is strong evidence of mixed methodology designs being used in the field, and identified weaknesses in using isolated approaches, mixed methodology is the defining approach of this study. To use any method on its own would undermine the holistic approach needed for understanding such a complicated and complex phenomenon.

Case Study Methodology

Case studies are a popular method for bounding complex social phenomena such as hidden learning (Manning, 2000). This makes researching more manageable and achievable. Yet despite this bounding of data, the methodological approaches associated with case studies are eclectic and broad (Fraenkel & Wallen, 2006). They can be used for examining individuals, individual situations, events, or ongoing processes (Stake, 1978, 1995) and for each of these applications, there are three different types (O'Leary, 2004). *Intrinsic* case studies focus on specific individuals, settings, events, or processes with the aim of only understanding that unique occurrence. *Instrument* case studies, on the other hand, use the specific case as a vehicle to understanding deeper meanings in a wider context. The third type is the *multiple* (or *collective*) case study where several cases are examined and then the results are compared.

Of the three types, multiple case studies are considered more compelling for generalisation to external (unstudied) cases. Although more resource intensive, this technique has the advantage of effectively increasing the sample size. As a general rule, the more diverse the cases, the more transferable the findings—provided the findings remain consistent. Yin (2003) for example, argues for *replication logic* where each case needs to be sufficiently similar if the findings are to be considered generalisable.

Sampling Strategy Methodologies

Within the research methodology literature, there are a number of accepted sampling strategies. Due to the unknown direction or intensity of the holistic learning at the Staff College, and the *backyard* nature of the researcher-setting relationship, it was necessary to employ a combination of sampling strategies. This study used

triangulation to cross check data from a selection of flexible sources. Additional techniques used for verifying data included peer review (other staff and supervisors) of anonymised data and member checking (participant review). This final report offers both breadth (maximum variation and snowball) and depth (critical case thick descriptions) in describing the contribution of holistic learning on professional military development.

Maximum variation strategy involves documenting diverse variations. This captures two other approaches—*typical* (normalised central case) and *extreme* (or deviant case). Sampling for this study focuses mainly on the typical, but also explored extreme *case-within-case* examples (Miles & Huberman, 1994) in both directions to give an indication of the standard deviation in hidden learning at the College.

Research Design Framework

The mixed-methodology research design framework (Figure 15) is an indicative (simplified and non-exhaustive) taxonomy of the data collection systems employed in this study. Using an emergent (constructivist enquiry) approach, different aspects increased and decreased in importance as trends began to emerge throughout the study. This emergent design approach influenced both the qualitative and quantitative methods used.

As a mixed-methodology research design, numerous data collection methods produced data that was suitable for both qualitative and quantitative analyses. For example, the participant's OST journals were analyzed both for rich understanding extracts supporting other qualitative interview comments and simultaneously provided opportunities for quantitative word frequency analyses using *nVivo* software. Similar mixed methodologies opportunities emerged from participant e-mails, questions in group discussions, and informal learning activities (see also Table 2, p. 105). Both qualitative and quantitative data informed the study's overall findings.

Mixed Methodology Research Design

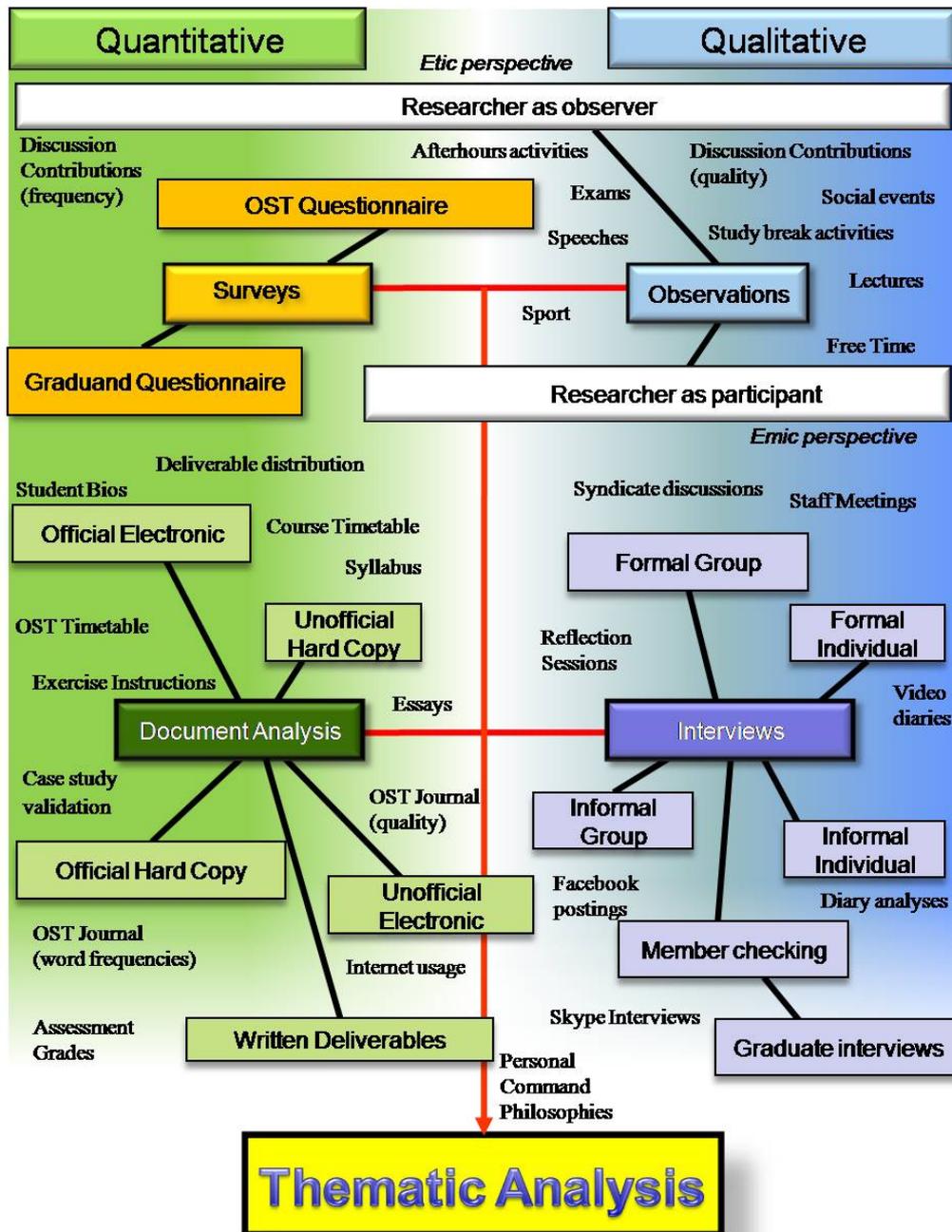


Figure 15 Mixed-Methodology Research Design Framework

Participants

The sample for the study included all 29 students attending No 49 Staff Course at the New Zealand Defence Force Command and Staff College (May–December 2008). For the purposes of this study, the two Australian students were treated as New Zealanders (n=19). The remaining 10 students are categorised as internationals (South Korea, China, Philippines, Indonesia, Brunei, Malaysia, Singapore, Tonga, Papa New Guinea, and United Arab Emirates).

The typical staff course student has a wealth of military and life experience. They are seasoned adult learners who have a robust concept of who they are and what they want to learn. Typically, many of the students are more experienced than the staff in terms of operational and command experience. This often makes for an unusual relationship where the directing staff (DS) fulfill a more facilitating role. The DS seldom present lessons themselves, rather they co-ordinate visiting lecturers from within the NZDF and selected external experts (university lecturers, Defence Attachés, captains of industry etc).

Of particular note to the research design is the diverse entry level of students. All start, finish, and develop at different rates. From a research perspective however, this makes traditional pre and post testing of declarative knowledge inappropriate. On the positive side however, students come onto the course with a diverse mixture of academic, cultural, and military experience. Typically, each student brings a heightened degree of experience in one or more of the areas studied. Coupled with an espoused institutional culture of constructivism, this student expertise enhances all aspects of hidden learning. Within staff college circles, this *ad hoc* process is often referred to as *cross-pollination*.

Nationality

In the quest for a deeper understanding of holistic learning, the study's first sub-research question (p. 2) investigated sources and influences. While the sample group size and composition denied multivariate comparisons between multiple nationalities, it was possible to divide the observation group into two broad categories. These

represented the dominant host nation group (New Zealanders) and the others (international students). While this did not necessarily identify differences for any single nationality, it did help identify if nationality is an influence.

Although the study simplifies the two group's labels as New Zealand and international students, the exact characteristics are not so easily defined. In reality the two groups represent the dominant host nation student body and a minority group of multiple individual nationalities as is found in nearly every staff course around the world. Another lens to view these two groups is western and non-western. For the purposes of the study, the two Australian students were treated as New Zealanders as they are by the College. The remaining students are almost exclusively Asian, with one Middle Eastern, one Polynesian, and one Micronesian. While the nationality dimension of the study will offer a richer understanding of holistic learning influence, each of the additional factors described above need to be considered when drawing conclusions.

Research Risks and Ethics

The complexity of studying hidden learning has numerous design risks. This section highlights the most common risks and ethical concerns of personal research that were identified as potential threats to this study. Each problem is presented with a synopsis of how this study sought to mitigate the risk.

The problem of *observer bias* can invalidate *backyard research* results because of the researcher's perspective in recording and analysing the data (see Researcher's Background, p. 28). The researcher was not a member of the teaching faculty of the Command and Staff College, but was an adjunct member of the Defence College. This meant there was a separation between the researcher's role during the study and any perceptions of being a staff member. The other risks of backyard research were partially mitigated by identifying the researcher's biases and preferences through both self-reporting and peer evaluation. Alternative perspectives were obtained through emic perspective accounts—including participant reviews of verbatim transcriptions—and triangulation of data gathering and analysis. The researcher also maintained a journal throughout the data collection phase where reflections, concerns, and

uncertainties were documented and then referred to again during the analysis phase. Particular care was also taken with outlier and contradictory results.

'Observer effects' refers to the impact the observer's participation has on the setting and the observed participants. As with most backyard studies on students being summatively assessed, there was a risk some participants would fear the additional research data could influence their personal end-of-course report. Although the researcher was not a staff member of the College, there could have been an implicit expectation the findings would influence formal assessments. This might have resulted in some participants not being entirely comfortable or honest with information, skewing data by shielding weaknesses and promoting strengths. This was difficult to mitigate but was aided by discreet observations, multiple placebo observations, prolonged observations, and greater acceptance by the participants through rapport building and confidence building measures (CBM). Post-graduation interviews and member checking reviews also helped mitigate perceptions of influencing personal course reporting.

Identity protection was an issue for some participants. While most military personnel are very open with personal details (often even sharing psychological profile data) and were happy to participate fully in the study, others might have been less comfortable. This potentially included students from foreign countries and other government departments. While pseudonyms mitigated most cases,²¹ a number of participants remained identifiable by un-maskable characteristics. For example, the small number of Army, Navy and Air Force personnel made many participants identifiable—especially females. In many cases, the unique cultural background each student brought to the setting means that thick descriptions and deep thematic analyses using ethnographic tools necessitated detailing such characteristics. Participants were offered a multilevel permission form where they could agree to selected or full participation in the study (Appendix 8). Due to the small sample sizes, only minimal sub-group analyses were performed. The study focused primarily on the collective group to reduce the influence of outliers.

²¹ For more detailed information on the use of pseudonyms and other participant protection mechanisms, see Appendix 8.

Another potential problem anticipated prior to the study was the Hawthorne effect (Fraenkel & Wallen, 2006). Participants are known to behave differently when they are being observed. Data might be further contaminated by *demand characteristics* (D. Martin, 2008) when *co-operative* participants, who are aware of the study's aim, misguidedly seek to help the researcher by performing accordingly. Similarly, *non-cooperative* participants (who seek to undermine the study) or *defensive* participants (who are more concerned about making themselves look good) are a threat (D. Martin, 2008). Mitigation against these issues included multiple, prolonged and discreet observations. While the temptation existed to not reveal the full extent of the study to the participants (*deception, blind, or double blind*), this would have required a complex, and unjustifiable, research design and application for ethics approval.

Data saturation is another potential problem of qualitative research. The length and intensity of the course necessitated significant bounding of the study. As with any ethnographic study, there is no end to the detail and depth of analysis. Hidden learning occurs continuously (potentially 24 hours a day), over the entire seven month course and through all 29 participant's experiences. The study therefore needed to do both cross sectional and longitudinal data collections to capture breadth and depth samples.

Representativeness of the case study to other settings was a further concern. This led to concern regarding validity (measuring what was intended), reliability (consistency in responses), and generalizability (transferable to future courses or similar courses elsewhere). To mitigate each of these concerns, multiple traditions, paradigms, methodologies, as well as data gathering and analysis techniques were employed. Furthermore, triangulation, participant crosschecking, and peer-review helped confirm the findings. Multiple, collective, and case-within-case studies also assisted in normalizing the findings so they can be employed elsewhere. Document analyses compared the case study student profiles with the same personal biographical sheets administered to all students for the past 10 years of staff courses. This allowed correlation comparisons (both qualitative and quantitative) of the 2008 cohort with previous ones.

An unexpected threat to the study's reliability and validity was the impact of participant emotion during interviews. This influence was not anticipated prior to the study but was revealed during the data collection phase. On several occasions, participants subsequently requested interview responses be excluded from the study. Their justification being that they no longer agreed with their earlier comments claiming they were distorted by emotion. It was also apparent many participants found contributing to the research a cathartic experience that allowed them to vent their frustrations over assignments or with the College (staff and policies). Many no doubt saw the researcher as a neutral third party who was safe to confide in, but also someone who might bring about change. While respecting the specific requests not to use the actual interview data, the strength of the emotion and the fact they wished to withdraw their comments was in itself considered valuable. The impact of the student emotional states therefore contributed to the holistic interpretation of the learning experience.

The various threats to the study's validity and reliability highlighted above, reinforce the need for confirmatory methods. The use of triangulation during the study was seen as essential and facilitated the snowball design dimension. The use of delayed, especially post-course, data gathering has the attraction of mitigating several threats, it also introduces the risk of cognitive fade and emotionally distorted memories. Once again, the combination of both opportunities and threats meant mixed methodologies were needed for both data collection and analysis.

This study was conducted in accordance with Massey University Human Ethics Committee approval 07/64. Additional approval to conduct the study was granted by the Assistant Chief of Defence (Personnel), New Zealand Defence Force, in accordance with Defence Force Order 21/2002.

Sample Size

This study was constrained by the small number of available participants. While the study actually employed a survey²² rather than sampling strategy, the overall numbers

²² The participants represent the entire 2008 cohort – although they are considered only a sample of past and future staff course students.

were still small (n=29). This limitation was partially compensated for by the sample case study validation analysis and the emphasis on triangulation of findings.

No single data piece or analysis provides definitive findings. With the exception of isolated examples (such as the case study validation comparisons), individual findings on holistic learning sources or acquisition in the four foci of learning merely illuminate overall understanding of the subject. This study does not treat isolated quantitative data as authoritative; even when statistically significant results are obtained. Only when considered in context with other data sources and analyses are the findings considered valid or reliable. Because of holistic learning's impermanence, the transferability (predictive validity) of the findings is similarly constrained. This limitation however, does not justify ignoring the phenomenon. The findings will still increase awareness by illuminating wider understanding.

Data Collection Methods

Because of both the uncharted nature of this study and potential contamination of data, it was necessary to use a variety of data gathering methods. Furthermore, an emergent design permitted mid-stream modifications as themes became apparent. To improve the triangulation analysis, multiple alternate approaches were necessary.

Due to the complex nature of holistic learning, multiple mixed-methodology data collection and analyses are used. Qualitative data collection techniques included etic (first and second order) perspectives from: informal interviews with participants and staff, small group focus groups, questionnaire comments, and document analysis of participant journals. Emic data collection involved: full contingent focus groups, questioning depth in post-formal brief plenary (question and answer) sessions, and *in vivo* (both passive and active involvement) observations during free time, meals, etc. Additional quantitative data was collected from questionnaires, question frequency in plenaries, and document analysis.

Participant Recruitment

Participants were recruited from the case-study cohort in the opening week of the course. Following an introductory explanation from the Director during the course opening, the researcher gave a 30-minute presentation on the study, distributed the information sheet (Appendix 8), and answered potential participant's questions. The course students were given several days to consider their involvement in the study. Two separate forms (consent and non-consent) were available for the them to either opt in or out of the study. The majority of students agreed to participate immediately, while two chose to consider the option over night. By the middle of the first week, all 29 students had agreed to participate in the study. Member-checking, peer-reviews, and focus group recruitment included both opportunistic sampling and full cohort invitations. There were no formally scheduled interviews or focus groups.

Qualitative Data Sources

Observations

Observations were the main data source during the study and were made throughout the seven-month case study period whenever the researcher was in contact with participants. This ranged from formal class settings though to private gatherings off-site. At times the observer was a participant to the activities, and other times a passive observer. Although no covert observations were deliberately made, occasionally data was collected when the participants were unaware of the researcher's presence.

Observation timings ranged from 6:30 in the morning through to 2 am at night. The majority of observations were made around the College campus, including the barrack accommodation, but also in detail during the various visits and tours. While difficult to list all the locations and activities, the following list provides an indication of popular observation settings used:

Main College Block

Lecture theatre presentations during formal classes
Student presentations
Syndicate discussions (tutorials)
Operational planning exercises
Additional group learning activities outside the lecture theatre
Self-directed (student initiated and led) group discussions
Weekly reflection sessions (whole course and by syndicate)
Spontaneous atrium gatherings (reading newspapers, meetings, end of day, etc)
The library

Student Accommodation Block

Individual rooms (when invited only)
Room parties (social and study groups)
Laundry and Ironing room
Watching TV
Spontaneous carpark discussions
Smokers' area outside the barracks and main block
Outdoor picnic tables during breaks and at lunchtime

During Trips

Formal presentations
Waiting time in lobbies, carparks etc
On transport (bus, car, and aircraft)
Attending official functions (cocktail parties and dinners)
Free time (shopping, sightseeing, restaurants, bars, nightclubs, etc)
Official visits and presentations
Group social gatherings and fine sessions (hotel pool areas and bars)

Meals

Breakfast (in the Mess and TV Lounge)
Morning and Afternoon teas, breaks between classes
Lunches (hosted, normal Mess lunch, bulk lunches in TV lounge, and other locations)
Evening meals (dinner)
Planned restaurant and café visits
Mess functions (hosted cocktail parties and formal dinners)
Spontaneous sessions in the Mess bar
Supper in the TV Lounge
Weekly social nights in TV lounge

Other

Weekend activities
Major sporting events on TV
Personal fitness and group sport
Group self-directed learning activities (haka practice etc)

Some social, sporting and recreational activities are both a means and an end in themselves. These were studied in the context of facilitating holistic learning rather than perhaps the participants' intended outcome of rest and relaxation.

Observation journals (electronic and paper) assisted in recording detailed descriptive data (date, time, setting, layout, activities, comments, etc) and initial reflections. Emphasis was made on observing through the participant's perspective. Etic observation data were validated through subsequent member-checking. This included verbal confirmation during interviews as well as reviewing both early drafts and written summaries.

Interviews

Interviews were a significant source of emic data. In addition to cross-checking other data they provided new information and helped shape subsequent observations. The gathering of thick portraiture²³ descriptions relied heavily on participant interviews. While the majority of interviews were spontaneous and informal, others were planned and semi-structured.²⁴ The most common method employed was face-to-face, however, some interviews were conducted remotely using video conferencing while others employed online chatroom media. The length of interviews ranged from brief conversations through to two hours.

²³ *Portraiture* is a qualitative analysis technique blending etic and emic interpretations into a single description.

²⁴ There were however no formal interview schedules produced as the timing of formal interviews varied with short term notice of participant availability.

Focus Groups

Focus group sessions were an extension of interviews but enabled peer-to-peer reflection on comments. Apart from spontaneous and informal group interviews, most focus group sessions were programmed as part of the course. Most targeted learning of the profession from holistic sources, however, others also considered the sources of holistic learning and their relative merits. The focus group sizes ranged from 54 (during the overseas study tour) down to syndicate group sessions of nine participants.

Video Diaries

Although not originally planned, several students offered to maintain video diaries. While these were not over sustained periods, they did offer personal insights into the student's world in a more personal setting. The diaries were analysed in much the same way as written diaries but gave greater granularity for discourse analysis.

Surveys

Questionnaires primarily provided quantitative data, however, additional comments written in the margins and open ended questions gave scope for qualitative data collection. Specific comments and generalized themes from questionnaires are presented in the results section.

Document Analysis

Various media were employed for data gathering. Examples of official sources include curricula, syllabi, timetables, e-mails, exercise instructions, student course critiques, module overviews, visitor briefs, College policies, directives, and notice board messages. Informal documents used as data sources were mainly produced by participants. These ranged from e-mails (sent direct to the researcher, to @all_College addressees, or to the @all_students address), other electronic sources included *Skype* and *Facebook* (chats, taggings, postings, etc). Electronic and paper-based student critical reflective journals, essays, exams, and personal command philosophies were also used as document data sources.

Content Analysis of Journals

Using *nVivo*, the study performed content analyses of selected OST journals to identify evidence of learning sources and foci. The journals were not intended to emphasize 'learning to learn', and any evidence of 'learning the game' would be difficult to deduce from a document analysis. However, distinguishing between 'learning to be an expert' and 'learning the profession' was both easier and of greater interest. Comments were coded as 'expert' where they were purely descriptive, related directly to material briefed, or were tied purely to the country visited in direct international relations terms. Where comments moved above uni-structural level in that multiple linkages were made, patterns identified, or inferences deduced from observations beyond the obvious, then this was coded as 'learning the profession'.

Formality of learning was coded by the source of the raw material. Any comments based on formal brief material, was treated as formal learning, whereas comments from organised activities (visits and tours) was coded non-formal. Where the journal indicated the observations had been made by the student actively seeking their own material (newspapers, television etc) then this was coded informal. Incidental learning was used when comments were based on spontaneous events such as free time or shopping. Where comments were unclear or mentioned multiple sources (particularly in end of day or final summaries) then these were coded according to the variety indicated. Multiple category coding resulted in combined percentages totaling more than 100 (Table 8, p. 120). Percentage scores were used over absolute counting to compensate for varying word count allocation on specific points or where multiple consecutive points were coded together.

Quantitative Data Sources

Validating the Case Study

Historic demographic data on staff course students from the previous ten years was obtained to identify a normative reference. The key information sought was age, length of service, gender, number of operational tours, and academic qualifications. This data was then compared with the same information on the 2008 cohort. The results of this validation study are contained in Figure 51 (p. 243).

Surveys

Two questionnaires were administered to participants during the course. The first was distributed during the return flight from South Korea (OST Questionnaire). The second was used in the final week of the course (Graduand Questionnaire). The OST questionnaire included four Likert scale questions, one ranking of activities, and a closing open-ended catch-all.

The Graduand questionnaire was adapted from Ahola's (2000) study and used a Likert scale to explore the four foci of learning. Due to the small numbers ($n=26$)²⁵, the absence of validation data on each item, and the fact that the Likert-scale measures were semi-discrete categories, the results are only considered data bites (see Figure 16, p. 106). The qualitative results are therefore qualitatively coded by groupings where obvious trends emerged. Overall patterns are only derived following triangulation with other data collection sources and member checking. Some of the items in this questionnaire were deliberately crafted to cross-check observation results (Appendix 3 Questionnaires, p. 239).

Document analysis

Numerical calculations were conducted using the official course timetable to compare time allocated to formal and hidden learning activities during normal work hours. Similar data was collected from previous year's OST timetables to explore data on trends in holistic learning source distribution.

Other quantitative data sources

Additional quantitative data was collected on sources as they emerged during the observation period. One such example was the frequency of questions asked during the OST in both plenaries and reflection sessions. The results of these smaller studies inform the discourse analysis employed in the qualitative observation data.

²⁵ This represented a 100% return rate of the available participants at the time of administration.

Summary

	Learning the profession	Learning to be an expert	Learning the game	Learning to Learn	Formal learning	Non-formal learning	Self directed learning	Informal learning	Incidental learning
Quantitative									
Questionnaires									
- Overseas Study Tour	✓	✓	✓		✓	✓		✓	
- Graduand	✓	✓	✓	✓	✓	✓		✓	✓
Document Analyses									
- Course Timetable	✓	✓			✓	✓		✓	
- OST Timetable	✓	✓			✓	✓		✓	
- Syllabus	✓	✓			✓	✓		✓	
- Deliverable distribution	✓	✓	✓		✓				
- OST Journal content	✓	✓		✓					
- Discussion Contribution Frequencies				✓					
Case study validation									
Qualitative									
Overseas Study Tour Questionnaire	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	✓	✓	✓	✓	✓	✓	✓	✓	✓
Interviews	✓	✓	✓	✓	✓	✓	✓	✓	✓
Large Focus Groups	✓	✓	✓	✓	✓	✓	✓	✓	✓
Small Focus Groups	✓	✓	✓	✓	✓	✓	✓	✓	✓
Diary analyses	✓	✓	✓	✓	✓	✓	✓	✓	✓
Skype Interviews	✓	✓	✓	✓	✓	✓	✓	✓	✓
Member Checking Responses	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2 Data Collection Matrix

Table 2 provides a simplified summary of the various data collection methods cross-referenced with the four learning foci and five sources of holistic professional military development.

Subsequent analyses of the mixed methodology data sources used many of the above presentation techniques but involved more detailed explorations of relationships and themes. Although the study accepts a number of quantitative data patterns, these

were used to both inform and shape the qualitative understanding of holistic learning within an ethnographic and ethnomethodological tradition. Using a thematic analysis approach within these two approaches, analyses of words, concepts, non-verbal clues informed the analysis. This involved moving deeper and deeper into understanding, before interpreting the larger meaning of the data and drawing conclusions from the complete picture (Figure 16). The next two chapters present the quantitative and qualitative data pieces respectively.

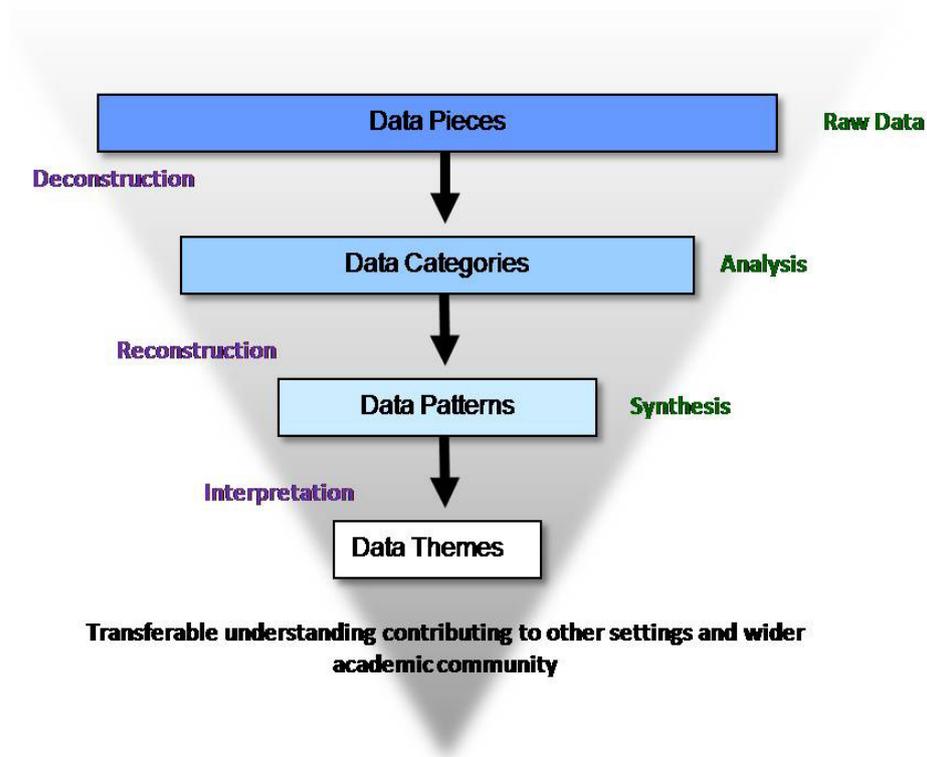


Figure 16 The Taxonomy of Data Analysis

Chapter 5 Quantitative Results

Quantitative data proved to be a more valuable source of information than was originally anticipated. The diverse and informative findings that emerged from these data sources reinforced the value of the study's mixed methodology approach.

This chapter presents selected results of relevant quantitative data. It begins with document analyses of timetables, syllabi, and other official documentation to explore patterns of proportional balance in learning sources and learning motivation methods. The next section explores the self-reported value of learning sources from the OST questionnaire data. The chapter then presents the results of an emergent hypothesis on group size impact on discussion group contributions. Selected data from the graduand questionnaire then explores holistic learning's contribution to the four foci. The final section begins synthesizing the data categories into patterns. These include nationality differences, foci attainment, and the nexus of sources and foci. These patterns, and other emerging hypotheses resulting from the quantitative data, are then developed further in Chapter 6.

Learning Sources

The following tables and graphs provide alternate perspectives on the analysis of learning by source, module, and course component. The component refers to whether the material is taught and tested by the Staff College or the contracted university. In both cases, the abbreviation refers to the post nominals awarded on graduation: Passed Staff Course (psc)²⁶ or Post Graduate Diploma in Arts (PGDipArts).

²⁶ Since becoming the New Zealand Defence Force Command and Staff College, the post nominals have officially changed to psc(j) to indicate the joint dimension. The syllabus however, did not change. For simplicity, this study refers to the qualification by its shortened colloquial name: psc.

Course timetable by learning source

Examining the timetabled learning sources provides a useful insight into hidden learning messages from the institute. Even without an actual versus programmed comparison, the results from this section highlight two key findings.

The first finding of this document analysis is that the College appears to believe 40% of the working day should be spent in a lecture theatre, with a further 30% engaged in organised learning activities, and the remaining 30% being made available for self-managed study-time (Table 3). This balance of time provides a useful comparison for other institutes, both inside and out of the military. While some consideration must be given to the nature of the material being taught, the percentage of time allocated to formal learning sends a message to the students about the course's emphasis on instructivist versus constructivist learning. This provides context for the comments from this study's participants regarding the course's teaching style and how it relates to surface versus deep learning (p. 44).

	Hours allocated	% of course
Total formal	382.6	40%
Total syndicate discussion	14.3	1.5%
total exercises	205.4	21%
total visits	57.9	6%
Total non-formal	277.6	29%
study PGDipArts	165.5	16%
study psc	145.6	15%
Total informal (study)	300.1	31%

Table 3 Formal, Non formal, and Informal Learning Allocations

Extending the analysis of learning sources further, Table 4 provides a breakdown, not only by module, but by university (PGDipArts) and Staff College (psc). This data suggests a timetable emphasis of practical value (psc) over exchange value (PGDipArts) by a factor of at least three to two (61:39 up to 94:6). This message

however does not equate to the deliverables imbalance (Table 6 p. 112), nor the participant's comments (p. 199).

Time allocation by learning source

	Expert				Learn	Game	Profession	Totals
	IR	Strat	Ops	CLM				
Total formal	77.85	90.25	63.00	74.50	51.75	0.0	25.25	382.6
Syndicate discussion	0.0	0.0	7.8	2.0	0.0	0.0	4.50	14.3
Student Activities	12.5	21.3	139.8	20.0	0.0	0.0	11.90	205.4
Off site visits	10.9	25.0	12.0	10.0	0.0	0.0	0.0	57.9
Total non-formal	23.4	46.3	159.5	32.0	0.0	0.0	16.4	277.6
study PGDipArts	33.3	41.8	42.5	48.0	0.0	0.0	0.0	165.6
study psc	62.1	22.8	21.0	28.8	0.0	0.0	0.0	134.7
Total study	95.3	64.5	63.5	76.8	0.0	0.0	0.0	144.0
total contact time	101.3	136.5	222.5	106.5	51.8	0.0	41.7	660.2
total time including study periods	196.6	201.0	286.0	183.3	51.8	0.0	41.7	804.2
% of contact course	15%	21%	34%	16%	8%	0%	6%	
% of entire course	11%	14%	23%	11%	6%	0%	5%	
%of module formal	40%	45%	22%	41%				
%of module non-formal	12%	23%	56%	17%				
%of module informal (own study)	48%	32%	22%	42%				
hours formal PGDipArts	26.50	27.00	12.75	18.75				
hours non-formal PGDipArts	12.50	7.00	0.00	0.00				
Total hours PGDipArts	39.00	34.00	12.8	18.75				
PGDipArts % of module	39%	25%	6%	18%				
hours formal psc	51.35	63.25	50.25	55.75				
hours non-formal psc	10.9	106.7	101.2	111.5				
Total hours psc	62.3	169.9	151.4	167.3				
psc %of Module	61%	75%	94%	82%				

Abbreviations

IR= International Relations

Strat= Strategic Studies

Ops = Operational Studies

CLM = Command, Leadership, Management

Table 4 Breakdown of timetabled learning activities

Comparison of learning source by module

To investigate College’s different approach to learning, selected data from Table 4 is re-presented in Figure 17. Clear differences emerge between the modules in terms of their ratio of formal, non-formal, and informal time allocation. This coding was based on the venue and activity identified in the timetable analysis. With the exception of the Strategic Studies module, all gave as much, or more, time to informal (study) as to formal learning. The Operational Studies module stands out for the extensive use of non-formal learning activities.

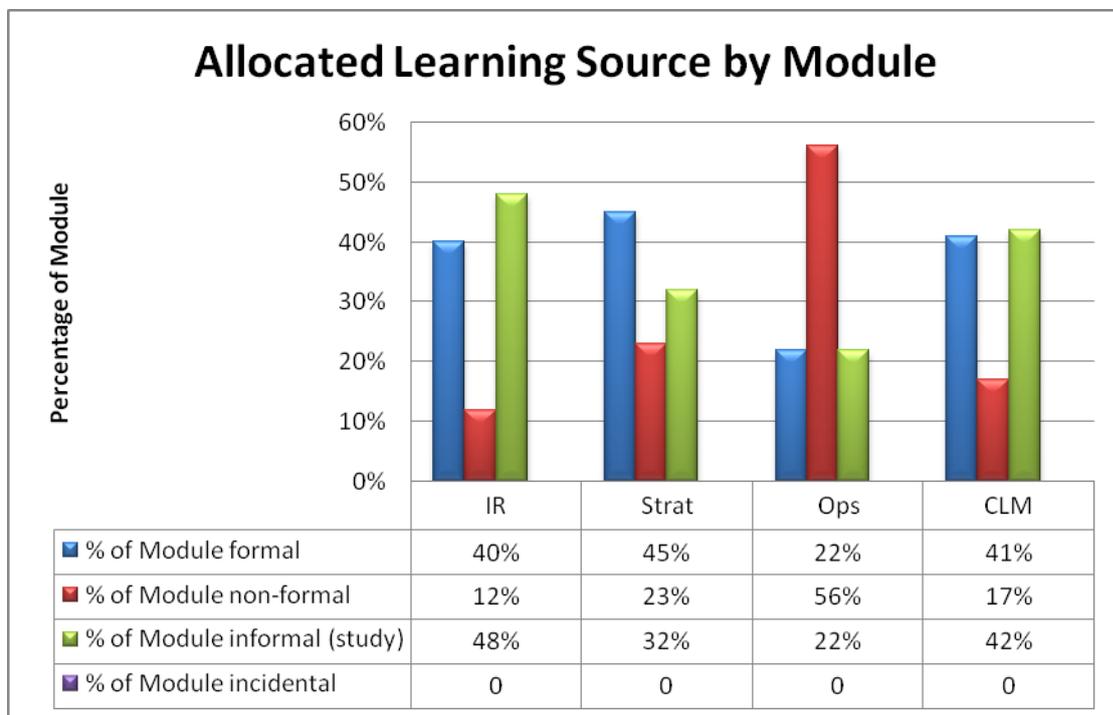


Figure 17 Module breakdown by Learning Source (allocated)

OST Timetable Analysis

	Daily Average			
	2006 New Caledonia, China	2007 Philippines Indonesia PNG	2006- 2007 Average	2008 Japan, Sth Korea
Hours of formal briefs	1.14	2.13	1.73	2.96
Hours of non-formal activities	0.86	1.23	1.08	1.09
Hours on academic review	0	0.26	0.15	0.44
Summary (formal & non formal)	2.01	3.62	2.96	4.49
Hours on cultural visits	2.23	1.46	1.78	0.53
Hours spent in airports	0.14	0.58	0.47	0.37
Hours in buses	2.87	2.31	2.54	2.7
Free time allocated	0.4	0.47	0.44	0.22
Hours on aircraft	1.11	1.35	1.25	0.55
Morning teas and breaks	0.33	0.35	0.28	0.47
Programmed breakfast	1.01	0.63	0.79	0.67
Programmed lunch	1.22	0.57	0.83	1.03
Programmed dinner	0.72	0.58	0.64	0.4
Summary (informal learning)	10.03	8.30	9.02	6.94
Length of Programmed Day	12.04	11.92	11.98	11.43
<i>Additional Comparisons</i>				
Number of full days free	0	0	0	1
Number of free nights	3	7	5	6
Programmed start time	0721	0629	0655	0722
Day end (exc hotel dinners)	1928	1832	1854	1835

Table 5 OST Programme Comparison (2006, 2007, and 2008)

A working hypothesis on the complex relationship between workload intensity, student stress, reflection time, and deep learning led to an exploration of time allocated to learning sources on the Overseas Study Tour (Table 5). The investigation provides comparative data to contextualise participant's criticism about insufficient

personal time for deep reflection (p. 151) and the related hypothesis regarding participants who appeared consistently negative.

