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**Tertiary Education and Lifelong Learning:  
The Potential for a Lifelong Learning Culture within  
the PNG Polytechnic**

A thesis submitted in fulfilment  
of the requirements for the degree of

**Master of Education**

at

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by

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THE UNIVERSITY OF  
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## Abstract

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This study seeks to examine the extent of lifelong learning developments at one of the first polytechnic institutes in Papua New Guinea (PNG), with particular regard to how the existing traditional structure of vocational education and training (VET) can be redefined under the framework of lifelong learning. The notion of lifelong learning with regard to the larger framework of education is largely a foreign concept to PNG and this study examines how lifelong learning ideas are played out in one location.

The research is primarily a qualitative case study and utilised semi-structured interviews as the main method for data collection in addition to acquiring government and institutional documents (e.g. policy and developmental plans). The research methodology was chosen to gain an in-depth understanding of tertiary education and lifelong learning from the perspective of the participants involved in the study.

The findings of the study indicate a profound lack of understanding of the concept of lifelong learning and the potential impact it can have on the provision of education and training within the PNG tertiary education system. However, in an attempt to build knowledge on this educational concept, this study has analysed themes that emerged from the staff interviews with theoretical concepts from the literature review to conclude that lifelong learning is a potentially viable option for tertiary education, in particular at this polytechnic.

As an educational model, lifelong learning has the benefit of serving both the individual, the government and the wider society. The implications for tertiary education would be considerable, because a diverse group of learners can be given more opportunities to engage in purposeful learning activities over a lifetime. The need to redefine the purpose and role of tertiary education in PNG is strongly recommended.

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## Chapter One: Introduction

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### Overview of the thesis

The focus of this study is to investigate the extent to which a polytechnic education system can be situated within a lifelong learning framework in Papua New Guinea (PNG). The study was conducted at one of the first polytechnic institutions in PNG, formerly known as the National Polytechnic Institute of PNG. It is a government owned institution which consists of six different disciplines of study and is the largest provider of vocational education and training (VET) in the non-university sector. The PNG polytechnic caters for the education and training needs of over a thousand plus students in both certificate and diploma level programmes. The majority of the student body are mainstream school leavers (continuing students from secondary schools), while others include second chance learners (those who have upgraded their qualifications to pursue studies), older adults (those who pursue studies for various reasons) and students sponsored by corporate firms. As a tertiary institution it has an intake of students from the twenty-one provinces in the country.

PNG is the biggest island state in the Pacific (as compared to its smaller Pacific Island neighbours), and has a population of over seven million people. PNG is culturally diverse with 800 plus indigenous languages and the reality of the diverse character of this population, including influences of the Western culture, are “played out in policy developments in economics, social and cultural spheres, including education” (Findsen & Formosa, 2012, p.231). As a former colony of Australia, its structure of politics and governance is largely influenced by its larger Pacific neighbour. The structure of education in PNG was directly imported from Australia and has undergone a number of structural reforms to meet the PNG Government’s development agenda (Megarrity, 2005). These structural reforms were largely confined to the primary and secondary education sectors with fewer considerations given to post-compulsory education. These structural changes have resulted in more young adults completing secondary schools, with major strains being placed on tertiary institutions such as the polytechnic.

In trying to understand this changing culture of education and training in PNG, this study analyses how lifelong learning, as developed in the context of tertiary education in other countries' settings, can be adopted as a potential education model for the polytechnic (or the tertiary education sector). Lifelong learning as an explicit policy paradigm is still missing in the case of PNG, but lifelong learning does exist in various forms in distance education, and in VET in the lower tertiary education sector (e.g. vocational schools) for young graduates who miss out on opportunities to continue to secondary level education. This investigation is a valuable opportunity to analyse what opportunities are available in the rapidly changing tertiary education sector in PNG, even if they are taking place in an implicit or indirect situation in terms of expansion within the tertiary education system. This study proposes a framework for understanding the role of lifelong learning wherein the polytechnic is characterised as a multi-purpose institution geared towards providing educational opportunities for the citizens of PNG.

### **Rationale for the study**

As mentioned above, this study investigates the extent to which a polytechnic education system can be situated within a lifelong learning framework in PNG. It is a subject that is of great interest to me, as a lifelong learner. In my role as a teacher at the PNG polytechnic, I have come to realise the deep disparities that exist for students at the institutional level and within the tertiary education system on issues of access to tertiary level learning and successful completion of studies. I became more aware of the need to address essential educational issues that were endemic to the traditional "front-end mode" of vocational education and training (VET) that existed at the institution, and to a wider extent, the tertiary education sector (OECD, 2007, p.10). I realised that the problem was with the traditional model and there may be a greater need to introduce a new tertiary education model (or to a larger extent an educational framework) that could potentially solve, in part, some of the mentioned issues that have continuously impacted on successful transition of learners into and out of the tertiary education system, in particular the PNG polytechnic. In search of this desire to learn, I took up studies at the University of Waikato, Hamilton, New Zealand, in adult/higher education.

I hope that this study makes a substantial contribution to current debate and understanding on the significance of polytechnics education and lifelong learning in a PNG context. Many studies have been carried out by the OECD to redefine tertiary education and lifelong learning and to analyse developments and issues in this context (Wagner, 1999). Other studies conducted by the World Bank (2002) also share similar concerns regarding tertiary education in developing countries, including PNG. Based on this context, this study was conducted to promote knowledge and better understanding of the roles of polytechnics in relation to lifelong learning. While the ability to conduct an extensive study was limited due to time constraints, this study is based on the perspectives of administrative and academic staff members of the PNG polytechnic about the development of polytechnic education and lifelong learning.

International academic literature and studies have focussed on many systems of lifelong learning, theory and practice plus the impacts of changes on participation within the tertiary education system (Brennan & Osborne, 2008; Weelahan & Moodie, 2005; Parry, 2005). However, less emphasis has been placed on how these changes are realised in the experiences of graduates and, more specifically, in the interface between a polytechnic education and lifelong learning (Brooks, 2006). This understanding is critical in the PNG case because very little is known about the idea of lifelong learning and its implications on the structure of the tertiary education system, and most importantly, the potential social benefits to individuals and society. There is no effective model in the PNG context that can adequately define the existing system. This study examines education developments of a polytechnic, accompanied by other extensive studies carried out in this field in-order to enhance knowledge that may promote a coherent way for the PNG polytechnic to achieve a lifelong learning culture.

### **Aims/objectives of the study**

As mentioned above, the main objective of the study is to interpret the position of polytechnic education within a lifelong learning framework. The desire to understand the potential for a lifelong learning culture within a bounded education system such as the polytechnic led to the research question:

To what extent can the PNG Polytechnic achieve a lifelong learning culture?

The more specific aims of the study were to:

- a) Better understand post-compulsory education in PNG by theoretically locating polytechnics education within the wider PNG educational framework,
- b) Examine the extent to which the PNG Polytechnic is able to achieve a lifelong culture.

### **Background to tertiary education and lifelong learning**

The place of tertiary education within a framework of lifelong learning has been a dominant theme in international policy discourse, with a focus among other considerations, on the changing nature of the tertiary education landscape. More specifically, I have identified issues that impact on successful transition of learners from school to work, or from work to school, or to higher levels of learning as challenging factors in the development of PNG tertiary education. The changing landscape includes issues of widening participation which particularly concern those groups of learners who are traditionally under-represented in higher levels of learning (Osborne, 2003). Within this context the notion of lifelong learning has the potential to take centre stage.

Learning in all forms is being influenced by societal structures in such a way that the sociology of human learning has become so significant in order to understand possible ways of learning (Jarvis, 2007). This general trend, coupled with the effects of globalisation, has exerted pressure on societies to change and adopt educational systems that are directed towards a learning society (Findsen & Formosa, 2011). As a consequence, the complex situation of competition, innovation and rapid change that is generated by globalisation in a learning society has led to the emergence of lifelong learning (Jarvis, 2007, p.122). Whether the focus of lifelong learning is centred on its ability to improve productivity and quality of life through education, the general trend is to present it as an “identifiable and achievable goal if certain politically expedient policies are adopted, rather than to offer it as a philosophically desirable alternative to an

educational policy currently based on rationalism and utilitarianism” (Candy & Crebert, 1991, p.3). Hence, the focus of lifelong learning in its varied forms is to adhere to functions of a learning society that are both identifiable and achievable in this wider educational context.

In general, attitudes towards tertiary education are changing and it is appropriate to re-examine the philosophical and educational values of lifelong learning and reconsider their importance in the educational domain (ibid, 1991). This is especially relevant at a time when tertiary institutions such as polytechnics are “adapting to changing conditions both within their academic programmes, their administrative structure and within the community at large” (Liuvaie, 2008, p.39). While these are the conditions in tertiary institutions in New Zealand, as well as in many other countries, this study focusses on the potential of polytechnics in a PNG educational context. The study analyses the current education structure of the polytechnic by assessing it under a framework of lifelong learning. In doing so, it also addresses complex issues (e.g. the inadequate responses by government and policy makers) and challenges faced by the tertiary education sector. Some difficulties outlined by the World Bank Report (2002, p.vii) in respect to developing countries include:

- a) *Sustainable expansion of tertiary education coverage.*
- b) *The reduction of inequalities of access and outcomes.*
- c) *The improvement of education quality and relevance.*
- d) *The introduction of effective governance structures and management practices.*

Even though there has been much growth and improvement in the tertiary education sector in PNG, the importance of the fact that the “evolving nature of the knowledge economy highlights the rigidities and weaknesses” (ibid, p.v) that prevents the PNG tertiary education sector from maximising its potential to build local capacity. According to Bagnall (2010, p.450), it is important to draw together the main arguments that support lifelong learning and “provide educational providers and consumers alike the need to formulate policies based on concrete proposals that will ensure that the basic philosophical tenets of lifelong learning are incorporated into educational practice”.

Lifelong learning has been a defining goal for education and training policies in the international arena and it emphasises the need for organised learning to take place over a lifetime for all individuals. Lifelong learning is an ideology that covers the broader spectrum of all purposeful learning activities, “from the cradle to the grave”, that aims to improve knowledge and skills of all individuals who wish to participate in learning (OECD, 2007, p.10). There are many studies which shed light on the nature of this challenge and the need to question the continued ‘front-end’ expansion of tertiary education systems if the idea of lifelong learning is to be achieved (OECD, 1996). In this study I argue that the support for lifelong learning in education, and in particular tertiary education, is essential for a society as a whole and has benefits for individuals as well as businesses.

Lifelong learning needs to be visible in tertiary education systems because of the growing importance of knowledge and skills and the extensive economic and social restructuring that is happening at all levels of society across the world. This study examines the interface between polytechnic education and lifelong learning, and looks at the implications for learners and for PNG society. It is also observed that educational achievements in the schooling system are not matched by wider social progress and there are limited spaces in tertiary institutions compared to the number of students leaving compulsory schooling, and issues of access, equity and gender are high (Hind et al., 2011).

## **Organisation of the chapters**

In Chapter One (Introduction), the study is placed in context by providing an overview of the thesis and the background to tertiary education and lifelong learning. A justification of the study is also provided to locate the study in the context of PNG Polytechnic.

In Chapter Two (Literature review), the main body of literature is discussed which has significant bearing on the thesis. Part A reviews the different international literature and studies on tertiary education and lifelong learning and outlines other pertinent issues, including how the notion of lifelong learning has been interpreted in tertiary education in contemporary societies. Part B reviews current literature

on the concept of tertiary education, since this feature of higher level learning provides the basis for expanding discussions on polytechnic education and lifelong learning. Part C reviews existing literature on tertiary education in PNG which includes information on the local context of the research.

Chapter Three (Methodology), discusses the research methodology used in this study. It includes a justification for the chosen methodology, a description of the research method, ethical considerations and discussions on the strengths and limitations of the research.

In Chapter Four (Findings), I provide an account of key themes and sub-themes that emerged from the individual interviews. The chapter highlights the dominant ideas that emerge in relation to these themes and sub-themes, with particular attention to ideas that are linked to the notion of lifelong learning.

Chapter Five (Discussion) provides an interpretive account of the main themes that emerged from the interview data. These themes are discussed by linking theoretical concepts from the literature review with other themes identified from official government and institutional documents that were collected as part of this study.

Finally in Chapter Six (Conclusions and implications), I present the conclusions and implications from the study.

The references and the appendices for this study are included at the rear of the dissertation. The appendices are linked explicitly with the methodology employed in this study.

## Chapter Two: Literature Review

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This literature review is presented in three parts. Part A reviews different literature on international perspectives of tertiary education and lifelong learning within this sector. This section seeks to report different perspectives of global progress towards the goal of lifelong learning. As well as an assessment of global progress on tertiary education and lifelong learning, the review will also outline other pertinent issues including how the notion of lifelong learning has been interpreted in tertiary education in contemporary societies. Part B will review current literature on the concept of tertiary education, since this feature of higher level learning will provide the basis for expanding discussions on polytechnic education and lifelong learning. Part C reviews existing literature on tertiary education in PNG which includes information on the local context of the research.

### Part A: Tertiary Education and Lifelong Learning

The notion of lifelong learning has risen prominently in recent years to the top of policy debates in many countries. Its philosophical and practical implications on tertiary education and training have been extensively examined by many authors. Schuetze and Casey (2006) provide a useful description of this concept. “Lifelong learning is, ‘life-long’, ‘life-wide’ and centred on ‘learning’ rather than on ‘education’ and educational institutions” (ibid, p.279).

The *lifelong* aspect raises questions about the “structure and interrelationships between different sectors of the educational system” (ibid). Within this context the *lifelong* aspect seeks to identify crucial prerequisites for lifelong education, a system that provides flexible navigational routes for learners. This would require fundamental reforms, since different transitioning would require support mechanisms for those transiting from school to work or vice versa between schooling, work and training.

The *life-wide* aspect recognises the fact that education does not occur only in formal settings, but in a variety of forms and in different settings. It sets

precedence to a vision of a *learning society*; a society where there are recognised learning opportunities for every individual irrespective of where they are or wherever they come from. In a *life-wide* system the formal recognition of prior knowledge and skills outside formal educational settings becomes a fundamental necessity. Such a proposition poses a difficult challenge against established standards of validating different kinds of knowledge and skills.

At this point an important distinction needs be made between the terms *lifelong learning* and *lifelong education*, two terms which are interchangeably used in similar contexts. Candy and Crebert (1991) identify this difference as one that is based on the degree of application of the terms. They argue that “lifelong learning refers to the truly lifelong process of continuous learning and adaptation; it is distinguished from lifelong education which refers to the structures, systems, methods and practice that attempt to enhance the notion of lifelong learning” (p.5).

Tertiary education and lifelong learning has taken centre stage in global discourse concerning the massification of the tertiary education worldwide. Slowey and Schuetze (2012) trace this transformation and describe how the notion of lifelong learning is interpreted internationally. They argue that this expansion in world views, according to OECD (1998) and UNESCO (1998) has fundamentally transformed the very nature of tertiary education in terms of its structure, social and economic role. This includes the compositions of student body, structure of governance, stakeholder participation and the increase in graduate education. Further emphasis in the UNESCO (1998) report shows that, as a result of this expansion in education ideals, universities and tertiary education institutions such as the polytechnics have become significant economic, social and cultural indicators for engagement in different levels of society worldwide. This picture is reflected in the findings by the OECD (1998) which reviewed higher education policies in 24 countries.