Comparison of Non-formal learning

Comparison of Deliverable Workload (PGDipArts v psc)

		International Relations		Strategic Studies		Operational Studies		Command, Leadership and Management	
psc	Exercise Machiavelli (Not Assessed)	1500 words	Exercise Epistemic (9 min)*	40 min	JOPC	Nil	Exercise Kaumatua (Not Assessed)	1 page	
			Exercise Darkcraft (9 min)*	40 min	Exercise Combined Kiwi**	Nil	Exercise Rangatira (Not Assessed)	NS	
					Exercise Cartwheel**	Nil	Exercise Mana (cancelled)	2000 words	
					Exercise Watchtower**	Nil	Ex Praxis presentation	15 min	
							Ex Praxis written (cancelled)	3000 Words	
PGDipArts	IR1	2500	NZSE 1	2500	Op 1	1500 words	Book Review	1200 Words	
	IR2	4000 words	NZSE 2	4000 words	Op 2	2500 words	CLM 1	2500 Words	
	OST Journal	NS 7326	10 hr Test	NS 2178	Exercise Watchtower	Nil	CLM 2	4000 Words	
	Brief	10min							
	Syndicate lead	NS							

NS = not specified (italicized figures shown represents average length of submitted work)

NA= not applicable

Nil = No individual written or verbal deliverable (although practical participation required)

* Strategic Studies deliverables for the psc aspect (Exercises Darkcraft and Epistemic) were both team presentations. While the overall brief was 40 minutes, each participant only spoke for 9 minutes (average).

**Operational Studies Module exercises required both written and verbal presentations but these were collective efforts and the actual deliverables depended on the appointments. Some participants may have had no requirement to generate any products.

Table 6 Deliverables comparison between PGDipArts and psc

The figures shown for allocated study hours need to be contextualised with the metrics of the associated deliverables (Table 6). In particular, the significant imbalance

of PGDipArts and psc expectations is assessed as sending a stronger message to the students than the timetable allocation.

Except for the practice essay (Exercise Machiavelli) and an un-assessed one-page personal command philosophy, there were no written deliverables for the psc component of the case-study Staff Course. Neither of these deliverables was summatively assessed. Exercise Rangatira was a Personal Command Philosophy of any format (poster, website, etc) but was not submitted for assessment. The two 40 minute team presentations for the Strategy module were completed in teams of six students. This meant individuals were only required to deliver two 7 minutes (approx) segments and the 15 minute individual brief for Exercise Praxis (a management topic). The remaining activities were based on staff observations during practical learning activities with no actual deliverables. The psc deliverables for the entire seven month course amounted to 29 minutes speaking and no summatively assessed written work.

In contrast, the university deliverables totaled 11 written deliverables amounting to 35,000 words (25,000 words specified and two unspecified wordlengths—participant average 10,000 words). The remaining two assignments were a 10-minute brief and the lead of a syndicate discussion (Table 6).

The comparative size and type of deliverables sends a clear message to the students about the relative importance of the two course qualifications (psc and PGDipArts). Incremental changes, without holistic consideration, over many years has apparently resulted in the College progressively yet unconsciously reinforcing exchange value over practical value. This observation prompted one graduate to facetiously ask:

If the staff course is so heavily influenced by [the university], then why do we not just get the students to enroll in a Post Grad Dip extramurally and remain in the workplace?

—Graduate interview comment

Comparison of Sources by Reported Learning Value

Overseas Study Tour

Question 4 of the OST Questionnaire asked which activities helped the most with learning. It asked for a ranking of 1 (best) to 10 (least) for ten activities identified through observations to be the most common. The results presented in Table 7 are reverse-scored from the questionnaire ranking system. Here, a higher the score, represents a more valuable source.

Cluster	Rank	Activity	Measures of Central Tendency		
			Combined	NZ students	International students
1	1	Formal briefings	7.59	7.29	8.10
	2	Plenary Q&A	7.26	7.12	7.50
	3	Non-formal (visits)	7.11	7.06	7.20
2	4	Academic Review	5.93	4.94	7.60
	5	Bus discussions	5.85	5.94	5.70
3	6	Writing journal	5.00	5.06	4.90
	7	Meal times	4.77	5.50	3.60
	8	Evening Socialising	4.54	5.00	3.80
	9	Talking with room mate	4.54	4.63	4.40
4	10	Free Time (informal)	3.71	4.47	2.44

Table 7 OST Learning Sources ranked by self-reported learning value

Table 7 shows the final ranking of the learning sources as reported by the participants. The results are sub-divided by the combined results clusters, although as shown in the two right-hand side columns, differences emerge between the New Zealand and international participants. In particular, the strength (concordance) of the top two sources for the international students as well as the lack of self-reported learning value for social events (meal times, evening socialising, and free time). From the

observations, these different groups reflect the two different types of sources where the international participants were able to mix with the New Zealanders versus when they were left to their own clique.

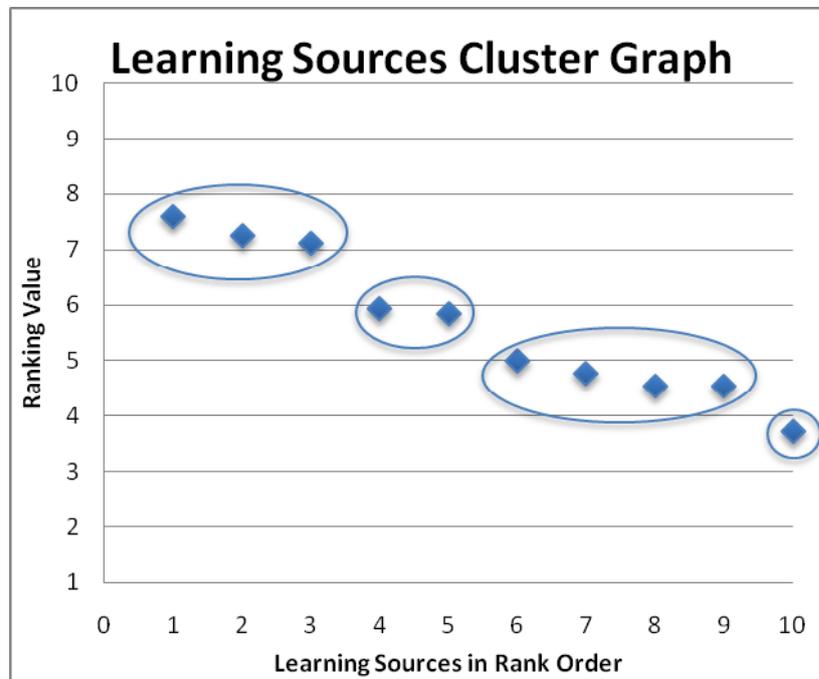


Figure 18 Cluster graph of ranked learning sources

Figure 18 graphically displays the four clusters of learning sources. The small variation within each cluster reinforces the fact that there is little variation between the respective cluster sources.

Non-formal Learning Activities

The College provided a number of non-formal learning activities to promote holistic learning. While most of these were evaluated qualitatively, and are therefore discussed in the next chapter, several others were partially examined quantitatively. These include the overseas study tour, journals, and discussions. The following section presents these three quantitative data categories.

Overseas Study Tour

The first question of the OST questionnaire provided a useful benchmark to contextualize the participant's self-reported appreciation of the trip for holistic learning. This data's overwhelmingly positive results contrast with subsequent qualitative data regarding the trip. This variation in turn leads to findings about consistency in responses, attitude toward the course and learner diversity.

OST Question 1. Was the OST useful for consolidating the International Relations and Strategic Studies module?

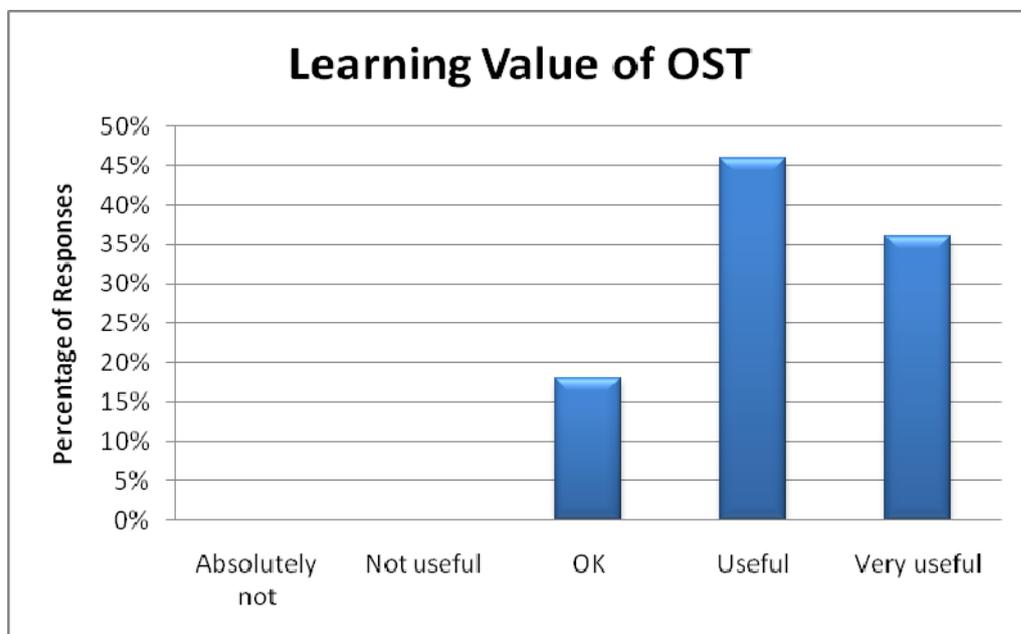


Figure 19 OST value for consolidating first semester learning

Journals

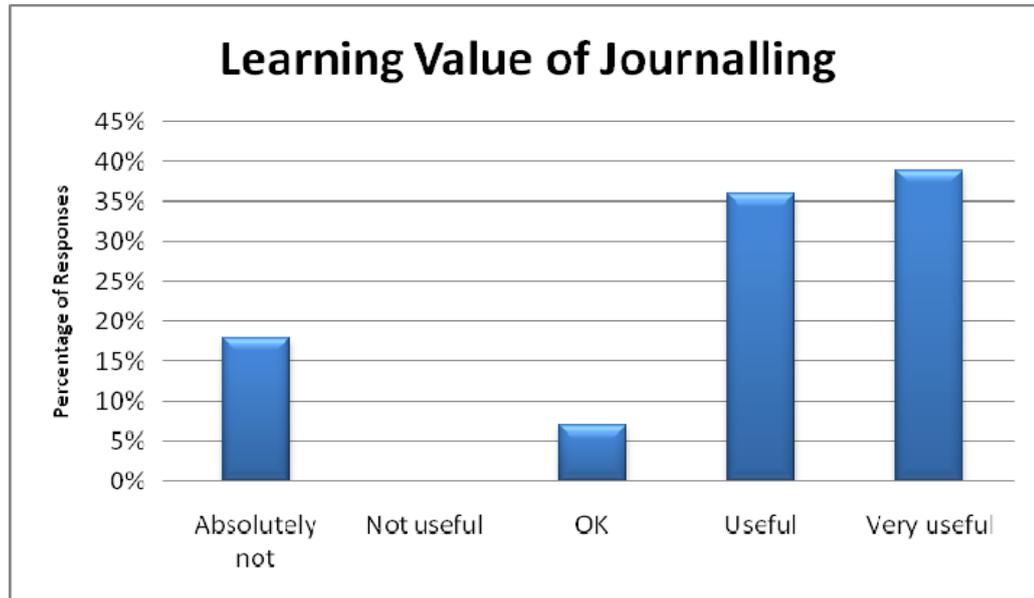


Figure 20 OST Question 2: Journal Value

Given the emphasis placed on journals as a trigger for holistic learning, the study sought more detailed data on participant's perceptions. This data provides a framework upon which subsequent qualitative data was overlaid. While 18% of participants clearly found the journals to be of no value, the remaining 82% thought otherwise.

A further test found a positive correlation between perceived learning value of the journal (Figure 20) and the attitude towards work–social balance ($r=0.471$, $df=27$, $p<0.05$).

As an extension to the investigation of journal's learning value, two additional document analyses were performed on submitted OST journals. These included an investigation into style and length (to compare against traditional assessment formats) and a content analysis on selected OST journals.

OST Journal Format

The most popular technique for writing the OST journals was typed narratives (65%), one handwrote hers electronically, four submitted handwritten A4 sized pages, three used A5 notebooks, and one produced an A4 folder with supplementary material.

Most of the handwritten versions included sketches, maps, and additional material such as newspaper clippings and brochures. Overall, the styles were either chronological diary or themed. Some included dot points to a greater or lesser extent (23.8%) but the majority were straight narrative prose.

The length of the journals varied between 2,808 and 17,220 words (excluding enclosures). Only a few journals averaged equivalent to a normal written deliverable (8%) while a quarter (24%) were between 3000 and 5000 words. The largest group (44%) were between 5,000 and 10,000 words (a research essay length) and 20% between 10,000 and 12,000 words, only one exceeded this category (17,220 words).

The fact that the journals were longer than a standard essays meant people obviously engaged more. Ie they could have written a bare minimum yet most chose to write more.

—member checking comment, 8-months post course

The handwritten journals averaged 6606 words (approximated) while the typed equivalents averaged 7687 words. This meant both formats were more than twice as long as the alternative deliverable (3000 word essay) despite no specified word count or page length. In keeping with other less-traditional deliverables, the OST journals were deliberately vague in their instruction. This was done partly to empower the students (giving them control over their learning) but also to encourage creative thinking and make them more comfortable with ambiguity. Interestingly this caused observable stress in many students. The absence of clear direction still required a significant paradigm shift for many.

...or the course was so into a paradigm of rigid deliverables that freedom of thought was confusing.

—member-checking comment, 8-months post course

Although the OST journals were promoted as a university assignment, they extended student learning beyond subject expertise into the realm of learning the profession (Figure 10, p. 43).²⁷ This multi-disciplinary outcome was achieved by regular

²⁷ This assessment is based on interviews and reviews of the journals. There is, however, no data to show how extensive this learning was or if more could be achieved.

encouragement to look beyond the obvious. Expectations of the final product was deliberately left open to avoid students 'playing the game'. However, some participants researched (including obtaining previous year examples) and wrote parts of their journal before the trip. From the submitted journals however, it was apparent most students critically reflected on a diverse range of aspects.

Word frequency in OST Journals

Combined, *Japan* (2.13%) and *Japanese* (0.61%) were the most context specific words used (2.74%). In contrast, *Korea* (1.03%) and *Korean* (0.50%) only made up 1.53%. Given the time spent in the two countries was comparable, this could suggest the students found more material to write on in Japan (there were more formal briefs there) or that they found it more interesting in terms of analysis. Surprisingly, *US* (or *United States*), appeared 1.05%. Although US Bases were visited, the trip was not about the US, so discussion of its involvement highlights a significant student extrapolation of its importance in the region. All three countries however, featured in the formal learning briefs and are interpreted as 'learning to be an expert' because they correlate easily with the pre-trip international relations presentations.

Students who extrapolated patterns into the New Zealand context were assessed as moving toward 'learning the profession'. It is therefore interesting to note New Zealand (or NZ) featured 0.78%. While this ranks below the other three countries in word frequency, it is still considered a good indicator of extended abstract thinking (new application beyond what was taught, see p. 49) and therefore deeper analysis.

Sources and Foci Nexus

From a sample of OST journals, it was possible to code and analyse the emphasis placed on profession and expertise foci as well as by apparent learning source (Table 8 p. 120). Percentage of words coded as *learning the profession* (89.12%) significantly exceeded those for *expertise* (61.54%).²⁸ Emphasis should however, be drawn to the potential students may have played of the game in that if they knew higher level analysis (extended abstract) was sought, then they may have been more likely to

²⁸ The coding methodology is described on p. 103.

record these observations in their journals.²⁹ Actual learning could well have been more diverse. Even if this is the case however, the fact that the students strove to consider extended abstract theses means the activity achieved its aim.

An appropriate benchmark is required before comparing the relative worth of the sources. Furthermore, any comparison of *learning to be an expert* versus *learning the profession* should acknowledge the need for the former as a catalyst for the latter. In the absence of control data, it is difficult to assess if this level of extended abstract learning is satisfactory. Future studies will be able to use this data as a reference.

There is also a degree of *learning to learn* and *learning the game* in terms of what the students chose to write. Those more attuned to only writing *profession* related comments could well skew their journal entries, while those aware of their learning style, may also moderate the relative balance of comments.

	Formal	Non-formal	Informal	Incidental	Total
Expert	23.88%	20.19%	6.69%	10.78%	61.54%
Profession	28.31%	25.52%	20.89%	14.40%	89.12%
Total	52.19%	45.71%	27.58%	25.18%	

Table 8 OST Journal Content Comparison (Sources and Foci)

Reflections Sessions

Group Size Preferences

During the data collection phase, the participants became aware of group size as an influence on learning. At the request of the students, the staff replaced the large, full-course, reflection sessions with smaller, syndicate-sized versions. This led to a more detailed analysis of participant contribution during both large and small group

²⁹ Several students reported being unaware of the activity's requirements (see the OST Journal section, p. 155).

discussions. It also prompted a survey of participant's preferences for group size. As shown in Figure 21, 37% of the participants preferred small groups but a similar number saw value in mixing both small and large format sessions. Learning style diversity and desire for variation both emerge as data patterns.

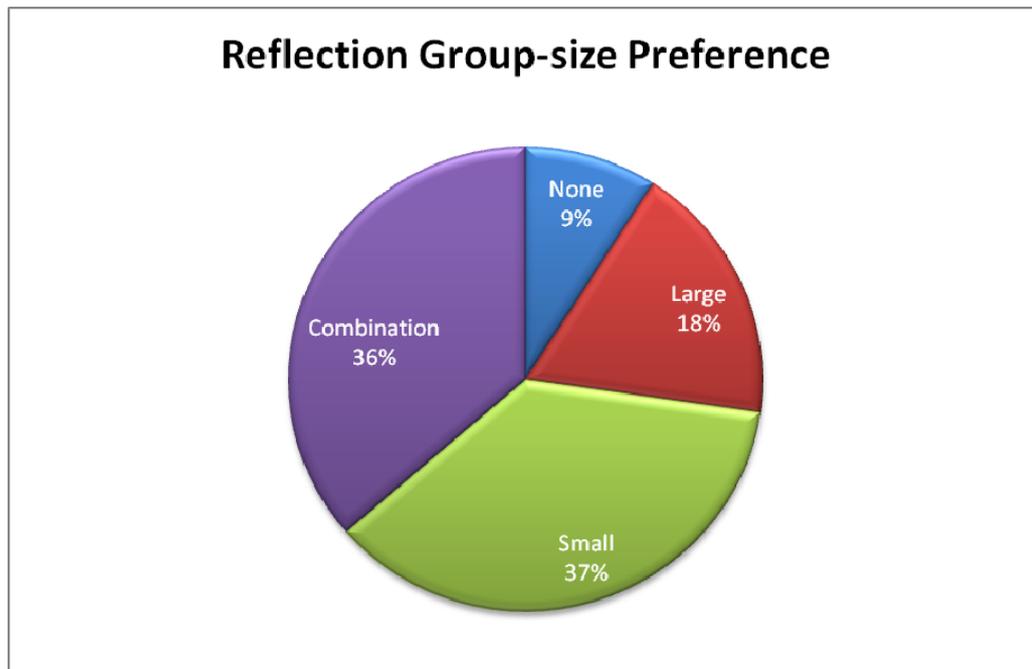


Figure 21 Reflection Session Group-size Preference

A working hypothesis emerged during the study that the same students who ask the most questions during plenaries also contribute the most during reflection sessions. The results of this side-investigation revealed a significant positive correlation ($r=0.602$, $df=28$, $p<0.01$) supporting the hypothesis that the same participants dominate all open discussions and those who did not contribute were mainly those who sought smaller group sizes (derived from member-checking, eight months post course).

Participant contribution by group size

Large group (n=26) reflection session at the College

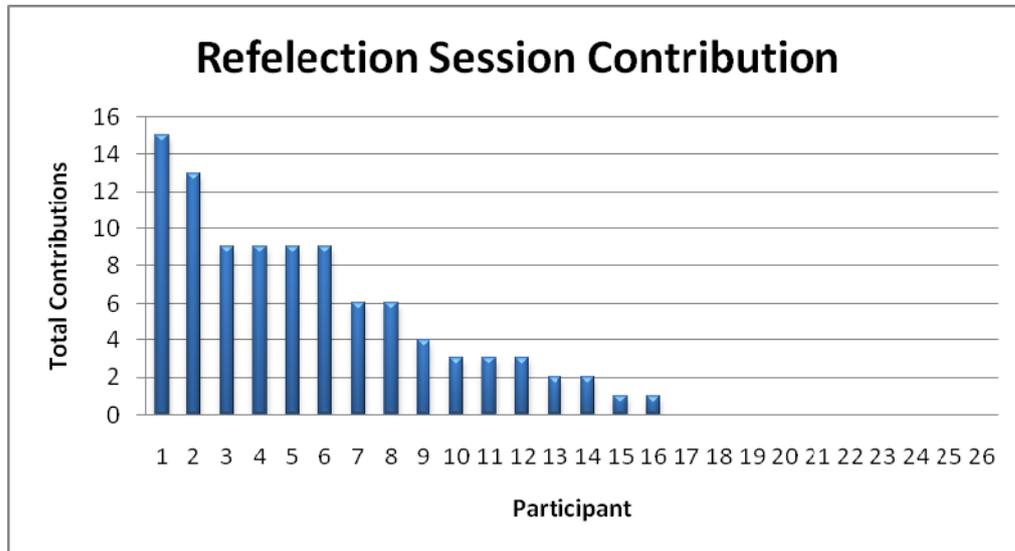


Figure 22 Ranked contribution frequencies for a large-group Reflection Session

Continuing with the exploration of group size as a variable for hidden learning, data was collected on number of contributions made. This observation data is based on a single full-course reflection session due to it being the final one conducted. Both the emergent hypothesis on group size influence and the decision to change format resulted from the participant’s request. The observed session was therefore the final programmed opportunity to observe the dynamics of a large group session. Figure 22 shows how only 16 of 26 participants contributed at all. This analysis is further refined in Table 9.

8%	of the group made 29% of the comments
15 %	of the group made 48% of the comments
38%	of the group made 87% of the comments
38%	of the group did not speak at all

Table 9 Summarised key statistics of a large-group Course Reflection Session

Large group (n=29) reflection session on the OST

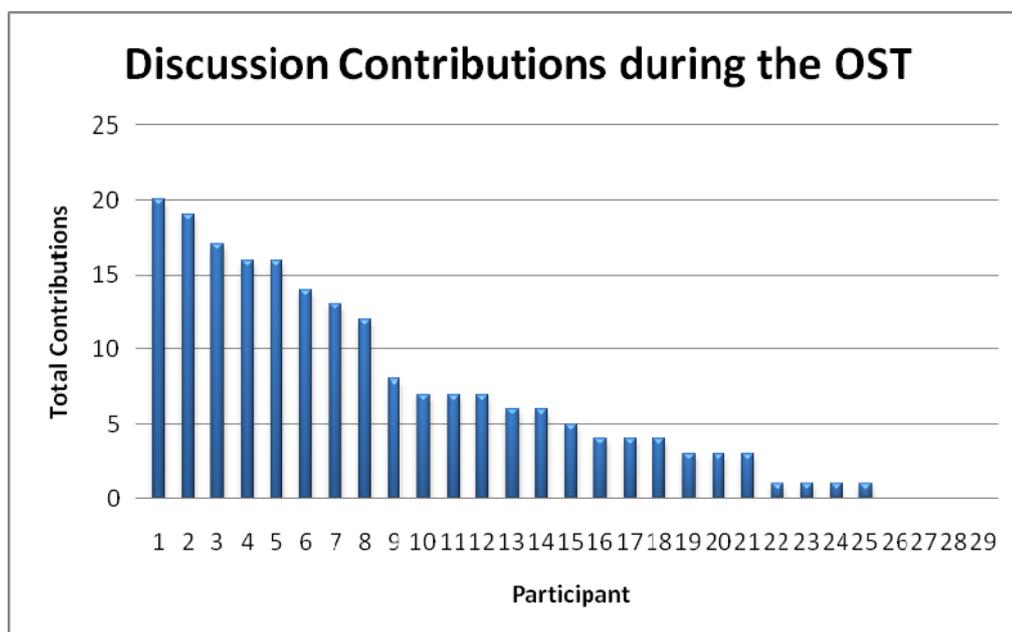


Figure 23 Total verbal contributions by students during the OST

During the two-week period, the study participants asked 200 questions (65%) of the 308 asked by the contingent (n=54)³⁰ in both the morning reflection sessions (65 questions) and following formal presentations (135 questions). The average number of questions asked per participant was \bar{x} =6.90, SD=6.40, over the two weeks (Figure 23).

Small group discussions

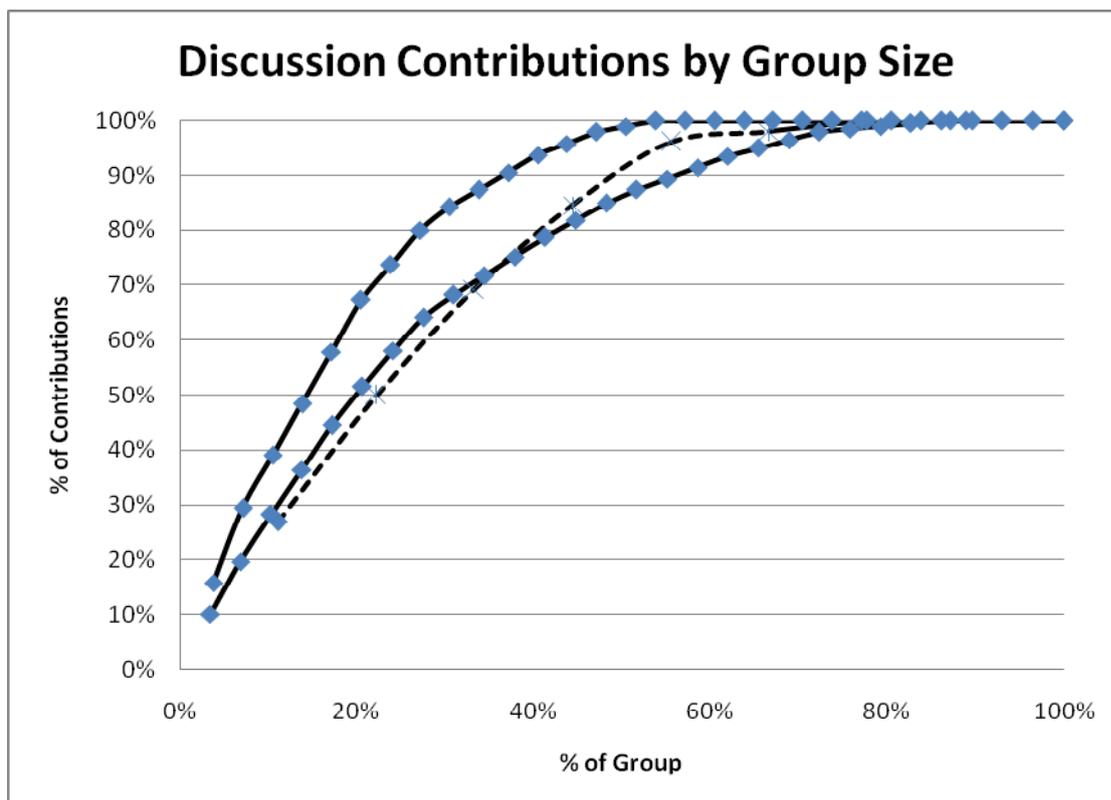
In a comparative study of a small group session³¹ (n=9), two participants did not speak at all during the session (both international students). Two New Zealand students only spoke once, and even then only when asked directly. Of the remaining five, one only

³⁰ The entire contingent of 54 represented the case study participants plus a number of additional personnel who joined the group for the trip. The additional personnel were not included in the results of the study.

³¹ The session topic was on whether the Department of Prime Minister and Cabinet, rather than the Ministry of Defence, should have led the Maritime Review of 2001 (Day 1, Week 12). The discussion chair was given scope to explore a wider topic if it emerged, thus making it more a reflection session than a syndicate discussion. It also deliberately targeted 'learning the profession' in that it was not specifically linked to a given (expertise) lecture but aimed to join-the-dots of several different ones.

asked a few questions, one other offered occasional support, and the remaining three dominated the entire discussion. From this case-within-case observation, similar findings were found with small and large group discussions—viz 44% made no significant contribution, 23% contributed slightly, while 33% dominated the discussion. While caution needs to be taken with a single observation, this data supports other observations (see Figure 23, p. 123) and reinforces the need for promoting good discussion chairing skills—including cultural awareness. In contrast, it should also be acknowledged that some students prefer to learn passively and forcing contributions may not result in greater learning. Any suggestion of assessing contributions should also be discouraged to avoid game-playing.

Comparison of contribution by group size



Key: Top solid line = contributions during the OST (n=29)
 Middle dashed line = contributions during small group discussion (n=9)
 Bottom solid line = contributions during large group reflection session (n=26)

Figure 24 Percentage of discussion contributions by percentage of group size

Figure 24 compares the percentage of contributions by percentage of group for the three sub-studies. The upper and lower solid curves represent the two large group

discussions while the middle dashed curve plots the small group discussion. Again, caution needs to be exercised in terms of depth and length of contribution, however, the ratio of non-participation (during these observations) suggests the group size is of less relevance than predicted. All three discussions were chaired, however, none specifically targeted maximum participation.

The Four Learning Foci

Learning to Learn

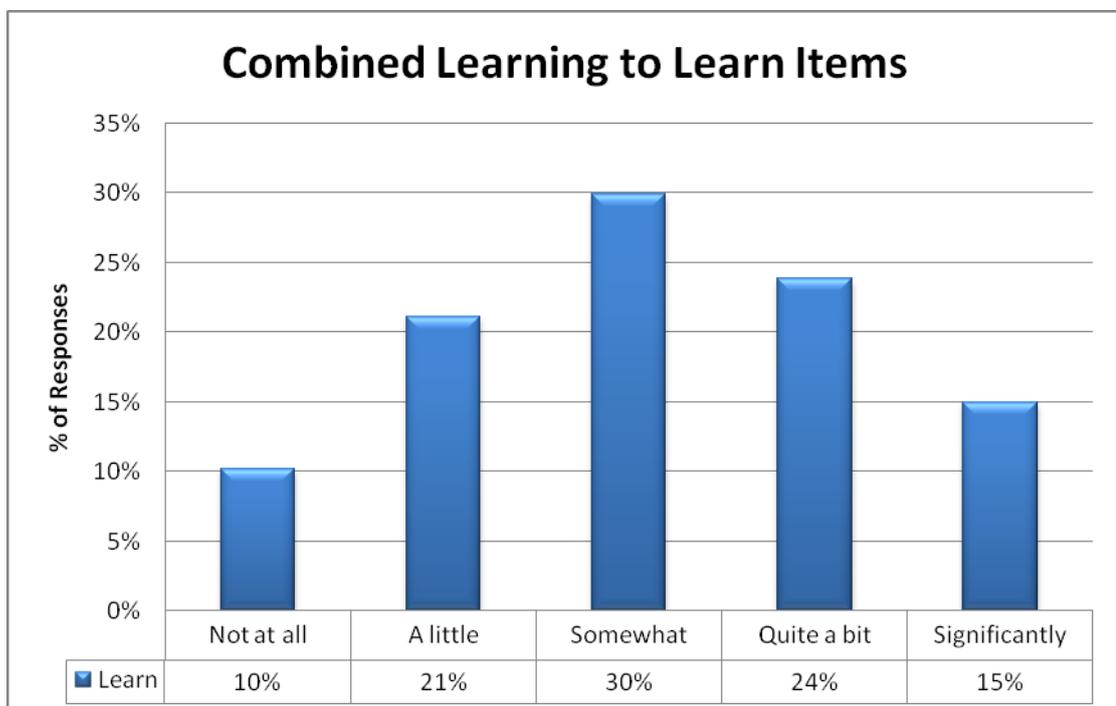


Figure 25 Learning to learn (combined scores of nine learning to learn items)

Using Ahola's questionnaire as a basis, the graduand questionnaire included nine items coded as learning to learn (2, 4, 5, 10, 13, 14, 15, 17, and 31). When the scores of these items are averaged, they present a collective data pattern of the participant's self-reported achievement in this foci. Figure 25 presents the slightly negative skewed (right of centre) normal distribution for the combined nine items scores coded 'learning to learn'.

As shown in Figure 26, 84% of the course recognised the value of peer-learning over the lecturers (Item 28). Not a single responder reported learning more from the

lecturers than from their classmates. Although the question might have been interpreted partially as a negative response to the value of the lecturers (see also items 26 and 27), its overwhelming direction is still significant. This finding reinforces the contribution of hidden learning on the staff course.

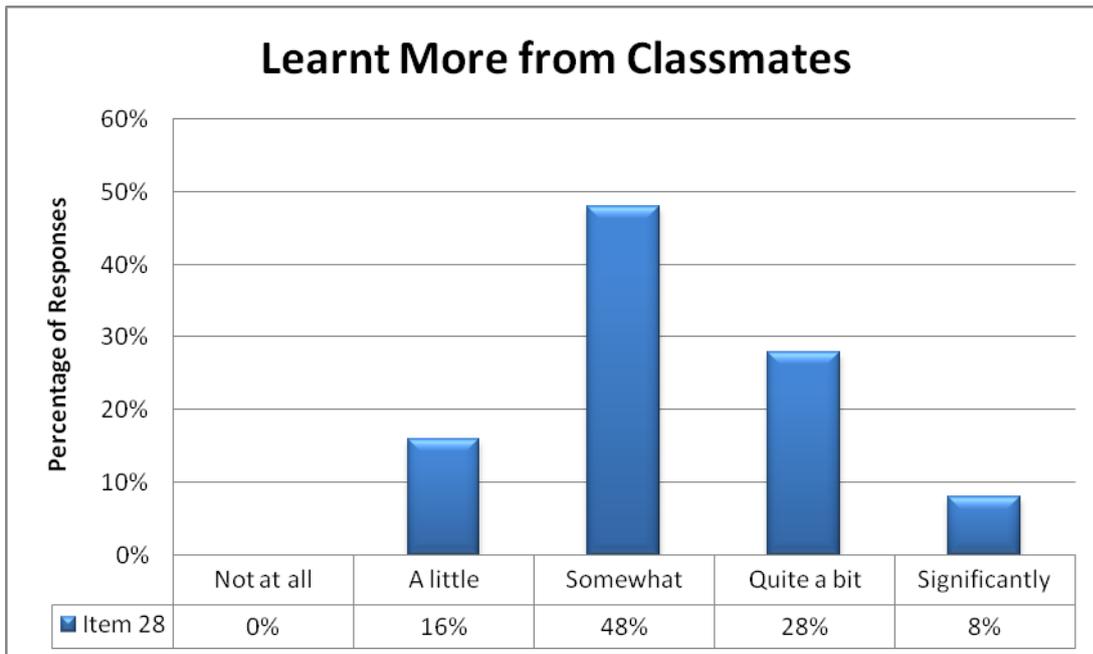


Figure 26 Staff Course helped me learn more from my classmates than the lecturers

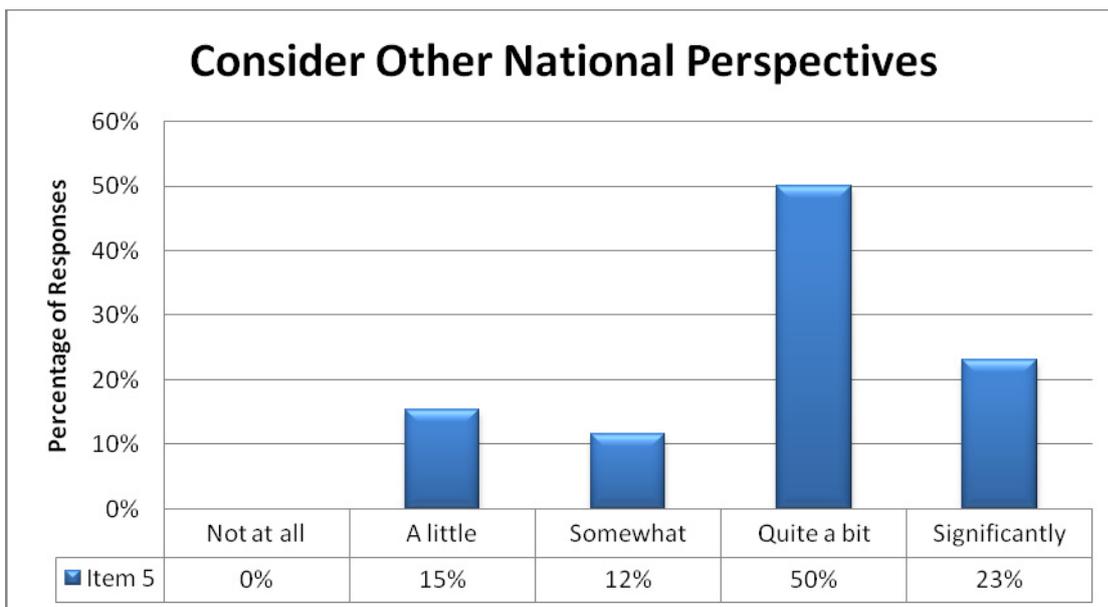


Figure 27 Item 5: Staff Course helped me to consider things from other national perspectives

Learning to consider things from other national perspectives (Item 5) is a major non-formal learning thrust of the course. This item is skewed by the international students who were more aware of their exposure to an alternate (the New Zealand) national perspective, but the overall results still reinforce the value of this dimension (Figure 27). This strongly supports the value of having international students on the course (informal learning), the value of the two overseas trips, and the associated hidden learning artefacts associated with deliverables and other non-formal learning activities. This question indirectly captured dimensions of 'learning the profession' because it overlaps with understanding the bigger picture, but was primarily coded as 'learning to learn' because it demonstrates a newer approach to learning.