Some writers suggest that while the concept of lifelong learning is featured prominently in the international policy arena the wider implications for the concept in tertiary education remains unchanged (Tuschling & Engemann, 2006; Psacharopoulos, 2006; Salmi, 2001; Wagner, 1999). As noted in many OECD

articles, wholesale changes in the post-secondary sector have gradually shifted to accommodate lifelong learners. However, Tuschling & Engemann (2006) stressed that much remains to be seen on how tertiary education adapts its learning culture to the demands of a more open, flexible and democratic learning system. The slow pace of this change is alarming amid calls from employers globally to make the workforce more educated, flexible and adaptable to aspirations of governments to develop knowledge based economies and learning societies (Kessels, 2001; Castells, 1998, Giddens, 1994; Drucker, 1993). Kessels relates this dilemma to individuals' ability to adapt to the idea of "learning to learn" (p.498) to remain abreast of constantly changing work conditions. This is a key idea when knowledge production becomes the main economic drive.

A good portion of the literature on tertiary education and lifelong learning relates to the challenge posed to universities and other tertiary education institutions to meet the educational needs of an even more diverse group of learners (Slowey & Schuetze, 2012; Findsen, 2012; Brennan & Osborne, 2008; Schuetze & Slowey, 2002;; Jarvis, 1999). Reports from OECD (1998) revealed that the tertiary education systems worldwide had grown exponentially. Consequently, the shift in perception of participation by students from privilege to right has however led to massive changes, for which the structures and functions of tertiary education in many countries have had to, and continue to change (Schuetze & Slowey, 2002). Another report by UNESCO (2007) has shown that much of the expansion in the tertiary education sector in the last decade has taken place in non-university institutions such as polytechnics, community colleges and others. As my research relates to polytechnic education and the notion of lifelong learning, I have drawn widely from these literatures.

Of the vast amount of remaining literature on the subject of tertiary education and lifelong learning, it is apparent that the present state of the debate poses a challenging conceptual problem for both scholars and analysts alike (Schuetze & Slowey, 2002). Scott (2005) argues that most of these findings appear to be centred on strong links between the notion of lifelong learning and its institutional context. It perhaps requires everyone concerned with the subject of tertiary education and lifelong learning to take a large, holistic perspective (ibid). As Tuijnman and Bostrom (2002) assert, the determining factor may lie in the

“information gap that concerns lack of data on multiple learning outcomes” (p.105). They further argue that not only governments or employers need up to date information about the nature and distribution of the *lifelong* and *life-wide* aspects of learning, but also the institutional suppliers of learning, which includes polytechnics and wider actors in society. A similar concern as noted by Candy and Crebert (1991) points to the fact that it is important to present the idea of lifelong learning as an “identifiable and achievable goal if certain politically expedient policies are adopted, rather than to offer it as a philosophically desirable alternative to an educational policy currently based on rationalism and utilitarianism” (p.3). This gap in information and knowledge sets the foundation for reviewing the significance of different functions of lifelong learning.

A review of the different functions of lifelong learning will provide the basis for understanding the implications of the concept on tertiary education, particularly the relevance of these aspects on the concept of polytechnic education. A broad understanding of the different aspects of lifelong learning is necessary because it identifies the complex structures and interrelationships within society that impact on the life-world of a learner.

### **Functions of Lifelong Learning**

Four conceptual areas are relevant to understanding the concept of a learning society. These concepts are the learning economy, personal fulfilment, active citizenship and social inclusion (Findsen & Formosa, 2011). These themes will be reviewed with respect to the notion of lifelong learning and how they play out in tertiary education, particularly in relation polytechnics. Understanding the specific features of these functions in a learning society provides a theoretical perspective on which polytechnic can intervene at the institutional level.

#### **The knowledge economy**

Much of the literature on the idea of knowledge economy is in agreement that the “knowledge-based society has arrived” (Rowley, 2000, p.325). Many writers argue that knowledge has become the main driver of productivity and economic growth (ibid). Drucker (1993) has described knowledge, rather than capital or labour as the only meaningful economic resource in the knowledge society, and

Senge (1990) has warned that many organizations are unable to function as knowledge based organizations, because they suffer from learning disabilities. In this context, the OECD Education Ministers adopted a programme for lifelong learning for all as a strategic framework for guiding education and training policy (OECD, 1996). This report outlined a framework that sought to foster learning societies, where every individual has a right to receive the necessary knowledge and skills, and where all are encouraged to engage in lifelong learning.

As economies become increasingly knowledge-based and globalised, scientific and technological efforts become essential determinants of industrial performance and international competitiveness (OECD, 1999). This report emphasised the fact that for policy design and evaluation purposes, governments need to monitor as accurately as possible development trends and structural shifts pertaining to industry and technology, not only in their own countries but also in comparison to other nation states. In support, Mansell and Tremblay (2013) acknowledged that “knowledge implies meaning, appropriation and participation” (p.ii); it is a means to achieve social and economic goals, and is also the pathway to individual and collective emancipation, and should be valued for itself. This view is evident in the findings by the OECD (2001a), which reported on case studies from five regions and cities. The report outlined the fact that social capital affects both individual and organisational learning.

Economic considerations have been the main driver of much of the developments in lifelong learning policies internationally (Findsen and Formosa, 2011). This perspective is the subject of the OECD (2001b) report. Furthermore, most governments’ support for adult education is directed towards meeting economic ends; hence, the emphasis on the employment related aspects of skills training rather than a broader view of adult education for social as well as individual development (Coffield, 1999). Connor et al. (2001) observed that individuals consistently report private economic benefit as the principal motivation for mature students seeking access to higher education (HE). Further, Osborne (2003b) argued that “institutions put economic imperatives to the fore in a period of intense national and global competition” (p.49). He asserts that considerable economic pressures direct higher learning institutions to promote institutional autonomy and practice instead of broadening participation. The widening

participation agenda simply becomes a market strategy for the institution (ibid). For example, findings from the report by Davies et al. (2002) indicate that in England different levels of commitment to the widening participation agenda are demonstrated by different institutions and the key driver in that approach is the desire to secure institutional survival.

In a global society, knowledge has become a key strategic resource for individual wealth and prosperity (Bloom, 2006). In exploring this concept in their work, Findsen and Formosa (2011) emphasised the view that the learning economy thrives on the enterprising culture of an economy that typically functions, to provide employment opportunities for its citizens. They further identify in their analysis that traditional approaches to education, training and employment are being fast transformed away from repetitive manual tasks towards a more flexible, adaptable workforce who are multi-skilled. As with similar views generated in findings by extensive OECD studies, their views are consistent with the emergence of the learning economy, which in turn is in agreement with developments that are happening in the socio-economic world of education, training and employment.

In general, the benefits of education and training can provide significant social and economic returns to countries which invest in their human resources (Fasih et al., 2012). A major finding in their study points to the fact that the more education one has, the higher the earnings individuals may accumulate. While this may be the case, Murray (2009) concluded from her study that there is “a lack of quantitative evidence to link time spent in education and wider social benefits” (p.234). To substantiate her claim she made reference to studies conducted by Preston and Hammond (2003) and observed that although research findings by other writers point to wider returns of tertiary education, fewer considerations are given to vocational subjects that may lead to wider benefits. This point was further supported by Feinstein and Hammond (2004). They state:

*...[although] early moves in the direction of the lifelong learning scenario were driven by concerns with upgrading skills and meeting qualification targets, the wider agenda of enhancing quality of life both personally and in the community suggests the need for a broader set of learning options. These need to build on the best traditions of*

*non-vocational adult education emphasising accessibility and learner-centeredness.* (p. 218)

Authors, Murray, Preston, Hammond and Feinstein suggest that time spent in education may not be a good predictor of wider social benefits, but time spent in particular types of education is crucial for societal benefits. Hence, the need for identifying ‘best practices’ for the knowledge-based economy has become a focal point for intervention in learning institutions.

To conclude, this analysis indicates that learning institutions such as the polytechnics have a greater responsibility to develop policy frameworks that encourage democratic participation by learners; where every individual has a right to receive the necessary knowledge and skills, and where all are encouraged to engage in lifelong learning. Such an approach places the concept of lifelong learning in a humanistic framework which is the focus of discussion in the next section.

#### **Personal Fulfilment**

Findsen and Formosa (2011) noted in their work that as an emerging paradigm, the learning society should place lifelong learning in a humanistic framework that emphasises personal fulfilment. By citing Knowles’ (1980) theories on adult learning they maintain that a learning society is often focused on “an ideology of individualism (as opposed to a collectivist approach) and is humanistically oriented” (p.44). Schuetze and Casey (2006) further describe it as a cultural model, where lifelong learning entails an individual process, aiming at the fulfilment of life and self-realisation. In analysing the transition of young adults from universities into the labour market, Brooks (2006) identified from her study that most graduates tend to develop an acute understanding of the relative status of the institutions, such that they become more aware of their own place within the tertiary education hierarchy and the value of their qualifications within the labour market relative to those awarded by other institutions.

As a policy focus, Zepke and Leach (2007, p.665) discuss the need to view continued learning in terms of personal fulfilment with the aim to improving students’ achievement levels and outcomes, such as “retention, persistence, and completion”. Improved learner outcomes and money spent on education are major

concerns for governments world-wide. For example, in New Zealand, data on early student exit suggest a loss on expenditure in public funds and human potential (Scott, 2005). This is similar in developed countries such as Australia, the UK and the US (Yorke & Thomas, 2004; Braxton, 2000; McInnis et al., 2000). In New Zealand, research activities have increased to justify stimulated interest in accountability requirements that threaten financial penalties for institutions near the bottom of retention league tables (New Zealand Ministry of Education, 2010). The policy focus in this report acknowledged that improved learner outcomes should signal increased accountability for ensuring that students who enrol in programmes within tertiary institutions are retained until successful completion.

Strategically, such a policy focus is dependent on what Thomas (2002) described as the interaction of personal, social attributes and institutional practices which impact on the learner and his/her strategies for success. Additionally, how tertiary education providers perceive integration and adaptation by students as lifelong learners, gives insight into how institutional practices directly affect this strategy (ibid). On this topic, Zepke and Leach (2007) argue that institutions (e.g. the polytechnics) must be willing to examine their internal structures of power and representation, including the spheres of governance, curricular and pedagogy. They contend that such fundamental changes are necessary to address broader aims of lifelong learning such as the 'widening participation' agenda. For instance, a learning environment that encourages learner diversity will be less inclined to overlook barriers that explicitly affect participation by non-traditional learners.

Tuschling and Engemann (2006) also advocate that lifelong learning must be viewed as an essential policy strategy for the development of individual fulfilment and self-realisation of learners. They state that the aim is to strategically review national approaches to tertiary education and identify ways to compare and evaluate the existing structures and interrelationships within established institutions. If this is the case, then the intention of tertiary education is to deal with the emerging issues, problems and possibilities that extend beyond disciplined-based curriculum and standardised forms of assessment (Freedman & Stuhr, 2004). In support, Schostak (2000) maintained that the challenge is to

create a curriculum-policy for change, for development of people and not for engineering of employees. They further state that official policy discourse has always focused on the economic aspect of continuous education and training as an adaptation to change and a requirement for employment opportunities. On this, Edwards et al. (2002) stress that much debate has been on the nature, extent and significance of lifelong learning as a curriculum policy goal and there has been less focus, specifically on the nature of learning that is required to engage with change process for which it is meant to be a response.

In the case of professional development (or academic development) Prebble et al. (2004, p.xi) propose that there is a need for tertiary institutions to provide more robust evidence for the “efficacy of the various forms of academic development in place” both in terms of their effect on pedagogy and students’ learning outcomes. In addressing this challenge, reviews conducted by the OECD (2001c) report notes that as knowledge becomes more central to personal development, the “ability to acquire, develop and use knowledge effectively becomes essential for individuals and societies” (p.8). The bulk of empirical research as suggested by Pascarella (2006) reveals that learners from varying backgrounds can all benefit from engaging in effective educational practices, even though some learners may benefit more than others from certain activities. The extent to which tertiary institutions such as the polytechnics can engage in developing a culture of professional development will be reflected by the quality of the academic programmes and support services they offer.

Contrary to learning practices which are confined to individual institutions, the OECD’s (1996) approach to lifelong learning points to a learning strategy that serves both the individual and collective needs of the wider community. It is a strategy that requires a shift of attention from a supply side focus; for example, on formal institutional arrangements for learning, to the demand side of meeting learners’ needs. The report stress that this strategy of lifelong learning can be understood as a combination of activities that includes service learning, problem-based teaching and training that targets specific needs and wants of learners, and the pursuit of alternative forms of knowledge and challenges. A similar concern was echoed in the UNESCO (1996) report. It highlighted the need for a coherent and structured approach to community engagement activities by learners. It noted

that lifelong learning through continuing education should enable people to realise their life's potential through development of self-awareness, within their learning environments, in their work and within their community by being encouraged to take active social roles.

In this context, the institutional approaches to personal fulfilment and lifelong learning should place more emphasis on the demand side of meeting learners' needs. Such strategies will promote a coherent approach to learning that has the potential of transforming individuals and societies. The aim is to challenge existing structures of education practice that place less emphasis on the notion of 'active democratic citizenship', the focus of discussion in the next section.

### **Active Citizenship**

According to Walters and Watters (2001), active citizenship through lifelong learning is a concept that must continually be given contextual meaning. These authors advocate for the transformation of post-secondary institutions into lifelong learning institutions. They explain how a lifelong learning tertiary education institution is concerned with active citizenship. Whilst the focus of most policy analysis on lifelong learning targets the increasing efficiency of the market place, they stress that there is value in challenging this way of thinking, and support the notion that its goal is to enhance active democratic citizenship. As observed in the article by Walters (1999), tertiary institutions are intimately involved in the business of transforming societies through learning, and have to make hard political and economic choices to realise this change. Walters reasons that tertiary institutions do not exist in a vacuum and are also characterised by similar social struggles that exist in the wider society.

As a consequence, tertiary institutions such as the polytechnics should develop a learning culture that embraces the actual characteristics of an active citizenship-education. This strategy should focus on the interconnectedness of the tertiary education environment, the organisational and structural context of the institution, plus the teaching and learning practices within the institution. As Volbrecht and Walters (2000) argue, such a framework for lifelong learning forces us to look inwards towards the individual and organisational learning and outwards towards relationships in the wider society. They further argue that tertiary institutions need

to recognise the extent to which these characteristics come into play, since their ability to function internally as a learning organisation will have “major implications for their competence to function as flexible, collaborative networks, externally” (Walters & Watters, 2001, p.474).

Within a policy context Zepke (2013) writes that active citizenship has three major orientations: democratic participation, human capital and social capital, and exists in specific ideological, political and educational contexts. This means that the nature of moral imperatives for active citizenship and belonging connects with moral imperatives for “democracy, social inequality, universal literacy, and social immersion in contemporary lifelong policy initiatives” (Bagnall, 2010, p.19). To emphasise this point, Crick (1999) points out that tertiary education that “creates a disposition to active citizenship is a necessary condition of free societies” (p.337). This may suggest that “Active Citizenship is seen as more desirable than Passive Citizenship” (Ross, 2012, p.7), but what do these terms mean in terms of either educational policy or educational practice? To what extent can citizenship education deal with the relationship between the political and the educational context?

Moreover, Ross (2012) argues that curriculum-policies need to reflect this relationship; they must be developed to create understanding in individuals about their identity, the nature of the society they live in, and how they can actively engage with rights and issues that exist between active citizenship and passive citizenship. On this issue, Wood (2012) notes that given the existing neoliberal frame in which the tertiary education curriculum is embedded, priority is usually given to pedagogy that promotes employment-related aspects of knowledge production and participation. In support of this claim, Walker (2009) agrees that it is reasonable to “speculate that social, cultural and economic capital that favours global orientations of active citizenship is likely to hold greater symbolic capital within an educational field than local orientations” (p.345). An issue at stake is “how the formal, curricular content of education may add *surplus value* to the informal and non-formal learning experiences for active citizenship taking place in various social practices” (Jansen et al., 2006, p.202). They argue that such approach is not easily attainable, but depends on the “social and political forces

willing to create favorable conditions for such reconfigurations” (p.202) within tertiary institutions.

Findsen and Formosa (2011) maintain that the notion of active citizenship focuses on individual engagement in communities; it can promote lifelong learning in personal development, while embracing the importance of networks to which the individual connects within society. They state that this view of active citizenry identifies with an individual who is ideally “critical of the self and is committed to democratic practices within society” (p.45). Such a view has many implications on educational practices that do identify with citizenship education. What is needed in higher levels of learning (e.g. in tertiary institutions such as the polytechnics) is the “provision for a lifelong learning for active citizenship that involves participatory experiential learning and an innovative form of ‘political’ learning” (Annette, 2009, p.156). Findsen and Formosa (2011) argue that it is important to instil in individuals the civic skills necessary for deliberate democratic engagement in society which include both levels of emotional literacy and intercultural understanding. In support, Jansen et al. (2006) see this value of active citizenship as one that involves learners in “both critical engagement with existing political and social institutions as well as (re)production of common wants and needs in interactions of the daily life in their communities” (p.196).

As Thomas (2004) explains, whatever the form, the specific role of tertiary education is systemically challenged by experiences within citizenship educational practices. She argues that this approach to active citizenship in turn questions the value of linking formal educational practices to genuine practices. On this topic, Jansen et al. (2006) maintain, it is now apparent that abstract lessons about citizenship education must be replaced by concrete practices of citizenship education. They argue that as a prerogative of tertiary education, the formal aspects of citizenship education need to reflect its strategic position and its content; it should also “specify the potential contributions of lifelong learning experiences with active citizenship in settings of informal and non-formal learning” (ibid, p.202).

Within this perspective, a citizenship education would ensure that learners are prepared for continuing professional development and community engagement through interactions both inside and outside formal educational settings. In this

context the learning society allows for the “development of critical citizenry and the potential for social action” (Findsen & Formosa, 2011, p.46). This view is further discussed in the next section.

### **Social Inclusion**

As a function of a learning society, social inclusion embraces the ideology of including all citizens as learning subjects; it includes all who are excluded from education due to the effects of “gender, race/ethnicity, social class, geographical location, disability or some other factors” (Findsen & Formosa, 2011, p.46). Wyn (2007) emphasised that “measures to improve social inclusion must take account of the changing social and economic realities” (p.46) within which all learners must engage, regardless of where they are. She further states that identity and wellbeing of a learner are significant factors and deserve greater recognition when addressing strategies that promote social inclusion. In addition, Macdonald and Strata (2001) contend that the changing nature of social culture both within learning institutions and the wider community means that diverse groups of learners must now negotiate new routes through education and work. These uncertainties and personal choices can greatly impact on personal fulfilment of adult learners.

Leader (2003) observed that “the social and economic consequence of this trend (i.e. the changing nature of tertiary education) underpins a progressive and extensive change in the development of learning societies and access to lifelong learning opportunities” (p.366). He states that attention should be given to identifying the complex relationship between education and the learning economy while “evaluating the existing socio-political framework in terms of widening participation, social inclusion and accessibility” (p.367). In promoting this view, Gallacher et al. (2002) reported that most government policies on social inclusion and exclusion are themselves based in part on the premise that education and training can contribute to promoting an inclusive society. For instance, in the New Zealand context, Kearney and Kane (2006) assert that social exclusion from polytechnics is a direct consequence of social and political arrangement with schools and society, and a review of literature reveals a number of factors (e.g. recognition of prior learning, low socio-economic backgrounds, ethnicity, est.)

that may be responsible for the continued legitimisation of paradigms that continue to exclude students from diverse social backgrounds.

Barton and Slee (1999) identified a good example to illustrate the marketisation of tertiary education by state governments, a process that encourages competition between schools to promote improved academic standards and achievement. They argue that the disguise of promoting “individual freedom, parent power and consumer choice over notions of social justice, the community and indeed of welfare” (p.9) undermines the reality that exists. Griffin (1999) adds that there needs to be a new focus to create learning pathways for individuals to be properly integrated into society and especially to assist them in the expression of their talents, otherwise it may be “wasted in a vicious circle of under-achievement, and self-deprecation” (p.338). As noted by Osborne (2003), the goals of economic development within a country’s setting cannot be achieved without “concomitant social developments to combat exclusion” (p.7). He argues, “the economic and social strands of widening participation are often represented as dichotomous” (p.7). On one hand is the increased policy focus of producing more graduates for the labour market and on the other the option of creating equitable learning opportunities. This is not the case because they are representative of closely linked objectives of a socially inclusive society.

Schuetze and Slowey (2002) report that the expansion and the varying composition of tertiary institutions have widened participation of new groups of students who once were traditionally excluded due to a complex range of social, economic and cultural reasons. They maintain that this paradigm shift is related to the agency that is needed to equip learners with knowledge and skills that is necessary for lifelong learning. A new way of thinking is needed to place teaching and learning practices and student development at the heart of curriculum design and delivery. As asserted by Warren (2002), the “common challenge is to develop models that can cater for a more heterogeneous student population and yet are situated to different academic and professional domains” (p.86). He adds, the drive towards equity and social cohesion is certainly a clear indicator for tertiary institutions to strategically develop structures and inter-relationships that can promote a more tolerant and just culture of learning. He argues for a learning culture that is based on shared values and a common cultural

heritage; education for all, a lifelong experience that fosters active participation in all spheres of learning, and extensive use of information and communication technologies that maximises educational potential for all learners (ibid).

To conclude, this section has reviewed the main arguments that underpin major functions of lifelong learning and their implications on tertiary education policies and practice. Combined, these aspects of lifelong learning offer a theoretical framework that is potentially useful to locate tertiary education within a framework of lifelong learning. However, the existence of barriers to access and participation has implications on the learning success of individuals.

### **Barriers to Lifelong Learning**

In order to expand this literature review on lifelong learning and its implications on tertiary education, it is important to analyse the major barriers that limit successful participation by lifelong learners. A review of the literature (Hardin, 2008; Koper & Tattersall, 2004; Jackson, 2003) reveals four main areas for consideration; there are structural barriers, institutional barriers, dispositional barriers and situational barriers. These barriers are discussed in an ascending order to give an overview of how they impact on lifelong learners in an institutional setting (e.g. the polytechnic).

#### **Structural barriers**

Structural barriers are characterised by an unresponsive institutionalised system (e.g. the tertiary education system) which places less emphasis on education and training provisions that target educationally or socially disadvantaged groups (Parnham, 2001). Building effective learning pathways for learners to transfer from and between education sectors and qualifications has been the focus of extensive research, policy development and practice (Mills et al., 2013; Phillips, 2006). Mills et al. (2013) argue that “improved learning pathways constitute an essential feature in a more flexible and integrated tertiary education system” (p.10). The scope of past research within this domain had included considerations of:

- System and institutional drivers and enablers (Phillips, 2006)

- System barriers, including cultural and pedagogical difference between sectors (Walls & Pardy, 2010; Wheelhan, 2009; Phillips, 2006).
- Different types of pathways and emerging pathway models, including integrated VET and higher education qualifications (Phillips, 2006).
- Patterns of student movement and transfers (Curtis, 2009; Harris et al., 2006).
- The changing landscape of institutional provisions and the blurring of sector boundaries (Weelahan, et al., 2012; Weelahan & Moodie, 2005 ).

Walls and Pardy (2010) acknowledge that the process of widening participation within different sectors of tertiary education is important but it is only a first step. They argue that real access must enable learners to transfer or build on all types of their prior learning. Learning institutions play an important role in these situations; however, existence of institutional barriers hampers progress by learners.

#### **Institutional barriers**

This category of barriers consists of limitations inherent in the methods institutions use to design, deliver and administer learning activities. Jackson (2003) maintained that these barriers can unintentionally be biased against, or ignorant of the needs of learners. The institutional barriers most frequently discussed in the literature (Jackson, 2003; Bowl; 2001; Gorard & Selwyn, 1999) include: resources needed for learning activities; negative attitudes towards learners; a general lack of pastoral care services; failure to recognise prior learning and previously obtained academic credentials and student learning support. These barriers have an effect on successful integration, completion and transition to higher level learning, and employment or re-integration back into society.

Longworth (2003) explains that measures have to be taken to attract learners to appropriate learning programmes by the institution, and about the complete offering available in-order to give sound and suitable advice for learners. His article also highlights that tertiary institutions can typically set up their own information and support services, but, it is also imperative that lifelong learners need an overview of the offerings of all potential institutions that are accessible to

them. For example, a study by McGivney (1992) who examined what motivated unemployed adults to undertake lifelong learning concluded that a targeted outreach approach must be used to engage with potential students. This may include in part, provisions of clear information and guidance on courses available; the demonstration of clear links between education, training and employment; offering widely recognised qualifications, and ensuring that the benefits of participation in education and training outweigh the potential risks (ibid).

### **Dispositional barriers**

O'Mahoney and Sillitoe (2001) observed that dispositional or attitudinal barriers are "individually or collectively held beliefs, values, attitudes or perceptions that inhibit a person's participation in organised learning" (p.23). Attitudes, perceptions and expectations have been found to be major barriers to participation in tertiary education (Ahl, 2006; Lamb & Brady, 2005; Bowl, 2001; Gorard & Selwin, 1999) particularly for adult learners. Rubenson and Desjardins (2009) maintain that surveys that also pose questions on barriers to those who have no interest in participating in continued learning point to "significance of psychological deterrents" (p.192). Lamb and Brady (2005) report that non-participants have a stereotyped view of education, with their own and friends' negative attitudes, perceptions and expectations, rather than experiencing any practical barriers to accessing education and training.

Macdonald and Strata (1998) concluded from their study that an increase in access needs to be accompanied by a change to the culture of tertiary education institutions and that such a change is beneficial to different categories of learners. Evidence in research with non-traditional students revealed that the transition into tertiary education is experienced in different ways by different groups of learners (Macdonald & Strata, 1998; Pascall & Cox, 1993). Bowl (2001) reported these experiences as a struggle for "personal, academic, financial and emotional survival" (p.142). She further emphasised that tertiary education can be traumatic and isolating in ways experienced by non-traditional learners. Rubenson and Desjardins (2009) remark that even if motivated to learn, most adult learners will generally be interested in specific routes of education "if only it offers some concrete specific benefits" to them (as cited in Ahl, 2006, p.395). Schuetze and Casey (2006) also report that the burden of overcoming such personal barriers is

dependent on the individual's motivation and ability to engage in learning beyond compulsory schooling.

### **Situational barriers**

Hardin (2008) identifies this category of barriers as those that consist of broad circumstantial conditions that block the ability of learners to gain access to and pursue learning opportunities. Barriers include “role conflicts, time management issues, family and work problems, economic, and logistics” (ibid, p.52). O’Mahony and Sillitoe (2001) stress that situational barriers are more common for adult learners from low socio-economic backgrounds, while some situational barriers have also been found to be more of a concern for females. In reporting on a study on participation of females in the Australian TAFE sector, authors O’Mahony and Sillitoe identify that factors such as inflexible formal course structures, inadequate income support and insufficient childcare facilities impacted negatively on females’ success as learners. Other situational variables that have been studied include awareness of educational opportunities and accessibility issues such as transportation costs.

To conclude, the mentioned barriers are some examples of specific cases that explicitly identify with both the learning institution and the learner. There are other barriers that are broader and systemic and have wider implications for a culture of lifelong learning. A good example is the existence of a national qualification framework (NQF), which is the subject of review in the next section.

### **National Qualifications Frameworks for Lifelong Learning**

Allais et al. (2009) identified the role of national qualifications frameworks (NQF) as the drivers for VET policy reforms. Several authors (Walls & Pardy, 2010; Coles, 2006) propose that NQFs are increasingly important for VET reforms because they can promote access and progression routes, support recognition of all learning and can be used as drivers to locate VET in a lifelong learning perspective. In expanding this debate Werquin (2007, p.461) stressed that NQFs can make explicit the recognition of non-formal and informal learning; provide options for employers to recognise wider skill supply in the workforce; and encourage education and training providers to widen access to different

programmes. He further commented that these mechanisms can be seen as broad policy responses to the lifelong learning agenda.

Coles (2006) described NQFs as classifiers that show how existing qualifications relate to one another. The OECD (2007) report, however, noted that NQFs go beyond the role of classifiers and are visions that relate to one another and how they are valued in societies. Consequently, Chakroun (2010, p.200) pointed out the fact that most government documents introducing NQFs link their application to:

- *Improving the labour market responsiveness of VET*
- *Establishing pathways between VET, general and higher education.*
- *Improving the quality and flexibility of VET programmes.*
- *Promoting the shift from input-to outcome-based VET systems.*

Young (2007) explained that the enthusiasm for NQFs by many governments and international organisations builds on two principles. Firstly, they act as a practical solution to complex “political, economic and educational problems such as changes in the labour markets and the expansion and diversification of the post-compulsory education” (p.447). Secondly, they address the need for a single qualification framework that is common to a country or group of countries.

#### **The Effects of NQFs**

Coles (2006) explained that NQFs can have wider effects, for example “they can change the way institutions are organised and operate, they can play a part in quality assurance procedures and facilitate credit transfer arrangements” (p.19). He further states that the main effect of an NQF is to facilitate development of linkages between different parts of the education and training system: general education, VET (including work-based training) and higher education. He identified four cases which are discussed below.

#### **Institutional change**

Young (2003) observed that NQFs can act as instruments of regulation in controlling the growth and expansion of post-compulsory education. Tertiary education institutions (colleges, polytechnics and universities) can define a NQF or be defined by one (ibid). As Werquin (2007) explains, NQFs are technical tools

for “improving consistency and coherence” (p.467). He states that they can be used to identify missing links and create new qualifications or new routes to existing ones, or they can be used to bridge qualifications. On this issue Coles (2006) maintains that it is possible through the NQF to “see opportunities for one kind of institution to make contributions to the traditional territory of others” (p.19). For example, in the case of PNG Polytechnic, the PNGQF can be utilised to define qualification levels as well as creating more dynamic links between parts of the PNG tertiary system and make decision making by learners easier.