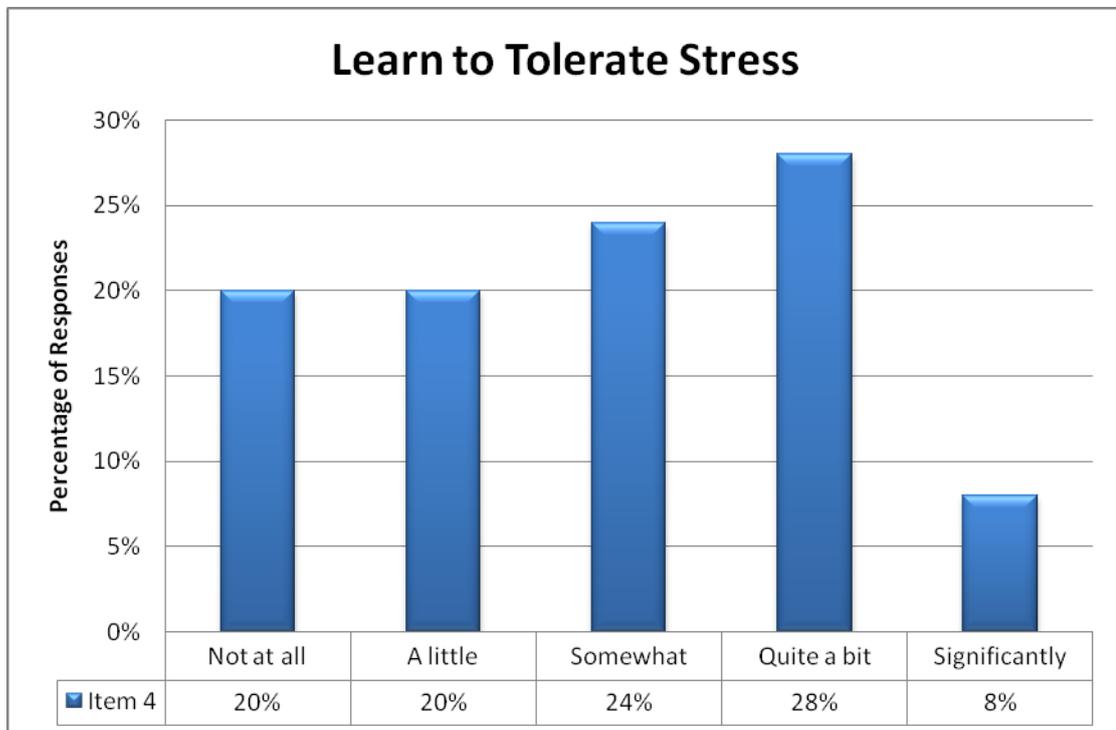


Figure 28 Item 4: Staff Course helped me to tolerate stress and deadline pressure

Part of learning to learn is learning to control one's own mental state. Item 4 of the graduand questionnaire sought the participant's perception of their own development in stress management. This is an area where the majority of students were expected to develop significantly during the course, but clearly did not (Figure 28). The heterogeneous results suggest, although 60% reported in the top three categories, 20% did not believe they developed at all, and a further 20% only considered themselves to have developed 'a little'. This finding highlights the individual

differences of staff course students and reinforces the need for diversity in activities and personalised learning plans.

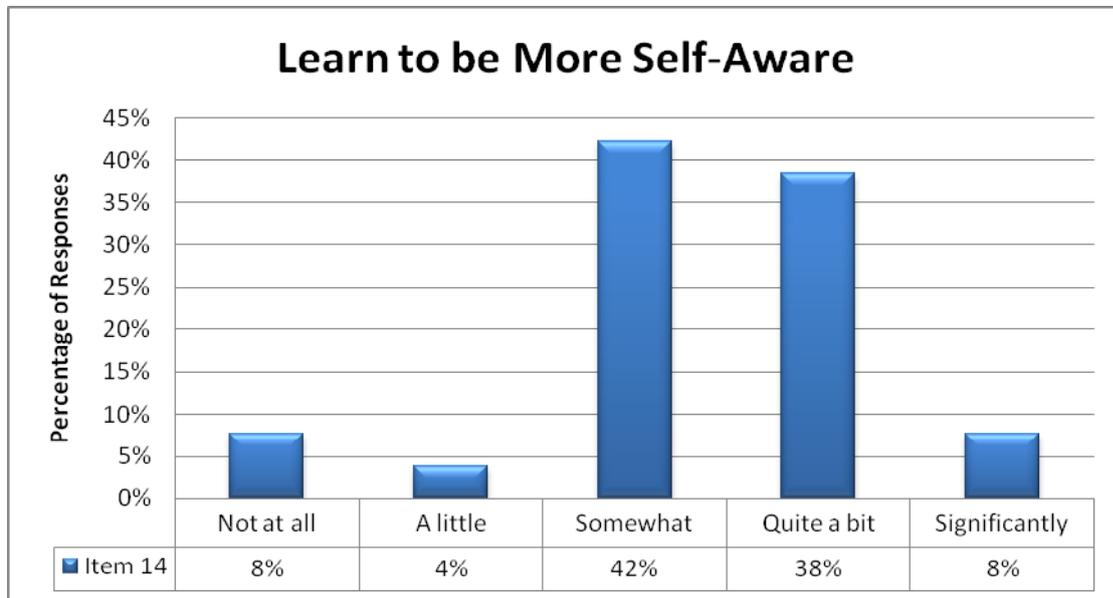


Figure 29 Item 14: Staff course helped me to be more self-aware

Increasing self-awareness (Item 14) is another major outcome of the course. It is not stated anywhere in the course documentation but is clearly a desirable goal which links into metacognitive awareness (learning to learn), developing a passion for ongoing learning (a tenet of a profession) and personal control of one's own professional development. Eighty eight per cent of the responses were in the top three categories although they were predominantly in the 'somewhat' and 'quite a bit' categories (Figure 29).

Learning the Game

Unlike 'learning to learn', the average scoring of 'learning the game' items was more evenly distributed (Figure 30). Most participants would have sensed the potentially negative inference associated with the game items which may have influenced their responses. Conversely, and triangulated with interview data, many participants reported actively avoiding playing the game. While the subjective and subconscious

nature of this tacit learning remains problematic, it is accepted that some students will have learned less game playing skills if they deliberately avoided playing it.

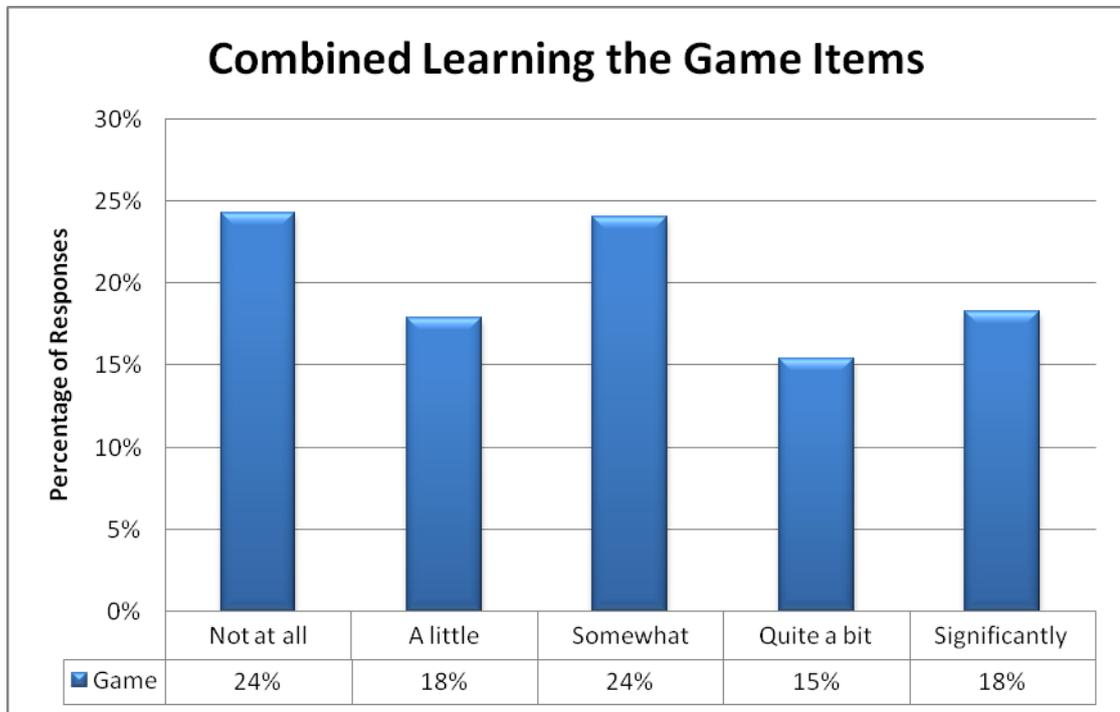


Figure 30 Consolidated results of all items coded 'learning the game'

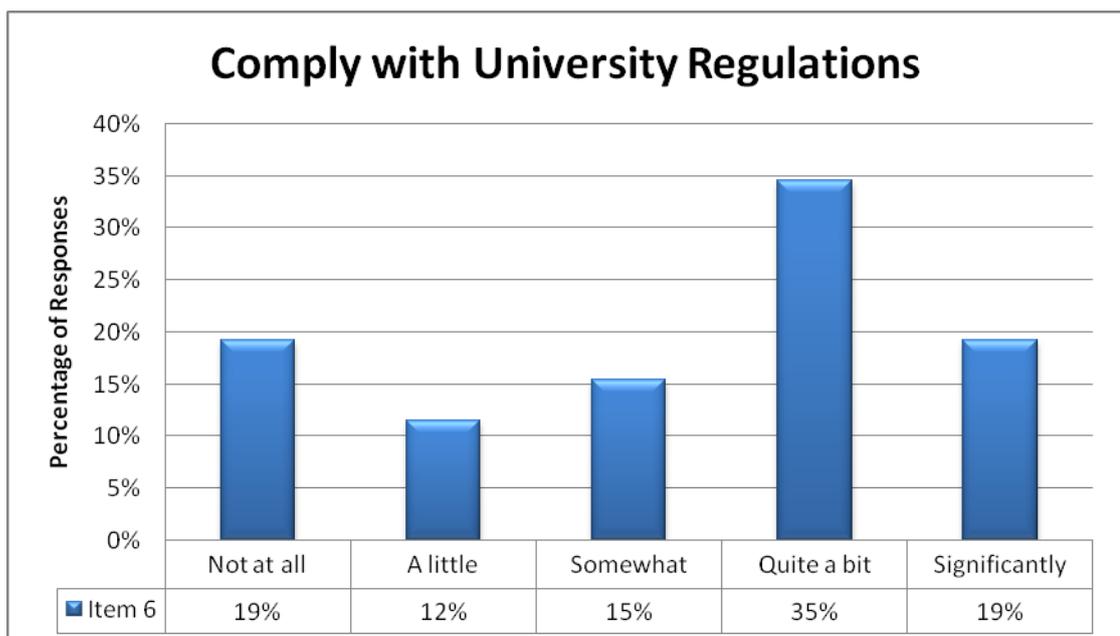


Figure 31 Item 6: Staff Course helped me to comply with university or staff college regulations.

Learning to comply with regulations (Item 6) is considered synonymous with learning the academic game. The results from this question highlight a fairly dispersed perception of this dimension although sixty-nine per cent of responders rated this in the top three categories.

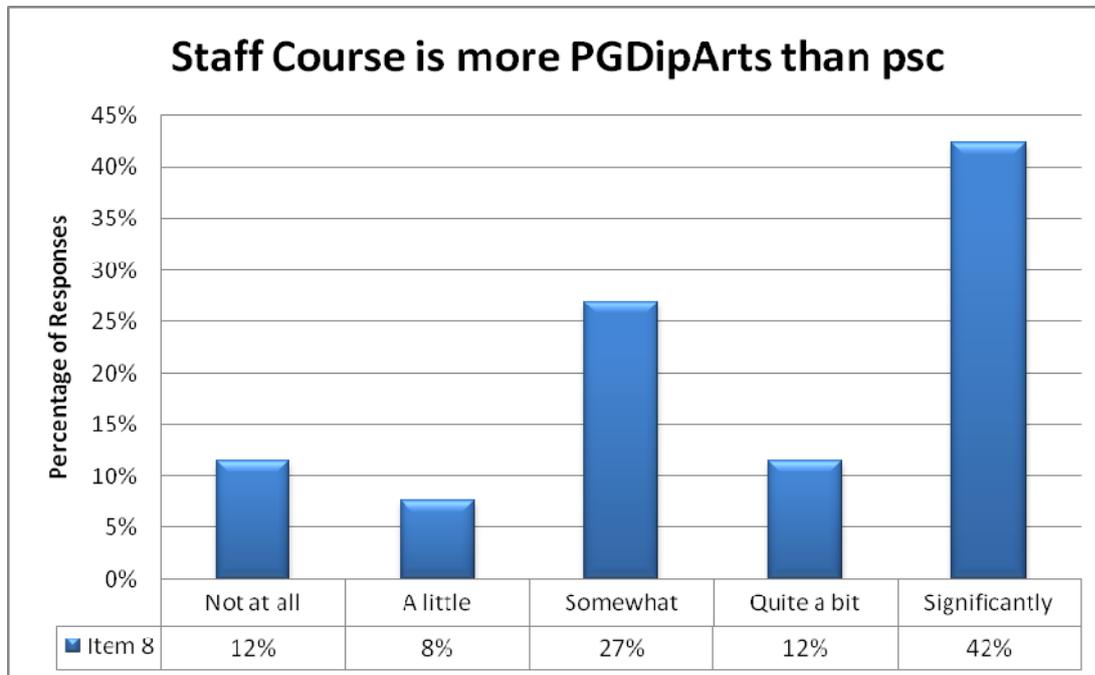


Figure 32 Item 8: Realization the Staff Course is more about university grades than psc work

Item 8 targeted the observation that students were putting more effort into their PGDipArts university assignments than their psc (ie military only) assignments (Figure 32). The results indicate 81% of the students agreed with this observation (top three categories). While this links to some extent with strategic learning, it is also identified as ‘learning the game’. It also suggests that, during the course, students placed more emphasis on learning to be an expert (university assignments) than on the more holistic psc (learning the profession). Whether they did this out of self-motivation or whether they were enculturated by the College’s hidden learning messages, remains unclear (based on member checking feedback, eight months post course).

As discussed further in the next chapter, the imbalance of deliverable numbers and size (Table 6, p. 112) needs to contextualize the data, however, the disproportionate attention by the participants is reinforced by both the emic observations and interview responses and highlights an area of concern for the Staff College to address.

Of some consolation was the equal finding (81%) of students who felt they had in fact learned the profession (Figure 35).

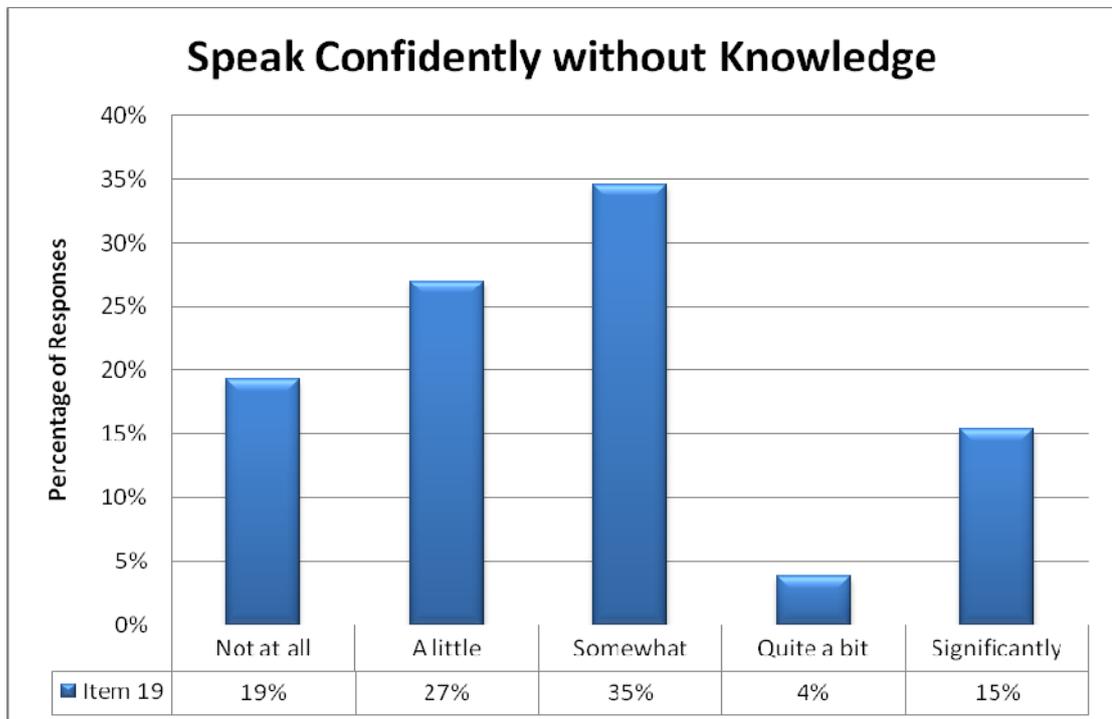


Figure 33 Item 19: Ability to speak confidently without knowledge

Further extrapolation of 'learning the game' explored whether the participants felt they learnt to speak confidently on subjects without having real knowledge. As shown in Figure 33, this was clearly an area where the majority of students did not feel they developed. This result supports triangulated data suggesting the participants did not learn to play the game to the same extent as the other three foci.

Learning to be an Expert

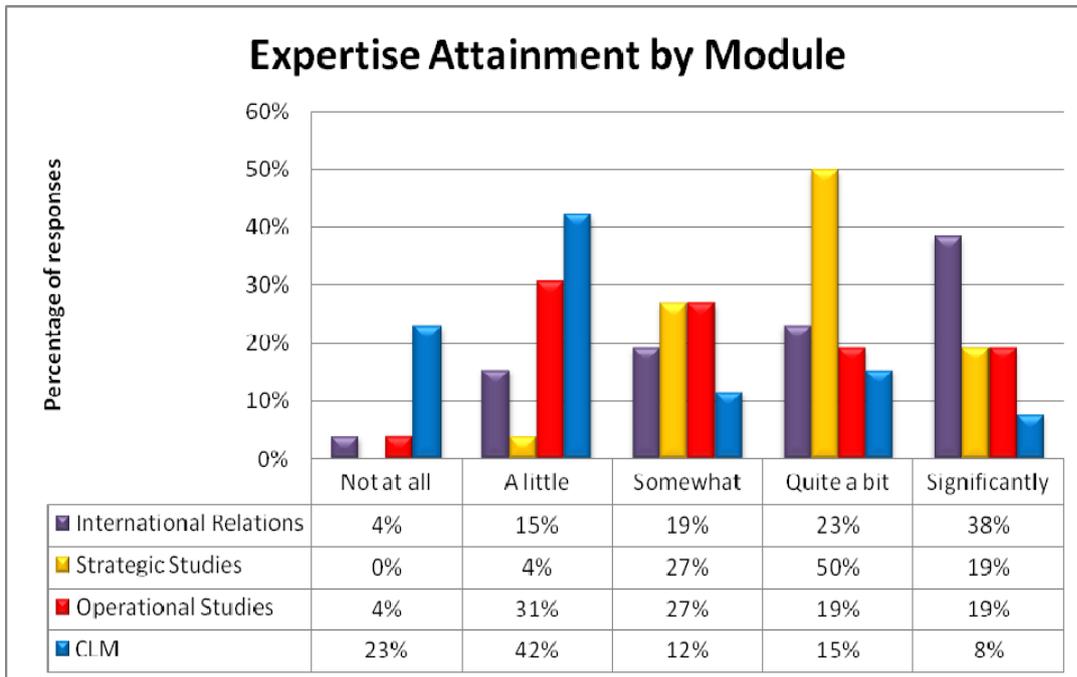


Figure 34 Learning to be an expert by modules

Learning to be an expert is an integral part of holistic PMD and an essential element of learning the profession. As shown in Figure 34, the level of expertise attainment was not consistent across the four modules. When triangulated with other influences of holistic learning (especially differing learning source allocation, deliverables, and total time) the understanding becomes more complex. The follow section summarises key data patterns relating to ‘learning to be an expert’ before sequentially examining each of the four modules.

From Table 4 (p. 109), 79.87% (305.6 hours) of the timetabled formal learning was allocated to learning expertise. This increases to 85.53% (556.7 hours) when other contact time activities are included. This allocated time does not imply other learning foci were neglected, simply that they were not the primary target. Arguably, because expertise is considered an essential prerequisite to learning the profession, all of this time allocation could be dual coded.

In addition to the College’s shaping of ‘learning to be an expert’ through time allocation and emphasis on siloed deliverables, the study collected data on self-

reported acquisition. From the Graduand Questionnaire, it is possible to compare the participant's perception of learning to be an expert. Each of the four modules was specifically targeted through items in the questionnaire.

International Relations

Item 30 (Learning the theories of International Relations) sought confirmation of formal expertise acquisition of the IR module. Anecdotal evidence has long identified this topic as the one where students consistently report learning the most new material. While the spread of responses meant this item did not have the highest combined rating over the top three, it did score very high in the *significantly* category (Figure 34, p. 132). This finding is consistent with anecdotal evidence from previous courses and highlights the student's conscious awareness of new expertise learning.

Strategic Studies

Understanding strategic policy development (Item 7) was the highest scoring response of the Graduand Questionnaire with 96% being in the top three categories (Figure 34, p. 132). This dimension falls within 'learning to be an expert' and had an *a priori* expectation of being on par, but possibly slightly below, the International Relations module. The overall attainment, and relative position, of the module was therefore consistent with expectations.

Operational Studies

Development of planning military operations skills in a joint environment was investigated through Item 22 of the Graduand Questionnaire (Figure 34, p. 132). This topic is one of the four key modules taught on the course but differs from the other three, due to the higher number of non-formal activities employed (see Table 3 p.108). Unlike the strategic level topics of Strategic Studies and International Relations, many participants reported they already had a basis in this area and therefore either learnt very little, or felt they learnt very little.

Command Leadership and Management

The Command, Leadership, and Management (CLM) module scored lowest out of the four key formal curriculum areas (Figure 34, p. 132). Only 35% of the students felt they had learned more than 'a little'. This finding is consistent with other data collected as well as anecdotal evidence from previous years. Students attending the course have 17.45 years experience in this subject area (the 2008 participants cohort average was 17.69 years, see p. 243). Despite the syllabus's emphasis on newer dimensions (strategic level, corporate, and deeper self-analysis) students typically feel they already know this subject prior to attending. The controversial personalities of the lecturers may have also influenced this finding. Had the question wording not mentioned 'higher level', then the results might have been even lower scoring.

Learning the Profession

Learning the profession is one of the two main areas identified as critical in growing strategic artists. The following section explores the quantitative data relating to this important foci.

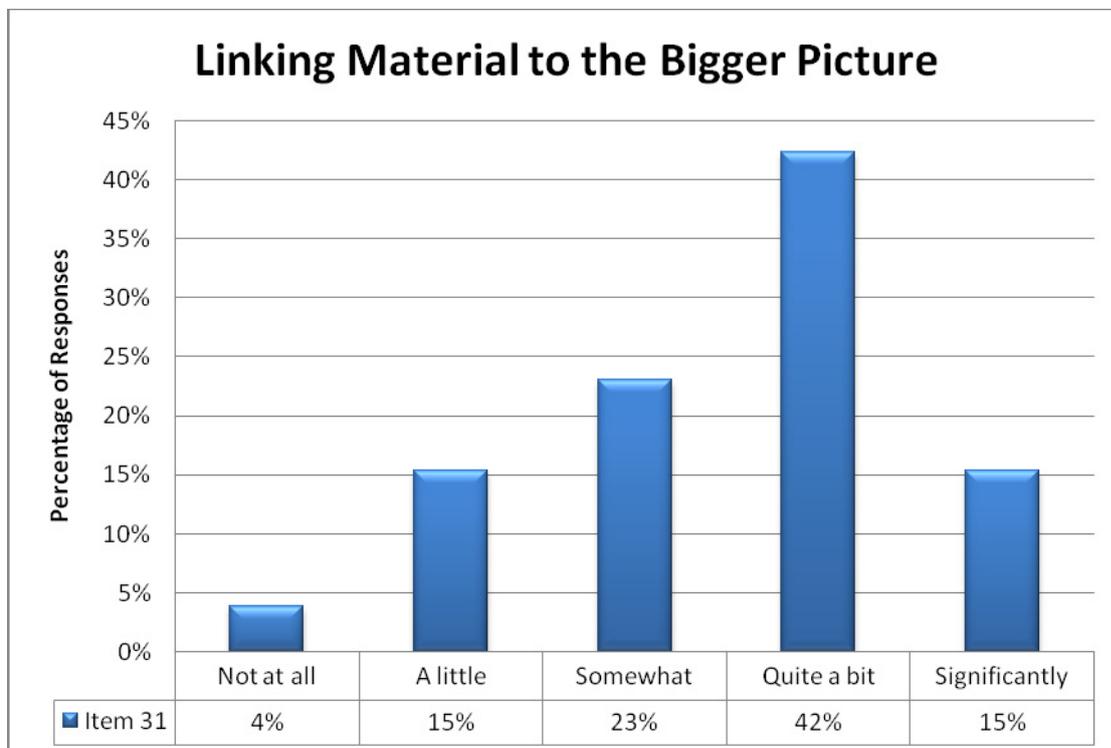


Figure 35 Item 31: The Staff Course help me to link material from different topics into the bigger picture

Linking different topics to the bigger picture is a fundamental aspect of learning the profession (Item 31). The results shown in Figure 35 show a reasonably successful level of attainment, but with obvious room for improvement.

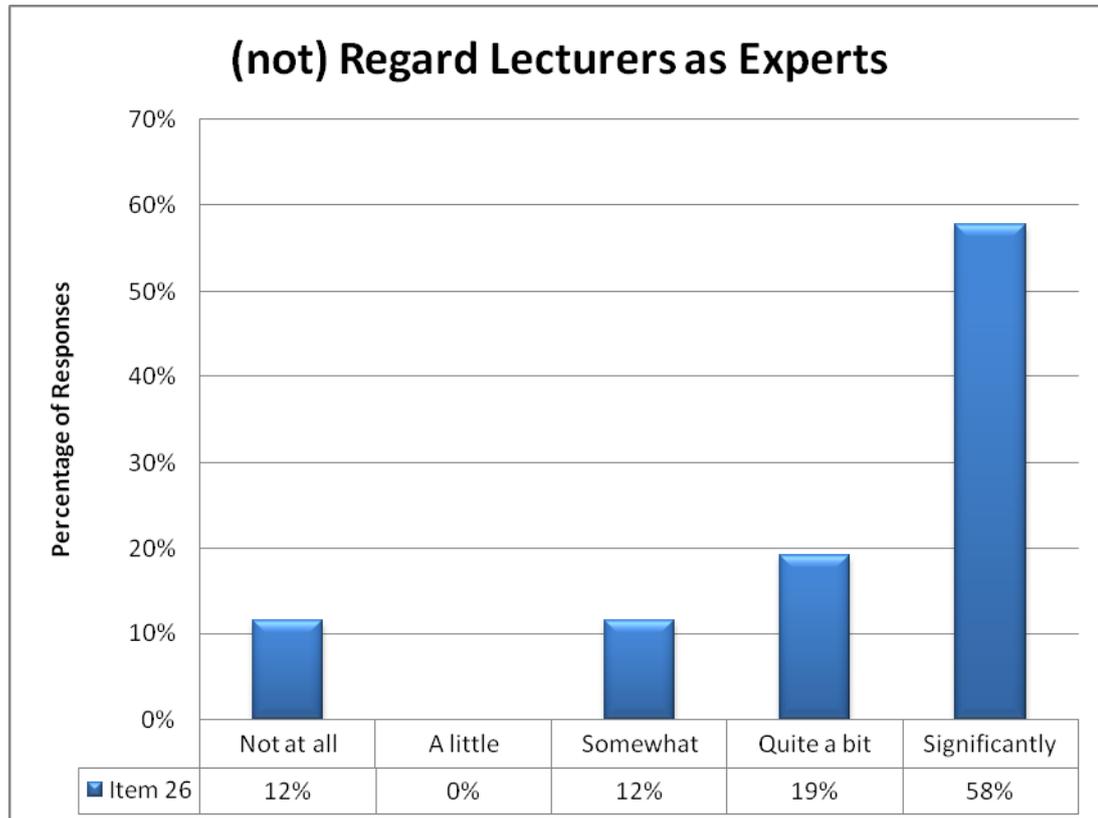


Figure 36 Item 26: Staff Course helped me to regard lecturers as experts and not to be argued with

Item 26 (valuing lecturers as experts) was reverse scored and is questionable in its validity because of its potentially emotive wording. While the results seem conclusive, and the general direction is acknowledged, caution is recommended in accepting the strength of the results. However, the results do reinforce the general outcome of increasing student's self-awareness and confidence in their own opinions and wisdom (Figure 36). This is perceived to contribute to increased performance in the workplace and conducive to innovation through self-belief.

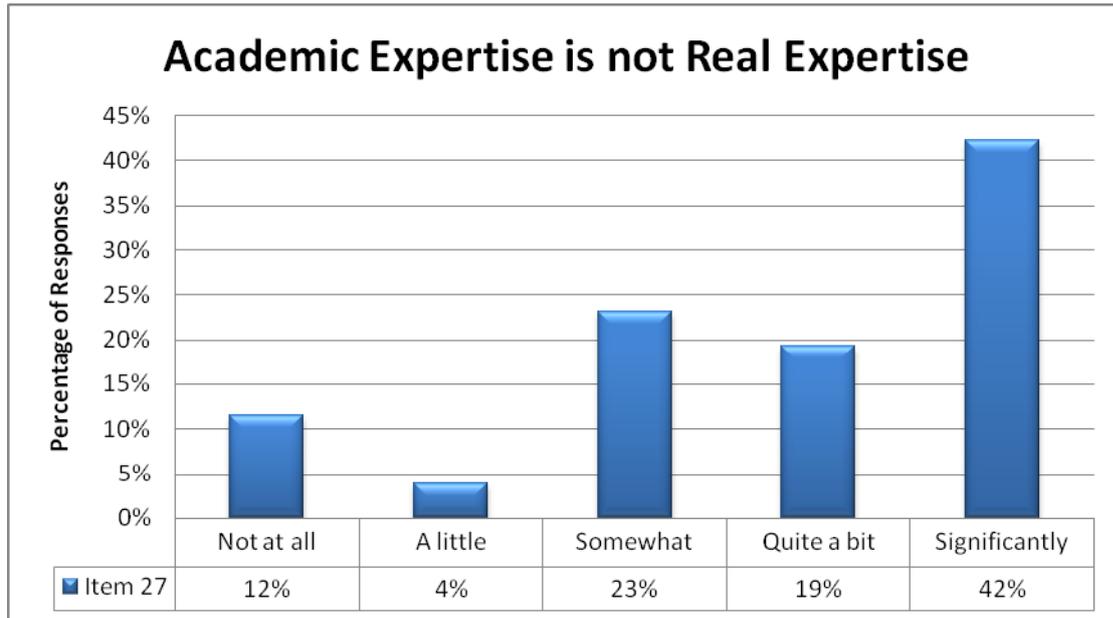


Figure 37 Item 27 Staff Course helped me realize academic expertise is far from real expertise

As with Item 26, Item 27 (academic versus real expertise) results reinforce interview and observation data suggesting participants learned to increasingly value their own opinions (Figure 37). While the College did not deliberately expose students to less competent university lecturers, the net result of participants devaluing some lecturers did have a positive side effect. Increasing self-confidence and self-awareness is a desired outcome of the course.

The findings from Item 27 (Figure 37) raise significant questions about why the participants appeared to place greater emphasis on the exchange value qualification (PGDipArts) than the practical value of learning (such as reflections sessions and non-assessed journals).

Secondary Data Patterns

A number of sub study analyses were performed to identify secondary relationships beyond the initial data and assumptions. Some areas (such as inter-Service differences) however, were not performed due to the small sample size. This would have caused problems both in terms of data integrity and participant anonymity. The following areas were evaluated for additional data patterns.

Comparison of nationality influences

During the data gathering phase a pattern emerged regarding differences between the New Zealand and international students. Due to the small sample size, and need for anonymity, the analysis was limited to these two broad groupings.

Because the New Zealand participants outnumbered the internationals by nearly two to one (19:10), their results distort the overall findings when significant differences exist between the groups. The purpose of this section therefore, is to explore potential differences between the two groups. The areas where differences do emerge are interesting in their own right. However the fact that differences exist, and their strength in some places, reinforces the need to consider nationality as a factor. Because only limited dimensions of holistic learning can be assessed quantitatively, the differences found in the following dimensions must be considered when interpreting less tangible dimensions.

OST Learning Sources

The value of learning sources appeared to differ based on nationality groupings (Figure 38). The depth of this possibility was selected as an area for more detailed examination. Using Kendall's test of concordance, the New Zealand participants are fairly heterogeneous in their preferred learning source ($W(a) = 0.149$, not significant). In contrast, although often different from the New Zealanders, the international participants often displayed internal consistency. This was the case for the self-reported value of learning sources on the OST ($W(a) = 0.465$, significant).