#### **Quality assurance procedures**

NQFs are important tools for quality assurance procedures as they allow for close monitoring of available qualifications and therefore potentially provide adequate information on how they can be improved or financed (Werquin, 2007). Despite this fact, Coles (2006) asserts that this not true in most cases because a NQF can only have a quality assurance function if it accommodates criteria or processes for referencing qualifications. Young (2003) made comparisons of existing international qualification frameworks and noted that the New Zealand framework represents an exceptional case. It has a quality assurance function that compares qualifications against quality standards that are centrally defined (ibid). It is also important to note that NQFs are usually developed according to country specific requirements and can sometimes be influenced by other contextual factors such as the difficulty in recognising qualifications in a highly stratified system of higher education and training.

#### **Credit arrangements**

Some NQFs are specifically defined to “allow credit transfer for learning requirements in other qualifications” (Coles, 2006, p.20). He states that the aim is to promote and maintain procedures for access, transfer and progression in learning. On this issue the OECD (2007) report outlined that this process provides a fundamental step in developing lifelong learning such that the overarching structure of the NQF would provide the basis for learners to access learning more frequently and carry forward some credits for achievement to new jobs and studies. In support, Werquin (2007) observed that a NQF can be a potential policy tool for policy and decision makers as it establishes the foundation for “improving

the quality, accessibility, linkages and social recognition of qualifications within a country and internationally” (p.468). He agrees that the NQF is a potentially important mechanism for promoting lifelong learning.

This discussion shows that the learning behaviours of individuals, employers and providers of learning and qualifications can be directly or indirectly influenced by the qualification system that is present in their country. More specifically the policy implications of NQFs in tertiary education and lifelong learning.

## **Part B: The Role of Tertiary Education**

The post-compulsory education sector constitutes both the university and the non-university sector in many countries. This binary feature of education and training has its roots in early British government policies for higher education, which resulted in the separation of functions between the universities and other tertiary institutions offering advanced level courses (Ramsden, 1983). Ramsden reported that the primary aim of this policy drive was to avoid the dominance of universities within the sector. The British government then encouraged the development of vocationally-oriented programmes that related to the national and local demands for trained professionals in response to labour market needs (ibid). The diversification agenda has been a common feature for differentiation in and between tertiary institutions and most recently the blurring of boundaries between higher-level learning institutions in many countries.

Many writers on diversity in mass higher education (including Slowey & Schuetze, 2012; Gallacher & Osborne, 2005; Weelahan & Moodie, 2005) described the tertiary education sector as a contested landscape. Osborne (2005) maintained that wider access to tertiary education and the shift from elitist to mass higher learning institutions in the OECD countries indicates greater equity in learning. He further noted that it is “inescapably the case that greater funding and more efficient use of resources are both needed” (p.1). As described in the report by the OECD (2001c):

*Because of the wide range of activities encompassed by even the modest lifelong learning scenarios, and the size of the participation*

*and expenditure gaps that would have to be closed in order to realise them, it is almost self-evident that full implementation of the lifelong learning concept will require additional resources. It will be vital that maximum efforts are made to ensure that both existing and new public expenditure on lifelong learning are effective. (p.113)*

Within this context, the emphasis on short cycle forms of tertiary education would provide a route to expansion that is potentially viable to both individuals and governments (Osborne, 2005). The VET sector, as a provider of short cycle tertiary education, is of particular interest to this study.

Three country cases will be analysed to gain a broader understanding of short-cycle tertiary training in terms of the complex political, historical, cultural and economic conditions that shape the nature of this educational provision. The key themes from this review (e.g. structure of HE, VET systems and NQF) have significant bearing on contextual factors that will be used to inform this research. Even though this research is located in an underdeveloped country and is less likely to have the systemic advantage as those from developed countries, much insight can be gained from an examination of these country specific cases. This is because the issue of higher education is an international topic and can easily be interpreted across different countries.

### **England**

England features a dual system of post-compulsory education (Parry, 2005). Post-compulsory education constitutes universities and other establishments of higher education (HE), while the learning and skills sector consist of a wide selection of institutions including colleges of further education (FE) which deliver education and training at the upper secondary and tertiary level (ibid). As noted by Osborne and Houston (2012), universities in England are autonomous organisations funded in part by the state, whereas the non-university sector is publicly funded as well as by private providers. Parry (2005) explains that major policy shifts in the ‘post-16’ learning have coincided with reforms for “vocational pathways offering progression through school, FE and HE, with links into the workplace and other qualifications” (p.77). Osborne (2005) reports that institutions within the non-university sector offer short cycle advanced learning that leads to Higher National

Certificates (HNCs) and Diploma (HNDs), qualifications that allow progression with credit to further levels of HE.

VET in England is provided by FE colleges with the main target of education being young people and adult learners at the ‘non-advanced’ levels (Parry, 2005). Parry reported that apart from their size and provisions of advanced level programmes, the key feature of higher-level learning in FE colleges “was the short cycle vocational character of its courses” (p.65). Two types are generally offered; the first comprises two year programmes leading to sub-degree qualifications and the second includes an assortment of higher-level courses that meet education and training requirements of specific occupations and trades (ibid). Lester (2011) asserts that qualifications in the VET sector are regulated by the English Qualifications Credit Framework (EQF) outside of the largely autonomous university sector.

#### **New Zealand**

The New Zealand tertiary education sector covers all forms of post-secondary school education and training from “foundational learning and training, adult and community education, and industry training as well as the more traditional fulltime academic study and research” (Tertiary Education Commission, 2012, p.4). It is made up of universities, which have their origins in the British system; polytechnics that provide applied studies with a vocational brief and offer varying levels of qualifications up to postgraduate level; private training establishments (PTEs) which offer qualifications at the pre-degree level; adult and community education (ACE); and *Wānanga* institutions designed to provide tertiary education for Māori (New Zealand’s indigenous people) (Anderson, 2005). Unlike most countries in which post-compulsory provisions are based on institutional status, Osborne (2005) reported that there is a “huge fluidity between the types of programmes” (p.10) offered by various types of providers in New Zealand’s tertiary education sector. Anderson (2005) points out that the focus in Zealand is on articulation *within* rather than *between* institutions. As further noted by Anderson, a unique feature in New Zealand’s post-compulsory sector is its bridging educational pathways which provide access for learners who lack traditional credentials or qualifications.

VET in New Zealand is provided by polytechnics, PTEs and *Wānanga* institutions and is delivered as a bridge to industry training, further study and employment (Abbott, 2006). Strathdee (2012, p.54) reports that the New Zealand Qualifications Framework (NZQF) remains foundational to the VET system by serving two main purposes:

- *It promotes greater equality of opportunity by helping to create a high wage/high skill labour market.*
- *It provides a common educational currency that promotes movement of students through the system in creating markets in training and thereby further commodifies access to skills.*

It is also noted here that the NZQF is similar to the Qualifications and Credit Framework in England, Wales and Ireland but it distinctively unifies all qualifications provided by universities and other providers of academic qualifications. The NZQF has helped establish “a ‘seamless’ tertiary education system” (ibid, p.54) in New Zealand.

### **Australia**

The Australian post-compulsory sector is defined within a liberal market economy which in other OECD countries is associated with merged vocational and HE sectors (Weelahan & Moodie, 2005). It consists of four sectors: The senior secondary schools which offer National Certificates and Diplomas; adult and community education (ACE) which offers a range of programmes including accredited VET qualifications; vocational education and training (VET), which offers diploma and advanced diploma awards (i.e. dual sector awards but differ only in their accreditation and jurisdiction descriptors), and an autonomous university sector which offers higher level qualifications (ibid). The HE sector is directly funded by the Australian Federal government while the VET and ACE are the responsibility of state and territorial governments (Marginson, 1997).

VET in Australia is provided by institutes of technical and further education (TAFE), private registered training organisations (RTOs) and adult and community education (ACE) (Walls & Pardy, 2010). Walls and Pardy argue that as an enabling policy the Australian Quality Framework (AQF) provides guidelines for negotiating articulation pathways for VET learners who seek credit

transfer in higher level programmes. Unlike national qualifications frameworks in other OECD countries, Keating (2003) reported that the AQF does not have quality assurance functions; it only designates which VET qualifications are offered in each sector with descriptors that accompany it. He further stated that “as a framework the AQF has no legislative base and no authority that has the capacity to accredit or regulate awards” (p.278). However, he observes that the AQF has been most effective in underpinning national recognition of qualifications in the VET sector. Consequently, pathways from VET to HE assumes more importance (Weelahan & Moodie, 2005).

To conclude, this review shows that there are characteristic differences in how VET is defined in these country settings. It is important to note that England and Australia have a significant presence and impact on HE and VET in PNG. This difference in structure has broad implications for access and participation by learners within the tertiary education sector in each of these cases.

### **Structural differentiation and access to tertiary education**

Major structural changes within post-compulsory education in OECD member countries represent the changing nature of tertiary education globally. Osborne (2003) observed that institutional differentiation has contributed to creation of “new types of institutions that both parallel and complement” (p.7) existing university structures. Osborne explains that at one end are countries with well integrated and unified tertiary education systems which have highly equitable procedures for ensuring access for learners (Gallacher, 2005; Bonham, 2005), while on the other end are countries’ systems with less integrated provisions of HE (Walls & Parry, 2010; Parry, 2005). The Australian and the English examples represent the latter case.

The tertiary education system in PNG is much smaller than these examples and should generically exhibit features of a unified system. However, this is not the case due to the highly autonomous feature of university sector in comparison to the publicly funded non-university sector. Issues of access and participation are magnified due to structural and institutional barriers. As a response Osborne

(2003) outlines three structural interventions with flexible strategies that are significant to this discussion.

### **Shifting targets**

A report by Davies et al. (2002) showed a shift in policy focus on adult access to tertiary education in the UK since the 1970s. The findings illustrated past efforts focused on improving participation by adults, but recent changes included concerns for a diverse group of learners. Osborne (2003) reported that the UK government sought 50% participation in HE, based on the fact that participation by adults alone would have had limited impact. He emphasised that the availability of extensive information on HE provided the basis for directing resources toward a greater range of demonstrable inequities. He adds that there are strong arguments to support the fact that a range of early interventions would best combat “the inheritance of inter-generational inequality for young people at school or college level” (p.48).

In Australia, a report by Suri and Beckett (2012) documented a dramatic rise in student participation in HE. Evidence showed increase in participation by females, non-English speaking learners and participants from ethnic communities. They reported that despite this growth there has been mixed success with regard to overall participation by other sub-groups, including indigenous people from low socio-economic backgrounds. They also observed that to address this issue regional universities have taken up e-learning, including more diverse forms of course delivery, but, even so, “the ‘knowledge economy’ version of lifelong learning acknowledges that livelihoods need to be paid for” (ibid, p.207) a reality that is prevalent in rural Australia. This imbalance shows that there remains significant social stratification in HE participation in Australia (ibid). As reported by James (2007) this sub-group of learners are underrepresented in high prestige institutions (i.e. people from rural areas, majority from low socio-economic backgrounds). These cases provide examples of “the potential fragility of initiatives that are specific to particular groups” within these country settings (Osborne, 2003, p.49).

### **Access as flexibility**

The countries report by Slowey and Schuetze (2012) identified varying forms of strategies in creating access and flexibility to higher levels of learning. One of these was the potential of distance education through e-learning. Most countries reported a significant increase in the use of ICT as a flexible route for widening access to higher level studies as well as specific areas such as professional development. For example, in Australia, emphasis has been placed on ICT and distance education. Osborne (2003) also noted that in Finland this approach is linked to the social goal of persuading people to remain in rural areas as a means to limiting urban drifts by citizens. Osborne reports that a range of flexible structures such as local libraries, ICT and adult learning facilities have been initiated by the Finnish Government to engage citizens in learning.

The need to personalise distance education was also noted by Slowey and Schuetze (2012) as linked to key barriers around the design and pedagogy of online programmes, access to IT from rural areas and lack of familiarity with IT of lifelong learners from different socio-demographic and economic backgrounds. They further argued that this explains why the potential of online learning is yet to be realised. Osborne (2003) also noted that sometimes the main problem associated with such change may be less pedagogical or technical, but associated more with administrative decisions. The case for Australia as reported by Suri and Beckett (2012) demonstrates potential ways in which e-learning has sought to create flexibility in its provisions through multiple entry points to lifelong learning programmes.

### **Retention**

Another major imperative at the institutional level is the focus on student retention (Thomas, 2002). Thus as an exemplar the report by Davies et al. (2002) outlines how in England greater emphasis is placed on negotiating of learning pathways within established institutional practice and issues of access. The report noted that this concern has led to a variety of structural changes in the curriculum to improve both flexibility and the outreach of programmes. It was also reported that with the expansion of HE and the creation of more heterogeneous student groups,

structural changes have shifted to include various access initiatives such as learning support, advice and counselling services.

Osborne (2003) also reported in his article that in France, it is easy to enter the HE system but it is one in which it is relatively difficult to succeed. He noted that “selection occurs by failure with some 50% of entrants not receiving a diploma for the first cycle of two years” (p.52). However, new initiatives were introduced to widen and increase participation by adults which focused more specifically on provisions that addressed “pre- and post-entry guidance and support” (ibid, p.52) for non-traditional learners.

Similarly in New Zealand, the study by Benseman et al. (2006) on issues of participation in tertiary education for Pasifika students identified a range of recurring themes with regard to retention. The negative factors identified included student motivation and attitudes, pressures from family groups, peer groups and finances, lack of support services and language issues. Positive factors included availability of Pasifika staff, promoting Pasifika presence in institutions and positive role models, together with appropriate pedagogy and wide access to information. The study concluded that “the capacity of educational facilities to retain students is a function of the interface between student and institution and the institution and the community” (p.161). It also recommended that there is a need for a revitalised tertiary education sector that is “better able to provide the underpinnings of both a knowledge economy and a more equitable and inclusive society” (p.161). A potential solution to revitalising the structure of tertiary education lies with the provisions of providing short-cycle tertiary training.

### **Short-cycle tertiary education**

The traditional role of short-cycle tertiary training is in providing vocationally relevant education and training. This function has become increasingly important, as it increases the number of participants who are interested in pursuing higher level learning. Furthermore, as structural differentiation within the sector continues and access issues become more prevalent, the role of short-cycle tertiary training becomes more significant in providing access for non-traditional learners.

In addition, it provides a potential route for learners to access higher level learning. These functions are discussed separately below.

#### **Provision of VET training**

It has been observed that in many contemporary societies, traditional functions of short-cycle tertiary education are directed towards vocationally relevant education and training. For example, Germany has the most clearly differentiated VET sector (Dessinger, 2005). The report by Dessinger identifies a clear binary divide between universities and more vocationally oriented training providers such as the polytechnics. It also identifies a VET system that is built around a dual system of work-based apprentice training and part-time vocational schools. In similar contexts Weelahan and Moodie (2005) described the Australian case as having a formally divided system consisting of a unified university sector alongside a VET system that allocates training to TAEF colleges.

Even in societies such as New Zealand where the boundaries between vocational and academic training have converged, the report by Anderson (2005) showed that the vocational imperatives of skill training were evident. It was noted that the National Certificates and Diplomas on which short-cycle tertiary education are based have specific vocational origins. This is also evident in programmes offered in PTEs and *Wānanga* institutions. Similarly, in reporting on England, Parry (2005) noted that the introduction of the foundational degrees in FE has served to close the skills-gap between associate professional and higher technical levels.

#### **Increase the number of participants in tertiary education**

As discussed above, this function has become increasingly important for increasing number of participants in the tertiary education sector. The issues identified in the report by Weelahan and Moodie (2005) on Australia point to the advantage of VET diplomas and advanced diplomas as an important access mechanism for disadvantaged students to short-cycle tertiary education. Parry noted that the advantage of short-cycle training creates an alternative pathway for learners between VET and higher level learning in universities. Gallacher and Osborne (2005) also observe that the distinctive characteristics of short cycle tertiary training are attractive for adult learners. They stress that an area that is of significance is the employment-related aspect of short-cycle training.

In Australia, Weelahan and Moodie (2005) noted that the competency-based training packages delivered in TAFEs and other similar institutions increased participation rates of learners. In England, Parry (2005) links this increase to the impact of collaboration between FE colleges and universities in offering foundational degrees. It was noted that a key aspect of this development was the focus on work-based learning. Another determining factor is the emphasis on the quantity of learning experiences of learners. Gallacher and Osborne (2005) note that the further education tradition of “student centeredness and personal pedagogy along with the smaller scale and greater intimacy of teaching groups” is more attractive to non-traditional learners. However, they also noted that this can lead to problems for those who transfer from short-cycle to degree level programmes.

#### **Widen participation by non-traditional learners**

This function leads to the widening participation of non-traditional students who have been traditionally under-represented in tertiary education (Osborne, 2003). Examples include the changing roles of community colleges in the USA and Canada, and the changing roles of FE in Scotland (Bonham, 2005, Burtch, 2005, Gallacher 2005). These studies identify varying ways in which short-cycle tertiary education and training is fulfilling this function. Of particular interest is what Gallacher and Osborne (2005) identify as heterogeneity of student groups who participate in short-cycle tertiary programmes. They found that the relative success of this type of provision in widening access to tertiary education is beneficial to those learners who originate from areas of social and economic deprivation. In contrast, the Weelahan and Moodie’s (2005) report on Australia illustrated that elite universities in Australia are more likely to be dominated by the upper middle class group than the less privileged.

Bonham (2005) also noted the important role of American community colleges in making lifelong learning a reality for many Americans. In New Zealand Anderson (2005) reports that this issue is associated with the geographical spread of polytechnics and *Wānanga*, which helps to overcome problems of access which can be of particular significance for adult learners. Anderson explains that this type of provision has seen increased participation by Maori and Pasifika people in sub-degree level education. The report also indicated that Maori people participate

above the proportion of their population composition. Benseman et al. (2006) note that the attrition rate for Maori is much higher than for Asians and Pakeha (European New Zealanders).

In Australia, Weelahan and Moodie (2005) reported a complex pattern of participation in short-cycle tertiary programmes. They asserted that while the composition of VET students is more broadly representative of the whole population than for students in the university sector, the representation of VET students in higher level programmes (e.g. Diploma and advanced Diploma) is similar to that for students at universities. They are more representative of the privileged urban population than those from lower socio-economic backgrounds (e.g. Aboriginal or Torres Strait islanders).

To summarise, this review does indicate that short-cycle tertiary education has demonstrated success in accommodating students from under-represented groups in many societies. However, Gallacher and Osborne (2005) explain that these success stories would appear to link closely with “community-oriented flexible provisions, or other initiatives that which recognises the special needs of non-traditional students” (p.200). They also maintain that further research is needed to identify factors that can most effectively contribute the agenda of widening participation in tertiary education.

## **Part C: Tertiary Education in PNG (A case for a polytechnic)**

### **Brief history**

The educational system in Papua New Guinea (PNG) was largely influenced by neo-colonial ideologies and practices. As an Australian protectorate, the now independent state of PNG was administered by Australia until self-government in 1973 and independence in 1975. In view of Australia’s link to Britain before colonisation, a number of principles identified by Whitehead (2005) in his work on the historiography of British Imperial education policy, in relation to England’s colonial system of education in Africa since the 1930s, also existed in PNG (O’Donoghue, 1994). In particular, the business of education was left entirely to the Christian missions, who had minimal support from the state.

Whitehead (2005) reported that the educational philosophy of the missions was basically associated with religious and moral instruction with less emphasis on other aspects of training. In all, O'Donoghue and Austin (1994) noted that only 5% of the population was literate in 1939. Megarrity (2005) argues that the Australian administration in the 1920s and the 1930s viewed the "expansive presence of PNG above the Australian mainland as a convenient protection against northern invasion of the continent" (p.2). O'Donoghue (1994) observed that the priority of this arrangement was to establish and maintain basic military control over the area rather than investing in indigenous education.

The Post World War II period brought dramatic changes. Megarrity (2005) reports that the deeply felt appreciation for the indigenous population towards the Allied war effort as carriers and stretcher bearers, plus the celebrated halting of the Japanese advance along PNG's Kokoda Trail influenced a new policy direction towards PNG. He commented that in recognition of this contribution plus the geographic proximity of PNG to Asia, the Federal Government of Australia saw education as a key area for "promoting economic and social development, as well as being central in regaining colonial authority" (Megarrity, 2005, p.3). Smyth (1977) reported that selective government schools were established during this period but most responsibilities of education and training were left entirely to the missions. He maintained that the general outlook by Australia was to develop an educational system that would gradually assist in adapting the local population to meet the changes brought on by the colonisers.

Megarrity (2005) reported that about 25% of the school age population in PNG had experienced some form of primary education by 1960 with less priority given to secondary and tertiary education. It eventually took external international pressure to initiate changes. Solon (1990) reports that the United Nations' Post-War Decolonisation policies for African and Asian territories forced Australian territorial administrators to fast-track educational reforms. Solon argues that during this period the education focus was on training a small number of Papua New Guineans to occupy positions left vacant by the colonisers in the period leading up to the country's independence.

The significant impact was the planning for future expansion of tertiary education which included an administrative college for training indigenous public servants

as well as eight tertiary institutions including the establishment of the University of Papua New Guinea (Lynn Meek, 1982). Consequently, Roe (1968) found that the Commonwealth country's education policy concentrated more on the expansion of the university sector, a main tool by which it consciously created educated elites during the 1960s. Hence, by this time the newly independent state of PNG found itself with an "inherited educational system, transplanted directly from a colonial power in which the emphasis was almost exclusively directed towards satisfying the high-level manpower needs of the country" (Smyth, 1977, p.4).

Moreover, Australia's generous support towards education in PNG should not be overlooked. Since independence, the Australian Federal Government through AUSAID has continued to provide financial support towards the PNG Government's development objectives in education (AUSAID, 2003). However, massive educational achievements through this partnership are not matched by wider social progress (Smyth, 1977). For example, there are limited spaces in tertiary institutions compared to the number of students leaving compulsory schooling, and issues of access, equity and gender are high (Hind et al., 2011). PNG is culturally diverse with 800 plus indigenous languages, and the reality of the diverse character of this population including the influences of Western culture is "played out in policy developments in economics, social and cultural spheres, including education" (Findsen, 2012, p.231).

### **Post-compulsory education**

The post-compulsory education sector in PNG is structured on a dual system. On one hand is the university sector which comprises eight universities (including colleges of distance education) and on the other is the non-university sector. The non-university sector constitutes the Technical Vocational Education and Training Division (TVET) which comprises seven technical and business colleges (including the newly established PNG Polytechnic); a number of recently established community colleges; seven teachers' colleges; nursing schools; over 100 vocational schools; technical secondary schools; and other private providers of vocationally oriented programmes. The university sector dominates in higher

level learning (i.e. degree and post graduate qualifications) and the non-university sector is characterised by what Kyvik (2004) described as short-cycle “paraprofessional institutions with distinct cultures” (p.394) and subjected to different public regulations. Education for students is considered complete after the specific two years with few possibilities for transferring to higher level learning at a university.

In a similar context as Australia (see, Weelahan & Moodie, 2005), the post-secondary sector has three different models of institutional arrangements: 1) single sector, stand-alone HE and VET institutions with various links and relationships between the sectors; 2) dual sector universities (containing both HE and VET provisions); 3) and co-located campuses as in the case of the University of Papua New Guinea (UPNG) and Divine Word University (DWU). Each model has policies that support movement of students across sectors. Sometimes some of these arrangements are less visible and this contributes to the many problems of access and equity for participation in tertiary education (e.g. problems of credit transfer). Links between specialised colleges are poorly developed at the regional level; however, at the national level most VET programmes share a common identity under the PNG TVET Division.

### **The PNG Qualifications Framework**

The PNG Qualification Framework (PNGQF) was created in 2008, and its main aim was to significantly raise the quality of training in PNG. The PNGQF is the only systemic framework that covers post-compulsory education and training in PNG. Unlike qualification frameworks in England, Australia and New Zealand, the PNGQF has yet to be developed further to include accreditations or quality assurance functions. The PNGQF designates which qualifications are offered in each sector with general descriptors that accompany it.

The PNGQF was established, in part, to facilitate learning pathways within and between different sectors, however, “sectorial differentiations of qualifications” (Weelahan & Moodie, 2005, p.23) have contributed to a deep divide between the sectors, and the added problem of students moving freely between the sectors. This has led to general dissatisfaction that the “learning and certification of

learning in each sector is incommensurable” (ibid, p.23). So rather than promoting articulation and seamlessness of qualifications, it can be argued that until now the PNGQF has contributed to widening the gap between sectors.

Yet the PNGQF has been most effective in underpinning developments in the VET sector. It has been a national achievement since different levels of qualifications between the public and the private sector can now be recognised under one framework.

### **The PNG Polytechnic**

The PNG Polytechnic (officially known as the National Institute of PNG or NPIPNG) was established in 2008 by the PNG National Education Board, acting under its authority as provided for by the PNG Education Act 1983 (NPIPNG, 2012). The institution was established as the first of four polytechnics envisioned to be created in each of the four regions in the country. The institution is guided by a mission statement that reads:

*We are a government educational institution committed to develop individuals in various life skills through quality and relevant educational programmes that meet business, industrial and community needs for sustainable national progress. (NPIPNG, 2012, p.7)*

As a provider of short-cycle VET training, the PNG polytechnic offers Certificate and Diploma programmes, each defined by a two year course cycle. Training is delivered by six departments, Building and Civil; Mechanical Engineering; Applied Science; Electrical Engineering; Business Studies; and Tourism and Hospitality. The institution basically provides skill training at post-secondary level as well as providing opportunities for others in the workforce. Education and training is designed to develop broad-based analytical and creative skills and involves industry input for programme design, planning and course delivery. The institution plans to offer advanced diploma programmes in the near future.

## **Conclusion of chapter**

This chapter has discussed and justified major themes associated with tertiary education and lifelong learning. Most authors agree that while the concept of lifelong learning featured prominently in national and international policy discourse, the implications of this concept on tertiary education remains underdeveloped. The notion of lifelong learning has been advocated as a potential solution to address many complex issues and is associated with the idea of providing equitable access to education and training for all individuals in a society.

It was argued in this literature review that the changing context of the tertiary education landscape in many countries has had both positive and negative impacts on opportunities available to individuals to readily access education as lifelong learners. Factors discussed in the chapter include the advance of the learning society; the focus of education and training on employability rather than life-worlds of individuals; greater accountability by learning institutions to accommodate lifelong learners; and the widening participation agenda in tertiary education.

Based on the above conclusions, it can be argued that the PNG tertiary education sector displays similar features. There is high demand for tertiary level learning, however, the system does not have structural mechanisms (e.g. course links or pathways) that could provide opportunities for diverse groups of learners to access different modes of learning. The participation rate in tertiary level education in PNG has increased, but this does not necessarily mean that every potential learner has the opportunity, particularly those traditionally under-represented (e.g. second chance learners and those from low socio-economic backgrounds).

The issue of who is responsible for lifelong learning, and how tertiary institutions can cope to accommodate multiple types of students is also discussed. The literature highlights the importance for governments and learning organisations to be aware of potential barriers to systemic progress of lifelong learning and to ensure that these are minimised where possible. The next chapter reviews the methodology that was employed in this study.

## Chapter Three: The Methodology

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As previously stated, the purpose of this study is to investigate the extent to which polytechnic education developments can be situated within a lifelong learning framework in PNG. In examining international literature concerning tertiary education developments and the concept of lifelong learning, it is clear that to successfully fulfil their educational roles in vocational education and training, tertiary institutions such as the PNG Polytechnic need to be able to respond effectively to changing education and training needs; adapt to a rapidly shifting tertiary education landscape, and adopt more flexible modes of organisation and operation. In particular, polytechnics must respond to this multi-faceted demand placed on them, including the need for a model of lifelong education.

This chapter provides a rationale for the methodology chosen for this research. It begins by providing a justification of the interpretative paradigm that was chosen to guide the study. Then the rationale for using a qualitative case study is explained with reference to the research context. Following this, an explanation is given on the choice of methods employed in the study which includes the justification of why the interview was chosen as the main method for data collection. Data analysis is also discussed to explain how major themes in the interview data were identified. Next, ethical considerations for the study are discussed. Finally, the strengths and limitations of the study are discussed.

### **The choice of methodology**

As the purpose of this study is to investigate the potential for lifelong learning at a polytechnic institution from the perspective of academic staff members, an interpretive paradigm was chosen to guide this research (Deetz, 1982). The goal of an interpretive paradigm is characterised by the concern to arrive at the “understanding and interpretations of how people create and maintain their social worlds” (Neuman, 1994, p.64). However, this study goes slightly beyond this understanding to accommodate Deetz’s (1982) description of a critical

interpretive research. Deetz argues that the emphasis on “describing the meaning that exists and is shared in the organisations is insufficient and that research should perform a critical function by demonstrating where false consensus exists and the means by which it is constructed” (p.132). In adopting this position, this study analyses the organisational reality (i.e. at the polytechnic and the national level) that is presumed as real, as well as the social reality and its consensually shared interpretations. As Rubin (2003) asserts, reality is a “social construction and that our social world is best understood as one dimension of inequality.” (p.540). Important here is not the observable social action but the subjective meanings that shape and describe the interactions of individuals within the broader organisational framework that governs the institution (i.e. the polytechnic). Bassey (1999) asserts that the interpretivist approach acknowledges that, “reality is seen as a construct of the human mind...people perceive and so construe the world in ways which are often similar but not the same” (p.43). This view differs from the positivist approach which acknowledges that reality exists whether it is observed or not, irrespective of the individual who is responsible for observing it (ibid).

The interpretive paradigm used in this study is consistent with the principles of qualitative research which assume that “reality is constructed, multidimensional, and ever changing; there is no such thing as a single immutable reality waiting to be observed and measured...thus there are interpretations of reality; in a sense the researcher offers his or her interpretations of someone else’s reality” (Merriam, 1995. p.54). In this context, Crotty (1998) suggests that within the interpretive paradigm individuals are actively constructing meanings in different ways, which are influenced by the context, experiences and the frames of reference of the worlds they are trying to interpret. This study acknowledges that the research participants are human beings and are incapable of total objectivity because their reality is constructed by subjective experiences within different situations (ibid). Additionally, the “value held by the researcher, the questions asked of the participants and the generated and interpreted findings all allow the research to be value bound” (van Esch & van Esch, 2013, p.218). Therefore, to understand the complex phenomenon in this study, it is important to consider the “multiple realities experienced by the participants because natural environments are

favoured for discovering how participants construct their own meaning of events or situations” (Miles & Huberman, 1994, p.344).