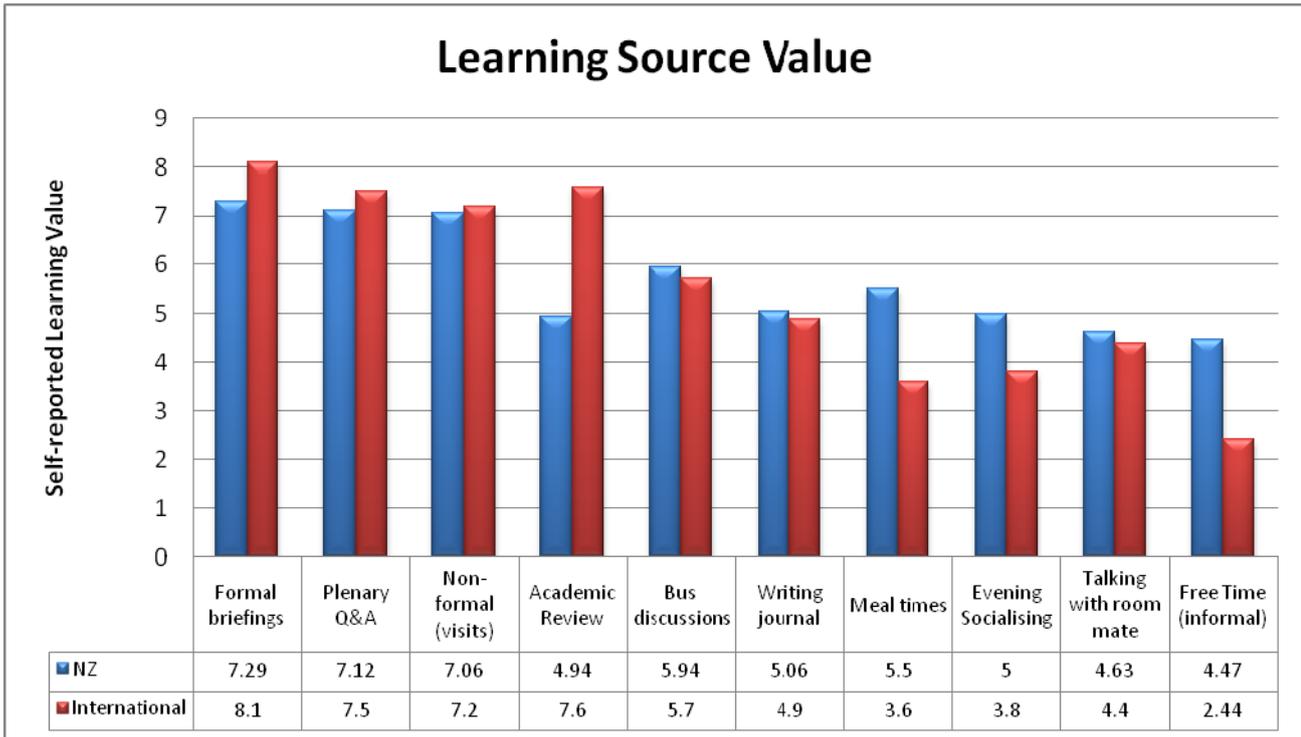


Figure 38 Ranked Learning Sources by Nationality

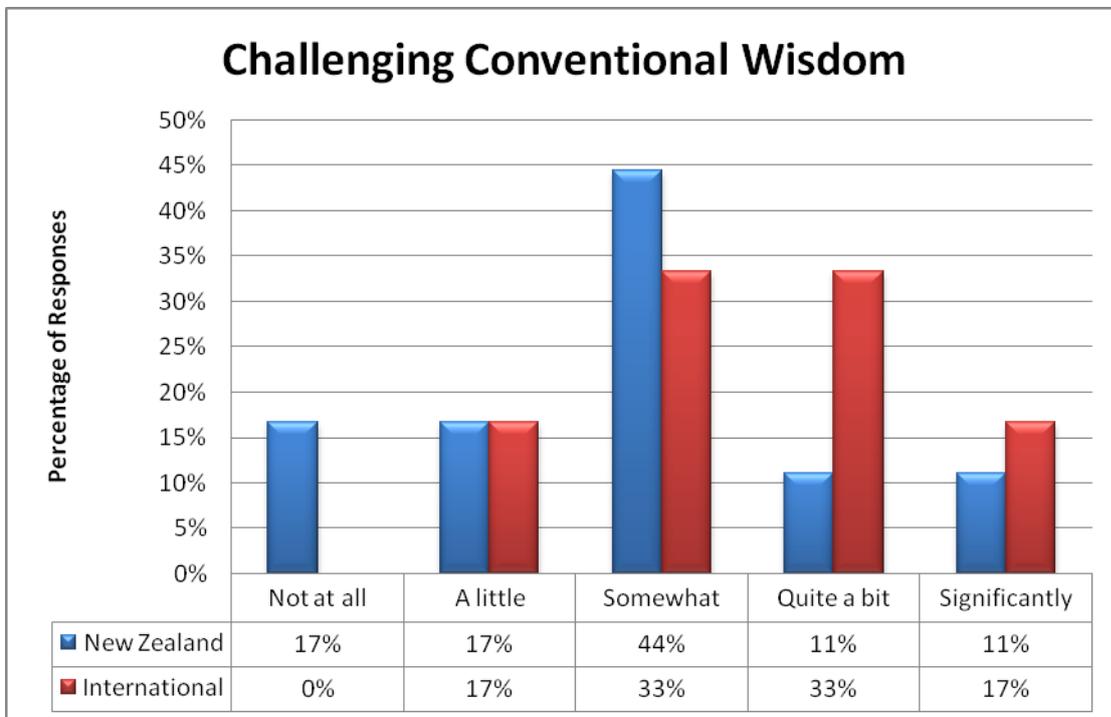


Figure 39 Nationality comparison for Item 25 (Challenge conventional wisdom)

Challenging conventional wisdom was an area of great learning for the international participants (Figure 39). In contrast, the New Zealand students reported this as being less of an outcome and in fact produced a positively skewed distribution. While the reason for this difference between the two groups is not surprising to anyone familiar with New Zealand's egalitarian culture (especially compared with a largely Asian international student body), the strength of the difference reinforces the need for diversity in student learning conditions. It also suggests the cognitive agility aspects of the course are of greater value to the international students than the New Zealanders.

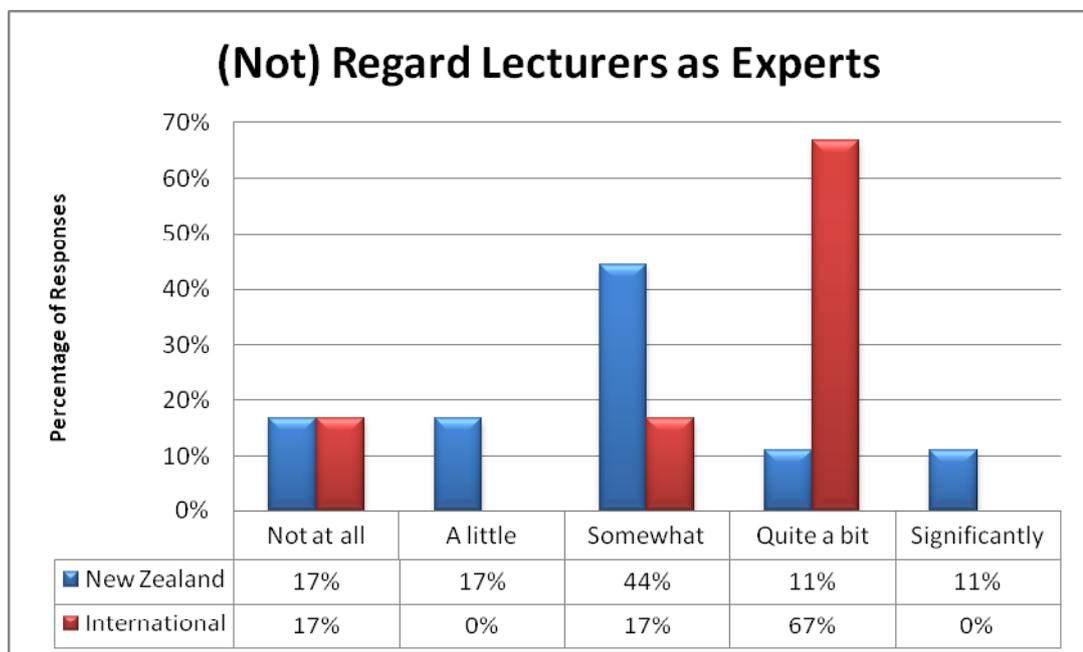


Figure 40 Nationality comparison for Item 26: Self-efficacy by nationality grouping

Figure 40 presents the reverse-scored results of Item 26 regarding confidence in challenging lecturers and again shows a difference between the New Zealand and international participants. While the course does not aim to discredit lecturers as experts, there is a goal to instill a strong sense of self-belief in the students.

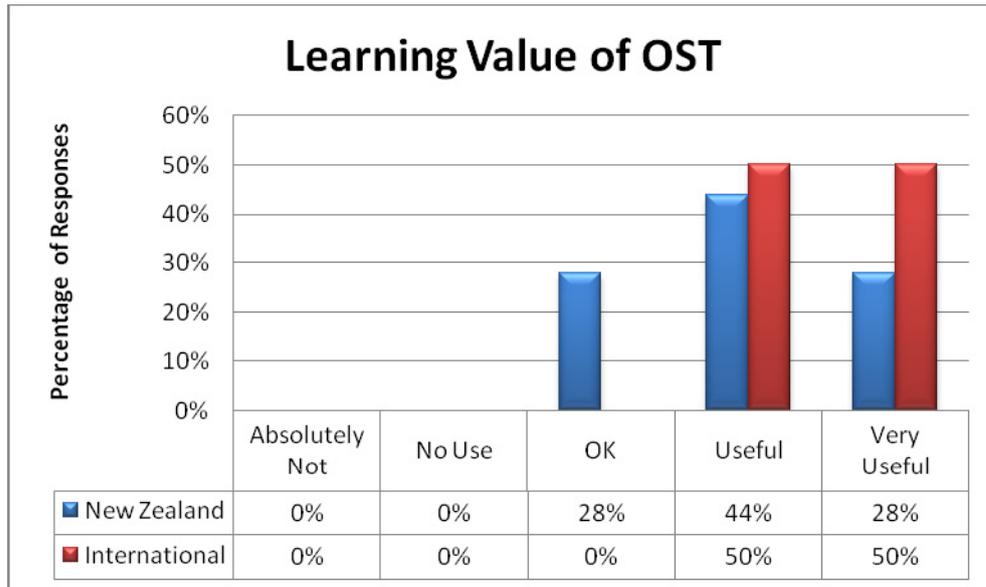


Figure 41 Nationality differences in OST Question 1: Value of the OST

Nationality differences were also found in the OST questionnaire results. Figure 41 shows how the international students rated the trip higher in terms of learning value. Similarly, the same group were far more positive about the value of the journals in terms of improving learning (Figure 42.)

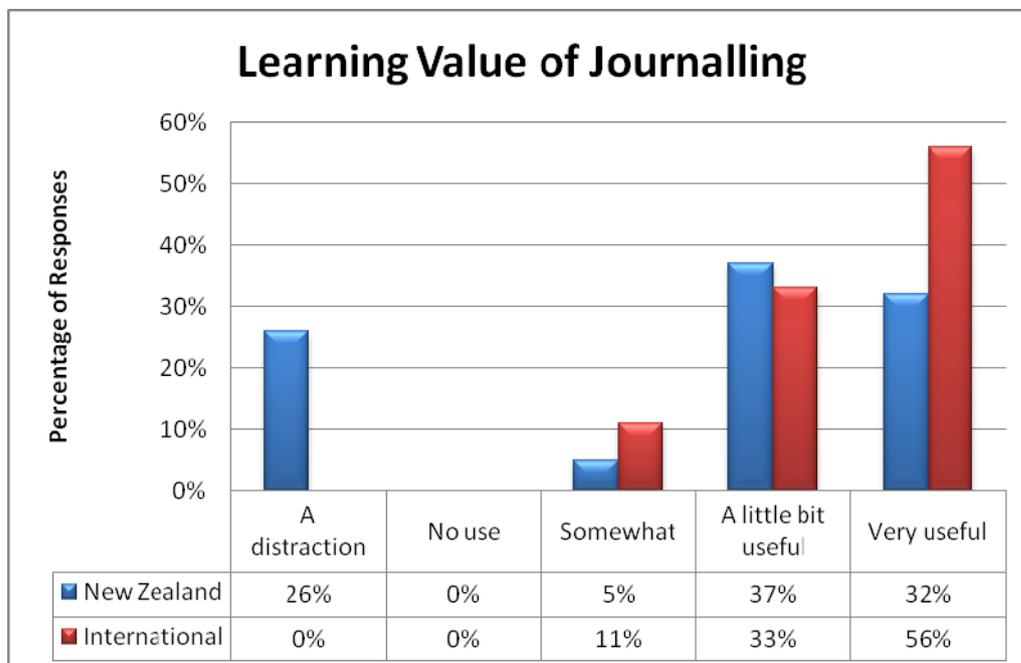


Figure 42 Nationality differences in OST Question 2: Value of Journal

The international students exhibited much more favourable feelings toward the Overseas Study Tour’s work-life balance than the New Zealanders. As shown in Figure

43, a quarter of the New Zealanders felt there was too much work and only 58% thought it was good, in contrast, 90% of the internationals felt it was either good or excellent. This imbalanced positive attitude toward the OST was reflected throughout the course and gave rise to a mid-study hypothesis that some students maintained a negative attitude towards most activities.

...and this attitude continues through to the everyday approach some individuals take to life in general.

—member-checking comment, 8-months post course.

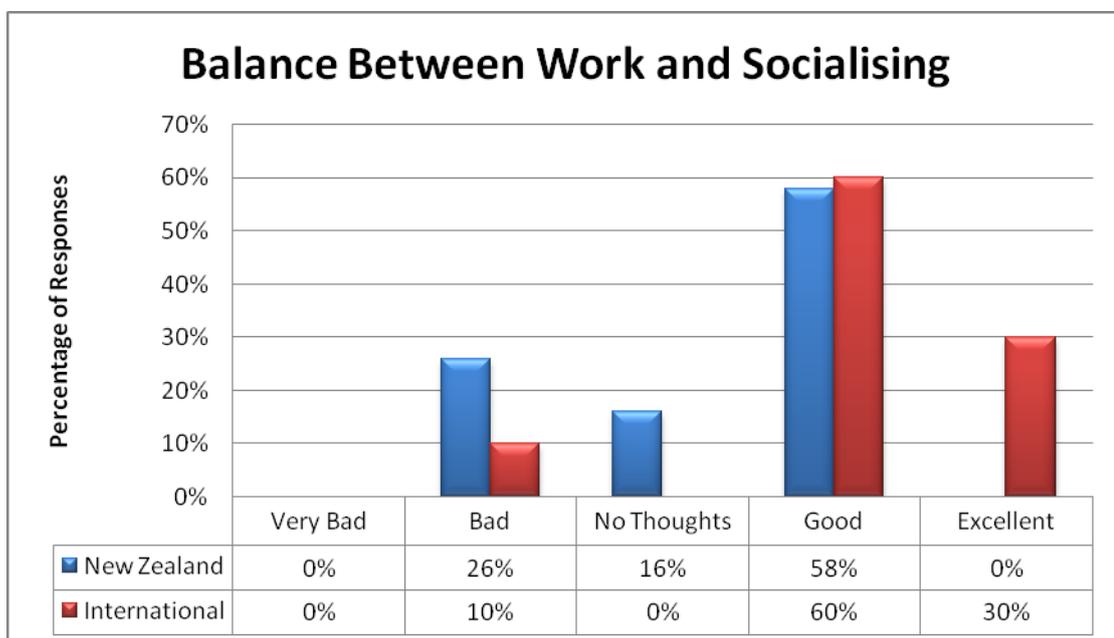


Figure 43 Nationality differences in OST Question 5: Work Life Balance

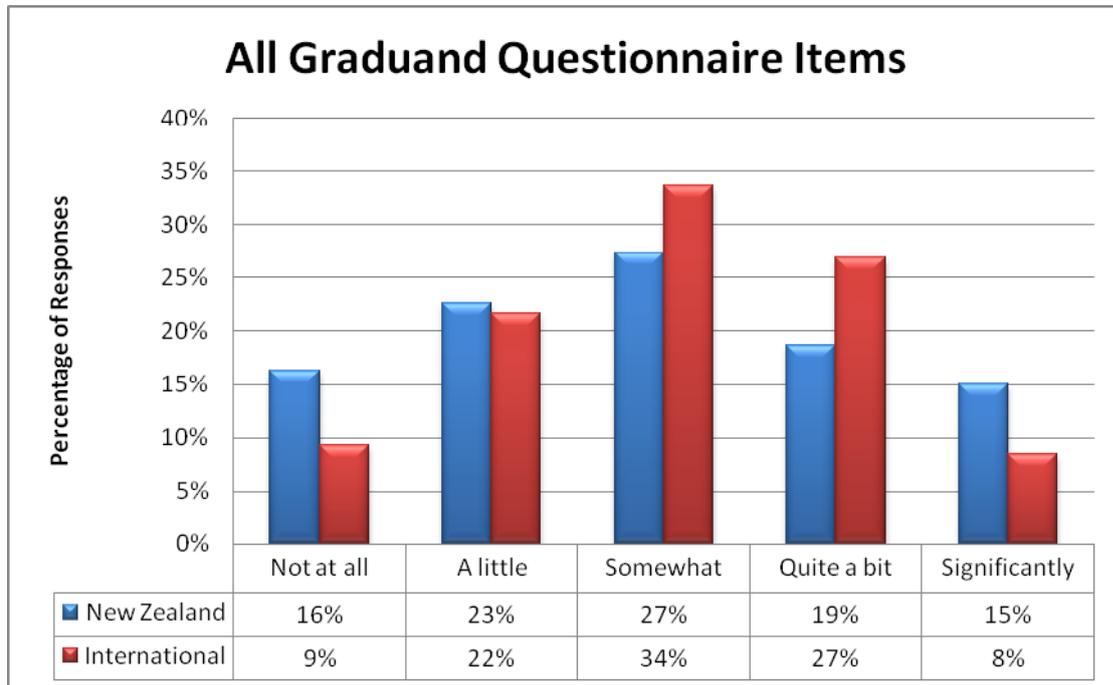
Graduand Questionnaire for Learning Foci

Figure 44 Nationality comparison for consolidated Graduand Questionnaire items

Although the Graduand Questionnaire explored a diverse range of issues, and the number of items per area was not balanced, the consolidated results paint an interesting picture (Figure 44). The international participants displayed far more positive responses than the New Zealanders—although ‘such an attitude is not uncommon for any guests in a foreign country, including New Zealanders’ [from member-checking, eight-months post course]. This general finding supports the results in other areas.

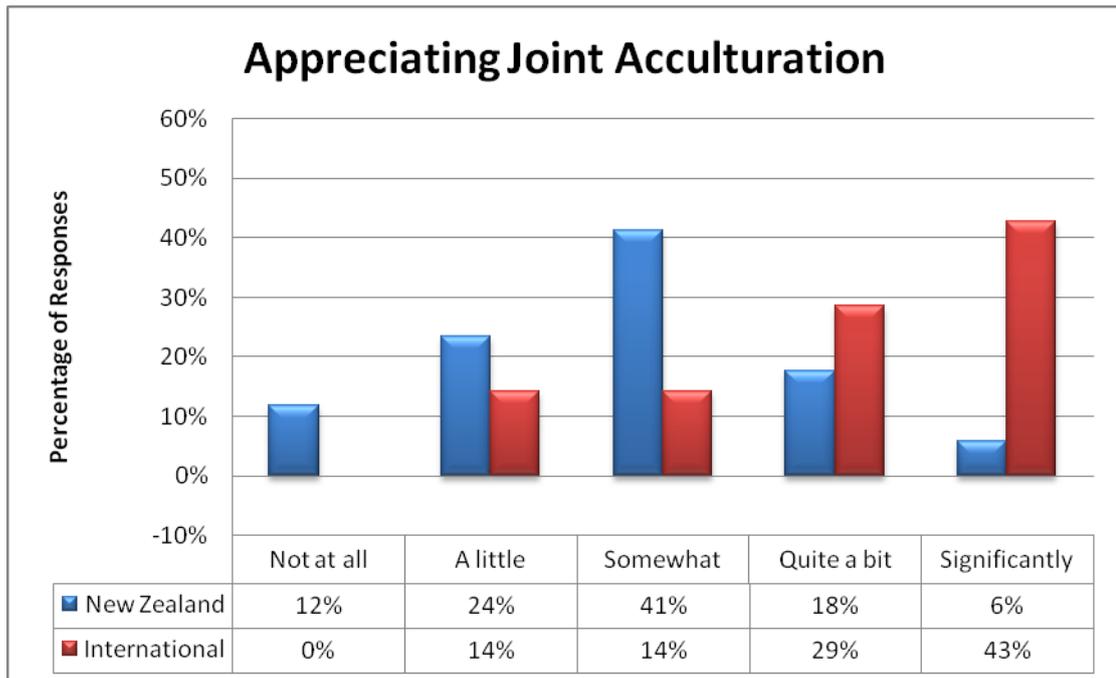


Figure 45 Nationality comparison of Item 11 (Appreciating joint acculturation)

A clear difference between the international and New Zealand participants was found in the area of joint acculturation.³² Although the sample sizes (n=18 and n=8) reduce the reliability of this quantitative data piece, the findings triangulate well with other data sources.

³² *Joint* refers to the use of two or more Services to achieve a military effect. It has traditionally been undermined by inter-Service rivalry. The staff course's goal of promoting joint acculturation' is an attempt to reduce single Service parochialism by increasing holistic understanding of the profession. Joint acculturation therefore refers to the goal of creating a culture of achieving 'best effect' rather than single Service primacy, equity, or equality.

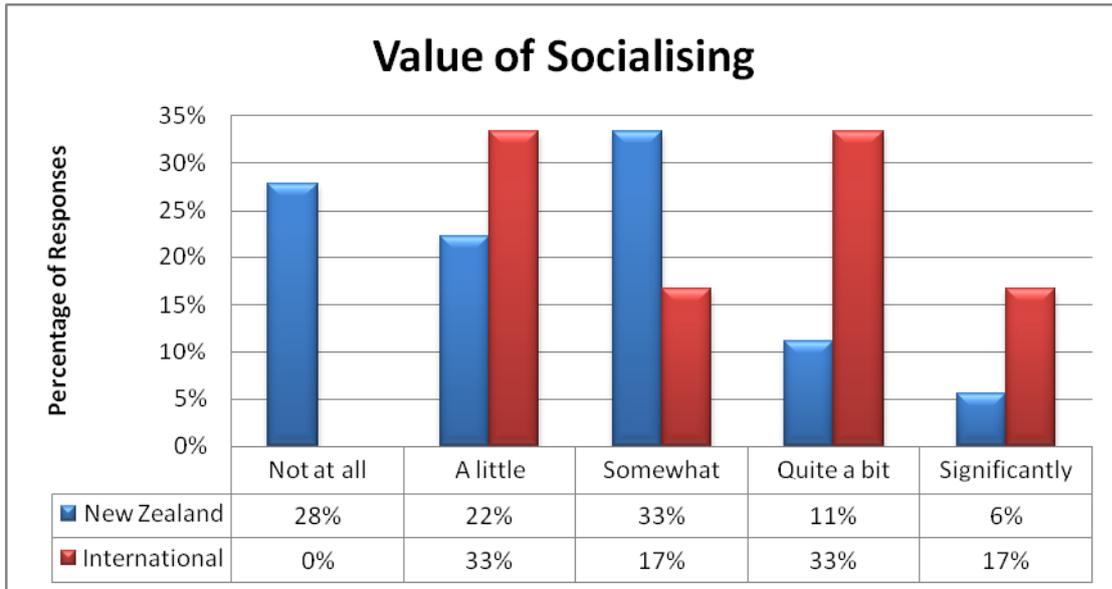


Figure 46 Nationality comparison for Item 20 (the value of socialisation)

International students appreciated socialisation in learning far more than the New Zealanders (Figure 46).

Comparison of Foci Attainment

Using the combined results of questionnaire items coded by foci (profession, expertise, game, and learn), an investigation was made into how the four compared. Figure 47 shows an overall negative skew across the four foci. The summarized results by item are presented in Appendix 3.

While no cause and effect relationship emerges solely from Figure 47, there are indications on the relative self-reported attainment of each foci. Learning the Profession was the highest scoring dimension with a clear negative skew, followed by Expertise. Learning to Learn produced the most normalized distribution, while Learning the Game was positively skewed with an obvious difference in the ‘not at all’ category.

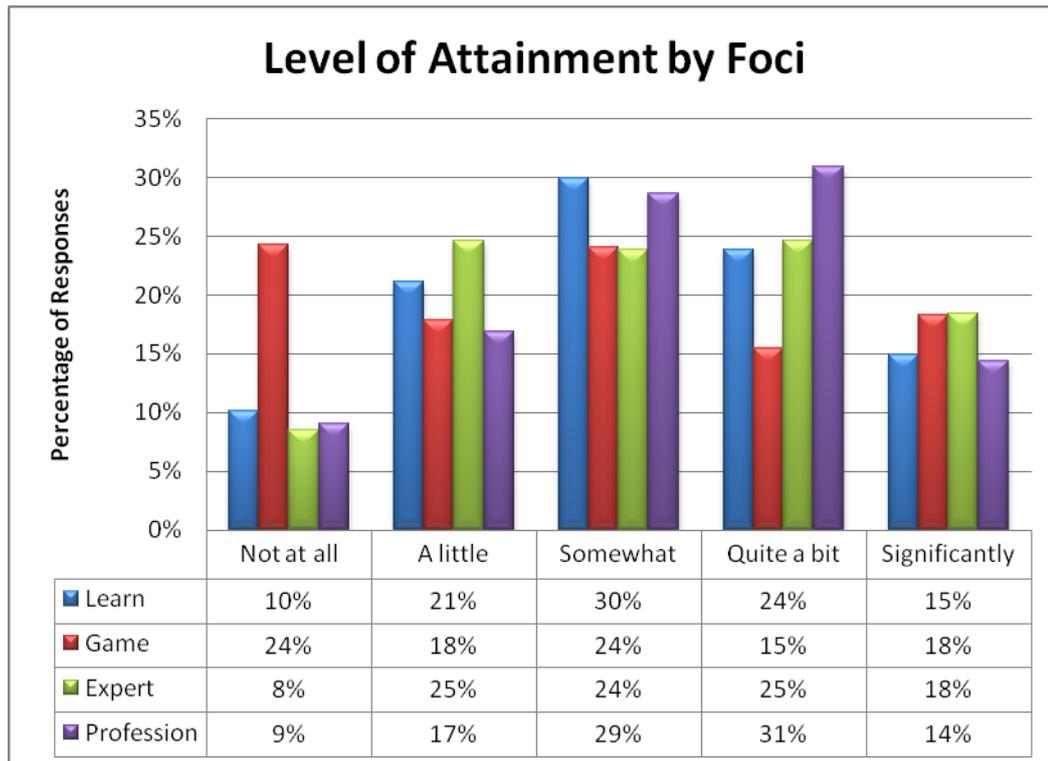


Figure 47 Overall attainment by learning foci

Summary

This chapter presented a selection of the study's key quantitative data. Although caution needs to be exercised when analyzing the results in isolation, some initial patterns begin to emerge. These patterns serve both as triggers for further investigation in the qualitative side of the study and contribute to the triangulated deeper understanding of holistic professional military development.

The first patterns to emerge came from the document analyses of College timetables, assessment schedules, and syllabi. While a variety of data cross-referenced into multiple areas, the major finding was the College's tacit emphasis on exchange value over practical value as a motivation to learning.

A second emergent pattern from the quantitative data was the self-reported value of formal learning as a source. Although difficult to draw statistical analyses, the relative similarity of formal and non-formal sources was also of interest. Given the literature's emphasis on tacit learning often being under-reported, this study's findings suggest non-formal learning is a very important learning source.

Other data from the questionnaires revealed further interesting findings in terms of learning foci, sources, and cognitive agility development. From the learning foci, analysis, 'learning the profession' and 'learning to be an expert' both scored reasonably well, with 'learning to learn' indicating a reduced, yet positive degree of acquisition. 'Learning to play the game' was self-reported as almost non-existent. Each of these four foci however, deserve greater exploration with qualitative data.

During the study, a number of unanticipated secondary data patterns emerged; each warranting more detailed examinations. The first of these was the impact of group size on non-formal learning. From an analysis of learner contributions during group reflection sessions, there appeared to be no difference between large and small group sizes. While this on its own did not indicate differences in learning depth, it was interesting in terms of learning style variation, numbers of non-contributors independent of group size, and relative value of reflection sessions in the learning process.

Other secondary data patterns studied included nationality differences and cross-foci learning. Of particular note was the difference in multiple questionnaire items between the two main cultural groups—New Zealanders and international students.

Given the nature of holistic learning and holistic research design however, such reductionist data is of limited use in isolation. These results do, however, inform the overall findings by scaffolding the ethnographically rich qualitative data presented in the next chapter.

Chapter 6 Qualitative Results

This chapter summarizes the major qualitative data categories that illuminate understanding of holistic professional military development. It interweaves these with relevant quantitative findings from the previous chapter and selected data pieces (primarily quotes and document extracts) to enhance the richness of understanding. It presents these first by learning sources and learning foci before exploring cross-category relationships (influences of holistic learning) such as nationality differences and depth of learning. The resulting data themes conclude the chapter.

Learning Sources

Formal Learning

Formal learning is considered the traditional source of learning declarative knowledge and is the easiest to both observe and measure. This is equally true for participants and researchers alike. This was also the area where the participants reported learning the most about specific subjects (based on interviews and graduand focus groups) and supports the quantitative data findings (Table 7, p. 114). From observations and document analysis, however, it is also largely focused on learning to be an expert. Tacit learning of the academic game was achieved when civilian university lecturers presented whereas learning the profession was more often acquired when military lecturers were presenting. This is based on the additional explanations, anecdotes, and emphasis (using discourse analysis) placed on information beyond the essential material specified in the course documentation.

Because the case-study Staff Course only had a syllabus of subject expertise objectives (see extract on p. 249) rather than a curriculum of holistic learning outcomes, very few formal learning activities promoted learning in the other three foci. There were however, a number of formal learning activities (where the institute controlled both how and what was learnt) not detailed in the course management plan (syllabus). Examples included most of the induction package lectures, Director discretion sessions, and visiting 'lectures of opportunity'. Each of these non-syllabus presentations targeted either learning to learn or learning the profession. They also

overlapped with non-formal learning in that their content was not formally prescribed, and therefore has scope to respond to student influence. Although small, this area of overlap highlights the complexity of PMD and reinforces the need for a holistic approach to growing strategic artists.

From the timetable analysis, formal learning time accounted for 40% of the course (Table 3 p. 108) and was perceived to be the greatest source of learning by the participants. Graduand focus group responses acknowledged formal learning in the lecture theatre as the most significant source of learning topic expertise. This finding was further reinforced when triangulated with the data collected on the Overseas Study Tour (Table 7, p. 114). Although statistically equal with plenaries and other non-formal learning activities, formal learning was rated as the top source.

Formal learning represents the most focused activity for learning and therefore most likely to be consciously associated—in fact, it is perhaps more surprising that it was not significantly different from all other sources (see p. 201). Formal briefings were however, also the most unpopular learning activity (based on interview and questionnaire comments). Although a couple of individuals suggested more briefings would have helped during the OST, most participants were frustrated at the length of time spent inside conference rooms. This was particularly apparent in Japan where efficient resource management saw prolonged periods of formal lectures in hotel conference rooms.

It will be nice to get out a bit more. More time to discuss things would help, ...it would need to cut the number of [formal] presentations. Discussions on what was in the [news]paper for that day would be good.

— OST Questionnaire comment.

This study identified established and mature monitoring systems for formal learning to Kirkpatrick's evaluation level 1.³³ While the participant's reported lapses in presenter standard or topic focus most of these issues were difficult to anticipate or avoid. As an influence on holistic learning, presenter quality became an issue with respect to

³³ Level 1 refers to learner satisfaction in the quality of the presenter and environment. It does not necessarily include evaluation of learning. For more, see (Kirkpatrick, 1998).

out-of-class engagement with the lecturers (see p. 172 and p. 182) and triangulates with learning the game (p. 128 and p. 186). Because this is an area already well managed, the study's focus was primarily on the hidden learning sources (Figure 14, p. 57) and their respective contribution to both the four foci of learning and cognitive agility.

Non Formal Learning

Non-formal learning represents all learning generated from activities or settings primarily influenced by the institute, excluding those described in the syllabus. However, it does include learning (both intended and unintended) resulting from activities and cultural artefacts in the official documentation (such as policies and the curriculum). From the data collected, this was a significant reported source of learning for the students. In particular, it was fundamental in developing their holistic understanding of the profession.

Non-formal learning was identified during programmed formal learning time activities. For example, audience participants reported gaining a better understanding of material, not from what was said, but how. In other cases, it came down to what was not said.

... As in all these situations it is more as cases of what is not been said and what we have not been permitted to see.

—Verbatim extract from an OST journal

The above OST journal extract refers to the way the contingent was treated by the US Forces in Japan. Students frequently commented on the comparison between the way the two countries (or in this case, a third country) hosted the group. Another related example was when the group received a briefing from the US Consul General in Okinawa who gave a very positive perspective of US presence on the island. This was then juxtaposed with a local's perspective from the editor of an Okinawan newspaper. The contrast was very marked and quite valuable for the participants. Other presentations were noted more for what they did not say than what they did. Participants were themselves amateur sociologists and psychologists employing

informal discourse analyses on the nuance of question responses, extended silences, uncomfortable eye glancing, and even the rank levels of hosting dignitaries.

Field Trips

The three major trips each occurred at different stages during the course and therefore had a different focus (Appendix 5 Course Timeline, p. 247). In Week Three, the New Zealand Study Tour (NZST) promoted both informal learning and team bonding by providing collective meals at the various Messes (except while travelling).

The briefs were too platform centric... We needed to hear more about the integration of capability... the biggest value of the trip has been the team building [utterances of agreement from the other passengers].

—Participant interview comment (in car during NZST), Week 3.

In contrast, the Australian Study Tour (AST) came towards the end of the course (Weeks 25-26) and facilitated small group meals. Students were in three and four bedroom fully-serviced apartments and were given allowances to purchase their own food. Because the students self-selected their roommates, the natural forming eating sub-groups coincided with other socialising activities which facilitated all three categories of hidden learning. An analysis of the conversations, however, revealed a reasonable amount of learning the profession but only at a uni-structural level.

Formal learning activities triggered comments and personal anecdotes which extended the original concept (either formal learning or course related) from uni-structural to multi-structural. The only time concepts were extrapolated several levels were when students engaged in debates on a topic. This was typically limited to the few polemic students or after extended periods of alcohol drinking (see also p. 159). The majority of these discussions did not include course related discussions. As was found elsewhere, secondary benefits emerged in the form of passive incidental learning by non-participants.

Value of Overseas Study Tour

The Overseas Study Tour (OST) was expected to be a major source of holistic learning and was therefore an initial focus of the questionnaire. The introductory question of the OST questionnaire (how valuable was the trip) intended to both open the respondents thinking for subsequent questions and explore the trip's learning value (Figure 19, p. 116). All responses were positive although, as found elsewhere, the international participants were more positive than the New Zealanders (Figure 41, p. 140).

Despite the results from the questionnaire, there were a number of students who, on reflection, were very negative about the trip. During the month following the trip, several students confided among their course-mates that they felt the trip was a complete waste of time. It should be noted however, the return from the OST and the associated weeks leave, coincides with the lowest emotional point of the course. Many students were particularly negative about various aspects of the course. Notwithstanding this, the negativity about an all expenses paid, two-week overseas trip is surprising. It does, however, reinforce the emerging data trend suggesting a certain percentage of students appear unreachable regardless of the efforts made.

A handful of people felt the OST was a waste of time. There are always going to be some negative people. Some don't even know why they are on the course.

— Participant interview, two months post- OST

Reflection Sessions

A number of open forum reflection sessions were held during the course. These began as full course (n=29) discussions but reduced to syndicate sized (n=9 & 10) during the second semester at the request of the students. These activities deliberately targeted joining-the-dots (learning the profession) and clarifying questions from formal learning. They were also an attempt to increase the sharing of informally learned 'nuggets' beyond normal social cliques.

While there was ample evidence these goals were achieved for the majority, several participants appeared skeptical at the time. From graduand focus group discussions,

however, there was a wide agreement that the reflection sessions helped with the holistic understanding. Public acknowledgement even came from one of the most vocal critics (after he was deliberately targeted to lead a session):

[Warrick]: ... as you all know I was not a fan of these things, but I have to admit, this has actually been quite good. This is the first time on the course we have been able to learn something not in the syllabus... the lights are going on. You know, its like getting the ingredients for cooking...Its only now that we are—

[Luke]: Yes the dots are beginning to join —

[Tom]: Yeah, Yeah.

—Course Reflection Session, Week 9, Day 2

This interview data was triangulated with a survey of preferences for size. While some saw benefit in the large group discussions (18%), twice as many preferred the small sized (37%), and about the same number valued a combination of both (Figure 21, p. 121). Those who felt the sessions were of no use at all (9%) mirrors the percentage of the course who were generally negative towards most aspects.

Which leads to a suggestion that those who do not want to do the course shouldn't do it.

—member checking comment, eight months post course

The results of the observations, interviews, questionnaires, and surveys all triangulate to the finding that the student body are diverse in their learning style preferences. There was also evidence that the quieter and/or weaker students were less likely to engage in the discussions unless it was preplanned—hence the call for smaller group sizes. While their passive engagement meant they gained less from the discussions than the more polemic members, their exposure to the debates was arguably better than purely self-directed learning in isolation.

From a detailed observation of a selected course reflection session, there was clear evidence that the discussion was dominated by the most vocal students. While recorded utterances do not imply quality or depth of contribution, the frequency distribution is still useful. Of the 26 participants present at the large session in New Zealand, 10 (38%) did not contribute at all (Figure 22, p. 122 and Table 9 p. 122). Of

the two international students who did contribute, one spoke only when specifically asked to. The findings from this observation reinforce the same findings from triangulated data on the OST (Figure 23, p. 123) and interview comments from participants. The same six participants who dominated the whole-course reflection session were, unsurprisingly, also among the most outgoing and vocal members of the course in other settings.

Perhaps less expected, was the similarity in contributions during small group discussions. As shown in Figure 24 (p. 124), the size of group did not influence the percentage of non-contributors. This suggests holistic learning is influenced more from an inclusive atmosphere than group size. This however, needs to be tempered by another major finding of the study—student learning-style diversity.

Daily Reflection Sessions on the OST

The OST daily academic review sessions were designed to help focus the holistic learning. They were split between learner-centric reflections and an academic synopsis of the coming day by the facilitator. Originally scheduled for every working morning they tended to suffer from non-academic staff who treated them as targets when the programme became tight. They also suffered due to time constraints prohibiting small group work.