### **The case study approach**

A single case study of PNG Polytechnic is utilised in this research project to examine the extent of vocational education and training, and the potential for developing a culture for lifelong learning in the tertiary education sector in PNG. According to Yin (2003), a case study is “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p.13). Since the case study was conducted within its natural setting (i.e. within PNG Polytechnic), it allowed the researcher to comprehend the nature of the structures and processes of education and skill training in an area that had not been previously studied. As maintained by Cavaye (1996), a case study approach investigates predefined phenomena and does not involve explicit control or manipulation of variables, but rather the focus is on in-depth understanding of a phenomenon and its social context. Merriam (1998, p.19) also outlines, attributes of a case study that were significant to this research project.

- *It is particularistic, it relates to a particular “situation, event, programme, or phenomenon”. In this case, the extent of vocational educational education and training and the potential for developing a culture of lifelong learning in the PNG polytechnic.*
- *It provides rich descriptive data, which in this case is drawn from individual beliefs and assumptions of participants in the study.*
- *It is heuristic, in that “it illuminates the readers understanding of the phenomenon under study”, a central goal of this study.*
- *It is inductive because qualitative case studies in most cases, usually “rely on inductive reasoning for the formulation of concepts, generalisations or tentative hypothesis”.*

As for any research strategies, case studies have limitations. Cavaye (1996) points out that, during a case study, the researcher has “no control over independent variables and this may limit the internal validity of any conclusions” (p.229). Often the researcher is faced with the challenge of not fully representing the complexities of social or educational situations. Another weakness as identified by Guba and Lincoln (1981) is that researcher or reader bias can affect the possibility of how the research is portrayed. Therefore, caution should be taken in making generalisations about the research findings.

This study is consistent with the description of the case study approach because it specifically investigates a phenomenon (i.e. the potential for lifelong learning) within a bounded system (i.e. the polytechnic). In applying this approach it was possible to gain an in-depth understanding of participants’ beliefs and assumptions on the extent of vocational education and training and the potential for lifelong learning at the PNG Polytechnic.

## **The Research Method**

As a single interpretive case study, this research employed a qualitative approach in data collection. Interviews were used as the primary method for data collection apart from observations and collection of official documents (e.g. project plans and policy documents from the polytechnic). Mathison (1988) asserts that “good research practice obligates the researcher to triangulate that is, to use multiple methods, data sources, and researchers to enhance the validity of research findings” (p.13). Related to Mathison’s observations, this study was designed to collect pertinent documents as well as eliciting the perspectives of participants in the study. The advantage of this approach follows Patton’s (1982) suggestion that in-depth data can be collected from some persons or settings depending on particular things that can be learned from those cases while gathering less information from other people and places” (p.206).

Moreover, Eisner (1979) maintains that the process of establishing different structural corroboration for data collection and using it to establish links that eventually create a whole can be greatly enhanced by using triangulation (cited in

Mathison, 1988). However, Patton (1980) emphasises that triangulation can be problematic, in that, multiple methods will not automatically guarantee that findings generated from these procedures will eventually form a nicely integrated whole. He further suggests that the point of triangulation is “to study and understand when and why there are differences” (p.331). Denzin and Lincoln (1994) further explain that while the use of multiple strategies in data collection reflects an attempt to secure an in-depth understanding of the phenomenon under study; “objective reality can never be captured” (p.2). On this issue Miles and Huberman (1994) point out that it would not be uncommon, for example, to analyse transcribed interviews along with observational field notes and documents authored by the respondents themselves to satisfy the principle of triangulation.

To increase the validity of the findings, this study analysed the transcribed interviews together with documents authored by some of the respondents plus other institutional documents collected from the study. As the researcher for this investigation I acknowledge that the purposeful sample selected for this study includes different cases (i.e. individuals with varying depth of knowledge and experience that is specific to the research question) and their contributions can be treated as complementary sources of information. The main source of data for this study was from the semi-structured interviews, and the various documents from Government and the PNG polytechnic supplemented this source and potentially increased the trust in the findings.

### **Interview design**

The reason for choosing to use the interview as the principal mode of data collection is that it enabled the researcher to gain a deeper understanding of how the concept of lifelong learning is understood by participants, and how this educational concept can be applied to the broader context of education and training within the polytechnic. The interviews allowed the researcher to have access to each individual’s reality and interpretation of his or her own experience of the concept under study (Fontana & Frey, 2000). The interviews were also prearranged, in that the respondents were informed of the time and place that was convenient for both the interviewee and the researcher. Locations included quiet

office spaces away from other institutional activities to ensure an uninterrupted response rate by the participants.

A semi-structured interview was chosen to ensure that the researcher was prepared to be flexible in terms of the order in which the research topic was considered, and most importantly to let the interviewees develop ideas and speak more widely on the issues raised by the researcher (Denscombe, 2010). The use of an interview guide (Appendix 1) provided a set of questions that was explored with each respondent. This process allowed the researcher the flexibility to modify the order of the questions based upon his perception of what seemed appropriate in the context of the conversation (Robson, 1993). This approach enabled the researcher to clarify statements; ask probing questions, and explore new issues that emerged during the interview process (Mutch, 2013; Menter et al., 2011). The main purpose of the interview was to gain each interviewee's perceptions about the context of education and training at the polytechnic and its implications on the potential for creating a lifelong learning culture.

The interview guide provided a list of questions that were used in the interview process. The guide was developed after consulting the literature to identify areas which would be useful to cover the scope of issues that were to be addressed and were related to the research question. The main purpose of an interview guide is to allow flexibility by ensuring that "the guide helps make interviewing across a number of people more systematic and comprehensive by delimiting in advance issues to be explored" (Patton, 1990, p.283). Interviewees were only provided with the information sheet containing general aims of the research without the interview guide. This approach was taken to ensure that the narrative that was audio recorded captured the in-depth reality of the conversations and not responses that were prepared in advance. Each interview began with summarising the purpose of the research and explaining that as the researcher, I was interested in finding out about their beliefs and assumptions on the potential for lifelong learning at the polytechnic.

#### **Interview selection**

Interviews were conducted between the months of June and July 2014 with twelve academic staff, five of whom were heads of departments. A "purposeful random

sample” (Patton, 1990, p.17) was used in an attempt to select “information rich cases” that constituted the local context of the research (ibid, p.169). The purposeful selection included a balance of academic and administrative staff (including both males and females) based on their experience/background and time spent at the institution. Academic staff members were selected from the six departments (or disciplines) that made up the institution.

A pilot interview was conducted to assess the effectiveness of the interview guide. The aim of this process was to determine the appropriateness and format of the questions, and assess the areas of my interview techniques that could be improved. To conduct the pilot interview, I deliberately selected an academic staff member who had past experience as an interviewer in a research project. This process helped to identify how the interview guide could be used more effectively to help make the issues to be discussed, clearer to the interviewees. These minor changes included suggestions for improving the order in which the questions were presented in the interviews.

Participants selected for the sample were individually approached and were asked if they were interested to take part in the study. Each was presented with an information sheet (Appendix 2) that contained the goal and purpose of the study. A list of selected participants and the description of their position within the institution is shown in Appendix 3. Each interview was audio-recorded with consent from the interviewees. A full transcription of the interview scripts were given to the interviewees and they were given time to amend, where necessary.

#### **Data from documents**

The reason for choosing to use data from documents is that it provided concrete evidence of information that describes the contextual environment of the study. Institutional (i.e. the polytechnic) project plans and government policy documents were useful to collect because they gave insights into existing macro structures (e.g. educational policy frameworks) that govern the provision of education and training within the research setting. There is sometimes a disjunction between what people say and what people do. This approach is based on the assumption that it would be unwise to rely solely on interview data to provide insights into patterns of and motives for understanding the current nature and future plans for

educational developments in this study. This study used data from documents to help inform the development of concepts and theories in the study. Documents included institutional documents that consisted of policy documents and project plans, while government documents included the PNG Government's *Vision 2050 Plan*, the *PNG-TVET Policy* framework and the *PNG Education Act 1983*. Permission was sought and granted by the institution to use these documents solely for the purpose of the research.

### **Analysis of data**

Thematic analysis was used as the primary tool in this study to analyse the interview data. Through its theoretical freedom, thematic analysis provides a flexible and useful research tool for data analysis that can potentially provide rich and detailed, yet complex account of the data (Braun & Clarke, 2006). Unlike other forms of thematic analysis that approach data analysis in a theoretical or deductive manner (e.g. Boyatzis, 1998; Hayes, 1997), this study employed an inductive or 'bottom up approach' (e.g. Frith & Gleeson, 2004). The advantage of using the inductive approach is that themes identified will emerge from the data themselves (Patton, 1990).

The thematic approach resembles grounded theory in that it is not driven by a predetermined theoretical framework (or set of guidelines to identify themes). Within this context, explicit theories are not imposed on the data, but rather to allow the emergence of conceptual categories and descriptive themes from within the data (Miles & Huberman, 1994). Hence, the method applied in this study is data driven (Braun & Clarke, 2006). However, it is also important to note that "researchers cannot free themselves of their theoretical and epistemological commitments and data are not coded in an epistemological vacuum (ibid, p.84). Indeed, the method of analysis used in this study is driven by the research question and the researcher's broader theoretical assumptions on the topic.

### **Interviews**

Each interview was transcribed soon after the actual interview. Interviewees were given the opportunity to make changes to the initial interview transcript. This

offer was taken up by all the interviewees who generally accepted the individual contents of the interview transcripts. The data were analysed using the thematic analysis model described by Braun and Clarke (2006). Themes and patterns within the interview data-sets were analysed using the inductive process. The following steps were taken.

- 1) *Familiarisation with interview data.* As the researcher, I used this initial phase to familiarise myself with the depth and breadth of the data content. Data was repeatedly read and reread at this stage, as a way of identifying the meanings and patterns that emerged. It is important to note that this process contemplated the research question by allowing the goal of the study to theoretically guide this initial phase.
- 2) *Generation of initial codes.* I developed an initial coding framework based on the meanings and patterns identified in *phase 1* and grouped the entire interview data in a systemic way into manageable text segments. Initial codes were identified based on how they captured the qualitative richness of the phenomenon being studied. At this stage it was important to ensure that equal attention was given to each data item to identify interesting aspects of the data that formed the basis for repeated patterns (or themes) across the entire data set. I then grouped similar data extracts and used these data extracts to compare within and between the larger groupings. This process required me to continuously engage in back and forth refinement of data extracts until major concepts emerged from the data.
- 3) *Selection of potential themes.* This phase involved examining the codes and collating the data to identify potential themes. I organised all the individual codes that were relevant to each potential theme and grouped them accordingly. This approach enabled me to work progressively with the data and at the same time review the viability of each potential theme. I developed an initial thematic map to refocus the analysis at the broader level of themes.

- 4) *Conducting of theme review.* The initial thematic map containing potential themes was further refined to isolate themes that had less support across the interview data set. With the aid of the initial thematic map, I returned to the original text and started the process of interpreting the data in knowledge of the networks within the thematic map. This process involved two review stages.
- a) Description of the network. The contents of each network were individually reviewed and described accordingly with text segments. All collated extracts from each theme were re-read to ascertain if they formed a coherent pattern. This step was undertaken for two reasons: Firstly, to establish the relevant connections of the themes to the entire data set and secondly to recode any additional data within themes that were missed in the earlier coding process. Potential themes that emerged were included; those that did not fit were excluded while others were collapsed and reorganised to form potential themes.
  - b) Exploring the network. This phase required me to explore the individual networks in the thematic map and identify the underlying patterns that began to emerge. In this process, the validity of the individual themes was considered in relation to the entire data set to confirm whether the thematic map accurately reflected the meaning evident in the data set as a whole. After this phase a satisfactory thematic map of the entire data set was finalised.
- 5) *Selection of final themes.* Themes identified from the final thematic map were defined and further refined to identify the essence of the respective theme and what aspects of the data each theme captured. The collated data extracts were then organised into a coherent and internally consistent

account with accompanying narratives from individual interview accounts under these themes.

- 6) *The final stage presented a report of the findings.* A reasonable number of data extracts were used in the report to provide sufficient evidence of the themes within the interview data. Data extracts were then embedded within the data analysis report to illustrate the story told by the data. The data analysis report was then used to make a justifiable argument in relation to the research question.

A full report of the findings is discussed under each theme in Chapter Four.

### **Ethical considerations**

As this research was conducted for a Master's degree thesis at the University of Waikato, Hamilton, New Zealand, ethics approval was gained from the University of Waikato, Faculty of Education Human Subjects Ethics Committee. Informed consent was obtained from all participants involved in the study (Appendix 4). This process ensured that this study met the standards of ethical acceptability and was conducted in a manner that minimised unintentional harm to the participants. Participants were reminded of the risks and benefits of the study and they gave consent to participate without being coerced in any way.

A major concern in this study was to ensure that sufficient confidentiality was maintained to enable participants to supply information freely. While participants were assured that the information gathered in the research would not be used in any way to identify the individual, the fact that the researcher is known to these individuals as a co-worker made them easily identifiable. Complete anonymity was not an option in the interviews for this reason. This issue could have been avoided with the use of an independent interviewer but due to other issues such as financial constraints and the possibility of identifying a candidate who had substantial knowledge about the research topic, made it unfeasible. While this may be the case in some forms of research, literature on research methodology

indicates that the use of an intermediary is not necessarily an advantage as the “interpretivist paradigm differs from the positivist paradigm in that the researcher is not positioned as a disinterested scientist” (Hope, 1998, p.64).

On the issue of bias, Patton (1986) asserts that “closeness does not make bias and loss of perspective inevitable” (p.200). As the researcher and an insider, I was equipped with the background knowledge of the research topic and this enabled me to identify possible omissions or misunderstanding on the topic and probe accordingly during the interview process. It was also important that in attempting to minimise bias in both the collection and interpretation of the data, I received help through supervision and independent checks by a different individual. Another advantage of the interview is that I was able to explain to the interviewees at the beginning of each procedure about how the information would be used by taking time to give assurance of confidentiality and answering questions, where necessary.

Merriam (1998) asserts that the researcher must always be conscious of personal biases and how these can impact on the outcome of the study. On this issue, Patton (1990) observes that subjectivity in any research is inevitable as no researcher is value free, since all researchers usually bring with them personal beliefs and interpretations into the research setting. In my role as a teaching staff member of the institution it was inevitable that I brought with me personal bias into the research; however, my depth of knowledge of the institution heightened the validity of the findings. It is important to understand that the process of explaining biases does not try to make a qualitative research more objective but to “understand how one’s subjectivity shapes the investigation and its finding” (Merriam & Simpson, 1995, p.98). In attempting to minimise bias in the study I undertook steps to inform the participants that the purpose of the study was to understand their beliefs and assumptions of the potential for lifelong learning at the polytechnic. I made clear to them that I was there as a researcher and not as a staff member. I also conveyed to them that the information gained would be used to consolidate efforts that attempt to raise the standards of education and training at the polytechnic.

Moreover, it is also important to accommodate the possible consequences of this study. Merriam (1988) points out that “research does not begin in a value-free vacuum, nor does the results of the research get used in a value-free way” (p.148). The findings of this study will be disseminated for the purpose of consolidating efforts within the polytechnic to create a lifelong learning culture that will help to raise the standard of vocational education and training at the institution.

### **Strengths and limitations of the research**

In any qualitative research, issues of validity, reliability and generalisability are important matters for consideration. In a qualitative study, Merriam (1998) observes that readers must be able to trust the overall findings of the study. There are many strategies that can be used to improve the trustworthiness of the study, part of which includes ethical issues that were considered as part of the study. This was discussed earlier to emphasis its importance. Another consideration for trustworthiness in the findings depends on the appropriateness and consistency of the methods used in data collection. Miles and Huberman (1994) suggest that “.qualitative analysis of text is often supplemented with other sources of information to satisfy the principle of triangulation and increase trust in the validity of the study’s conclusions” (p.350). In this study transcribed interview data were analysed alongside documents authored by respondents (those collected from the polytechnic) plus others (government documents), as part of increasing trust and validity of the findings. In addition, the returning of interview transcripts to participants for confirmation of content helped to ensure that an accurate account of the conversation in the interview process was maintained.

Other strategies as recommended by Greenhalgh and Taylor (1997) were used as quality control. For this study, the interview data were analysed independently by the researcher with guidance from a supervisor. Limitations occur for all studies, and because of the nature of a Master’s study, those data were coded and themes identified by one person and the analysis discussed with a supervisor. This process allowed for consistency in the method, but failed to provide multiple perspectives from a variety of people with different expertise. Another limitation

of the study concerns my own expertise as a novice researcher. Given this limitation, I had to more earnestly listen carefully after each audio-recorded interview, review my techniques, and work on the improvements.

Interviews usually entail the advantage of the researcher checking accuracy and relevance as an ongoing process, while the collection of documents (e.g. official documents from the institution and government policy) can provide more objective evidence of existing data on issues under investigation. However, the interpretive paradigm guiding this research recognises that any inquiry will be value laden. It is important to emphasise that participants who took part in this study are those who represent a selective sample from the polytechnic institution. The study initially planned to include a purposeful sample of officials from the Ministry of Education in PNG, including those from the institution, but this was not feasible due mostly to financial constraints and accessibility issues (e.g. geographic location). Despite the encouragingly high response rate of participants from the polytechnic site, there were other potential issues which may have been covered more extensively by individuals in the top hierarchy of tertiary education. An opportunity was lost to sensitize top officials to the need to think about tertiary education and training from a lifelong learning framework.

## **Summary of the research process**

This chapter has discussed the justification for the choice of using the interpretive paradigm in this study. A description of the research methods included the design and use of interviews and documentary data. The ethical issues and the strengths and limitations of the research process were also discussed to justify how the study was conducted. A description of the data analysis process is also included to demonstrate the importance of the process.

In the next chapter, I will discuss major themes that were identified from the data analysis process. These themes will be examined based on how they connected with research question.

## Chapter Four: The Findings

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### Introduction

In this section, the key themes and sub-themes that emerge from the individual interviews are presented. These themes represent the integration of ideas that were reiterated in the course of the interviews. This chapter highlights the dominant ideas that emerge in relation to these themes and sub-themes, but also indicates those views that differed from the norm. While many of the comments that are grouped under these themes do not constitute direct or explicit answers to the research question, together they provide a sample of some of the prevalent thinking about the concept of polytechnic education in PNG. Consequently, both the comments themselves, and the thinking and sentiments that cluster around the themes, can help to elucidate the research question and the consideration of the potential for a lifelong learning culture in the PNG Polytechnic. The interviews collectively offer a picture of the thinking that preoccupied the interviewees in the sample, all of whom are academics at the polytechnic. The findings are grouped into three main categories each with distinctive sub-categories. These categories are:

- 1) The purpose of polytechnic education within the PNG tertiary education sector:
  - a) Participants' views about the purpose of polytechnic education.
  - b) Participants' views about the changing context of polytechnic education.
- 2) Perceptions on existing barriers and proposals for improvement:
  - a) Existing barriers.
  - b) Proposals for improvement.
- 3) Lifelong learning:
  - a) Interviewees' explicit views about the potential for lifelong learning at polytechnic.
  - b) Other views that link to specific functions of lifelong learning.

Direct quotations from interviews will have pseudonyms in brackets to represent participants' comments after each quotation.

## **Category One: The purpose of vocational education and Training (VET) within the PNG tertiary education sector**

### **Participants' views about the purpose of VET within the tertiary education sector**

In order to contextualise participants' views about the potential for implementing lifelong learning at the PNG Polytechnic, it was important to ascertain a sense of the prevalent thinking about the type of education and training the polytechnic should offer. A dominant theme that emerged from the interviews concerns the purpose of vocational, educational and training (VET) in the polytechnic. This view was expressed by eight out of the twelve interviewees. In sharing this view, Kevin, the director of the institute said:

Polytechnic has a primary objective and that is to provide technical skills training that is required by the industry, stakeholders and the society. [Kevin]

This response is not surprising, given the recognition that public polytechnic institutions have a mandated role in providing VET to the population. The explicit reference to direct beneficiaries of VET illustrates a strong focus of why VET is provided at the tertiary level. The economic perspective of VET is clearly a strong focus in this comment.

A comment by Hellen also illustrates the common perception of the skill development role of a polytechnic but has a different nuance. As a head of department, Hellen has served the institution for more than twelve years. She said:

[In polytechnic] we train students to gain technical skills, that is the basic training as well as we prepare students to understand the principles of the training they are receiving so that they can go out and apply these principles. [Hellen]

In this response, she provides an explicit view about the role of the polytechnic in terms of VET. In incorporating the phrase ‘understand the principles of training’ in her comment, the interviewee specifically places priority on the broader purpose of providing VET and the longer lasting impact this can have on the individual learner. This is a more sophisticated view of VET and links well with ideas on lifelong learning. It suggests a notion of the role of polytechnic in providing vocational specific skills that engage the learner and how these skills are applied outside of this institution.

The economic perspective of VET is again evident in the next quote; however, it also introduces social perspectives about education and training. Susie is a senior lecturer and has been teaching for more than ten years. She identifies in her comment the dual purpose of providing VET. She said:

We basically train people to gain knowledge and skills that will help them in their lives. Because our society is changing, people want to get a good tertiary education so that they are able to get employed or help themselves or their communities. [Susie]

The language in this response shows a broader view of VET. The social aspect of education and training is evident in the use of the words, society, people and communities in that the interviewee basically reiterates views on why people choose to get educated. Implicit within this language are thoughts on why people choose to engage in learning and the wider benefits this very act of gaining knowledge has to offer for the wider community. This view reflects well with ideas on lifelong learning, in that it hints at the development of a knowledge society, and social and community dimensions of the community.

To summarise, each of these interviewees focus on VET, but within these comments the emphasis is different and there are terms and values that indicate potential for developing a lifelong learning culture.

#### **The dual purpose of VET**

Other interviewees’ comments also supported this theme. The idea behind VET is further expanded, but there are slight variations as to how the individual responses are constructed. A few interviewees offered views that had some more explicit

links to the research question. The first comment by Frank reiterates the skill development perspective, but goes further to offer a different feature of polytechnic education. Frank is a senior lecturer with over ten years of service and is an acting head of department.

The training provided [within polytechnic] is focussed towards meeting industry requirements. Meaning that, the training provided in this sector is geared towards meeting the requirement of formal employment. There is minimum focus on training that is geared towards self-employment. [Frank]

In this response the interviewee explicitly makes evident his views that the primary role of polytechnic is to provide VET that is related to industry needs. The dual perspective of VET is again visible in this comment. The idea of ‘meeting industry requirements’ suggests a strong view of the employment related focus of VET. However, the narrative in the second sentence suggests a different view. It implies that certain considerations need to be given on how VET is visualised, developed and implemented. Such a view places priority on how knowledge and skills are generated and the benefits this may have on the individual and the wider society. This slightly broader view of the potential role of polytechnic education may hint at possibilities for a broader lifelong learning approach. It suggests a long-term vision for the polytechnic.

Another commentator suggests the need to go beyond the current focus of VET:

The programmes offered in [polytechnic] are fixed and structured towards high academic achievement and qualification. Students are expected to study hard to gain good marks to successfully complete their programmes. Specific individual needs for personal development are not catered for since the programmes or courses offered are standardized and benchmarked ... to meet demands for labour market in the industry in trades and skilled manpower. [Sarah]

The language in this response explicitly critiques a narrow approach to VET. In the first sentence, it reflects a strong instrumentalist view of education and training, however, there is a second dimension within this comment that opposes

this accepted norm. The mention of ‘individual needs’ and ‘personal development’ suggests broader view of skills training not often associated with VET. These views link to the idea of personal fulfilment, a key function of lifelong learning.

Like Sarah, Hellen suggests the importance of a broader understanding of what VET should offer. Her view on widening aspects of VET is representative of five other interviewees who offered similar sentiments.

I think that the course we are giving for the technical training certificate courses should be able to equip the trainees with the knowledge and skills they can apply when they leave here, be it in whatever settings they find themselves in. It’s just that I feel that sometimes we tend to narrow the field of application for the students to just laboratory practicals and it can be widened so that we can also include other aspects of training. [Hellen]

The phrase, ‘be it in whatever settings’ suggests a wider understanding of the potential role of polytechnic education, beyond the conventional view (i.e. the employment-related perspective). It proposes a more holistic approach about the extent of VET and connects well with ‘life-wide’ aspects of learning. This slightly broader view of polytechnic education is suggestive of a broader lifelong learning approach.

To summarise, each of these comments provides variations in replies that focused on the notion of ‘widening aspects’ of VET. Generically, these views relate to ideas that seek understanding on the dual purpose of providing VET. The underlying assumptions within this comment challenges the scope of current focus on VET and include aspects compatible to lifelong learning.

#### **The employment-related perspective**

In the interviews there are other instances (i.e. in more than half of the interview data), where limited views are offered about the current purpose of VET. These views represent a more direct and conventional way of thinking about VET with less emphasis given to ideas that may promote discussions on lifelong learning.

Such a view is illustrated in the first quote and is prevalent in most of the interview data.

Training at polytechnic is basically offered for tradespersons who eventually become supervisors and mid-level managers in the industry. We provide basic education and training between the basic skill levels, the apprentice level, the tradesperson and the technician level. [Tony]

The compartmentalised view of education and training is evident in this data extract. VET is categorised as a priority to develop vocation-specific skills. Moreover, the role of polytechnic is contextualised explicitly in terms of training that facilitates job-entry requirements. This way of thinking may not be helpful in developing a more holistic lifelong learning culture but reinforces the prevalent notion of VET solely associated with specific workplace learning.

Even more explicitly, the skill-employment perspective is given more priority by Rex. He is a head of department but has spent fewer years of service in comparison to other interviewees.

What polytechnic is trying to do is teach the students in such a way that they are able to graduate and find jobs in the industry. Not to train students here to go to other higher learning institutions then to the industries but straight after studies to find employment in the industries. [Rex]

A more direct pathway of VET towards immediate employment is illustrated in this response. The language again indicates a very strong view about the role of polytechnic education in facilitating job entry requirements for graduates. This remark represents a strong functionalist view of education and training and holds little promise for an integrated culture of lifelong learning.

The last comment in this sub-section further promotes a similar way of thinking but offers a slightly different focus.

Technically we started off with 'hands-on training' but with increased demands from the industry we were required to offer management

programmes to equip our graduates with management skills. It is actually the industries that influenced us to offer these programmes.

[Steven]

This interviewee categorically identifies the role of polytechnic as meeting industry expectations in VET. Implicit within this language is an education and training system that pursues close relation to employment and career opportunities for learners.

### **Summary**

The findings under this sub-section indicate a tendency by interviewees to construct their educational concerns around a strong focus on the economic functions of tertiary education. The predominant perspective is that the role of polytechnic is to prepare students for VET that facilitates job entry requirements. However, it was also noted within this dominant paradigm that there were suggestions of other beliefs about broader values of tertiary education. These views suggest a potential for developing a climate for lifelong learning, though they were far less evident than the dominant paradigm of vocational training for employment.

### **Participants' views about the changing context of the polytechnic**

This section examines some of the values and assumptions that are expressed explicitly or implicitly in comments made by interviewees. As seen in the previous section, diverse views and beliefs about the present and potential roles of a polytechnic were identified. They also help to illuminate understanding of the teaching and learning climate and can also assist in answering the research question about the potential for lifelong learning at the PNG polytechnic.

Moreover, in looking at the broader values and beliefs about education that emerged from the interviews, the belief that the primary purpose of VET for employment related opportunities is still dominant. The majority of the data in this group of extracts include terminology that reinforced the notion of a strong instrumentalist strand in the thinking of polytechnic staff. Examples include interviewees' tendency to frame educational concerns in terms of widening

aspects of VET and in improvement in academic programme structures. Another prevalent theme that emerged was diverted towards existing programme structures. This concern was dominant and was expressed by ten out of the twelve interviewees. Three quotes are given of which the first speaks strongly to this idea.

We have not really introduced new programmes but in terms of the plans for producing new programmes have not been addressed too seriously until now that we are looking into establishing links with the industry to address this gap. Yes there will be new programmes but will be linked to industry needs, outcomes and expectations. This is the current focus of the institution that is to acquire new skill-sets from the industry to drive our programmes. [Kevin]

As the head of the institution, Kevin stresses strongly that more effort should be invested in plans for developing new programmes. He sees the partnership between the polytechnic and the industries as crucial, in that polytechnics should accommodate industry VET requirements. His comments are relevant because polytechnics usually have strong working relationships with industries to facilitate training and potential employment routes for graduates. However, in placing emphasis on one pathway of defining VET while overlooking other potential options may have implications for wider returns of education to individuals. It must also be noted here that the employment perspective of viewing VET is prevalent in all the interviews and often presented unproblematically. The impression is of a very bounded, understanding of VET that would not be conducive to full range of possibilities within lifelong learning.

The second example given by Greg is broadly similar in perception (i.e. meeting industry standards in VET) but is somewhat different in emphasis. Greg is a former deputy director at the polytechnic and has been instrumental in contributing towards the current status of the institution.

The aim should be on quantifying what specialised training that should be conducted to meet the requirements of the industry ... so now [polytechnic] should tap into this opportunity of training. This also gives the importance of training to the institution. The tertiary

level institutions can now partner with the industry to provide those training. [Greg]

Greg strongly suggests in this quote that certain consideration should be given to identify broader aims of VET. He sees the relationship between the polytechnic and the industry as very important. His suggestion basically implies a broader view of the role by polytechnic on how it develops and implements VET opportunities (i.e. beyond the bounded view of employment related perspective). Such a view does raise the potential of VET provisions; however, it signifies a limited understanding of the notion of lifelong learning.

The third quote also illustrates the employment related perspective but is more specific to the role of a polytechnic. The interviewee is a head of department, has over ten years of service and locates his comments according to his discipline of practice.