The sessions in the morning are useful. Tying things together.
That is when you get it.

—OST interview comment, Week 14

Overall, the participants were positive about these sessions. One suggested that they should represent half of every day because that is where so much learning occurs. In contrast, others criticised the activity as spoon-feeding and accused others of writing their journals based purely on the comments of the facilitator.

Questioning Depth

Participant questions varied in both intent and quality. Some focused on tactical level issues (superficial in terms of the course's focus) while others were at the strategic and operational levels. This often reflected the level of the unit being visited or brief

given. Superficial, or diplomatic, questions were asked when uncomfortable pauses occurred or when there was no value perceived from the brief. For example, during the OST, the US Marine Corps brief on Okinawa was introduced as the same brief given to visiting local groups including school parties. Frequently presenters avoided answering difficult questions. While this often frustrated the participants, such behaviour in itself was a valuable learning point; which many students identified. Several students reported an unwillingness to ask questions when it became obvious there were no straight answers (see journal extract on p. 149).

Examples of superficial questions taken from the visit to the National Defence University (NDU) in South Korea include:

What is the difference between NDU and the Staff College?

Is language a problem for international students?

In contrast, attempts were also made to ask more probing questions:

What is South Korea's policy on regional stability and multilateral agreements?

Is increasing military technology leading to a regional arms race?

Critical Reflective Journals

This section explores the two main journals used during the course. While a few participants maintained other journals, the only ones considered in this study are the non-assessed course journal and the university assessed OST Journal.

Course Journals

Writing a journal is living your life twice

— Graduand comment, Week 31

The non-assessed journals were encouraged from the start of the course but were also specifically briefed as personal documents and were therefore never sought for

analysis in this study. Overheard conversations and informal interviews with students indicated that about three, possibly four, maintained a personal journal during the entire course. This low completion rate is of significant concern and is even acknowledged by some students:

The journals should have been more formal, at the end of each day or maybe topic ...and they required more syndicate work...you just don't think deeply [otherwise].

— Graduated comment, Week 31

But this would undermine the flexibility of learning styles as advocated elsewhere.

— member-checking comment, 8-months post-course

OST Journal

The OST journals differed significantly from the non-assessed course versions. While they may not have scored highly as a reported source of learning (Table 7, p. 114), they were believed to be a valuable trigger of (and fascinating window into) student learning with 75% of the participants reporting them to be to be useful or very useful (Figure 20, p. 117). The following journal extract reinforces the value of the journals as a vehicle to reflection:

On leaving Japan I reflect upon the visit. I have been wrong in my initial assumption and in hind sight probably naïve. My view of Japan as a modern technologically advanced gracious society has changed and I now see a society who's visible face is only a façade hiding a deeper potentially disturbing under tone.

— OST Journal extract

Question 2 of the OST questionnaire specifically asked the participants how useful the journal was in focusing their learning. The overall results were positive, although interestingly some NZ students were very negative toward the journal writing (Figure 20, p. 117). These same participants felt there was insufficient free time to socialize. Most students however, exploited the extensive downtime such as on flights or between speakers during the day.

The Likert-scale responses were complemented with a number of comments. The following selection highlights the strength of positive attitudes.

Forced you to analyse the issues a little more, the so what.

—OST questionnaire comment, Week 15

The journal makes you think about it. At the end of each day you stop and ask what you got for the day. There is definitely sharing of thoughts during the day.

—OST questionnaire comment, Week 15

If we hadn't done it we wouldn't have been as focused, it wouldn't have given us something to talk about.

- Participant interview comment, Week 24

We should have done small group presentations on our journal learning during the OST...or at least shared the journals.

- Graduand interview comment, Week 31

Five respondents reinforced their frustrations about the lack of clear guidance. This could be interpreted with their difficulty in 'learning the academic game' or through genuine confusion on the expectations. Other comments were more general:

It was a complete distraction, I found myself being inattentive to lectures in order to work on my journal. Basically it took most of the enjoyment out of the trip, but I guess that is probably a requirement as this is a so-called study tour.

—OST questionnaire comment, Week 15

It doesn't allow for other learning styles

—OST questionnaire comment, Week 15

While this single case study does not reveal longitudinal data, there is anecdotal evidence to suggest acceptance of the journals improves each year. It should also be noted that, in an effort to accommodate learning style diversity, previous courses had allowed the students a choice of deliverable format. The most obvious alternate being a 3000 word essay (as required prior to the journal's introduction and still used for non-staff course students studying the paper extramurally through the university). This option, however, was not offered in 2008 so all participants were forced to complete the same assignment. As was found with the morning teas and website blocking issues (see p. 177), it is possible the participants were negative about activities more because of the way they were handled rather than the actual decision. In this case, the reinforcement of being treated more as pupils than adult students.

Traditional Assessments

In addition to the journals, the participants submitted a number of other deliverables. The strategic learning and formative value of researching, crafting, polishing and presenting these products is arguably the main reason for requiring so many, yet this message may well be overshadowed by the participant's perception of their (exchange value) use. The following section explores how the remaining staff course deliverables not only provided benchmarking for those who thrive in competitive settings (both intra- and inter- personal) but also conveyed tacit institutional messages of exchange over practical value.

Essays

Essays are a major source of non-formal (albeit undocumented) learning. While they overtly target 'learning to be an expert' for the given subject area, a number of other skills are simultaneously developed. Examples of these include: critical thinking, deeper learning, research methods, time management, and word processing. Given the psc component does not include any summative written deliverables (Table 6, p. 112), and the College has no control over the university curriculum, there is very little way of influencing the non-formal learning associated with essays. In effect, these valuable skills were left to the curriculum shadow. Without any assessment, or

even academic, philosophy, it is very difficult to articulate what skills are being targeted and how effectively they are achieved.

Student Presentations

Formal presentations, like essays, facilitate non-formal learning beyond the stated content. Students enhance similar research and cognitive skills involved in writing essays but also develop verbal and visual communication skills (including PowerPoint). For many, this is also a self-awareness activity and an opportunity to develop personal confidence.

From a content analysis of exercise instructions, like essays, there is no auditable link between the above hidden benefits and stated objectives. Individual development in these areas is again, left to providence with little or no scope for progressive development opportunities. There was very little evidence of formative feedback or coaching by staff either. Even during the two psc team presentations (Table 6, p. 112) where staff were expected to offer feedback to rehearsals, there were noticeable absences. Any personal development was left to either chance, or the individual student's own effort.

It should also be noted that the learning was hampered by a perceived inconsistency in what was expected.

—member checking feedback, 8-months post-course

Given the wide range of presentation types, and the need for graduates to be competent in many styles, there is a significant gap in developing presentation skills on the staff course. The 29 minutes spread over three psc deliverables and 10 minutes of one university deliverable (Table 6, p. 112), gave very little scope for students to be exposed to formal, informal, informative, extemporaneous, and impromptu speaking styles.

From observations of student presentations, there were significant missed opportunities for peer learning. Even though this hidden outcome was often articulated in the instructions, it seemed to be undervalued. There was a common belief among the participants they were assessed on their ability to respond to post-presentation questions. For this reason, their course-mates often only asked staged or

superficial questions.³⁴ Furthermore, even though they were encouraged to continue asking questions after the assessors left the room, invariably the questions stopped. While some participants did ask genuine questions at times, peer pressure (with staff absent) meant this was limited.

From graduand interviews, there were strong, but mixed, feelings regarding the value of team presentations. Those who valued them the most were typically the quieter and less academically capable. Those who were more openly negative about the format argued they were unrealistic workplace activities. From an ethnomethodological analysis, the indexicality (see p. 85) of these comments correlated positively with those who were more individualistic in exchange value of assessments. In other words, they were unhappy about having their summative assessments devalued by less competent team-members. This data triangulated with other negative comments regarding the value of the team presentations because they required disproportionate amounts of preparation time compared with written deliverables.

[12:53:59 a.m.]: am a little disappointed at conversatins overheard so only gossip and may be out of context but the implicatin that groups drag good people down in mark. i assume because they have to suffer if the members are not great.

[12:57:01 a.m.]: it is really disappointing but human nature is what it is. It says that those people dont really care about the feelings of others and how hurtful their remarks may be. Thing is those in charge never see the dark side and are always impressed with the external layer or may be i am not giving enough credit.

— Participant journal (using *Skype*), Week 13

Exercises

All four modules employed a range of learning activities, however the Operational Studies module made extensive use of planning exercises. This module exploits the fact that about half the student body have previous experience in the area, with the

³⁴ For a sample admission of this, see the participant comment on p. 199.

other half having none. Through role-play exercises, both experiential and peer-learning help achieve the module aims. This approach also allows greater opportunity for students to be extended through individual appointments.

Of the four modules, Operational Studies has by far the greatest proportion of non-formal learning time allocated (Table 3, p. 108). It is difficult to extrapolate whether this contributed to learning acquisition as the module rated third in terms of student learning (Table 7, p. 114). The following participant quote highlights a non-formal learning outcome, achieved during the wargame exercises, which could never be fully understood from just a theory lecture.

I know now that you are screwed for time. I really know that now.

—Participant comment (non-warfighter), Week 27, Day 4

During the exercises, participants were assigned appointments within a simulated operational planning headquarters. The three major exercises escalated in scale and were spread over the second semester. The first, Exercise Combined Kiwi, represented the second half of the two-week Joint Operations Planning Course (JOPC) in Weeks 17 and 18 (Appendix 5). During the first week, the students received formal learning instruction on the linear planning process (known as the Joint Military Appreciation Process, or JMAP) as well as stepping through the model in syndicate discussions. Ideally, more experienced students were employed to lead the peer learning in their respective areas of specialization. During the second week exercise, key appointments are given to those who are familiar with the roles so the others can learn through observation.

The second major non-formal learning activity in this module is the week-long Exercise Watchtower. During this operational planning activity, a syndicate of students (n=12) from the Australian Staff Course flew over to participate in the New Zealand Course exercise. The same activity was conducted concurrently in Australia with the remaining students. During this exercise, inexperienced operational planners were given key appointments with competent deputies to assist. This educational model appears sound, but in practice proved quixotic.

During the exercise here we got marginalised. The Aussies arrived as a team and had prepared more. We let them go too much and it just got worse. The Chief of Staff gave a really good speech about how it was about the process not the product but then half an hour later it was all about product. It was a real shame...

—Interview response, Week 27

The more dominant emphasis on *exchange value* by the Australian students³⁵ tended to influence the relatively more *practical value* orientated New Zealand Course students (see also p. 207). This observation helps mitigate the concern about an over-emphasis on exchange over practical learning by New Zealanders. So, while the balance may still be a concern, it could be worse.

During the final Operational Studies non-formal learning activity (Exercise Cartwheel in Australia, Weeks 25–26), the New Zealand course students received an even stronger taste of Australian PMD culture. Due to the greater emphasis of extrinsic motivators (ranking of graduates strongly linked to promotion and career opportunities) at the Australian College, surface learning and playing the academic game reinforce exchange value of their course (M. V. Simons, 2003a). Although the New Zealand Course members are aware of this culture, being immersed in it for two weeks provides a valuable non-formal learning opportunity. Arguably, this exposure (learning the profession and learning to learn) is more valuable than the expertise acquired in operational planning.

A strength of the role-play exercises is the opportunity to deliberately mix students up and decrease the impact of stronger personalities so less experienced ones can develop.

Australia [the AST] was very good. We had a good team. We had two international students in charge and a lot of the Aussies found that hard but I am used to the accents and I really enjoyed it because I was familiar with it.

—Interview response, Week 27

³⁵ The Australian Staff College recently changed from offering a complete masterate degree to just a few optional university credits. While this may give the illusion of refocusing from exchange to practical value, it did not negate the internal (military) exchange value of their graduate ranking system that continues to encourage surface learning (M. V. Simons, 2003a).

10-hour exam

The introduction of a 10-hour online exam (in lieu of the standard 3-hour closed-book exam) was an important shift toward more relevant learning. Given the preparation and execution of assessments represents a powerful vehicle for learning all four foci, this shift was seen as significant. Not only did it replace a surface learning activity (regurgitation of rote learnt previous essays in standard exams) it both tested and encouraged desirable intangible skills (eg deep thinking analysis, theoretical–practical application, fast yet competent written argument). It also helped reduce unnecessary exam stress on students (see p. 207). There was however, evidence of ‘playing the academic game’.

Most students reportedly avoided Q 1 on Fiji because they knew it was the lecturer’s pet topic and time was too short to do justice. This conflicts with earlier theories where a known pet subject of the marker’s was deliberately taken —perhaps the difference is not knowing enough about the lecturers thoughts and opinions on the subject.

—Observation diary extract during exam

There were no reported complaints about the 10-hour exam—in fact, its merits were often positively contrasted with traditional assessments. Although no one admitted preferring the stress and cramming for a closed book exam, some did lament the loss of an entire day. All students appeared to appreciate both the intent of more realistic testing as well as the novelty of something different. On several occasions, students were overheard expounding the virtues of the new exam type to people outside the College.

A hidden message in the new assessment type was the promotion of innovation and a future looking attitude by using a completely virtual environment. The students were supposed to have the ability to complete the exam from any location, with only online contact if desired—even remaining at home. This message was completely undone on the day when staff called the entire course in for a compulsory formal brief and issued hard copies of the exam. The breakdown in this hidden learning opportunity is a classic example of when the designer of the activity had not fully articulated the tacit learning outcomes and the implementing staff had unintentionally altered aspects.

This occurred on the very first iteration; reinforcing that unless articulated, intended hidden learning outcomes erode over time.

Personal Command Philosophies

The students were invited to write a quick one page personal command philosophy (PCP) in the first week of the course (Exercise Kaumatua). This document was collected in and stored until graduation week when the final PCPs were completed. The intent of this dual submission was to allow the students to reflect on what they have learned over the seven months (see *Trito learning*, p. 48, and *Conception of changing as a person*, Figure 11, p. 45). Neither the first, final, nor comparisons were summatively assessed. In previous years, the final versions were peer-reviewed, however, this was reduced to an optional activity in 2008.

Based on interviews and reviews of volunteered PCPs, this task proved to be a useful non-formal learning activity. While most students produced a useful final product of their condensed understanding, several others reported having very little obvious differences between their first and final versions. From an ethnomethodological perspective (p. 84), the *indexibility* of this apparent zero-learning (Figure 11, p. 45 and p. 47) reveals this activity had a deeper tacit dimension. As one participant commented:

My Rangatira and Kaumatua are exactly the same, the only difference is I now understand what I wrote.

—Graduand comment, Week 31

The above comment highlights the fact that in completing the first activity (Exercise Kaumatua), many students simply went online to search for examples of personal command philosophies. They cobbled together a collection of impressive sounding quotes. By the end of the course, these same words seemed even more appropriate as they had now grasped the deeper meaning behind them.

Self-directed Learning

Self-directed learning was difficult to distinguish during this study. If the course was solely focused on exchange value learning to be an expert (like many university

courses), then such activities would be obvious. Because this course has a holistic goal of learning the profession (p. 57), there is greater blurring between learning sources. For example, participants watching a military documentary on *the History Channel* may well have chosen to do so because of its immediate relevance to a deliverable (non-formal learning), or by choice as a study break from a deliverable (in-formal learning), or because someone else had turned it on while they were in the room for another purpose (incidental learning). Only if there was evidence the participant had deliberately sought to watch a programme for professional development, but not associated with any deliverable, would it be clearly codable as self-directed.

From interviews, observations, and member-checking, very few participants engaged in self-directed learning—blaming this on the lack of spare time. Unlike previous years, where some students continued with additional university study, or organized lunchtime Maori culture classes, the 2008 case-study group appeared far more focused on directed learning. Some students mentioned reading military related books, but by far the majority complained they had insufficient time to read extra books. Tangential surfing of the web and the occasional scanning of an interesting journal article were apparent, but these fall more into incidental learning.

The only observed organised group examples of self-directed learning were the lessons and practice of a haka. In the build up to the overseas study tour, several outgoing students recalled performing a haka at the New Zealand War Memorial Cemetery in Bussan. Through peer-leadership, this activity grew into a sizable group who attended several practices in New Zealand and during free time on the tour. The motivation for participation varied. Some did so out of purely personal belief whereas others were also influenced out of a desire to learn a haka for professional development reasons (self-directed). Regardless of the category, the activity itself was useful in developing a number of hidden learning attributes of the profession. Examples of these include increased cultural intelligence, teamwork, alternative lens thinking, personal commitment, and practical value over exchange value.

One smaller example of self-directed learning observed during the course was non-Muslim participants who fasted during Ramadan. This voluntary decision to both experience and learn more about other cultures further reinforces the blurring

between holistic learning sources. While clearly not part of formal or non-formal learning, it is difficult to distinguish between self-directed and informal learning. To some extent the College's support of Ramadan conveyed a message of valuing the event. The differentiation between self-directed and non-formal learning is largely based on the individual's motivation. Even if this *a posteriori* hypothesis was investigated further at the time, identifying a single motivation is unlikely. Similarly, the ability to measure the incidental learning impact on passive observers is equally problematic. In summary however, while this difficulty in coding highlights problems with the distinctions, it does not negate the contribution of hidden learning.

Informal Learning

Informal learning captures a number of experiences controlled by the learner. The following section presents data categories across a wide range of observed and reported informal learning sources.

Peer learning and network building

A significant strength of informal learning on a staff course is the opportunity to learn from each other. Participants in this study frequently referred to it as 'the 300 years of experience from within the room' (actual calculations from autobiographies was 460 years). Reference to this depth was typically as a lament to the lack of informal learning exploitation. The participants were well aware of this source but felt there were insufficient opportunities to exploit it. Complaints about this referred to there being too much time doing own research without enough sharing. Various suggestions were offered in terms of how the situation could be improved, these ranged from verbally presenting essays in small groups through to increasing awareness about coursemate expertise and previous military experiences.

First speech should be on yourself, not personal but professional background so you know who to go to for help. Students should write a paper on themselves to raise their own self-awareness and then present. Need to do peer-reviewing throughout the course, we should read each others essays.

—Graduand interview, Week 31

Optional elements

During the opening weeks, the participants were encouraged to take control of their own learning. Whenever alternate assessment options (mainly essay questions) were available, they were challenged to select ones with greatest relevance to their development needs (rather than those they would score higher grades in). These stretch deliverables would typically be more challenging ones, however, when other activities (such as another stretch deliverable) clash, then they should choose appropriate ones. They were also told that not all deliverables or learning activities were necessarily compulsory and that *they could ask* to complete alternate assessments if they felt it more appropriate. This was subsequently an issue of much angst.

As the pressure came on for university deliverables, some participants began skipping lectures to allow them more time to complete essays. When this became excessive (sometimes 20% were absent)³⁶, the Director raised it at his weekly admin session. The participants in turn complained, that they were originally told the course was optional yet now this offer was now retracted. This (incorrect) assertion was frequently coupled with the repetitive claim they 'were told they would be treated like adults, but were not'. This argument was most apparent by only a few vocal course members and triangulates with the data regarding outlier students who appeared to be consistently negative.

³⁶ Not all absences were for completing deliverables. Even though some students claimed publically they were writing essays during their absences, they in fact attended medical appointments but did not want others to know. Some absences were for sanctioned legitimate activities.

Travelling Time (Bus and Car Trips)

Day trips (Busses)

Day visits into Wellington city from the College varied in their informal learning value. Some trips were quiet while others were highly animated. The most interesting was returning from the classified (New Zealand Eyes Only) briefs at GCSB and the SIS.³⁷ Both briefs were classified but in some ways, related. The back of the bus coming home was a unique environment for the NZ students to discuss and reflect on what was learned. They would not be able to talk about it at any other time due to security issues. The content and nature of the two briefs gave plenty of rich material to discuss and was ripe for multi-structural learning. Students not only analyzed which parts were more interesting, new, or surprising, but also demonstrated deeper processing by putting pieces together in a new way. This included linking material from the two briefs or making their understanding more meaningful for others by linking it to previous personal experiences.

The bus trips also proved to be a useful time for reflecting on learning points. Some overheard comments suggested both a wider ‘learning the profession’ and ‘learning to learn; expressing an awareness of wider issues and missed learning opportunities:

Good to get their [visiting lecturers] perspective on the course and topics. [The] Classic was the woman who came to talk about Muslim [Islam] and Iran. It was obvious she was one sided and her perspectives were not how all Muslims see the world.

—participant comment on bus, Week 11, Day 2

New Zealand Study Tour (Cars)

The New Zealand Study Tour is a deliberate attempt to bond the course in the opening weeks. It also serves as an important opportunity to refresh or inform students on the NZDF’s capabilities. The value of small group, peer-learning was deliberately

³⁷ GCSB (Government Communications Security Bureau) and SIS (Security Intelligence Service) are two New Zealand Government Intelligence agencies.

reinforced by providing self-drive vehicles rather than busses. In 2008, one student asked to use the trip for repositioning his motorbike but was declined because of the informal learning intent.

From observations on the trip, non-formal learning was effectively encouraged and achieved. The New Zealand students seemed to enjoy peer-tutoring their coursemates during the long drives between cities. The level of questions and depth of analysis was commensurate with the stage of the course and the degree of closeness expected in the opening weeks. In both learning and bonding however, the trip served as a valuable foundation upon which to promote hidden learning in building understanding of the profession.

Overseas Study Tour (Busses)

Hidden learning was apparent during both short and long bus trips on the Overseas Study Tour. Most participants engaged in some observable hidden learning during the 27 hours of bus travel (Table 5, p. 111). While learning need not involve dialogue with others, this provided the most tangible indicator. Most bus trips however, only involved isolated pockets of students talking. This was typically limited to pairs sitting in double seats but occasionally also included multi row groups of four to five participants. Yet even those sitting alone who *appeared* to be either sleeping or passively learning (looking out the window), would often interject other's conversations indicating they were not only listening, but processing the conversations.

About six individuals actively engaged in reflective learning conversations on most trips. Those sitting next to the travelling academic or the researcher were the most likely to discuss the trip and learning opportunities during the trip. Some bus trips were noticeable for the discussions. For example the drives around the US military bases in Okinawa were very animated. Students were either absorbing the scale of military hardware or comparing notes about the awkward pauses and subtle body language issues from the various briefs.

Some students reported deliberately moving around the bus to increase their opportunity to discuss the trip with different people. This was particularly noticeable

with the international students. Most students however, were creatures of habit and tried to sit in the same seat, with the same neighbours, on every trip. This had the advantage of rapport building and deeper level conversations over time.

Like other situations, some participants tended to sit with their closer friends. Conversations tended to reflect what the participants had in common. Where they had strong common interests, they were more inclined to discuss matters such as farming, vehicles, and life in New Zealand. When the strongest bond for the group was the course or the trip, then conversations would be dominated by those common experiences (and therefore greater cross-pollination of hidden learning).

On occasions the bus would be very quiet. Students either sat passively, slept, or read novels on longer or early morning bus trips. Conversations about the most recent visit or other hidden learning experiences were however, a regular feature on most trips. Unlike previous years though, the buses were not used for the travelling academic to brief the groups even though it was programmed on occasions. This is another potential informal learning opportunity worth improving.

Australian Study Tour (Cars)

During the Australian Study Tour, as with the NZST, the participants were given self-drive vehicles for transport between the hotel and Staff College. This had the dual benefit of allowing student flexibility in transportation arrangements, and promoting small group informal learning opportunities. Unlike the NZST and OST, the groups were not specified which meant greater naturally-forming groups. From the observations though, participants only occasionally discussed the learning activities.

Most vehicles tended to use the trip in to the College to stop for coffees and often breakfast at a bakery or café, which tended to dominate the conversations. Other conversations tended to focus on social activities and sport. When the course was discussed, it typically centred around the cultural differences between New Zealand and Australian approaches. Arguably this cultural awareness and alternative lens thinking are the most important learning outcome of the AST. Officially however learning to be an expert (in joint operation planning) was the trip's stated goal. The

lack of after-hours discussion on expertise, is partially explained by the simulated secrecy between groups who were potentially war-gaming against each other.

Sharing Rooms during Trips

While primarily a cost saving measure, the shared room approach was expected to increase student interaction and social learning. On the OST however, it did not contribute to *reported* hidden learning as much as was anticipated (ranked 9th out of 10). Despite choosing their roommates before the trip, not all were happy with sharing. Three commented on the problems caused by incompatible personality types in terms of resource sharing and late night study habits. In contrast, others commented about its contribution to new learning particularly when 'seeing things through someone else's eyes'. The benefits of room sharing are considered to outweigh the negatives.

During the AST, students seemed much happier about sharing rooms. As with the OST, all participants were given the opportunity to choose their roommates, however, the environment was much different. Unlike the OST closeness of two-per-room and frequent shifting in strange cultures, the AST involved four-room apartments with stability throughout the two weeks and a more familiar cultural environment where students were able to establish their own time and space. Another aspect that appeared different was the participants' focus on university deliverables.

During the AST, the participants were in the final throes of their remaining university deliverables. During the day, most focused on the wargame exercise as expected, whereas after hours all seemed to spend significant amounts of time on their essays. This was interspersed with physical exercise and socialising. Very little non-formal or informal learning occurred when room-mates were working on essays. Discussions, if held at all, were on personal comparison on progress. Some of this contributed to learning to learn and learning the game, very little was on learning expertise. Participants put this down to the fact they were all writing on different leadership theories and analyzing different commanders.

Learning the profession opportunities emerged during the almost nightly room parties. Where natural groupings were not possible with the room residency, this was compensated for through attendance at other room parties. Conversations at these events were far more focused on military related topics than when in public venues such as restaurants or bars. Learning of the profession stemmed from the continuous flow of story-telling when anecdotes, linked with segues, built on previous concepts (see *reflexivity* p. 85). While these never seemed to extend beyond multi-structural, they did provide real-world constructivist understanding. A common theme observed was the comparison between Services on how similar events are treated. As with the extended-abstract, polemic debates and story-telling were dominated by a few participants. While others contributed, those with outgoing personalities told the most animated and captivating stories. This core group of extrovert participants reflects triangulated data from other sources (Figure 22, p. 122; Table 9, p. 122; and Figure 23, p. 123).

Organised On-Campus Social Events

Wednesday night club

The student elected social committee instigated a Wednesday night '9 o'clock club' in the TV lounge to encourage intra-course socialisation. The timing and day was chosen for when most students were at the College and as a break from study. These events provided the opportunity for informal learning and increased rapport to facilitate subsequent peer-to-peer learning. Initially these were very well supported although there were between three and five students who overtly refused to attend. Some, who were even in the barracks working, would sneak in to the TV lounge to collect their printing while the events underway.

On the whole, however, the mid-week social functions were quite successful. The evening's themes and recent social events often featured in discussions, but the course remained the easiest and most likely common talking point. The conversations tended to range from superficial on personal deliverable progress, through to deeper debates on contentious issues relating to the course. Only occasionally did students actually debate concepts related to formal or expertise learning and, when they did, it

was more often university than psc assignments. From Table 6 (p. 112), the proportion of effort required for these two types however, may explain the difference. It is also important to note psc deliverables were mainly team assessments and therefore extensive debate occurs during the team planning sessions.

Morning and Afternoon Teas

Catered morning and afternoon teas were provided by the College to attract participants to the atrium as a trigger informal learning through peer discussion and with the visiting lecturer. Participants tended to grab hot unhealthy food and walk off if they were hungry (having skipped breakfast). Despite the College's intentions, the level of social interaction at these breaks appeared equal with or without food. Attempts to replace the standard morning teas with healthy fruit options made no difference either, except less was eaten. The proposed mid-study hypothesis that sticky or crumbly food would hold people closer together than dry biscuits was not proven either. The provision of free coffee and tea however, was seen as significant. The kitchen area where drinks were prepared tended to be a common focal point and led to frequent discussions across usual social groups.

While informal learning did occur during morning and afternoon tea breaks, food was of little consequence. Students still seemed to break into groups of four or less—which also links to the preference for smaller group non-formal learning (Figure 21, p. 121) and incidental learning (p. 184). There always seemed to be a few students who would read the newspapers on their own, some would return to the barracks and the smokers would congregate in their designated areas.

Typically only the designated hosts would engage with the visiting lecturer. Only when a rapport had been established with visiting lecturers (VLs) following a series of presentations would other students engage. This probably resulted just as much by the lecturer initiating conversations. This suggests the VLs delivering a sustained series of presentations assumed more of a teaching persona by encouraging greater student engagement and promoted holistic learning.

Another factor that tended to increase the likelihood of engagement with a VL was when a student already knew the person—usually the case with visiting military

officers. These conversations however, tended to be more reminiscing or catching up on news, not necessarily relevant to the presentation.

Occasionally students were observed engaging with VLS to gain clarification on the topic but this was often when material was needed for a deliverable or if the presenter was the deliverable marker (playing the academic game). Alternately, engagement seemed to be influenced by the student's perception of the lecturer's quality. Even those speaking on interesting or important topics would get little attention if they did not speak well. However, higher ranking officers (especially Service Chiefs) tended to receive more attention than others regardless of their speaking abilities; but this was more likely to be playing the professional game than seeking clarification on presentation material. This observation is based on follow-up interviews with those who engaged with their Service Chiefs.

The adjustment of food for the morning and afternoon teas however, influenced morale. While there was only limited evidence that its provision encouraged informal learning, many students perceived the free food as a right. When efforts were made to cut back on the frequency, quantity, or quality of food, several of the students complained. In effect, the morning teas became more a cultural artefact on how the students are valued and the perceived importance of the course, than as a trigger for learning. As with other significant morale triggers during the course, it was the way change was managed rather than the actual event.

Presence of food, or even what the food was, did not seem to be an attraction. Only 12 students were in the atrium. Most were sitting around window pod reading newspapers. Another small group stood around the plasma [Television].

— Observation diary extract, Week 11

Meals

Meals are recognised by the College as a source of informal learning and are consequently provided free of charge.³⁸ While some official functions (ten formal

³⁸ The actual funded meals (14,538) equate to 2.70 meals, per student, per day of the course.

dinners and several hosted lunches) were compulsory, students had a choice of venue options for their normal meals. The main possibilities were: the Officers' Mess (or occasionally the all-ranks mess), individual bagged lunches, or bulk ration breakfast and lunch in the accommodation block. The students also received night rations in the form of snacks, fruit and toasted sandwich food. Halal and vegetarian meals were also available. The intent of the bagged and bulk lunches was to facilitate personal admin or fitness at lunchtime and were, on occasions, given during full-day learning activities where the programme did not permit attending the Mess. Most off-campus visits and trips involved either formal meals or the students received an additional allowance to purchase their own meals.

Lunch Hosting

During the course, students were selected to host visiting lecturers at lunch in the Officers' Mess. While conversations over lunch always included reference to the presenter's lecture, there was little evidence of deeper topic exploration. Due to the large table size, quieter students seldom engaged with the guest but did listen to the discussions. Academically stronger students, in concert with the assigned DS, would however, explore both the lecture topic and other areas of commonality. Depending on the participant's interest in the topic, or the credibility of the presenter, the level of discussion varied between polite superficial questions to genuine deep analysis. This finding is consistent with OST plenaries (p. 153), the hosted morning teas (p. 172), and official functions (p. 175). It is also further evidence of topic control and discussion domination by a small number of participants.

Meals during the OST

During the OST, meal times rated seventh (from ten) as a source of holistic learning (Table 7, p. 114). Breakfasts and official dinners were more likely to involve diverse and larger groups which prompted greater alternate-lens discussions. Conversations at breakfast typically focused on previous night antics with critical reflections and journal use making up 20% of conversations. Discussions were enhanced when the group dominated (block-booked) the restaurant but were more fragmented in large or crowded ones. Party composition was typically limited to close friend groupings for own-arrangement meals; which restricted new learning.

Official Receptions

A number of official functions were held during the course's seven month period. Most of these were designed for purely social or celebratory reasons (welcome dinner, family BBQ, mid-course dinner, and graduation dinner). While most included official guests from embassies, there was little evidence of informal learning. As found with other similar activities, conversations with senior guests was typically polite and superficial. While this may not have contributed to increasing declarative expertise, it did encourage learning the professional game. Hosting duties at formal functions is an important, yet often unwritten, attribute of senior military officers. This exposure is therefore, considered learning in itself.

The formal receptions received mixed reports in terms of hidden learning benefit. Of those interviewed 66% reported learning value at the event with the remainder claiming the events were just superficial conversations and the rank difference with the VIP guests precluded useful engagement. Those who saw value in the events were generally those more experienced in hosting cocktail parties. There was also a positive correlation between those who actively seized the opportunity to engage with guests and those who recognised the learning opportunity. Conversely, those who reported less learning spent most of the evening talking with other contingent members.

If the aim was to show our appreciation then that was achieved, if it was to learn then there was some of that too.

—OST interview response

Often the informal learning extended well beyond the expected opportunity afforded by the trip. For example, at the cocktail party in Tokyo, one participant was amazed to learn about the posting system of the Japanese Defence Force. This unintended learning did not fall within the objectives of the OST but clearly added to the officer's 'learning the profession'. The following journal extract highlights the level of analysis and learning from the official functions:

Interesting to talk to JSDF personnel and other Defence Attachés at the NZ Embassy reception. Most DAs remarked how difficult Japan was with a distinct language barrier and difficulties for families. The British DA remarked how the British defence representation had recently been reduced to one. Is this a sign of a reduced commitment to Japan from the UK? Possible the UK is putting its resources into other areas it wishes to develop rather than an old ally. JSDF personnel were friendly but shallow with little options of their own. A JSDF Major General did remark on the Okinawa situation and claimed there was little hostility to the UN/US bases on the island. He claimed this to be hyped up by the media. It will be interesting to see if this is the case and question those on Okinawa both local and American.

—OST journal extract

OST Unofficial Social Events

Informal learning from large group social activities was limited on the OST in 2008. Unlike previous years, where regular parties were held in hotel rooms, this course appeared more comfortable in smaller cliques. Consequently, isolated small-group social events were organised or occurred spontaneously. These were typically associated with room parties or excursions into nightclubs and bars.

The small group outings to bars clearly had some benefits. Many of the students relayed interesting anecdotes the next morning or later in the trip which highlighted not only that learning had occurred, but placing it in context with other stories or events later (multi-structural learning). The greatest learning appeared to come when participants engaged with locals or those outside the course. The local Defence Attachés (DA) were particularly useful.

Conversations with the DA were the best, on the booze the first night and then again having lunch the next day.

—OST interview response

Got most of my stuff for the journal on the first night, from the DA and a girl we met in the pub. She had really travelled the world. That was more useful than any of the formal stuff in the class.

—OST interview response

Exceptions to the small group socialising were the two fine (or dob) sessions and a night out in Okinawa. The fine sessions were an opportunity for the course members to converge and share humorous anecdotes from the trip. Both sessions were held in the respective hotel pool areas (Tokyo and Bussan), but neither appeared to produce any significant trip-related informal 'learning the profession'. The night out in Okinawa was a more natural gathering of the group and resulted in several comments by participants in terms of late night antics, appropriateness of behaviours and general tacit learning of social skills.

OST Free Time Excursions

Most free time excursions involved small groups of three to six who ventured out for evening shopping, meals, or drinks. While there were a few exceptions, most course members avoided very late nights or hangovers. From the interviews, many students reported a regular awareness of informal learning during these outings. These events were only ranked eighth out of ten for contributing to holistic learning (Table 7, p. 114).

In Seoul, the group was granted a full day off. About half the group took the recommended city tour bus and spent the day visiting museums and other local cultural sites—thus maximising their informal learning opportunities. Others used the day to go shopping and experienced local lifestyle activities (riding the underground etc). Both offered informal learning opportunities, but the former group reported more focused experiences.

Incidental Learning

Internet and Intranet based communication

Unsolicited e-mails and webpostings proved to be a useful source of incidental learning. Both during formal lectures, and afterhours, students often sent e-mails to the all.students@csc address.

The major thrown in the water from WWII

http://en.wikipedia.org/wiki/The_Man_Who_Never_Was

—participant e-mail to students.all sent at 2:41pm from the lecture theatre

During class mass e-mails typically included weblinks to supporting material relevant to the lecture in progress (*Wikipedia*, *GoogleEarth* overlays, or other more obscure sites). This communication highlighted the indexicality (see p. 85) of internet use during class time by students as an aid to learning. After-hours use of mass e-mails was typically around readings or sharing additional guidance for assignments.

Morning all,

Some may have already asked this question but I thought I'd share the response I got from the DS when asking for clarification about the Book Review noting the one-liner in the admin instruction stating the book review could set you up for assignments two and three 'if done well'.

I inquired as to whether we were supposed to be reading books relating to *command* ie: differing styles/influences etc or books relating to a particular leader and his/her *style of command* and how/when/where that style was observed ie: WWII etc.

Basically, either will suffice.

— participant e-mail to students.all sent during a study day

Other media was also used extensively during the course. While *Facebook* was useful for informal chatting and social planning, there was little evidence of actual content learning beyond some isolated sharing of heuristic learning to learn. In contrast, *Skype* chatting was used for real-time discussions in lectures. These represent a modern version of passing paper notes during class, but allowed students to more discretely engage in multi-member, real-time, discussions on the value or relevance of the material being presented.

Participants would often include weblinks in these lecture conversations where they exposed holes in the lecturer's material. Examples included when a politician recycled a speech he had given a week earlier to another audience and the participants had found a copy of it on his website during the presentation. From this electronic script on their laps, they could tell when he diverged from the original message or made errors of facts, it also allowed them to stay ahead of the brief and prepare more

robust questions. The participants began analysing why the presenter diverged from the script and what the underlying messages were. In effect, these students were using discourse analysis on the presenter.

In another example, a lecturer who was asked to give a formal brief on a famous military operation was completely exposed—not only as unknowledgeable on the topic, but from a credibility and integrity perspective. The participants quickly discovered his written script, and PowerPoint slides, were taken directly from the non-authoritative *Wikipedia* website. As with the politician example above, the participants monitored when he made errors including when he incorrectly answered simple questions. This development of critical thinking and increased awareness of learning meant the students learnt more about the hidden learning outcomes than just the expertise objectives. This triangulates with data patterns found elsewhere (see Figure 26, p. 126; Figure 29, p. 128; Figure 36, p. 135; and Figure 37, p. 136).

Not surprisingly, some visiting lecturers began asking the College to turn off the wireless internet access during lectures. Such requests were, however, always declined. While incompetent presenters feared being exposed, the good ones learned to exploit its strength. Many presenters would encourage students to check websites, or quickly look material up during the lectures. The opportunity to extend the formal learning via this means reinforces how an incidental learning source can equally be a non-formal, self-directed, or informal source.

Some critics of internet access during class claim it distracts students from the material being presented. The College's attitude however, was that the lecturers are responsible for making their material relevant and interesting. Surfing the web, or proof-reading electronic versions of essays, is no different to generations of students who either read journal articles or proof-read hard-copy essays during boring lectures. One genuine concern however, was the students who habitually began surfing unrelated websites before a lecture even began.

In an attempt to curb unrelated surfing during lectures, a number of sites were blocked during work hours. These sites included *YouTube*, *TradeMe*, *Facebook*, and *Home2View* on the grounds they did not contribute to course learning. While no

student could deny these sites were irrelevant, the issue became a trigger for lowering morale. The first concern was that the decision was made arbitrarily by an administrative staff member. This unexpected shaping of the College's culture was exacerbated by the underlying message of control. Unlike the academic staff's message at the beginning of the course that students would be treated like adults and should take control their own learning, this single act signified latent student oppression. Recognising this attempted cultural shift, many of the participants resisted the blocking. As with similar events, it was not so much the what, but how and why.

As a further example of the student body being a complex adaptive system, the students quickly identified alternate websites and proxy servers to bypass the blocks. Given this event occurred in the second to last week of the course, the participants saw it more as a matter of principle. A valuable finding from this incident is the importance of a positive learning culture and the importance of consistency in messages. If institutes are genuine about empowering students to take responsibility for their own learning, then placing punitive restrictions or extrinsic motivators will undermine other holistic learning initiatives.

After-hours Activities

This dimension of the study explored a number of after-hours activities in search of holistic learning. While evidence of such learning was found in a number of areas, most were at a low level. Participants seemed to use their personal time for sport and ablutions etc as a break from study and generally avoided additional work. Some did report having epiphanies while engaged in low stress physical exercise (jogging, cycling, and even mowing lawns).

Shared ablutions, laundry, and ironing facilities were expected to promote informal learning. Based on both observations and interviews however, none of these aspects contributed significantly. Participants reported such domestic chores were typically performed alone. One possible exception was when students did their ironing while watching the *History Channel* on TV. The extensive coverage of military topics on this channel proved to be a useful informal/incidental learning source. Although not

reported, it is likely participants may have found the low-stress personal time of ironing useful for reflection and epiphanies in a similar way to jogging; particularly when used as a study break to a deeply immersed deliverable write up.

Unlike previous courses, corridor parties were rare in 2008. From observations and interviews, occasional spontaneous gatherings formed in corridors however, these usually flowed into individual rooms and became an extension to room parties. There was no significant evidence of learning the profession or depth of learning from corridor parties.

Room parties were typically limited to friends who socialized together anyway. Apart from a few rare planned study meetings, these gatherings were limited to either social exchanges or quick questions. Social visits increased when students became bed-ridden through illness, but were otherwise not common. Those observed tended to involve the same people who swapped essays for proofreading or discussed deliverable structures. Some occurrences however, were between less immediate friends:

...the best moments of out-of-class learning occur spontaneously, for example, the other night I was sitting in my room working on my essay and [Michelle] came in. We got talking and it turned out she and I were doing pretty much the same topic for our essay. She had some great articles and put me on to a website that was gold. Now that sort of thing just happens. You don't know when and where.

- Participant comment, Week 28

An unwritten 'open-door rule' emerged in the barracks regarding willingness to receive visitors. When course members did not want to be disturbed, their door was typically closed, while the opposite was equally true. This behaviour became a useful artefact for this study with more doors being closed, and for longer periods, immediately leading up to deliverable deadlines. A relationship between closed doors and increased stress levels began to emerge and triangulated with interview comments regarding the stress of assignments (see Figure 28, p. 127, and discussion on p. 207).

Smokers

Smoking was an obvious trigger for hidden learning. Due to restrictions on where smokers could gather, the four who regularly shared this habit would often be concentrated together for regular five-minute breaks and were often joined by non-smokers too. The most common timing for these gatherings was when students were synchronized in their academic rhythm (lecture breaks or when working on essays). This meant the subject of conversation was mostly (although not exclusively) on the learning at hand. Sometimes, it was when there was no talking, or when smoking alone, that concepts crystallized.

It is in the pauses when the dots join up.

—Participant comment, Week 20

TV Lounge Kitchen

During workdays, the barrack block kitchen was a focal point for lunch. Although the numbers changed during the course, about two-thirds of the course elected to receive either bagged cut lunches or bulk (make your own) rations. These two options were given as alternates to eating in the Officers' Mess, as were bulk breakfast rations. Supper rations were also supplied for all students when in residence. This developed a regular culture of toasted sandwiches in the evenings and shared lunches during the day. The lunchtime routine was interspersed with personal fitness and relaxed eating in front of the television. Those who exercised first would gather towards the middle of the hour and a half lunch break, whereas the others would eat lunch watching the midday news. Although not extensive, there were examples of holistic learning occurring throughout lunch and evening gatherings. These were enhanced when it was with smaller groups.

You will find the small group spontaneous chats in the TV lounge are usually the same people. They are the ones who trust each other and feel comfortable throwing things out there without worrying if they will be shot down. You wouldn't say some things if others were there.

—Participant comment, Week 11

The light bulb moments happen most when there are no dominant members around.

—Participant comment, Week 11

This was a similar concept when trying to go to syndicate sized groups for discussions.

—Member-checking comment, 8-months post-course

From participant interviews, small group meals were a good opportunity for quieter students to discuss course material in a less threatening environment. Officially, cooking is not permitted in barrack accommodation, but the minimalist equipment supplied is both appreciated by the students and useful for triggering hidden learning. Similarly, the financial support for the Muslim students to eat in restaurants after sunset during Ramadan, proved popular. A number of non-Muslim students participated in Ramadan and joined their coursemates at the local Muslim restaurants. This whole religious event provided a great opportunity for holistic learning for those students who seized the opportunity to develop a number of unwritten course outcomes (self-awareness, alternate perspectives, new knowledge regarding alternative religions, etc).

From both observations and interviews, the TV lounge focal point was an important trigger for hidden learning. While some participants reported they saw their coffee break as a chance to forget about their essay, and wanted to ‘talk about anything but’, others found it worthwhile. Not only was this single meeting point the source of food, it was also the only place to collect printing in the barracks, the social hub of relaxed meetings in lounge suites and of course, the big screen TV.

Whenever visiting lecturers required overnight accommodation, the College provided a room in the student barracks. This not only helped with hosting them in the evening but was also a deliberate ploy to promote hidden learning. The visitors were encouraged to make themselves available in the TV lounge so the students could discuss essays and extend understanding of the lectures. This approach was effective although the uptake by students reflected the same found with morning and afternoon teas. If the lecturer was not considered credible, then they were only exploited for ‘learning the game’ with surface learning, exchange value deliverables.

On occasions however, there were reported cases of some very worthwhile discussions (based on interviews with both participants and visiting lecturers).

Group Size

Apart from organised large events (such as the 9 o'clock night), the group sizes tended to be small. In the bar, groups were typically 4–5 people, beyond which the bubbles would split. This size appeared to be influenced by ambient noise and ability of dominant speakers to hold an audience. In contrast, on busses, talking was usually limited to pairs seated together, or in spread out situations up to four (see *Travelling Time*, p. 167). Meals in the Mess were limited by the table size (six), while meals in the TV lounge varied from one through to twenty. Although many of these settings constitute informal learning, the unexpected incidental learning benefits of overhearing material is equally valid. The settings, and composition of the group, influenced both the depth and diversity of thinking on a given topic. The more gregarious course members appeared to benefit more from informal and incidental learning.

There was evidence of focused discussions held between closer friends on the course. The students tended to clique with others who shared aspects in common. These similarities ranged from gender, room proximity, religion, barrack residency, smokers, nationality, and Service. In the same complex way friendships form, there was no apparent single contributing factor to how, or with whom, these groups would form.

I was thinking about that as I was reading through your paper. I think our friendship group is good in that we do have some group think but because of our diverse ethnic and cultural (even between us) we have very good discussions about a huge variety of subjects both course related as well as other worldly subjects family religion travel politics etc also tell funny stories and jokes discuss our defence forces and how they are different, so maybe we are not too focused on group think and our lens is not often the same even though we are getting to know one another very well

- Online member-checking interview extract, Week 18

Learning Foci

You couldn't buy what I have learned this year

- Participant comment, Week 29

While there was wide agreement by the participants (as both students and graduates) that the staff course experience was valuable, their ability to fully articulate why and how reinforced the tacit dimension to holistic professional military development. The following section seeks understanding in what the participants actually learned during the 7-month course by examining the four foci of learning.

Learning to Learn

The most commonly reported observation regarding learning to learn was the reduced time and effort required to produce the same quality of work as previously. This was often associated with a greater sense of confidence in own ability and self-awareness.

Exercise Machiavelli was out of control... Spent far too long on it. Strat 1, I got a B+, was more relaxed about it, spent a third less time on it. IR1 spend a third less time again. Strat 2 was even easier – haven't got the marks back but...IR 2, feeling very relaxed about it.

—Participant response, Week 13

I guess I am researching better, but still... I guess I am faster but when I look at other guys on the course. They seem to be able to just pick up a book and glean the gems.

Some people just pick up a book and just seem to get it.

It is just them. Most people now know to pick up a book and skim the conclusion or whatever and then work out what is a gem.

—Participant response, Week 25

The interviews and observations of 'learning to learn' triangulate with the quantitative data obtained by the graduand questionnaire. Several question items targeted

'learning to learn' and were explored from multiple directions (Figure 25 through to Figure 29, pp. 125–128).

Learning the Game

Evidence of learning the game was apparent, although as found in the quantitative data (Figure 30, p. 129), this was the lowest of all four foci. Participants were either better at hiding their game playing, or they genuinely did not do it as much as was expected. The investigation attempted to mitigate shielding by asking indirect questions about fellow course members rather than self-reporting (Adler, et al., 2006).

During graduation week, participants were asked what aspects of the course contributed to them, or others, playing the game. The results fell into the categories of motivation (assessment, grades, and not caring about deep learning) and legacy (conditioned responses prior to or in the early stages of the course).

If you do not provide them with a forum to play games, then they won't.

—Graduand interview comment, Week 31

Playing the game was neither consistent nor necessarily conscious, for many participants. One participant consistently denied ever playing the game during the course, yet in the final week volunteered:

I didn't think I played the game... I feel sooo guilty. Now, at the end of the course, I realise I started to play the game. I never realised it but I didn't want to get an end of course report that said I never asked questions. Now when I think about it, I *was* asking more questions in the last few weeks.³⁹

—Graduand interview comment (emphasis added), Week 31

Other participants seemed to vacillate in playing the game. On one day a particular student was overheard saying he did not care what the lecturer (assessor) thought.

I don't care what [she] wants us to write, I'm just going to write what I think is important.

—Participant comment overheard on arrival at Toyko airport, Week 14

Yet in the second semester the same participant was overheard explaining how he changed his essay topic because the lecturer indicated 'he would be disappointed' with the original choice.

Participant: I wanted to do Sandy Woodward but [he] wouldn't let me.

Interviewer: Why not?

Participant: He said "he would be very disappointed if I did", ... and I know him, I have worked for him before, and know what he means by this. I would be a fool to write on this guy, even though there are books about him. I am not stupid.

—Participant interview dialogue, Week 24

Similar comments came from other participants who admitted listening for clues in their lecturer's leanings when choosing their essay topics. This issue however, was openly discussed and one lecturer in particular almost made it a game to not reveal any personal bias toward theories. One participant believed he had worked it out by analysing the lecturers comment:

³⁹ This participant's mid course report – received only a month before graduation – criticised the individual for not asking enough questions during the course. The student later admitted being unhappy about this comment. Interestingly, the final report actually complimented the student for being confident to 'ask questions and offer an opinion'. This suggests playing the game, even in the final month, actually paid off.

We were talking about the strengths of Feminism and how New Zealand has a lot of them. [Dr Smith] then said 'I am glad I live in New Zealand'. So now I know what theory I am going to choose for my essay.

—Participant interview response, Week 24

In other indications of playing/learning the game, comments were often overheard regarding assessment grades. The following comments suggest a focus on practical, rather than exchange value, and therefore an absence of playing the game:

I don't care what grade I get for the IR essay because I know what I got out of it.

—Participant interview response, Week 11

...if people are hoop jumping and passing how can the line about people using uni quals to gauge how people learn be true. i think many uni see staff course students see this as a means to an end and so will jump through the hoops. are they demonstrating 'speed of acquisition and capacity to acquire' or are they just learning to work the system. you dont need a high IQ to do that. I know that I have a en except high IQ but it doesnt mean this is easy for me as my cleverness is with numbers and patterns etc also the things that are not gifts always get in your way. so to me it depends on whther you are playing the game or where your gifts lie that is a bigger influence on wheter you are easily acquiring knowledge.

—Member-checking (verbatim) feedback extract, Week 18

Only four thousand words to go...We're all at the stage where we don't care any more...I should really do the number crunching to see how many marks I actually need, I haven't done that yet.

—Participant comment, Week 28

Learning to be an Expert

Participants frequently acknowledged the explicit learning value of the course in terms of their increased learning of expertise. This was most apparent toward the end of the respective modules. Interview and focus group comments proved to be telling in terms of self-reported acquisition of 'learning to be an expert':

That's the bit I really enjoy about this course. In the first few weeks when someone asked who Douhet was... [throws arms in the air and looks at the ceiling while shaking his head as if not listening to the conversation; implying he would have no idea], and Liddell-Hart... isn't that a Lawyer firm in Lower Hutt? And Corbett, Mahan ...I had never heard of those guys.

Now, when the Admiral goes 'Well I think we should use a Mahanian strategy...' I can say [puts on a deep voice], yes, but have you thought of ...

—Participant comment, Week 10

I now know why strategy is hammered into us

—Graduand focus-group comment, Week 32

Things I never thought about are now clear to me

—Graduand focus-group comment, Week 32

While others commented on weaknesses in the courses' provision of expertise learning, which implied an increased meta-awareness of their own expertise:

The vast experience of visiting lecturers was good...but some were crap. Especially the university lecturers. Civilians with no military experience have no idea.

—Graduand focus-group comment, Week 32

Learning the Profession

I never used to read Time magazine, now I even understand it.

—Participant comment, Week 28

Learning the profession is fundamental to developing professional wisdom and growing strategic artists who thrive in complex adaptive systems. As shown in Figure 7 (p. 32) and reinforced by the quantitative data (Table 4, p. 109), this foci is considered largely a product of the other three foci. Its existence was also apparent in the increasing frequency of comments made by the participants toward the end of the course and as graduates.

Indicative comments regarding the course's value and the wider value of understanding the profession (rather than just siloed subject expertise) include:

The real value is not so much in what you learn during the course, it is what you are able to learn and comprehend from events after the course by using the skills and knowledge gained on the course.

— Graduate interview comment

It is a mindset thing, it is when you think differently.

— Graduate interview comment

Being able to have intelligent conversations with Service chiefs and the Prime Minister.

— Graduate interview comment

This thinking however, is not limited to those who have completed the course. When asked why anyone would want to endure such an intensive course, a 2009 student in his first week of the course responded:

When [Jonsey] ...and the guys ... came off course you could just tell they were thinking on a different level to us, I don't want to be left behind.

— 2009 Student comment⁴⁰

Influences on Holistic Learning

This section presents a number of data patterns that explore the influences of holistic learning (Enabling Research Question 1) as they contribute to understanding the profession (Enabling Research Question 2). The section includes an exploration of influences on deep learning and cognitive agility (Enabling Research Question 3).

Influence of Motivation Systems on Holistic Learning

In an effort to understand *what* was being learned, data was sought on the dynamic between exchange and practical value. Given the exchange value assessments focused on learning expertise, and learning the profession was only assessed indirectly in the psc deliverables, the assessment system emerged as an influence of holistic learning.

Through interviews, observations and overheard comments, it was possible to explore where the participants were focusing their learning effort. This was particularly apparent when comparing the PGDipArts deliverables with the psc ones. Participants clearly associated the former with exchange value and the latter with no value. There

⁴⁰ Used with permission.

was very little evidence of any activity encouraging deep learning of the profession or any emphasis on practical value. When asked about the number of remaining assignments, one student replied:

Oh, we have got a 3000 word essay on either Iraq or Afghanistan for Joint Campaign studies and another big one on a non-New Zealand commander, [looked up and to the right, unfolding fingers on an outstretched hand as he counted], and then we have got something...um... a paper on some management issue...Praxis or something, but that is just a psc deliverable so that doesn't count ...

—Participant comment, Week 24

When asked why there was a culture of putting more effort in the university assignments, two graduates commented:

If I got a D for a university assignment, I would have failed, but the psc stuff was just participation.

—Graduate comment

University essays were individual grades whereas the psc stuff is more collective and therefore there was no emphasis to do well.

—Graduate comment

As an extension of the impact deliverables have on holistic learning, the way the students completed them also proved important. In a similar challenge of presenting material in isolated pieces (known as academic tourism), assessments should not be completed in isolation. This was partly influenced by the deadline distribution, but also the emphasis on cross-referencing requirements between assignments and the institute's culture of encouraging holistic learning.

Inhibitors to the holistic perspective seems to be the sequential approach the students take to assignments. The following observation diary extract reinforces the need for a strategic plan, focused assessment strategies, and deliberate promotion of holistic learning:

Discussing how other students had commented how they found the course seemed to be like a train with sequential carriages (the deliverables). Each one was being addressed in order of due date. While a little bit of data gathering was done for future assignment, this appears

to have been more opportunist rather than deliberate. Most people seem to have been singular in their main effort.

— Observation diary extract Week 13, Day 2

Influence of Directing Staff on Holistic Learning

Although the College's directing staff (DS) were not originally considered an artefact of holistic learning, their influence became apparent through other lines of investigation. Like most dimensions of the study, there were conflicting data pieces suggesting both strengths and weaknesses to the role of the DS. The strongest negative criticisms emerged in the qualitative interviews and focus groups where frustrations were vented (as discussed in the student stress section, p. 207). Their apparent reluctance to lead syndicate discussions highlighted other concerns in terms of their own confidence in the material being taught.

The College directing staff (DS) also influenced holistic learning through their role as assessors and learning coaches. This issue was more apparent around the psc deliverables where the staff conducting the assessments were seen more as peers (due to the military rank structure) than the university assessors. Most participants reported being unhappy about not only how they received their psc feedback but also questioned the credibility of the markers. While several graduands suggested introducing peer-assessments for the psc deliverables, others admitted the staff were often simply a cathartic scapegoat.

When we were in Oz we heard the Aussies [staff course students] complaining about the same issues...the staff are an outlet [for stress].

— Graduand interview comment, Week 31

Due to a few unfortunate incidents at emotive times early in the course, a sense of us-and-them emerged between the staff and students during the 2008 observation. The cascading impact of this never fully recovered and led to a number of concerns around credibility. As one graduand remarked:

Not once during the entire year did I ever hear a staff member acknowledge that some of the student problems might have been the DS's fault.

— Graduand comment, Week 31

While earlier in the course, a fellow course member asked:

What is the job of the DS here? They appear to do nothing.

— Participant comment during OST, Week 15.

Influence of Student Stress on Holistic Learning

The number and intensity of non-formal learning activities emerged as an influence on holistic learning.

Assessments on the course are really bad. There has not been enough formative feedback. ...it was all just a powergame...thoughtless really. There is no need for it. ...Everyone is a bit tense.

—Participant, Week 29

Another indicative comment about the relationship between assignments, stress, and deep learning, appeared in the social committee's (admittedly lighthearted) e-mail sent to the course members at the start of the second semester:

Sent: Monday, 25 August 2008 10:10 p.m.

To: CSC - STUDENTS

Subject: 9 o'clock club

Yes ladies and gentlemen, we are back into the fold as it were. To ease our return to the shackles of study, let's have a good turn out to our first 9 o'clock club of the second term. [...]

It will be a good chance to consolidate and draw strength for the next three months of pain, heartache, late nights, sickness, low marks, a bad case of the s..ts, stress, pressure, lack of time with family, weight gain, rashes, hair loss, nightmares, hearing staff talk about deep learning but finding yourself trapped in a very very shallow learning paddle, tiredness, baggy eyes, weak bladder, disorientation and information overload...

—Social committee e-mail, Week 17

The perception of stress however, was not universal. As was found in other dimensions, some participants seemed perpetually stressed, while others were

typically philosophical about the challenges. The following two mid-course comments further reinforce how perceptions of stress were variable:

You know, sometimes I wonder, have I missed something? Why is everyone else so stressed?

—Interview response, Week 11, Day 3

Researcher: Do you think the intensity of the essays actually helps, even though people complain about them?

Participant: Yeah, well I am a bit different, I don't actually agree with them. I don't think it is too bad [all the essays]. It hurts at the time. If you space it out they would still leave it until two days before and then complain there was too much work.

—Interview dialogue, Week 27, Day 2

Influence of Workload Intensity on Holistic Learning

You felt like you were in psc(j)-land all day long, and then go home to work.

—Graduate interview comment, 1 month post course

Related to the participants' concerns about stress was the perception of workload intensity. A number of students criticised the course for being too busy and called for it to be extended in length but without any additional deliverables or content. Certainly not all students felt the workload was excessive, while others were obviously feeling the general pressure of the course:

[11:27:47 a.m.]: I dun think ppl are complaining about the book reviews per se, but rather just general grumblings about getting back into the routine of writing essays, especially after the long break and JOPC.

[...]

[11:28:59 a.m.]: But its great, substantially less essays this semester, with loads of study days, and a holiday to Australia, can't be better.

—Skype interview, Week 20

Just over an hour later, another participant saw the workload and collective course culture as very negative:

[12:38:05 p.m.]: ... The general attitude around here right now (hence why I have pulled back and have semi-detached myself) is that it is all about "stepping through the hoop"...after all, jumping requires too much effort. To be honest with you - the attitude is a real detractor from the purpose of this place. I am finding it hard to be present. I want to absorb...and yet am surrounded by negativity and arrogance.

—Skype interview, Week 20

Those who felt the course was too intense, or who were under a lot of stress generally, were often the same ones who claimed there was no opportunity to explore topics in depth or pursue alternative lens perspectives (cognitive agility).

During 2008, some participants reported working 80-hour weeks, although most were around 55 to 60 hours. Individual circumstances differed, however, there were a number of participants who found time to complete all assignments and still raise young families (including two births), race and repair stock cars, or maintain their community group involvement.

The following research diary extract shows how the relationship between assessments, stress, and perceived workload intensity began to emerge early in the course. After quite noticeable stress with the first essay, the second one was more relaxed:

James estimated spending 15 hours writing and 12 hours reading for his essay. The College however only allocated him 20 hours of study time. This meant he spent 7 hours of his own time on the essay. Morale however seems much better now the essay is done (handed in on Monday). Wednesday night party much more relaxed. Many of them reported spending a lot of time debating 'isms'. Next essay due next Monday but they have Thursday and Friday as study days. Many students reported aiming to finish their essays before the weekend so they can spend time with their families. James, Mike, Craig, and Ahmed seemed quite comfortable watching cricket on TV for two hours Thursday afternoon.

—Research diary, Week 8, Day 5

Deep Learning and Cognitive Agility

The study explored a number of holistic learning dimensions beyond sources and foci. This final section presents data patterns that emerged during the study relating to the second and third enabling research questions (p. 2).

Document analyses of official College and university documentation found very little evidence of deliberate cognitive agility development. While some isolated activities referred to functional abilities (eg critical thinking or deep learning) these were never cross-referenced to other activities. This reinforced the emerging pattern that no deliberate development was made to improve cognitive agility during the course. The finding triangulates with data patterns on formal learning of expertise which also found siloed approaches to content coverage.

The absence of cognitive agility development is evident in the documentation for the respective modules. Arguably, the International Relations module provided the best opportunity for deeper learning because of its heavy emphasis on theoretical ontologies. Both the College's IR syllabus and the university's IR paper overview (Appendix 6 and 7 respectively) show that no emphasis was placed on developing these skills. There was however, an implied requirement to employ deeper thinking through the operative verbs based on Bloom's Taxonomy (see p. 251). There is no overarching documentation holistically linking this learning between the modules or progressively improve it over the course.

Additional investigations into cognitive agility development found similar missed opportunities. While the College recently introduced a number of deliberate holistic learning activities (pp. 25–28), many of which also target cognitive agility, most lacked scope for progressive development and few articulated the functional skill dimension. This meant both staff and students often misunderstood the activity's wider goals and therefore misused it or even petitioned for their removal. The weekly review sessions, which were intended to be cross-disciplinary and learner-led, often reduced to staff-led course critiques of isolated presentations. The course journals were another example where the staff were either neutral or even disparaging towards their employment. Not once during the 7-month observation was a staff member heard enquiring about, or encouraging the use of journal writing. The OST journal on the

other hand, was often spoken of and even in favourable terms. However, it was a further example where the activity was appreciated for its exchange value yet the instructions (and therefore emphasis on cognitive agility) were deliberately vague (p. 119 and p. 156).

Other examples of activities that promoted cognitively agility—or had the potential to—included the daily reflection sessions on the OST, joint operational planning exercises, 10-hour exam, essays, student presentations, and personal command philosophies. The key finding from this is that deliverables present an excellent opportunity to develop cognitive agility. The extent of this development however, is reduced when the outcome is not explicitly acknowledged in the instructions (for both the students' and future staff's benefit) nor the assessment rubric structured to encourage it. Another key finding is that non-formal learning activities present a significant opportunity to promote cognitive agility; but again, the absence of a deliberate plan means such opportunities are often missed.

Perhaps the only planned activity to deliberately target individual development was one-on-one DS interviews. At the beginning of the course, the participants were all guided through a goal setting activity and were provided with psychometric profiling with civilian consultants. This was intended to contribute to drafting an individual development plan (IDP) which was discussed with the assigned syndicate DS. These opening-weeks activities were all completed but their importance appeared to be devalued. For privacy reasons, neither these interviews nor the IDPs, were included in this study. From subsequent data pieces however, patterns emerged regarding the success of these activities.

Planned individual development, for all areas except content-centric expertise, was hampered by a number of factors. Tension between the DS and the student body emerged early in the course due to assessment issues (see DS influence p. 192 and stress section p. 207). This reinforces the importance of separating assessment roles from mentoring and reinforces the need for experienced DS with credibility. The absence of a holistic system to develop cognitive agility, or even the articulation of its dimensions, was assessed as another reason why staff did not actively promote its development. Evidence of individual development being neglected was identifying in

the tension between the participants and the DS (see comments p. 192) and the low priority given to mid-course interviews (see footnote 39, p. 187).

The absence of planned cognitive agility development extended beyond formal documentation (syllabi, university paper prescriptions, exercise instructions, study tour instructions, etc). This finding triangulated with observations made during the two main course planning meetings, weekly staff meetings, and *ad hoc* co-ordination meetings for major activities. While verbal references were often made to cognitive agility related learning opportunities, these were typically undocumented and were treated as secondary benefits to the content-centric objectives. For example, the cultural comparison opportunity between the Australian and New Zealand way of conducting operational planning (see the discussion on p. 169) was not only discussed in the staff-planning meeting but also reinforced verbally to the students during the pre-trip briefing.

In addition to macro level events targeting cognitive agility, opportunities also existed for component activities to facilitate its development. One such example was the value of student questions during plenaries and other non-formal learning activities. Although there was no observed effort to progressively improve the quality or methods of questioning, it was an activity that allowed students to practice cognitive agility.

The frequency, depth, and influences of asking questions has been widely covered in both quantitative and qualitative investigations (Table 9, p. 122; Figure 23, p. 123; Figure 24, p. 124 Questioning Depth, p. 153; Small group discussions, p. 123; and Group Size, p. 184), however its contribution to learning depth and cognitive agility is also important. Participants often reported value in formulating, and asking verbal questions during plenaries, reflection sessions, or syndicate discussions.

It was good to ponder and come up with questions. My questions were shaped not so much by what I'd learned but what I was interested in however my assessment of the questions I was thinking/asking came from my learning and some were nothing to do with IR Strat.

—OST questionnaire comment, Week 15

Unfortunately however, there were other influences that discouraged deeper learning. For example, student presentations were designed to promote peer-learning through both the formal brief and the subsequent plenary session. The second part however, was typically diluted because the student presenters were still being assessed in their knowledge and their colleagues in the audience did not want to risk exposing gaps. This counter-productive assessment strategy might have increased some expertise knowledge in the presenter, but it most likely undermined learning value across the wider course. The following interview comment reinforces this perception:

The syndicate discussions and article readings are OK but when the lecturer is assessing it you always worry think that about first .
...So when you know people are getting evaluated, you do not want to sabotage your mates by asking a curly questions. So there was no real depth.

—Participant interview response

While evidence of both deep learning and cognitive agility development emerged during the study, it was apparent such learning is more unconscious, than subconscious, and therefore difficult to self-report at the time. It was therefore essential to collect additional data post-course. This also had the benefit of eliminating any residual bias of assessment concerns by participants. Interviews continued during the 12-months post-course. From these interviews however, it became apparent that detailed memories were limited to a few significant events; detail gave way to patterns and reported learning of expertise gave way to learning the profession. Most feedback was macro level and focused on ‘better awareness of how the system works’ and ‘thinking differently’. These two themes equate to ‘understanding the profession’ and ‘cognitive agility’; both of which indicate holistic learning is developing professional wisdom (Figure 7, p. 32).

Interestingly, not one graduate referred to the exchange value of a (or *the*) university qualification as an outcome; all focused on the practical value of the course. This is assessed as being a reflection on the student’s subsequent devaluing of the university’s PGDipArts and their increased awareness of the course’s practical value in the workplace. When pressed on this issue, one graduate (six months post-course)

cynically remarked ‘the GradDip is not a qualification’. Overall though, graduates were much more positive about the course’s value when they were removed from the stress of deliverables and had taken time to reflect on its benefits.

Graduates also took the opportunity of these post-course interviews to reinforce their criticisms of how holistic learning could be improved. Common themes included making the course longer (more time to develop deep learning and cognitive agility, not more content), staff to complete tours away from the College rather than coming straight from being a student, and more syndicate discussions (non-formal learning).

Summary

This chapter summarizes the major qualitative data patterns found during the study. Its overall structure followed the five main learning sources of formal, non-formal, self-directed, informal, and incidental learning. While formal learning rated highly by the participants for explicit learning, the study found extensive evidence of holistic learning in the various non-formal learning activities. Very little self-directed learning was identified during the case-study observation, but clear evidence emerged from the various non-formal artefacts. Incidental learning yielded the least depth of learning but, once again, numerous examples were discovered.

Additional sub-study investigations emerged during the observation. Of particular interest were the results on participant contributions based on group size. Another important finding was the differences in results based on nationality.

When integrated with the quantitative results of Chapter 5, these key data patterns synthesize into emerging data themes on holistic professional military development. Each of these themes relate to the major sections of study’s conceptual framework—sources, foci, and learning depth (Figure 7, p. 32). The next chapter discusses these areas in more depth with the aim of identifying how holistic learning contributes to professional military development.

Chapter 7 Discussion

This chapter crystallizes the data patterns of both Chapters 5 and 6 into emergent themes answering the primary research question: How does holistic learning contribute to professional military development? It achieves this by first offering a general overview before delving deeper into the understanding by answering the successive enabling research questions. Because holistic PMD is complex, many of the dimensions cross into multiple areas. The chapter therefore, includes a number of cross-referenced sections and data patterns in its exploration of the topic.

Holistic Learning's Contribution to Professional Military Development

Holistic learning is an apt description of professional military development. This study found the process of developing professional wisdom in strategic artists is more complex than just the formal learning of content expertise. In particular, gaining a holistic understanding of the profession and enhancing cognitive agility relied significantly on the various hidden learning sources and the contribution of student's previous experiences (life, professional, training, mentor programmes, etc). This was particularly apparent during out-of-class learning settings (non-formal, informal, and incidental learning) where participants were overheard mixing personal anecdotes with recently taught material. The value of previous experience in holistic learning is recognised in the literature as inductive learning (Entwistle, 2000) and falls within the wider field of constructivism (Fry, Ketteridge, & Marshall, 2009).

Professional wisdom also demands high levels of cognitive agility. This study acknowledges the latent abilities of all officers based on the selection criteria used on enlistment. There is however, ample evidence from around the world, that this use of intuition and adaptive thinking is largely suppressed in junior personnel during their 'apprenticeship' years in the military. The need to rekindle this trait is perhaps easy to acknowledge, but apparently it is not so obvious that it receives deliberate planning.

This study found very little evidence of deliberate efforts to rekindle cognitive agility. While various deliverables required a degree of critical and deeper thinking, such traits were seldom articulated, and there was no evidence of a progressive

development system (pp. 196–200). Cognitive agility development was an *ad hoc* activity left entirely to providence.

Both holistic understanding of the profession and cognitive agility were found to benefit from formal learning material but such content-centric material alone was not enough. Both attributes of professional wisdom relied on hidden learning activities to consolidate and develop. Despite being largely left to chance (even non-formal learning activities were written in isolation), the contribution of hidden learning reinforced the value of residential courses. After all, content-centric education could be achieved more economically through correspondence courses or individual study on a large civilian campus. An emergent theme from the study therefore, was the importance of hidden learning in developing both the holistic understanding of the profession and cognitive agility.

Students accepted formal learning as a valuable delivery paradigm (Table 7, p. 114) although, like students elsewhere (Sander, Stevenson, King, & Coates, 2000), they did not necessarily enjoy the format (see comment on p. 148). This increased awareness of formal learning sources over tacit learning triangulates with other studies in the field (Visser, 2003). It also reflects the generally higher percentage of time allocated to formal learning during the working day (Table 3, p. 108 and Table 4, p. 109). With the exception of the operational studies module, the ratio of formal to informal learning was about 1:1—which is much higher than the suggested balance of 1:3 by Gibbs (1999).

Importantly however, distinction needs to be made between declarative (expertise) and functional (transferrable cognitive abilities) learning (Biggs, 2003). This study found formal learning to rate highly for learning to be an expert but *cognitive agility* and *learning the profession* required a more holistic integration of previous experience, previous knowledge, and peer-learning (Figure 7, p. 32). ‘Abundant evidence supports the conclusion that lectures are a poor way of stimulating thought and of changing attitudes’ (Huxham, 2005, p. 1). The value of formal learning for depth of understanding is also questioned in other studies where lectures were found to be a poor method of learning; especially with international students (Mulligan &

Kirkpatrick, 2000). This finding reinforces the value of hidden learning in holistic professional military development.

Despite its apparent importance, hidden learning was unstructured, ad hoc, and ultimately, less comprehensive in its coverage of the profession. Not surprisingly, this was more evident with informal and incidental learning as they are, by definition, more spontaneous. While more relaxed and natural, some incidental learning (eg sharing rooms on trips, and night socializing) seldom revealed any depth. In contrast, other situations facilitated resource sharing (p. 181), deeper discussions, or gave time for personal reflection (see comments p. 183). Most of these triggers and influences of incidental learning can be partially credited to institute initiatives in terms of providing the venues, vehicles, and opportunities. These however, tend more toward the informal end of the incidental learning spectrum (Figure 14, p. 57).

The limited amount of self-directed learning meant this source was not so powerful. It does however, relate to the issue of individual differences, workload intensity, the absence of motivational incentives to encourage it. Beyond the residential environment of formal courses, professional reading lists are in fact a popular vehicle for encourage ongoing, holistic professional military development.

Non-formal learning sources (pp. 149–163) were identified as providing more personalised learning—a finding consistent with other studies (Sadler-Smith, 1996). It was also found to empower learners to shape their own understanding and facilitate greater engagement through inductive learning (see p. 51). Non-formal learning was also identified as more focused toward course outcomes—in comparison with self-directed, informal, and incidental learning. None of these however, covered the full spectrum of declarative material in the way formal learning did (triangulates with R. Murray & Brightman, 1996).

Triangulated qualitative participant comments (p. 199), and the fact that formal learning alone did not receive distinguishable differences in the quantitative data (Figure 18, p. 115) confirms the contribution of hidden learning in holistic professional military development. The fact that no evidence exists in any formal College documentation however (see sample extract, Appendix 6), reinforces the fact that

hidden learning is indeed hidden. The absence of any official acknowledgement is in itself a concern, but without it, no constructive support or promotion is possible either. While this study does not advocate prescribing in detail the content of hidden learning, it does endorse calls for some type of framework to support it.

Interestingly, some innovative non-formal learning activities received a degree of criticism from the participants—particularly reflection sessions and newer deliverables that stretched their comfort zone. Arguably, some of this friction may be attributable to discomfort with change or that it undermined established game-playing strategies for exchange value grades (see comments on p. 156).

In contrast to the negative comments, there was equally strong evidence of some non-formal learning being popular. For example, despite initial resistance to the group reflection sessions, some of the harshest critics confessed appreciating their value (see participant dialogue on p. 152) and the comments by graduates reinforced their general acceptance across the whole group. This result triangulates with the high-ranking reflection sessions received during the OST (Table 7, p. 114) and the support for reflection sessions (large and small) during subsequent focus group interviews (Figure 21, p. 121). The value of students asking questions (depth not frequency) is also supported in the literature (Graesser & Person, 1994). Similarly, the value of interactive question sessions during lectures has also been found to improve learning (Huxham, 2005).

Informal learning included a number of valuable learning sources. There was evidence that this area led to greater understanding of the profession but not deep learning or cognitive agility (p. 222). Its inability to provide in-depth coverage of declarative knowledge (Biggs, 2003) is also supported in the literature (Huxham, 2005). The various informal learning activities all rated in the bottom half of the sources comparison (Table 7, p. 114). Like most areas though, there were examples of holistic learning occurring from small group activities (low stress sport, watching *History* channel, travelling time, and social events such as meals, smoking, and study breaks). Examples of deep informal learning were observed during some bus discussions (p. 167) and occasional polemic debates in social settings (p. 150).

The key finding from this section of the study is that all sources contributed towards developing professional wisdom. The fact that different participants benefitted in different ways reinforced the individual nature of holistic learning and the need to embrace learner diversity. Another important finding to emerge from the study was the complex independencies of holistic learning sources in the overall experience.

The Complexity of Holistic Learning

The various learning sources analyses (pp. 107–115 and 147–185) explored a number of artefacts regarding learning sources and their contribution to holistic professional military development. Due to the complex inter-relationship of holistic professional military development dimensions, influences were often indistinguishable from sources or triggers. Overlaps also emerged between influences on holistic learning of the profession (including expertise) and cognitive agility development.

To investigate the relative influence of sources on foci, it was necessary to identify an isolated case-within-case data pattern. From the OST Journal content analysis, it was possible to cross-reference the relationships between the learning source types and the foci of learning (Table 8, p. 120). Using the word count allocation as an indicator, the participants drew their greatest learning (expertise and profession) from formal briefs. When compared with the combined scores of the three hidden learning sources though, formal briefs represented only a third of the narratives. This finding is consistent with the results of the questionnaire on participant's perceived value of the ten sources (Table 7, p. 114).

The investigation of holistic learning sources spanned multiple data collection methods. Quantitative data revealed relative source rankings and, through additional concordance analyses, indications of depth. Cluster analyses enhanced this understanding by identifying common groupings. The nationality comparisons however, revealed significant differences between the dominant (host nation) group and the minority (international students) group. The findings showed the minority students preferred more formal and shared learning sources, where as the dominant group tended more toward hidden and individual learning (learner empowered).

Several key themes emerged from the sources investigation. The first being that learners recognise formal learning as a significant source although some non-formal activities were considered equally valuable. Second, some non-formal learning activities were met with a degree of resistance by some participants—although this corresponded with a theme of constant negativity in a small group. Third, non-formal learning activities allowed students to integrate their own personal experiences and knowledge into new material to facilitate inductive learning. Fourth, while the institute provided opportunities for non-formal and informal learning, they were *ad hoc* with no deliberate strategy. Finally, several valuable learning activities proved difficult to code into single source categories. This triangulated with observations that some activities were more effective for some learners than others or that they varied depending on the context (other activities, students stress, time on course, etc). This final understanding of holistic learning reinforces its complexity and the existence of interdependent relationships between various dimensions.

Learner Empowerment Influences Holistic Learning

While formal learning is controlled by the institute, hidden learning sources accommodate varying degrees of learner influence. Given the importance of hidden learning in understanding the profession and developing cognitive agility established above, there is an obvious relationship between learner empowerment and increased holistic professional military development. If the institute wants the students to develop these two key attributes of professional wisdom, then it must proportionally reduce the amount of content-centric formal learning and encourage more focused hidden learning. This means increasing the amount of non-formal learning activities as the other categories, by definition, are not influenced by the institute. A further finding from this line of investigation is the importance of allowing the students to learn skills in a way, and at a pace, that suits their preference. In short, this requires an institute culture that facilitates learners having greater control over their own learning. As much as possible, flexibility and variety needs to be accommodated for individual differences.

Motivation Systems Influenced Holistic Learning

An important influence in student motivation toward depth of learning appears to be the perception of value. In particular, their desire for either a qualification (exchange value) or straight professional development (practical value). During the study, this dynamic manifested in the tension between the university (PGDipArts) and the non-university (psc) components of the course (Figure 32, p. 130). While not exclusive, there appeared to be a strong perception among the participants that the university assignments contributed toward the exchange value of a tertiary qualification, while in contrast, the non-university classes and psc deliverables were purely practical value.

A significant vehicle for focusing student learning is the summative grading of deliverables. Despite the verbal (but perhaps not tacit) messages of staff to emphasize balance, most (if not all) participants placed greater effort on university assignments than psc ones. The comparison of deliverable numbers (PGDipArts to psc) not only distorted the absolute workload requirements but also sent a tacit message from the College (Table 6, p. 112) on where it expected effort. It was not surprising therefore, that the students placed greater effort on their PGDipArts deliverables.

Despite the apparent over-emphasis on exchange value, other areas of this study revealed a devaluing of university-based knowledge. Course participants appeared to gain confidence in believing their own opinions over academics (Figure 37, p. 136). This suggests they perceive the university qualification has an exchange value for third parties (eg future employers), yet not to themselves. It also triangulates with the graduate's emphasis on practical value (p. 199). Unfortunately, this study found very little evidence of the motivational systems recommended in the literature for promoting deep learning or cognitive agility (Mulvaney, et al., 2008). If anything, the study found evidence of influences inhibiting such learning.

Student Stress Influenced Holistic Learning

The influence of student stress was investigated through interviews, observations, and Item 4 of the Graduand questionnaire (Figure 28, p. 127 and Figure 49, p. 241). There were a number of factors identified as contributing to student's stress on the case-

study staff course. While some of these were personal problems outside the College, others were internally generated; some were even self-generated by the students (see quotes on p. 193). Many participants admitted performing better under a moderate level of stress, while others regretted leaving deliverables too close to deadlines. This inability to improve metacognitive strategies and manage stress is consistent with the literature (Case & Gunstone, 2002; Mulvaney, et al., 2008; Tooth, Tonge, & McManus, 1989) and relates to influences on holistic learning (enabling research question 1).

Assessment was the biggest cause of stress on the course which in turn is a known inhibitor of performance (Tooth, et al., 1989). This was most noticeable around the pressure to complete sufficient readings and produce the required products, but was also associated with grades. While the standard of marking by university lecturers was cause for student concern, the greatest angst came from the summative assessments of College Directing Staff for the two team-presentations. Even though these two only represented a small component (Table 6, p. 112), they were both identified as problematic.

Intuitively, students would be expected to improve their personal stress management during the course due to their ability to learn (Entwistle, 1988)—assuming the academic tempo and intensity remained constant. This however, needs to be tempered by the participants continuously shifting their own goal posts. Many admitted pushing themselves into a stretch zone of stress. This conclusion is reinforced by the observation that the students improved the quality of work⁴¹—for the same amount of effort (see participant comments, p. 185)—yet at graduation, most students reported they had not learned to handle stress and deadline pressure well (Figure 28, p. 127). Like the ‘learning to learn’ investigation though (Figure 25, p. 125), participants who felt they were already good at stress management, did not credit the course for improving their skills in this area.

⁴¹ Absolute grades were not necessarily an indicator of increased learning or quality of work. Participants were constantly encouraged to not simply play the game for higher marks, but instead to seek harder question options to enable more relevant stretch learning. Although there is no data to prove the level of this occurring, its possibility contaminates the data.

The overall theme emerging from this area however, was that stress influenced student's willingness to take risks and therefore inhibited deep learning. Although various artefacts contributed to student stress, the most common were assessments and their associated impact on perceived workload intensity.

Workload Intensity Influenced Holistic Learning

From both the literature (Karjalainen, Alha, & Jutila, 2006)⁴² and the various data sources of this study, another important inhibitor to deep learning is workload intensity. There was also qualitative correlation with workload and student stress levels. Participants frequently reported the number and size of deliverables as being inhibiting factors in terms of their ability to explore topics deeply. This finding is reflected in other studies where 'perceptions of heavy workload and inappropriate assessment influenced students toward surface, ... approaches to study' (Lizzio, Wilson, & Simons, 2002, p. 27). Over the past few years, this perception prompted the NZDF College to progressively reduce the psc deliverables and request adjustments of university ones. Although the latter is subject to university control (typically a total word count per paper), the College managed to shift the emphasis from multiple small assignments to two or three large ones. The progressive reduction in psc deliverables resulted in a disproportionate balance (Table 6, p. 112) and arguably a hidden cultural message of promoting exchange over practical value (p. 207).

Learner Diversity Influenced Holistic Learning Experience

As a detailed exploration into holistic learning influences (enabling research question 1), the study investigated whether nationality impacts on the learning experience. This sub-study did not necessarily identify evidence of specific nationality differences in holistic learning but did confirm differences can occur. The overall findings were that the dominant host group (New Zealanders) displayed different attitudes and therefore experienced quite different learning opportunities during the course. This finding reinforces the need to provide variety in learning opportunities and optimize student empowerment in shaping their own experiences.

⁴² See also pp. 50–54.

Differences were also found between the New Zealand and international participants in the combined graduand questionnaire. The international students were far more positive in their self-reported learning acquisition. This result is consistent with the other nationality comparisons and reflects more of an attitudinal difference than actual learning. This assessment is based on academic performance (summative assessment results) and the type of items where the greatest differences occurred. The areas with the greatest nationality difference were coded as more attitudinal than attainment (Figure 41, p. 140—Figure 46, p. 144) and reflects the findings for minority students elsewhere (Egege & Kutieleh, 2004; Padilla, 1991; Sanderson, 2006).

Group size also proved to be an important influence on holistic learning and reinforced the learner diversity finding. Both quantitative and qualitative data found a number of environmental characteristics either triggered or influenced holistic learning—and in different ways, at different times, to different participants. These included both environments (brew points, TV lounge, study areas, etc) and events (meals, parties, vehicles, smoking, etc). In all cases however, influences were found in the group size (pp. 122–125, 184), atmosphere, and context—findings consistent with other studies (Merrill, 2001).

The key themes emerging from these data patterns were the individual differences and the temporal nature of hidden learning. Both findings reinforce the complexity and challenges of understanding holistic learning as already identified in the literature (see pp. 70–71).

Staff Influenced the Holistic Learning Experience

This study found the staff to be a significant influence on the learning environment culture. This in turn had a major effect on the holistic learning experience of the participants. While the College staff had the most prolonged, direct, and therefore largest influence on the culture, others were also influential. University staff were frequently identified as sources of stress, influences on learning the game, and shapers of surface-deep learning decisions. The quality, rank, and credibility of non-university visiting speakers also featured as a significant factor in terms of whether

participants engaged in out-of-class discussions. Even non-teaching staff were found to influence the College culture and led to changes in the learning experience.

College DS influenced the holistic learning experience in a number of ways. As already discussed, they had a dual role involving both assessment (psc presentations and end of course reports) and coaching/mentoring. This latter role extended to a pastoral role in terms of welfare and support. Additionally, the DS had almost free rein in terms of module management, selection of visiting lecturers and visits, designing and leading exercises, and other influences regarding artefacts around the College. Preparation for this important responsibility was limited to attendance on the staff course as a student in the previous year. Not surprisingly, as the face of the College, the staff were often the victims of student frustrations and scapegoats for most problems.

Summary

This chapter synthesized the findings of the various data patterns into a number of data themes. The most significant finding identified the importance of the hidden learning within holistic professional military development contributing to both *learning the profession* and *enhancing cognitive agility*—the two key aspects of professional wisdom. A further important finding was confirmation of holistic learning's complexity. Interwoven with this were the degree of individual differences and the importance of learner empowerment.

Themes also emerged from this study's findings that during the course, students become fixated on short-term expertise learning for its exchange value but subsequently realized the course's real value is holistic understanding, functional knowledge, and practical value. This study also found many of the institute's cultural artefacts paradoxically encouraged exchange value over practical value by stovepiping the topics into expertise modules, disproportionately weighting the timetable and deliverables, and providing insufficient incentives for the innovative holistic learning activities.

Although this study has already been valuable for awareness-raising, extrapolating the findings into areas for development will yield even greater benefits. Table 10

therefore, summarizes the key findings and identifies potential recommendations for each of the holistic learning dimensions listed.

1	<p>Holistic learning is highly complex (has interdependent relationships). The timetable structure and reductionist assessment systems reinforced a siloed approach to teaching expertise rather than a holistic emphasis on learning the profession. There was no overarching plan or philosophy for the course.</p> <p><i>Develop an Academic Philosophy</i> <i>Develop an Assessment Philosophy</i> <i>Develop a Holistic Learning Matrix</i></p>
2	<p>There was no deliberate plan to encourage cognitive agility development.</p> <p><i>Develop a Holistic Learning Matrix</i> <i>Encourage Deep Learning</i></p>
3	<p>Holistic learning (including cognitive agility) relies on a significant amount of hidden learning—the most powerful of which appears to be non-formal and informal. These sources both involve learners having control over the learning process. Related with this finding was the importance of learner diversity in holistic learning experiences and needs.</p> <p><i>Empower Learners</i> <i>Embrace Student Diversity</i></p>
4	<p>Workload intensity inhibits deep learning and cognitive agility.</p> <p><i>Increase Time for Deep Learning</i></p>
5	<p>Student stress inhibits deep learning and cognitive agility.</p> <p><i>Manage Student Stress</i></p>
6	<p>Assessment system influences learning motivation and focus.</p> <p><i>Develop an Assessment Philosophy</i> <i>Focus Assessment on Learning Outcomes</i></p>
7	<p>Staff influence holistic professional military development.</p> <p><i>Improve Academic Staff Competency</i></p>

Table 10 Summary of Data Themes and Associated Recommendations

Highlighting PMD's complexity, several of the recommendations (Table 10) address multiple findings. The next chapter therefore, simplifies these into a linear list of 10 discrete recommendations divided into the two broad headings of *Promote Holistic Learning* and *Increase Cognitive Agility*. A third heading of *Increase Holistic Awareness of the Profession* interweaves many of the above recommendations to capture the remaining component of professional wisdom development.

Chapter 8 Conclusion

While formal learning is well established as a vehicle for delivering content, this study identified hidden learning as a significant influence on holistic professional military development. Through the various out-of-class learning sources, staff course students during this observation, received a broad understanding of their profession and were cognitively stretched into new ways of thinking—a finding consistent with other similar studies (K McKinney, et al., 2004). While this macro result is interesting, understanding the dimensions (sources, triggers, and influences) is necessary for improving holistic learning's contribution to professional military development. This chapter therefore, synthesises the study's key findings and presents them as a series of recommendations. Although drawn from observations on the New Zealand staff course, many of these findings will resonate with other adult learning environments.

This final chapter builds on the themes identified in Chapter 7 by expanding the preliminary recommendations shown in (Table 10, p. 212). It begins by recommending a strategic plan to weave *cognitive agility* and *holistic understanding of the profession* with existing content-centric syllabi. Inherent in this suggestion is the call for greater stewarding of staff college cultures. The chapter concludes with an acknowledgement of practical limitations in creating a fully holistic professional military development system.

Promote Holistic Learning

The course syllabus, and unwritten aspects of the college culture, included a number of activities which promoted holistic learning. Even those articulated formally, however, did not provide auditable linkages to specific outcomes. Therefore, the development of cognitive agility and professional wisdom on the New Zealand Staff Course was at best *ad hoc*, and at worst, left to providence. The wide variation in delivery methods (without any documented justification) reinforces the absence of any deliberate philosophy or system (Table 3, p. 108). While there are good reasons for not being excessively prescriptive, a strategic plan is considered necessary for linking and supporting holistic learning dimensions.

Develop an Academic Philosophy

At the time of writing, the New Zealand College still did not have an academic philosophy. Apart from a few unrelated discussion papers circulated for staff development, there was no written direction of the underlying principles defining the College's mission. An academic philosophy should outline not only the larger intent of constructivism but also more specific guidance on promoting peer-learning, embracing student diversity, higher cognitive thinking, and the contribution of assessment on learning. In short, holistic learning must embrace Biggs' concept of *constructive alignment* where the institute ensures all activities contribute toward the actual learning outcomes sought and learners are allowed to construct their own understanding (Biggs, 2003). In a touch of irony, growing strategic artists has traditionally been treated solely as an art; yet now requires some degree of underlying planning.

Develop an Assessment Philosophy

Based on the identified challenges of exchange and practical value motivations counter-productively promoting surface learning of expertise (Seldin & Epstein, 2003, p. 53), there is an identified need to focus assessments through a holistic philosophy. Academic philosophies must include an integrated assessment philosophy. 'It makes little sense, for example, to produce separate learning and teaching, and assessment strategies' (Ottewill, et al., 2005, p. 95). In fact, the two concepts are so intertwined, they should be considered as one. A single doctrinal publication should weave together all aspects of how a college aims to support students in maximizing their learning in all the desired areas.

The staff college needs to encourage learning of the profession, as much, if not more, than learning to be an expert. Because study time is zero-sum, students learn to balance the exchange value of learning to be an expert with the practical value of learning the profession (L. Russell, 2005). Yet, given the observed reporting system is orientated toward measuring expertise, there appears little incentive for students to spend additional time learning the profession. Furthermore, the assessments of expertise frequently rewarded, or tolerated, surface learning. Assessment rubrics

therefore, need to be clearly designed to encourage both deep and holistic learning (Biggs, 1999; Hales, 2005; L. Russell, 2005). A simple, yet apparently not obvious, solution is to make these two development areas stated learning outcomes.

Assessment continues to be a useful motivator (Radloff, 1996). It not only focuses strategic learning (Brown & Glasner, 1999) but provides formative feedback for continuous improvement. Rather than removing assessment, as is the case in many war college level courses, assessment needs to be employed effectively. Assessment needs to measure the skills sought, not just the ones easy to mark (Anderson, 2002).

Given the dilemma between process and product, innovative assessment regimes may need to be crafted to ensure the process of completing the deliverable encourages student exposure to the skills needing development. In particular, short-cut surface learning options should be denied; recognition needs to be given to deep learning processes and achievement (Case & Marshall, 2004).

Assessment must not compromise good learning opportunities. The NZDF College's abolition of syndicate discussion assessments is a good example of when constructivist non-formal learning was protected against 'hoop-jumping'. Other studies reinforce the importance of ring-fencing non-formal and informal learning from assessment. For example, Reese's (2007) respondents opposed academic credit being awarded for participation and overwhelmingly supported informal learning remaining informal.

Overall, strategic assessment must also encourage desired behaviour. Not only should each deliverable promote cognitive agility, but so too should the overall course reporting system. The final end-of-course report, which retains an essential exchange value for some students, must focus on the intangible goals of the course. High apparent achievement in expertise alone, should not be celebrated if it is at the expense of other important characteristics such as heresy, innovation, personal stretch, and contribution to peer learning. Recording final grades of deliverables may well be counterproductive in developing and recognising the longer term attributes of highly effective officers.

Develop a Holistic Learning Matrix

The staff course experience is a large and complex phenomenon requiring big picture stewardship. Individual staff who are too immersed in their own (siloed) module development risk losing sight of cross-topic themes. Functional knowledge development—such as cognitive capacities—must transcend modules in a cohesive and deliberate way. This study found only two planning meetings were held for the entire course and there was no documented strategic vision of how the skill development was being managed. Because of the scale and complexity of holistic skill development, its management is difficult to present in a written format.⁴³ While a conceptual overview should be articulated within the academic philosophy, the actual management requires a visual graphic.

Stewarding holistic learning requires a relational matrix to monitor linkages between syllabus objectives (learning expertise) and intangible curriculum outcomes through the multitude of learning activities (Martinez, 2008). This electronic tool should be visually intuitive, scalable, and easily accessible. End-users should be able to either drill down into micro level detail or pan back to monitor holistic balance (M. V. Simons, 2008b, 2008c).

A possible structure for a staff course's holistic learning matrix is shown in Figure 48. This hypothetical layout includes the proposed new module of *Professional Studies*. This additional module is not intended to introduce new material *per se*, instead it would consolidate and deepen cross-referenced understanding of existing material. This new dimension would target holistic learning of the profession and cognitive agility. The matrix shown also emphasizes the adoption of a PMD Framework to develop various intangible skill areas. The professional development system shown was developed by the Canadian Forces (R. W. Walker, 2006) and places significant emphasis on intangible skills such as cognitive capacities and professional ideology. These fundamental areas are considered essential for military personnel, yet are consistently neglected in course documentation.

⁴³ The Australian Command and Staff College attempted this in 2006 and found the document to be so large and unwieldy, no one read it.

Professional Expertise	Cognitive Capacities		Social Capacities				Change Capacities				Professional Ideology				
Professional Studies															
Formal	▲	○							▲	▲			▲	▲	▲
Discussions	▲		○								○		○	○	○
Visits		▲											▲	▲	
Deliverables	▲														○
Other		○											○		
Formal Learning															
1.1 Profession of Arms															
1.1.1 Define Profession															
Formal		○					25	4	2	3	2	5	1	2	1
Discussions							4	1	1	-	-	1	-	2	-
Visits							8	2	-	3	-	2	1	-	-
Deliverables							17	1	1	-	2	2	-	-	-
1.1.2 Contrast Professions															
Formal		○					23	2	-	1	3	-	1	2	1
Discussions							23	2	-	1	3	-	1	2	1
Visits							12	1	-	1	5	2	1	1	1
Deliverables							25	3	3	1	5	2	-	3	-
1.1.3 Examine characteristics															
1.1.4 Debate benefits															
1.2 Conflicting Professions															
1.3 Define Professional															
1.4 Design a Framework															
1.5 Peer-Review Alternate Designs															
Formal		○									○			○	○
Discussions	○	○							○	▲					
Visits			○	○							○	○			
Deliverables									○					○	
Operational Studies															
Formal		○	▲								○				○
Discussions			▲	○	▲	▲			○		○		○	○	○
Visits	○		○	○					▲	○				○	○
Exercises		○												○	
Deliverables				○										○	○
Command Studies															
Formal		○									▲	▲		○	○
Discussions	○		○						▲	○	○	▲	○	▲	▲
Visits		○		○					○		○			○	○
Deliverables	○			▲	○	○			▲					○	

The various symbols shown are indicative only. They would represent a 'traffic light' system to show completed, partially completed, and incomplete areas. This would allow users to see at a glance when certain areas are under or over targeted.

Figure 48 Holistic Learning Matrix

The PMD Matrix (Figure 48) includes vertical columns of the five key areas of learning. The first (Professional Expertise) captures the various behavioural objectives detailed in a normal content-centric syllabi. The remaining vertical columns refer to the various intangible learning areas. Each column is divided vertically by module and learning

sources (formal, non-formal, and informal). When expanded (as per the insert), detailed breakdown of hours or quality are shown. These are summarized into a traffic-light system (or symbol coding, as shown) when reduced to macro-level headings. Using either colour-coding, or symbols, users can see holistically and at a glance, where under- or over-training occurs. Key to this system however, is the flexibility to accommodate learner diversity.

Increase Cognitive Agility

...strategic art is more something we do than something we know
(Chilcoat, 1995, p. 18).

The holistic learning initiatives (see p. 25) were resisted by some participants (p. 154). From the literature, it appears these problems are not unique to the military but some are perhaps more pronounced. The military is a male dominated organisation that prides itself on physical prowess and has a history of anti-intellectualism (Farrington, 2007). Reflection sessions and journal writing are not considered masculine (Moon, 1999) and they represent a paradigm shift from their familiar instructivist comfort zone—in other words, they distract from ‘playing the game’ and/or ‘learning to be an expert’ (Boud, 2001; Fenwick, 2001). Furthermore, military students are a product of a bureaucratic system that values predictability and standardization. Most do not like abstract ambiguity.

Yet, high-performing professions thrive within this kind of ambiguity because it allows for creativity and adaptation. Faculty members in the system of professional military education charged with collecting and passing abstract knowledge of the profession welcome such ambiguity as an opportunity for creativity and flexibility (Reed, et al., 2004, p. 53).

From the findings, growing more effective strategic artists requires cultural changes in the learning environment. While military officers are recruited for their high cognitive capabilities, this trait is largely suppressed during their first decade or more and needs re-igniting. The conventional feel of the training environment reported during this study did little to convince the participants that innovation and creativity are in fact valued. Although the declarative knowledge syllabus is probably targeting the key content topics, the encouragement, or even acceptance, of innovation and creativity was not prevalent. This cultural disconnect will require some significant artefact

changes and a concerted effort to reverse the entrenched legacy paradigm of military instructivism.

This challenge is increasingly identified in military colleges around the world. In a recent US Navy report on improving professional military development, the authors quite explicitly state ‘... the point of the education is not to impart information but to enhance mental capabilities, including critical thinking (Rodney, Fox, Kleinman, Moskowitz, & Lauer, 2008, p. 32). Further reinforcing this point, they cite the University of Chicago’s academic philosophy that reflects a similar emphasis:

The objective of our [courses] is not to transfer information, but to raise fundamental questions and to encourage those habits of mind and those critical, analytical, and writing skills that are most urgent to well-informed members of civil society (University of Chicago web site, cited in Rodney, et al., 2008, p. 32).

Strategic artistry requires a holistic understanding of the Profession of Arms. This partially emerges from the siloed expertise modules but the students need help in linking these parts together. Greater use of journaling, reflection and mentoring will help reduce academic tourism, but so too will increased applied cognitive skills. The only development in this area, on the New Zealand course at least, is *ad hoc* and relies on heuristic self-development. There is no co-ordinated effort to weave complex decision-making skills into the various deliverables—let alone progressive development of them throughout the course.

Course curricula need to involve higher order thinking skills. Concepts such as *systemic operations design* (SOD), *recognition primed decision making* (RPDM), and other similar skills must be included in the program under the Cognitive Capacities element of the Professional Development Framework (R. W. Walker, 2006). These concepts need to be integrated with activities where the students continue to employ and refine their abilities in the area. There is also scope to encourage greater confidence in their intuitive decision making skills as strategic artists. Building on Clausewitz’s *coup d’oeil* (the glance of an eye) and the notion of operational art, greater attention must be given to metacognitive theories such as *intelligent memory* (B. Gordon & Berger, 2003) and related research on *event related potentials* (ERP).

Based on the work of Kurtz and Snowden (2003), there are a number of techniques available for increasing student's depth of thinking. From their Cynefin framework, it is possible to comprehend the differences between *known*, *knowable*, *complex*, and *chaos* quadrants. More importantly, there are several techniques for deliberately moving the students between the different categories (boundary crossing) to help develop thinking skills. While staff courses should aim to increase graduate's comfort in complexity, no strategies for complex problem solving (moving out of chaos and complex into the knowable and known) were observed during this study. Other opportunities for deliberately exploiting complexity and chaos to nurture innovative solution development were similarly absent.

Boundary pushing spiritual intelligence will be reignited by promoting heresy. To do this, the students need to feel safe. No one will open up and challenge conventional wisdom if they are afraid of negative consequences (Edmondson, 2008); especially when they have been conditioned for so many years to conform. Some suggested activities for increasing alternative thinking include dialectic debates—especially where the students are deliberately made to argue against their own beliefs (playing the Devil's advocate and polemic arguing)—the employment of Edward de Bono's thinking hats (de Bono, 1970) and coloured questions (Rhodes & Thame, 1988). Other techniques for 'promoting a spirit of enquiry' include managing the surround (Pacanowsky, 1995), or sociologically creating a safe atmosphere, free of context-sensitive learning. The ability to 'frame a problem' is also fundamental in solving complex and wicked problems (Hutcheson, 2009; Schön, 1995).

Reframing problems is another important skill all staff course graduates should have (T. Clark & Blew, 2008). The ability to view problems through alternative lenses increases the chances of gaining a holistic—and therefore more complete—understanding of a problems. This in turn allows for more innovative and successful solutions, which are essential for solving complex and wicked problems. A fundamental outcome of staff courses is (or should be) to first develop awareness of, and then avoidance of, ethnocentrism, group-think, and legacy problem solving techniques. Paradigmatic shifts will only occur through visionary leadership that has been inspired by a full understanding of the big picture, an ability to recognise solutions, and a confident personality with presence.

Succeeding in the Profession of Arms' higher echelons requires more than just visionary leadership and command presence. Another important aspect is knowing when to stop or when to wait. In colloquial parlance, the playing the academic game is known as 'not fighting the white', while playing the professional game is referred to as 'keeping your powder dry' and both capture the essence of knowing one's limits. This appears to be counter to the notions of spiritual intelligence and heresy but is perhaps a simple piece of pragmatism. Perhaps a concept weaving the two extremes together is wisdom.

Acquiring wisdom is an important outcome of professional military development. Defined as the combination of common sense, intuition, practical experience and education in theoretical knowledge, wisdom is enhanced through the four foci of learning. While learning to be an expert, and learning the profession have been explored already, the area of learning the game is also important. Staff course students should constantly experiment with boundaries to learn which ones are sacrosanct, and which ones are not. The challenge for staff colleges is to minimise immutable boundaries and encourage the students to play with, not just within, as many of the remaining as possible.

Encourage Deep Learning

This study revealed a lack of deep learning on the case-study course. Despite the New Zealand College advocating and verbally encouraging multi-structural learning, most students reported remaining around the uni-structural level. From the literature, there are a number of initiatives available to promote deeper learning (see p. 50). These include increased metacognitive awareness and regular reference through the course to the aspirational goals. Coupled with the constant references to deep learning is the deliberate structuring of deliverables to only reward multi-structural analysis and encourage extended abstract syntheses (Entwistle, et al., 2000). Other activities suggested include formatively peer-assessed syndicate discussions and hypotheticals requiring deeper reflection and greater use of elantic dialogue through Socratic questioning.

Deep learning and *learning the profession* are different. This study investigated both dimensions as outcomes of hidden learning and discovered examples of each which did not overlap. Classic examples included the frequent telling of 'war stories' in social settings. There were a number of identities on the course who were avid storytellers and regaled others with personal accounts of significant events. These were typically military in nature and linked to discussions at hand. They were particularly valuable in helping others 'learn the profession' by exposing them to experiences beyond their own. They also helped link theoretical course material to real life examples in a tangible way that helped with understanding. It also helped solidify the individual's understanding of the material and took their knowledge to the uni-structural level, but it did not necessarily involve deep learning.

Deep learning requires comprehension at the multi-structural level to initiate syntropic knowledge creation (Fantappié, 1993) at the extended abstract level. Straight recalling of anecdotes, may help link two pieces of knowledge but it needs to be taken further. On occasions however, the storytelling did progress to deeper levels. A key factor was when others in the group challenged the linkage being drawn (because it did not match their interpretation) or built upon the point by extending it further. Two common contributing factors for deeper thinking were identified during the study.

Participants typically engaged in deeper hidden learning when they were being polemic. For some, this fitted with their personality and was a recognised characteristic. For others, being argumentative required an appropriate atmosphere. Often this involved alcohol and was later in the evening, while for others (especially international students) it was when an important or sensitive issue was being discussed. While these occurrences of deep learning were fantastic, they were not as frequent as they could be.

Empower Learners

The students must own their learning if a culture of lifelong learning is to be enculturated. Ownership means they will achieve better grades, have greater satisfaction, and remain more committed to learning (E. Martin, Bowden, & Ramsden,

1989). It is argued however, that greater student empowerment will only come from a positive academic culture in the learning environment; and in the case-study example, this means change.

A significant influence on the course culture is the curriculum. While the formal learning activities are constantly refined, little attention is given to the curriculum shadow. Active learning events (syndicate discussions and deliverables especially) need to be deliberately structured to encourage both deep learning and learning of the profession. Activities that reinforce surface learning, or even tolerate it, need to be removed. These tangible artefacts are perhaps the easiest to fix, the other more subtle cultural aspects come from intangible aspects such as the comments and behaviours of staff.

More reflection sessions should be used to promote sharing of learning. The sessions should also use smaller groups—although the composition should change regularly—and they should be student-led. Greater peer learning should be encouraged by empowering, not dis-empowering, the students as contributors. Time should also be allocated for personal reflection time during the day or if appropriate, time could be allocated in the evenings but with a commensurate off-set for free time during the day. Consideration could also be given to peer-reviewing or sharing of essays throughout the course.

Embrace Learner Diversity

This study's findings highlight diversity in the student body. This applies not only to the different entry and exit levels but also individual learning style preferences and attitudes. Other studies show this finding replicates on larger courses (Heydenrych, 1993; M. V. Simons, 2003a) which dispels misconceptions that self-selection and polarizing experiences lead to stereotypical military students. Despite the variation in student's ability and preferences, the New Zealand Staff Course largely remains a one-size-fits-no one approach.

Even within the compulsory component of the course, there needs to be greater effort for accommodate student diversity. Conformity is a killer of innovation

(Poindexter, 2003). Forcing students through (even *perceived*) predefined hoops, not only inhibits holistic understanding of the profession, it also reinforces the culture of follow-on thinking. Encouraging students to internalise expanded cognitive agility requires a genuine culture of constructivism (Driscoll, 1994).

The art of holistic education lies in its responsiveness to the diverse learning styles and needs of evolving human beings (R. Miller, 2000).

Increase Time for Deep Learning

A frequently reported detractor of deep learning is a lack of time. This message came through not only from the results of this study but is reinforced in the literature (Case & Gunstone, 2002; Gunstone & Mitchell, 1998; Karjalainen, et al., 2006). This time compression is a relationship between the course length and deliverables. It also relates to the allocation of formal, non-formal and informal learning time. Because university regulations stipulate minimum word counts for academic standing, the College in this study progressively reduced its own deliverables. This contributed to hidden messages regarding exchange and practical value of the two qualifications (psc and PGDipArts).

Manage Student Stress

Stress was frequently blamed for undermining student innovation. While this study found much of the stress was self-induced, there were controllable aspects. Colleges wanting to reduce student stress need to help students remove non-course distracters by offering greater support to families through accommodation and travel arrangements. They can also reduce student stress by offering more stress management education and emotional scaffolding (counseling, welfare staff, etc).

Because some students actually perform better under stress, an ability to control their own heightened level of performance is also useful. This could include scope for low-stress time when innovation is required, yet controlled intensity around deliverable deadlines. Students could also have greater control over how and when they worked to improve their range of skills. Coping with externally imposed pressure however, is

an essential skill and not to be completely neglected—just consciously balanced against innovative thinking.

Only by going too far, can individuals learn how far they can go. Learning to manage own stress is a characteristic of successful strategic artists. Furthermore, graduates need to be able to perform under pressure. Menard (1993) found incidental learning increased with work pressure while informal learning was related to control. This hidden learning trigger appears to be influenced the most by assessment.

Focus Assessment on Learning Outcomes

Staff course students, like many others, are motivated by both the *exchange value* of the qualification and the *practical value* of the learning (Bergenhengouwen, 1987). While both have merit and are sometimes complementary, they can also be mutually exclusive. A significant motivation for many staff course students appears to be the exchange value of either a good end of course report or university qualification. This then becomes a driver for their behaviour on course. To be fair, there was also evidence of students seeking practical value in their own professional development.

Despite both the psc and PGDipArts being binary (pass/fail) qualifications⁴⁴ in this study, students often strove for higher grades. Participants reported spending more time on university deliverables because the psc was considered an automatic award whereas they did not know how much effort was required to 'cross the line' at university. Returned first assignments were always anxiously awaited from new lecturers as students recalibrated their academic game to ensure the second deliverable was adequate. As the course drew to its end, many participants calculated their ability to gain a distinguished pass and 'timed their run' as to the effort put into remaining assignments.

⁴⁴ The PGDipArts has a Pass with Distinction level awarded to students with a sufficiently high grade point average (equating to about an A average), however participants typically only focus on this in the final few deliverables if they realise they might have a chance of obtaining one.

Some participants were both personally driven and conditioned through meritocratic promotion systems, to strive for excellence. This means exchange value remains a useful tool for many and should be exploited by institutes who have such students. Combined with this though, any institute wanting to promote holistic professional development and life-long value, should review the way grades are awarded. In particular, assessment rubrics need to encourage deep, not surface, learning.

While the exchange value of the PGDipArts was generally regarded above the exchange value of the psc qualification, some participants were anxious for a good end of course report. This seemed to be more of an issue for those attending the course to specifically improve previously identified weaknesses. For others, it was still seen as an important influence on career opportunities. As a result, staff opinions and assessment grades of siloed expertise were a significant influence on student performance. This study found many participants 'played it safe' with both deliverables and conduct during the course in order to receive a favourable report. This reduced innovation and experimentation in risky areas.

The motivational value of end of course reports needs to be constructively exploited. Unlike during this case-study, where the reports were downplayed in importance (to dilute negative hoop-jumping behaviour), perhaps they should be used more overtly. To discourage the hoop jumping though, reports should be clearly focused on assessing the desired characteristics, not just surfaced learnt achievement grades. This macro refocus should be in concert with a revised assessment criteria of individual assessments to avoid counter-productive rewarded systems. It also requires assessor credibility.

Improve Academic Staff Competency

The Teaching and Directing Staff (DS) proved to be an influence on holistic learning. Not only were they the face of the college's cultural artefacts, but they were instrumental in the assessment system—a dimension that has already been shown to be a significant influence.

While the 2008 DS were often criticised for their performance by the participants, they themselves are not entirely to blame. New Zealand DS are typically placed in an unenviable situation by the organisation with insufficient preparation and no post-staff course experience—unlike the DS at most larger colleges. To make matters worse, staff courses are tough audiences. As was found during the AST, Australian students also vented their frustrations on assessors. On both sides of the Tasman, civilian university staff are criticized just as much as uniformed DS.

The relationship between good teaching and deep learning is well known in wider academic settings (Lizzio, et al., 2002). Similarly, a study at the US Command and General Staff College found an inverse relationship between acceptance of adult learning motivation principles (Knowles, 1986) and both age and time on faculty (Risner, 2001). This suggests older generation staff are less embracing of constructivist learning approaches. In the UK, there was even a Royal Commission into the standard of DS at the Army Staff College (Goodwin-Austin, 1927, pp. 142-155). Universal or not, staff credibility, remains an important issue and demands attention.

Both the Canadian and UK Colleges have an extensive civilian academic faculty to complement the military staff. This system is good for developing deeper cognitive skills and promoting a holistic understanding of the profession from the civilian-academic perspective. The civilian staff, however, are not expected to address the military dimension of the profession.

Increase Holistic Awareness of the Profession

Learning the profession requires a comprehensive understanding of the entire Profession of Arms (Figure 9, p. 41). To increase this awareness, staff colleges need to maximize their various cultural levers and educational artefacts through a deliberate and structured system. Instead of being merely add-on discretionary activities that are frequently cancelled at short notice, these should be treated as fundamental to the real purpose of a staff course. While the declarative knowledge syllabus objectives may appear to provide tangible boxes to tick, the real value of the course comes from conceptual understanding of the whole picture.

There are various activities staff colleges can introduce to promote 'learning the profession'. The Canadian Forces, for example, make extensive use of retired senior officers to act as mentors. This system occurs at all levels of PME and has a number of dimensions (Knackstedt, 2008). Similarly, the British College at Shrivenham offers optional after-dinner lectures by visiting presenters. Unlike the 'brown bag' equivalents at the Singaporean and Canadian Staff Colleges, the British ones include non-formal learning pre-drinks and a buffet dinner afterwards. The British also offer 'fire side' chat sessions with notable visitors which involve short presentations in the bar at night. Collectively, these various activities reinforce the value of regular colloquia sessions to promote cross-subject learning of the profession.

Reality Check

The dilemmas of holistic learning

This study identified a number of conflicting dimensions in holistic learning. Student diversity means not everyone flourishes under the same conditions. Although the recommended solution is to offer flexibility and options for individualised study, this may in itself be counterproductive for some students.

Manipulating student stress levels by removing extrinsic motivators (such as summative assessments) may not improve holistic learning. Although this study recommends reducing student stress, it is clear that many students actually thrive under pressure. Similarly, many students also require the challenge of normative ranking competition. There is a valid argument for keeping competitive assessments. Likewise, those who self-induce stress perhaps should be allowed to continue at their own comfort level, and indeed learning to operate under higher levels of pressure is a desirable skill for graduates. The dilemma is when either the competition or stress inhibits innovation and deep thinking.

Awareness raising of holistic learning is often touted as a desirable goal, however it might in fact create negative outcomes. In the same way Ramsden, Beswick, and Bowden (1986) found metacognitive lessons led to an increase in playing the academic game, increased awareness in holistic learning could result in both staff and

students exploiting loopholes. Norton and Crowley (1995) raise similar concerns regarding the lack of depth in learning approaches.

Because holistic learning is a complex adaptive system, attempting to control it may result in a less favourable environment. Likened to squeezing a half inflated balloon, unanticipated secondary or tertiary negative effects may go unnoticed. As Martin reinforces, ‘...if we are not careful, the changes we make can generate the very learning states we are trying to banish, or for that matter, ones even more unsavory’ (1976, p. 141).

Too much self-awareness may not be good. Questions need to be asked about how far staff courses should go in changing personalities (Marton, et al., 1993). Questions also need to be asked about how heretical graduates should be. If these people leave staff colleges too innovative and too self-aware then it is conceivable they will not be accepted back in to the conservative world of military thinking.

Changing end of course reports to encourage innovative stretch learning may also be detrimental. The exchange value of those reports is valid to an extent in that future employers will want to know attainment levels in expertise. After all, the push for learning the profession should not be at the expense of learning to be an expert. Indeed the latter is a pre-requisite to the greater goal and both are important.

Study Limitations

Holistic Professional Military Development remains an abstract and ineffable phenomenon with unavoidable limitations in both its study and articulation. Two obvious influences on data accuracy were *Backyard Research* and the *Hawthorn Effect* (pp. 94–97). Both of these were apparent during the collection phase and were mitigated against wherever possible (through the use of volunteer moles and member checking); yet they remain noteworthy for contextualizing the findings. Furthermore, the unique nature of holistic learning means no single study will ever produce transferable findings, larger and more sustained studies will help refine themes. Future studies should increase the sample size by extending the study over multiple

cohorts. This might not help improve either the reliability or validity of some findings, it would indentify thematic dimensions.

Further limitations of the study were the inability to accurately measure all dimensions. This included the inability to measure unconscious tacit learning, the inability to observe all activities for all participants, and the accuracy of the instruments employed. One of the more obvious flaws was the use of questionnaires. Following the analyses it was apparent that some questions were not worded clearly and others did not adequately isolate the specific dimension being studied. Future studies should address these various limitations to increase the accuracy of the findings.

Further Research

This study identified a number of areas for future research. While the key learning sources were identified during the course, other studies may find differences—both categories and rankings. Course composition is also likely to have a significant effect on the group dynamics and the impact of social learning. Other key areas to study include actual time spent on journal writing as a variable to learning and in terms of monitoring the work-life balance.

One other major area requiring further research is the depth of learning achieved. While self-reported tacit learning is difficult to measure, one approach might be to invite participants to rank the perceived learning of their classmates using a ‘narrative as a complex adaptive systems’ approach (Snowden, 2005). Another possibility could be comparing the questioning depth and frequency between the start and end of course as an indicator of deeper thinking. The overlap in findings from this study and future similar ones would go a long way toward identifying the core of holistic learning.

Coup d'Grâce

This study investigated the intangible phenomenon of holistic learning during a single case-study example of a staff course at the New Zealand Defence College. Having explored related thinking in the area of professional military development and hidden learning, two main frameworks (learning foci and learning sources) were selected to guide the sociological investigation. Overlaid with these frameworks was a diverse selection of mixed methodology data collection and analysis techniques. Although the complexity of holistic learning means a complete understanding will never be achieved, the findings of this study make an important contribution to an otherwise neglected concept.

The results provide evidence of holistic learning and its contribution toward the acquisition of 'learning the profession' and increasing cognitive agility. Although this phenomenon and its influence was found, the study also identified a number of opportunities to develop further. One of the most significant findings was the participant's focus on the exchange value of the deliverables while on course, yet as graduates back in the workplace, appreciated the practical and holistic value of the entire experience.

The deliberate use of short-term goals to achieve greater academic success is typically referred to as strategic learning. However, the concept normally implies a deliberate plan and no such overarching strategy was found here. This disconnect between on-course learning motivation (encouraged and displayed) and ultimate goal (student and organisation) highlights the need for change. The first, and most obvious, recommendation is to develop a strategic plan. This document must begin with an academic philosophy to articulate key artefacts known to promote both the *how* and *what* of holistic learning. These will include learning sources, motivation systems, learner diversity, staff expertise, cognitive agility and the profession of arms. By acknowledging these aspects, they can be both protected and enhanced. After all, growing strategic artists is far too important for leaving to chance.

Appendix 1 Glossary

Academic Tourism	The brief exposure to knowledge and perspectives through a series of <i>ad hoc</i> lectures. Implies an absence of deep topic exploration.
Acculturation	The blending of two or more cultures to create a new one.
ACSC	Australian Command and Staff College.
Andragogy	Adult learning; From the work of Malcolm Knowles.
Assimilation	The acceptance of new members into a dominant culture.
Constructivism	The process of learner-centric education where knowledge is constructed by the student, not the teacher. It links previous knowledge and experiences with new information to enhance understanding. Skilled leaders guide the process with carefully crafted questions or suggestions. The value of this process is more meaningful understanding through personalised learning and increased problem-solving abilities. This in turn leads to self-teaching and knowledge creation.
CSC	Command and Staff College, a sub-unit of the Defence College.
Culture	The collective and consistent behaviours and belief systems of a group.
Curriculum	A collective document capturing both the syllabus and additional aspects of a course delivery (footnote. 20, p. 60).
Education	The acquisition of generalised knowledge and concepts applicable to new and unique situations. Allows for knowledge creation (see training).
Elenchus dialogues	The Socratic method of using questions to encourage learners to solve problems and teach themselves. It enhances cognitive skills for subsequent self-teaching, problem solving, and decision making.
Emic	The perspective of a phenomenon as viewed by an insider of the group (participant). See also, etic.
Enculturation	The process of acculturation. More subtle and natural than inculcation.
Entropy	The loss of energy by a system over time.

Ethnography	the study of cultural groups to articulate, describe and interpret the artefacts and dynamics from the perspective of the participants.
Ethnomethodology	The study of the methods used by individuals to survive and thrive in their cultural group.
Etic	The perspective of a phenomenon from an external observer (see also, emic).
Exchange Value	The perceived value of a qualification; relates to the motivation for completing it (see also Practical Value and p. 42).
Heuristic	Self-taught acquisition of knowledge or culture through trial and error.
Hidden curriculum	The additional teaching by an institute or individual beyond the planned objectives detailed in a syllabus (p. 64).
Hidden learning	A learner-centric interpretation of the hidden curriculum, but includes additional learning beyond the institute of teacher (ie can include peer or incidental learning). See Figure 14, p. 57 and p. 59.
Holistic	Complete acquisition or whole approach; nothing excluded.
Holistic Learning	The combination of formal and hidden learning.
Holistic PMD	The combination of formal and hidden learning in PMD.
Inculcation	The deliberate, and often forcible, changing of behaviours and belief systems to a new culture.
Indexicality	From ethnomethodology (p. 84)
Indoctrination	The teaching or inculcation of a prescribed doctrine.
Instructivism	An approach to education more aligned to training methodologies, where the institute determines what is learned, when it is learned, and if it has been learned (see constructivism).
JOPC	Joint Operations Planning Course
Kaumatua	A Maori elder; The name of the first personal command philosophy assignment on the Staff Course.
NZDC	New Zealand Defence College. The umbrella organisation that includes the Command and Staff College as a sub-unit.
NZDF	New Zealand Defence Force.

PMD	Professional Military Development; includes PME, training, work experience, and mentoring type development (p. 4).
PME	Professional Military Education (p. 4).
Positivism	The belief that all true knowledge is scientific and can (or will one day) be proven.
Post-positivism	An acceptance that not all true knowledge can or will be proven scientifically.
Practical value	The value of a course in terms of its actual benefit in improving workplace performance (see also exchange value p. 42).
Rangitira	A Maori chief; The name of the second personal command philosophy assignment on the Staff Course.
Socialisation	The process of learning social behaviours through exposure.
Strategic learning	The deliberate use of specified goals (deadlines, qualifications, grades, etc) to help focus learning (p. 34).
Surface learning	The use of minimalist level academic techniques to meet required assessment standards. Often results in rapid cognitive fade and fails to achieve deeper comprehension (p. 44).
Syllabus	Prescribed learning objectives for formal courses. Often a subset of a curriculum (footnote. 20, p. 60).
Syntropy	The creation of greater energy than the sum of the parts (p. 49).
Tacit	Knowledge and/or skills that an individual possesses but are unaware of (p. 59).
Training	The acquisition and repetition of specific knowledge or skills to set standards. Suitable for predictable response behavior in known settings.
Watchtower	The name of the two-week operational planning exercise conducted at the Australian Command and Staff College in Canberra.
Wisdom	The combination of knowledge, experience, intuition, and common sense (p. 15).

Appendix 2 Related and alternate labels for hidden learning

accidental (Straka, 2004)
action learning (Revans, 1979, 1982)
action science (Argyris & Schön, 1978)
co-curricula (D. J. Wren, 1999)
collaborative (Ney, 1991)
collateral (Czajkowski & King, 1975; Dewey, 1933)
communities of practice (Wenger, 1999)
compositional learning (Reischmann, 2004)
corridor (Hemmings, 2003)
covert (Lakowski, 1988)
critical reflection (Mezirow, 1990; Moon, 1999)
deliberative learning (Eraut, 2000a)
en passant (Reischmann, 1986)
experiential learning (Andresen, Boud, & Cohen, 1995; Boud, 1993)
hidden curriculum (P. Jackson, 1968)
heuristic (Padilla, 1991)
hot curriculum (Assor & Gordon, 1987)
implicit (Astin, 1988; Eraut, 2000a; D. F. Walker, 1990; D. J. Wren, 1999)
incidental, informal, and non-formal, (P. H. Coombs, Ahmed, & Israel, 1974; Jarvis, 1987; Marsick & Watkins, 2001; Mocker & Spear, 1982)
innovative (Zepke, 1999)
latent (Overly, 1970)
on-the-spot learning (Eraut, 2000a)
out-of-class (Anderson, 2001; Kuh, 1995; Pearson, 2004)
other curriculum (Kuh, 1995)
parallel curriculum (Tomlinson, et al., 2002, 2006)
peer learning (Boud, Cohen, & Sampson, 1999)
reactive, (Eraut, 2000a)
reflection in action (Schön, 1995)
self-access (Kuropatnicki, 2005)
self-directed (Lovett 1876 cited in Candy, 1997; Colley, et al., 2003; Knowles, 1980)
self-planned (Tough, 1989)
self-teaching (Tough, 1967)
serendipitous learning (Schrum & Lamb, 1996)
situated cognition (Lave & Wenger, 1991; Scribner, 1986)
situated learning (Lave & Wenger, 1991; Scribner, 1986)
social cognitive theory (Bandura, 1986, 2001)
social modelling (Bandura, 1986, 2001)
tacit (Nonaka & Takeuchi, 1995; Polanyi, 1983)
transformative learning (Mezirow, 1990; Moon, 1999)
unintended learning (Larson, 1995)
unstudied (Overly, 1970)
unwritten (D. J. Wren, 1999)
watercooler learning (Grebow, 2002)

Appendix 3 Questionnaires

OST Questionnaire

1. **Was the OST useful for consolidating the International Relations and Strategic Studies module?** *(circle one)*

Absolutely Not Not Useful OK Useful Very Useful

2. **How useful was the journal in focusing your learning?** *(circle one)*

Absolutely Not Not Useful OK Useful Very Useful

3. **How and when did you write up the analysis bits of your journal?** *(circle one)*

End of the Trip Every few days Every night Continuously

- 4 **Rank the following activities in terms of learning value** *(1 best, 10 worst)*

	Journal writing (alone)
	Morning academic sessions
	Formal briefs
	Organised visits and tours
	Freetime (shopping etc)
	Chatting over meals
	Socialising after dinner (bars etc)
	Q&A after formal briefs
	Talking with others on bus/flights
	Talking with room mate at night

5. **Was the balance between learning (work) and socialising...** *(circle one)*

Very bad Bad No thoughts Good Excellent

6. **Do you have any suggestions on how the OST could be improved to increase its learning value?**

Graduand Questionnaire (includes consolidated results)

The graduand questionnaire was adapted from Ahola's (2000) original questionnaire.

The cell values show the consolidated results from this study.

		%of responses				
		Not at all	A little	Somewhat	Quite a bit	Significantly
	Staff Course helped me ...					
1	To express my thoughts better	4	42	23	12	19
2	How to produce reasonable quality essays with minimal effort	15	15	31	27	12
3	To think and argue scientifically	4	46	35	15	0
4	To tolerate stress and deadline pressure	20	20	24	28	8
5	To consider things from other national perspectives	0	15	12	50	23
6	To comply with university or Staff College regulations	19	12	15	35	19
7	Understand the principles of strategic policy development	0	4	27	50	19
8	Realise the staff course is more about university grades than psc work	12	8	27	12	42
9	To master academic language	12	31	35	15	8
10	Improve my critical thinking skills	4	25	33	29	8
11	Appreciate the value of jointery over any one single Service	8	20	36	16	20
12	Understand higher level CLM theories and skills	23	42	12	15	8
13	To recognise the right readings faster	0	35	31	27	8
14	To be more self-aware	8	4	42	38	8
15	Improve my time management	15	42	23	19	0
16	Learn that grades, not personal development, are important in passing	15	15	27	23	19
17	To take control of my own learning and study	15	15	46	15	8
18	Realise non-warfighters must work harder in order to succeed on the course	56	20	4	8	12
19	To speak convincingly without real knowledge on a subject	19	27	35	4	15
20	Learn how important socialising is to professional development	19	23	27	15	15
21	To learn the tricks of getting better grades for essays and presentations	23	8	38	15	15
22	To participate in a Joint Operations Planning Team	4	31	27	19	19

		%of responses				
		Not at all	A little	Somewhat	Quite a bit	Significantly
	Staff Course helped me ...					
24	Realise staff course is nothing more than collecting scores and points	35	23	12	12	19
25	To challenge conventional wisdom if I think it is wrong	12	15	38	23	12
26	To regard lecturers as experts and not to be argued with (reverse scored)	12	0	12	19	58
27	Realise academic expertise is far from being a real expert	12	4	23	19	42
28	Learn more from my classmates than the lecturers	0	16	48	28	8
29	Learn how to hunt for good scores in deliverables	15	31	35	15	4
30	Learn the theories of international relations	4	15	19	23	38
31	To link material from different topics into a bigger picture	4	15	23	42	15
32	Value broad holistic understanding over excellence in separate subject areas	15	15	27	35	8

Figure 49 Graduand Questionnaire with percentage results

While the wording to the questionnaire stem implied ‘helped’, some respondents reported difficulty in answering some questions due to their previous knowledge. Future administrations of the questionnaire should include an option to indicate ‘already acquired’. Most items however, targeted open ended issues and the questionnaire sought whether they was an improvement.

Although no real analysis can be drawn on the level of overall attainment from the collective results, the data is useful for developing an appreciation of the spread. The averages for each category give an indication of the near-normal distribution of results (Figure 50).

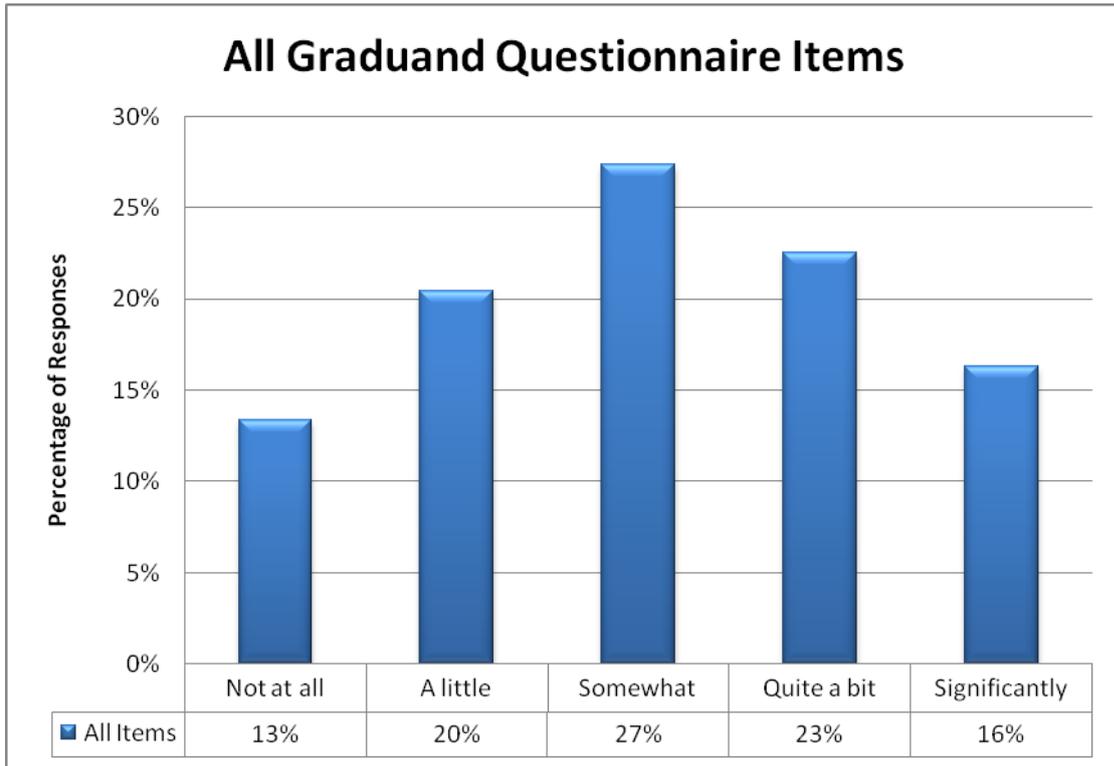


Figure 50 Overall combined averages by category

Appendix 4 Case Study Validation

In order to draw valid conclusions from the case study, it is necessary to identify their similarities with other courses. While this would ideally include comparisons with other colleges, obtaining such data was outside the scope of the ethics approval gained for this study. Figure 51 compares student biographical data from the previous ten New Zealand courses with the 2008 case-study cohort. The case study sample is considered representative in these factors.

Year	Course Size	Age	Years of Service	% NZDF	% Male
1997	20.0	37.7	14.6	70.0	95.0
1998	18.0	38.9	18.8	77.8	100.0
1999	18.0	37.6	16.6	72.2	100.0
2000	19.0	39.7	19.2	57.9	94.7
2001	18.0	38.9	20.0	55.6	94.4
2002	21.0	40.8	18.6	47.6	90.5
2003	21.0	38.9	15.8	61.9	90.5
2004	25.0	38.0	16.7	60.0	84.0
2005	20.0	37.4	16.1	55.0	100.0
2006	27.0	39.5	18.2	63.0	92.6
2007	30.0	39.1	17.6	66.7	86.7
10 year average	22.5	38.8	17.45	62.5	93.5
2006-7 average	28.5	39.3	17.9	64.8	89.6
2008	29.0	39.0	17.7	51.7	86.2

Figure 51 Case Study Comparison with previous courses

The College underwent several significant changes in the past decade. In 1998 it integrated with a New Zealand university to co-deliver the course and include the PGDipArts (Defence Studies) qualification. In 2001, the College became joint (rather than the former Royal New Zealand Air Force Command and Staff College) which also had an impact on the previously disproportional balance of air force students attending. The transfer to a joint college precipitated it relocating in 2004 from the RNZAF Base in Auckland to the Trentham Army Camp in Wellington. While in 2006, the College was directed to increase its course size to its accommodation capacity of 30 students. All of these changes had tacit cultural and social dynamic impacts on the course, although only the course size is obvious in the demographic data.

Official records do not record all dimensions of relevant biographical data. Anecdotal evidence suggest the 2008 cohort was unique for a number of factors that cannot be quantitatively validated. The most significant factor is the claim that the case study was less sociable than previous courses. While there is counter evidence to this claim, and indeed every course is different, there are reasons offered for why this course differs from other years.

The 2008 cohort (Staff Course 49) was different to recent courses for the following four key demographic reasons:

Commuters. It had more locally based students, meaning there were less New Zealanders living in during the week. Most students however, made an effort to live in for at least two or three nights per week. Out of the 29 students, only three commuted most weekends. Nine international students, and one New Zealand student, lived in for the entire course.

Non-drinkers. Anecdotally, SC49 had an apparent higher-than-normal number of non-drinking course members (n=8, 27%), and occasional drinkers (n=10, 35%). The remaining students (n=11, 38%) were noticeably more reserved in their drinking behaviour than previous courses. This arguably had an impact on both the frequency and amount of time spent socialising. No actual data exists from previous courses on alcohol consumption during the course although each year tends to have a few

personalities who are known to be very social in terms of drinking. Due to the absence in quantitative data from 2008 or previous years, the comparison remains subjective.

Warfighters. SC49 was also known for its low number of pure warfighters (aircrew, combat arms, and seaman officers). Due to inaccuracies in historic data, and difficulties in classifying tier one and tier two warfighter branches, quantitative comparisons are not possible. The high number of tier three specialist officers (ie dentists, psychologists, chaplains, lawyers, and educators) was however noticeably higher (n=5, 18%) than in previous years (2007 n=3, 2006 n=2).

Non-NZDF students. As shown in Figure 51, SC49 had a much lower ratio of New Zealand Defence Force to international and Other Government Agencies students (51.7%), compared with the previous ten years (62.5%). This difference is likely to have had an impact of some aspects of the course dynamics. Where possible, comparison data has been collected between the New Zealand and International students. The results were reported where significant differences are found.

Male-Female ratio. While the total number of females appears small (n=4), it is higher than normal. It is apparent that the male-female ratio is much lower than the past 10 years. There could be a correlation with the number of females and the drinking culture and the warfighters (none were warfighters and all four were rated as low alcohol consumers) but there is insufficient data to support this hypothesis. The degree of impact the gender ratio had on the social dynamics is also difficult to assess and was therefore not explored further in this study.

Two non-demographic influences are also considered significant:

New staff. In 2008, all three directing staff (DS) were new. This meant a sizable loss in corporate knowledge for the course delivery. While major aspects were documented, the tacit knowledge to ensure smooth running was lost. Some of the early teething problems manifested into larger problems early in the course and were arguably never recovered from. In particular, the loss of confidence in the DS by most students continued throughout the course. This lack of rapport meant a lowering of morale and an unwillingness to confide with staff when personal problems emerged. The coaching

role of the DS was effectively non-existent and became self-perpetuating. Two such examples were the delay of mid-course interviews until the third to last week and the complete omission of debriefs (both summative and formative) of the final two assessments.

This study. Although difficult to quantify, it is almost certain the increased attention of this study altered the participant's awareness of what could have been done better. The frequent interviews and discussions on how to improve learning created a heightened awareness of what was not being achieved. This aspect overlaps with the Hawthorn effect and reinforces the need for multi-source data collection. Even with this mitigation however, the very fabric of the course culture was altered.

Appendix 5 Course Timeline

Week	Starting	Main Activity		
1	5 May	Induction Package		
2	12 May	Induction Package		
3	19 May	New Zealand Study Tour (NZST) North Island		
4	26 May		International Studies	Strategic Studies
5	2 June			
6	9 June			
7	16 June			
8	23 June			
9	30 June			
10	7 July			
11	14 July			
12	21 July			
13	28 July			
14	4 Aug	Overseas Study Tour (OST) Japan		
15	11 Aug	Overseas Study Tour (OST) South Korea		
16	18 Aug	Mid Course Leave		
17	25 Aug	Joint Operations Planning Course (JOPC)	Operational Studies	Command, Leadership, Management
18	1 Sep	Joint Operations Planning Course (JOPC)		
19	8 Sep			
20	15 Sep			
21	22 Sep			
22	29 Sep			
23	6 Oct			
24	13 Oct	Ex Boadicea		
25	20 Oct	Australian Study Tour (AST) Canberra		
26	27 Oct	Australian Study Tour (AST) Canberra		
27	3 Nov			
28	10 Nov			
29	17 Nov			
30	24 Nov			
31	1 Dec	Media Studies		
32	8 Dec	Graduation Week – <i>Graduand interviews and questionnaire</i>		

Appendix 6 Extract from the psc Course Syllabus

SECTION 3: SYLLABUS

INTERNATIONAL RELATIONS

341. The aim of this module is to develop a deeper knowledge of international relations.

Terminal Objectives

342. On completion of this module a course member will be able to satisfy the following terminal objectives:

- IR 1 Develop an understanding of international relations theory.
- IR 2 Analyse post-Cold War trends in International Relations.
- IR 3 Evaluate recent and developing trends in the Asia-Pacific region.

IR 1 Develop an understanding of international relations theory.

Given lectures, visits, notes, instructions, and tutorial exercises

1.1 Identify the main theories of International Relations.

1.2 Analyse the origins of IR theory.

1.3 Comprehend recent challenges to traditional theories such as the emergence of post-modernism and the impact of technology on communications and information

IR 2 Analyse post-Cold War trends in International Relations.

Given lectures, visits, notes, instructions, and tutorial exercises

2.1 Identify the causes of the Cold War and the factors that contributed to strained East-West relations during the 1960s, 70s and 80s.

- 2.2 Analyse international relations in the post-Cold War world, focusing on globalisation and the rise of non-state actors including NGOs, international organisations, and the emergence of trends towards increased regionalism.
 - 2.3 Analyse the concept of non-military actors' role in international security and evaluate their relevance to the NZDF.
-

IR 3 Evaluate trends in the Asia-Pacific region.

Given lectures, visits, notes, instructions, and tutorial exercises

- 3.1 Analyse and assess recent IR trends in the Asia-Pacific Region.
- 3.2 Determine the most significant emergent IR issues within the Asia-Pacific Region.
- 3.3 Analyse regionalism and the future direction of this trend for the Asia-Pacific Region.

Appendix 7 Extract from University IR Module Prescription

This extract from the University Admin Guide for the IR paper (200.762) shows the typical guidance provided for deliverables (both a presentation and essays). No overt reference is made to non-formal learning objectives although both deep learning and the peer-learning aspects of the presentations is implied. The three questions to be addressed during the presentation reinforce the depth of analysis expected and help shape the cognitive capacities development.

Presentation Topics

The presentations serve two main functions in this course:

- (i) to deepen participants' understanding of key issues and perspectives in International Relations
- (ii) to act as a basis for individual presentations to the whole course (worth 10% of the final mark). NB These will be spread across the three modules to allow one such presentation per course member.

Each presentation will be allocated **20 minutes**, with 15 minutes for the presentation and the remainder for questions and discussion.

Unless otherwise specified, each presenter will address the following questions in relation to the specified reading (see the list below):

- 1. What is the central argument being made or analysed in this reading?**
- 2. What are the strengths and weaknesses of this argument?**
- 3. Why is this perspective relevant or irrelevant to international relations at the start of the twenty-first century?**

Essays (70% of your final grade):

Your first essay will be due in at Command and Staff College on **20 June 2007** (*sic*).

Please write **2,500 words** (+/- 10%) in response to one of the following questions:

1. Why are theories important for understanding or explaining international relations?
2. Compare and contrast the key arguments of two or more theories. (Other than Realism vs Idealism)

Your second essay (3,500 words, +/- 10%) will be due in at Command and Staff College on **13 July 2007**^(sic). Essay questions will be promulgated at a later date.

There are many complex definitions of theories in international relations literature, but I like one of the definitions that my old lecturer used. This is the idea that theories are 'windows on the world'. When I hear this phrase I always remember the children's television programme 'Play School'. Now in taking a graduate course in international relations you might not have expected a reference to Play School! But I still think it's a useful analogy. After all, when you look through the round window you will get a different picture than if you looked through the square or the arched window. For those of you who missed out on Play School as kids the other analogy is that of 'lenses'. Looking through different kinds of lenses gives you different impressions of the world, whether or not these are rose-tinted!

What this means is that if we have certain *assumptions* about the way the world works, or about what is most important when we examine an event or issue in international relations, then we might interpret those things differently from other people who have different assumptions⁴⁵. This should become clear as you contrast realist theory with feminist theory for example.

⁴⁵ The notion that assumptions are important is itself a theory. It is related to the emphasis on 'inter-subjective' meanings that are found in critical theory, which means that the assumptions that I bring to my analysis of IR will affect the questions I ask as well as interpretations of possible answers. If I were taking another view, assumptions might be unimportant as they can be ignored by a rational and detached observer.

Appendix 8 Ethics Approval Documentation

The following enclosed documents represent the key instruments used in support of the application for Human Ethics Committee Approval for this study. During the six months it took to achieve approval, various changes were made to the study's working title. Some earlier submissions therefore referred to the study as Heuristic Learning while others called it Hidden Learning. The title of the study did not change the content or methodology.



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May 2008

Holistic Learning in Professional Military Education

INFORMATION SHEET

My name is Murray Simons and I am a Massey University student conducting research into the area of holistic learning on the Staff Course. This includes any learning contributing to the stated course aim, but not directly listed as objectives in the course syllabus. To investigate this area, I would like to collect anonymous data throughout the course and collate it into a final report for study purposes. The study will serve a dual purpose in that the findings may also be used by the College to improve future courses.

The study relies on accurate data and, for this reason, I will not be involved in any student assessments during SC49—nothing you say or do as part of this study will influence your course evaluation. My final report will make every effort to exclude any attributable information about you as an individual. Any direct quotes or references to individuals in the final report will use pseudonyms. You should be aware however, that due to the small course size, there is a slight risk others might recognise you because of unique behavioural characteristics.

At intermittent stages throughout the course, I would like to maintain a journal by observing normal learning activities such as informal student discussions outside formal classtime, as well as incidental learning and skills development resulting from preparing deliverables. Observations will only occur in public learning spaces such as the atrium, Mess and TV Lounge and only if permission has been granted by those present. Participation in the study is purely voluntary. If you decline to participate there will be no adverse consequences to your ongoing participation on the course.

Apart from observations, I may occasionally conduct informal interviews (conversations over coffee) to assist in confirming information obtained through observations. Additional data may also be obtained from routine College internet usage records and a questionnaire. The analysis of internet usage data will only be made on individual accounts, not College usage. All activities, observations, questions, discussions, interviews, questionnaires, or other analyses used in this study are voluntary. Even if you agree to participate in the study now, you can remove yourself at any time or from select aspects of the

study. To be removed, just let me know. The university study will not collect any information about non-participants.

Another important aspect of this study is that it will not negatively impact on your coursework. At no time will you be asked to participate in extra activities outside what is normally expected of any Staff Course student. Observations and informal discussions will only be conducted on an opportunity basis during natural breaks in the daily program.

The study is only looking at learning influences, not individual achievement. All information collected for this study will be treated in accordance with the Privacy Act 1993, DFO 21/2002, and Massey University's Code of Ethical Conduct. All participants in the study will have the opportunity to review drafts of the final report and receive a final copy.

Your Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study at any time during the course;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded.
- ask for the audio/video tape to be turned off at any time during the interview.
- Completion and return of anonymous questionnaires implies consent. You have the right to decline to answer any particular question.

Murray Simons

Researcher

Further information about the study can be obtained by contacting the researcher on murray.simons@nzdf.mil.nz (or by telephone on 021 207 6030) or his supervisor, A/Prof Nick Zepke, at Massey University n.zepke@massey.ac.nz

This project also has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 07/64. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, e-mail humanethicssouthb@massey.ac.nz.



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March 2008

Holistic Learning in Professional Military Education

PARTICIPANT CONSENT FORM

This consent form will be held for a period of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time. I am aware that at no stage will I be identified in the final report nor will any information I volunteer be passed to staff members of the Command in Staff Course. All recordings and transcripts will be treated as confidential to the researcher only. I am aware I can elect to be removed from the study, or parts of the study, at any time. This study is conducted under the Chatham House Rule.

I **agree/do not agree** to participate in this study under the conditions set out in the Information Sheet.

I **agree/do not agree** to other people being observed when I am in the same area.

I **agree/do not agree** to interviews and observations being audio taped.

I **agree/do not agree** to my internet usage data being used for this study.

I **wish/do not wish** to have tapes of my personal interviews returned to me.

Signature:

Date:

.....

Full Name - printed

.....



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March 2008

Holistic Learning in Professional Military Education

Do not sign this form if you do not want others to be observed for the study while you are in the vicinity.

NON-PARTICIPANT CONSENT FORM

This consent form will be held for a period of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I do not wish to be an active participant in the study but am happy for others to be observed while I am in the same area.

Signature:

Date:

.....

Full Name - printed

.....

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