The industry is playing a big role, and they send potential graduates to [polytechnic], but [polytechnic] must identify the appropriate skills and training for that particular sector. What if the industry wants a certain type of skill training? That is where they will step in and push [polytechnic] to develop these programmes to meet their demands. [Polytechnic] needs to create more new programmes but it again depends on how well they can communicate with the industry to develop these programmes. [Steven]

The interviewee makes clear in this statement, the significance of the ‘in-service’ role of polytechnic in providing VET. He assumes that partnerships with industries are crucial, and that the polytechnic should accommodate industry skill requirements to promote aspects of VET. Such a suggestion has the possibility of raising standards of VET. In particular, the view that sees VET as a medium to facilitate, vocational-specific skills over a lifetime seems of less importance.

The very detailed suggestions offered by these interviewees indicate a view of education as a set of systems and products and does not touch on the less utilitarian components of learning values implicit within the conception of lifelong learning.

## **Other views of VET**

Also evident within the data were opposing views, concerning the extent of VET within the tertiary education sector, including a polytechnic. These comments were made by a few of the interviewees. Martin, a deputy director at the institution made this comment. He said:

In my point of view the training to date is being limited in a sense that it does not allow for other skills areas to be covered because of policy issues [i.e. governmental level]. With the current trend in development that the country has come through there are some areas where the skills are not provided. [Martin]

This response represents the strongest critique among the twelve interviews. It directly challenges existing views on the prevailing skills focus of polytechnic education within the PNG tertiary education sector. Hints of these limitations are suggested by other interviewees, but the above response specifically challenges a normative perspective prevalent within the tertiary education framework and does have policy implications on the role of polytechnic in promoting this agenda. These policy implications may have a certain bearing on the role of the PNG TVET sector in coordinating and implementing all aspects of VET. Implicit within this language is a strong suggestion that this polytechnic needs to widen aspects of VET.

Another comment relates to the emphasis on VET:

The extent to which training is directed towards formal employment is well established but it does not necessarily mean there are employment opportunities for every graduate. [Frank]

This response literally questions the extent and purpose of offering VET in an environment of structured unemployment. Frank is hinting at the gap between institutions and VET and the needs for job markets. This issue is not only pertinent to PNG Polytechnic but is a general concern worldwide. He has raised a valid point, in that he questions the role of the industry to potentially accommodate all graduates. Consequently, this way of thinking also questions the

role of polytechnic, in continuing to produce graduates for whom employment is not assured.

A third quote, however, questions the limitations underpinning the focus of VET. It states:

Learning to me is not simply about providing the basic knowledge and skills that is needed but to really offer a type of training that meets industry requirements as well as giving the opportunity to the learner that they get satisfaction out of the learning they pay for. [Mona]

The suggestion made by this interviewee about providing VET offers a different view from the accepted norm (i.e. the skill-employment perspective). The use of the word 'satisfaction' within the quote redirects attention to the individual learning needs of the learner. In fact, a diverse group of learners may access learning at one particular time and this remark hints at a broader view about the purpose of VET at the polytechnic.

For some interviewees, their belief about the role of polytechnic was centred more on possibilities for widening aspects of VET. Tony, a section head and senior lecturer in the metal trades, had this to say:

I believe there are specific areas of training that can be made available at the institution to benefit new categories of learners. [Tony]

In making this comment Tony explicitly relates to specific areas of VET that could be expanded in his discipline of practice. He sees the role of this polytechnic as one that should accommodate wider aspects of VET. He also uses the phrase 'benefit new categories of learners'. In here he is relating to those learners who may want to access basic life-skills training (e.g. small engines repair). The second point implies a role by a polytechnic to accommodate learner diversity within its VET model. Combined together, this view suggests a broader role for the polytechnic in providing VET to a more diversified student body.

Another perspective on widening aspects of VET is given by Susie. She is a senior lecturer in engineering and is one of four interviewees who demonstrate a wider understanding about issues concerning VET within polytechnic. She states:

...we need to accredit and affiliate our programmes with universities and other tertiary institutions. This would improve the quality of the programmes we offer plus provide access and pathways for students to enter and exit the educational programmes they desire. [Susie]

In this response, the interviewee explicitly identifies a pathway that provides options for the polytechnic to facilitate processes that would contribute towards improving the quality of its training programmes. The specific use of terminologies such as ‘access and pathways’ suggests thinking that links well with alternatives that emerge within the concept of lifelong learning, namely the issue of social inclusion. Other alternatives such as open entry and exit points is what most institutions (including polytechnics) desire to achieve but is most often not achieved in practice. The quote indicates the articulation of polytechnic programmes with other providers, primarily universities. It links with discussions on trustees of learning.

The next quote by Tracy also illustrates views on widening aspects of VET but offers a slightly different perspective. She is senior lecturer in business studies.

We need a new way of thinking about how to provide quality education...to address learning needs of all groups of learners and we also need our institution to change to accommodate that fact. [Tracy]

Evident in this comment is a suggestion for the polytechnic to rethink its role in VET. It suggests a pathway for the polytechnic to change and adapt to changing learning demands of new categories of learners. This language again links well with discussions on lifelong learning which focus on the diversification of adult learners.

### **Summary**

This sub-section presented interviewees’ beliefs on the role of polytechnic in providing VET within the tertiary education sector. The comments ranged from those perspectives that have few links to the idea of lifelong to those beliefs that connected more explicitly. For example, views on ‘open entry and exit points’ relate to widening access for adult learners. It links well with social perspectives

of lifelong learning. It can also be seen that many of the interviewees tended to reconstruct their educational concerns around a strong instrumentalist view of education and training. Although most of these comments did not connect overtly with the research question, other comments included those views where different domains of lifelong learning were contemplated.

## **Category Two: Perceptions on existing barriers and proposals for change at the polytechnic**

### **Existing barriers**

This section focusses on interviewees' perception of the current state of VET within the PNG Polytechnic and what they see as important changes that would potentially contribute towards an improved teaching and learning environment. The basis of thinking uncovered here can help to enhance a general understanding of contextual factors (i.e. situations impinging on polytechnic) and the institution's potential for enabling a culture of lifelong learning.

In the interview data, numerous comments about resource discrepancies and management issues were noted. This contextual understanding again draws attention to a learning environment where people by necessity focussed more on the procedural needs of VET and the concept of lifelong learning may seem remote. This section is split into subsections to develop further understanding of this theme.

Of particular interest under this theme is the view that the prevalence of power structures within the PNG tertiary education sector impinges on developmental progress of the polytechnic. In his capacity as the deputy director, Martin sees bureaucratic processes as a major barrier to progress at the polytechnic. He said:

We need new policy documents to define the polytechnic status the institution has. There is not much progress in the institution as a result of the name change because there is not much development in terms of physical infrastructure, the buildings, the training equipment, staff qualification upgrade and financial support to push our plans through.

I think the responsibility of coming up with policy documents should be a shared responsibility between [polytechnic], the TVET division of education and the Office of Higher Education in the country.  
[Martin]

This interviewee specifically identifies in part, the policy concern as detrimental to the mandated role of polytechnics in providing VET. The policy narrative is important to document because it contextualises other related factors such as resourcing (e.g. infrastructure development, staff development and funding issues). In identifying this issue, he challenges the policy gap and the need for policy development that would possibly redefine the mandated role of the polytechnic. Implicit within this comment is a reference to the complex relationship of key players within the PNG tertiary education sector. Their influence on policy and practice has wider implications for the role of a polytechnic.

Similarly, the director of the institution expands on the policy confusion by saying:

...there has to be a decision at the top level to amend the existing education act to recognise the polytechnic educational concept. I have been looking at the education act and it is alarming to me to realise that the act only covers technical and business colleges and no mention of polytechnics. So my question; is the polytechnic legally operating as an education provider? [Kevin]

The narrative suggests a major problem of policy development that is potentially important to accommodate; he justifies lack of developmental progress in VET within the polytechnic as an outcome of policy ineffectiveness. The presence of this macro-level barrier has serious implications for development and implementation of VET at the polytechnic. This view is important to document because it is pointing to a perceived lack of mission for PNG Polytechnic.

#### **Management issues**

Another sub-section that is of interest concerns management issues. Interviewees' comments identify a common area of dissatisfaction for a number of these

interviewees. The recurrent use of the term 'not enough' illustrates a climate of dissatisfaction, connected to broader educational issues that are thought to hinder the progress of VET within PNG Polytechnic. It is also noted that the interviewees were preoccupied with basic needs of providing VET. There was not enough space for thinking on other kinds of visions for VET that applied to other functions of the institution.

In some cases, interviewees questioned the diplomacy and concessions extended within the management practice. For example, in terms of development plans, Steven said:

I have not seen any initiative shown by the institution to involve local industries in its development plans. I think the administration is not doing enough. The individual department can initiate dialogue with industries but I think the administration should take the lead, I think they are not doing enough to realise the importance of what this can have on the many challenges the institution is facing. [Steven]

In this response, considerations are given to the nature of working partnership polytechnics can foster with relevant stakeholders (e.g. the industries). However, implicit within this language is a compartmentalised view of how management responsibilities operate. The use of the phrase 'not doing enough' suggests liability on the part of management and governance. Even so, this interviewee constructed his belief on what he sees as lacking in terms of management practice.

Those who found the management process as static specifically mentioned their desire to see more effort invested in this process. For example, Sarah said:

We are basically aware of what needs to be done but we are not doing enough to achieve these goals in making our educational programmes more accessible to more people who want to get the type of training they need. [Sarah]

The phrase 'not doing enough' is explicitly used to describe the lack of progress to make pathways of VET more favourable to a wider selection of people. It implies a lack of vision by the management to expand options of VET beyond traditional norms.

### **The teaching and learning environment**

Other comments were made in relation to this sub-theme. The individual responses by interviewees were usually focussed on how to broaden aspects of teaching and learning practices. Rex, a recently appointed head of department said:

If we are going to meet the requirements of the PNGNQF then we need ... skills oriented training. We cannot say a student is competent in a particular area unless we able to measure the particular skills set that individual can demonstrate by engaging with the given task. That person can be competent in theory but what about the practical aspects of their training. Where is the balance? ...we are not doing enough of that at the moment ... more attention should be given to promoting practical aspects of VET. [Rex]

The language in this response is more specific to the extent of knowledge and skills that is delivered through different modes of teaching and learning practices. The phrase 'not doing enough' is clearly used to express dissatisfaction over the scope of practical experience learners are exposed to within different modes of learning. The underlying assumption points to the 'theory practice divide' that entails different notions of pedagogy. This comment is rather surprising given the usual focus of polytechnic training on the direct application of experience.

In following a similar line of thinking Mona said:

We need to diversify our teaching programmes to cater for students who need to upgrade their skills to continue or to cater for those in the industry or the community who need specific skills or training. I think we are not doing enough. [Mona]

This interviewee precisely identifies a core element of thinking that extends the view expressed by Rex. The explicit use of the phrase "not doing enough" links back to the word 'diversify' which in this quote reinforced the need to diversify the curriculum in accord with wider range of students.

In expanding this view, Susie found the existing education structure within the polytechnic to be satisfactory but said:

...we have a good structure and foundation for the different disciplines we have in the institution but we are not doing enough to create more learning opportunities for our learners...we need to take a holistic approach and be proactive in addressing these issues. [Susie]

In this quote, the phrase 'not doing enough' is linked to this interviewee's dissatisfaction over barriers that impact on wider aspects of VET. Her selective uses of the phrase 'create more learning opportunities' suggests limitations concerning existing structures of professional training inside polytechnic. She also acknowledges that greater proactivity is required by the polytechnic in terms of innovation.

#### **Professional development of students**

Other interviewees focussed their concern on professional development of students. They saw this aspect of VET as lacking in practice. This view was presented by some of the interviewees. On this idea, Martin said:

I think professional development [of students] should be promoted but we are not doing enough in our teaching and learning practices. It should be a core component of our curriculum-practice...the industry expects professional conduct from its employees so graduates must be equipped with such skills. [Martin]

Martin thinks 'professional development' should be a core component of teaching and learning and for it to be readily implemented through the curriculum. He sees professional development as specific to certain trades and stresses the need for it to be taught professionally, so that students as well as teachers can remain relevant to their discipline of practice (i.e. meeting industry expectation). A key aspect in thinking about the employment related features of VET.

A similar view is raised by Sarah:

I don't think professional development within polytechnic is enforced. The rigid programmes and assessment regulations have been set, learners have to comply with this requirement...learners have to meet these standards or they are out of the system. There is no room for

developing individual skills for learners that would sustain them in their lives after they graduate. [Sarah]

Sarah expresses a strong level of dissatisfaction about the structure of training and its inflexibility. She sees lack of professional development of students as linked to rigid structures of subject knowledge and less emphasis placed on developing generic skills in individuals that would help them negotiate life after school. This view is more about self-directedness in learning among graduates. Underlying this comment is a strong functionalist view of education and training that overlooks life-wide benefits of VET.

### **Summary**

It can be seen from these examples that interviewees expressed concerns that were primarily related to poor performance of the polytechnic. Their concerns on bureaucratic processes and management shortcomings is worthy of note because of implications this may have on cultivating a culture of lifelong learning within polytechnic and the wider tertiary education sector. Also relevant were their views on resource limitations and barriers impeding a lack of progress in addressing concerns relating to academic programmes structures and pedagogical practices. Their views may be reflective of a strong mechanistic view of education and training. However, this view can help us to contextualise a general understanding of the nature of VET within the polytechnic and the potential barriers to lifelong learning.

### **Proposals for improvement**

As with the previous section which outlines interviewees' dissatisfaction over the general performance of the polytechnic, the comments within this segment are presented to shed light on other contextual factors related to the potential of the polytechnic in establishing a lifelong learning culture. It will be seen that interviewees' perceptions of a polytechnic and the ideas they proposed for improvement diverged widely based on their personal experiences and beliefs. All of those interviewed believed that certain aspects of education and training at the polytechnic should change. Dominant within this theme were suggestions and

proposals relating to the structure of the existing curriculum. Interviewees' comments are presented from those who prescribe a strong instrumentalist view of VET to those who have alternative ideas of polytechnic education and its relationship to lifelong learning.

Most of the comments indicate certain levels of discontent by interviewees about the overall performance and direction of the polytechnic in responding to changing stakeholders' demands of education and skill training. Steven, a tradesman and senior academic by profession, proposed that the polytechnic should reassess the nature of its programme delivery according to specific demands. He said:

Some individuals have lower qualification levels and would like to take up study to further their careers. The question is what type of programmes can [polytechnic] create...that is tailored toward meeting specific academic needs of that particular person or group. Where does this start? We need to sit down and assess our programmes and have them tailored in certain ways to meet specific needs of learners.  
[Steven]

The use of a question in the third sentence suggests dissatisfaction by this interviewee. He sees the polytechnic as being non-responsive to the changing landscape of education and skills training. The underlying assumption here is that learners need be equipped to meet the changing demands of the labour market, meaning that traditional approaches to education and training need to be transformed to accommodate different aspects of lifelong learning.

Another comment by Tracy reiterates a similar view but she expands her comments to include wider proposals on how a polytechnic should respond to change. Tracy is a section head of the language and communication discipline. She said:

...we can have bridging programmes to help upgrade qualifications for drop-outs and second chance learners...we can have specific programmes that are tailored to industry needs...because we have a good structural foundation for our academic programmes. But in order

to achieve that we need to include other stakeholders like the government through TVET & OHE, the industry and the wider community in close consultations to come up with new innovative ideas to address this issue. [Tracy]

Tracy's proposal for using network links to develop better learning pathways is important. She suggests a different approach to addressing the need for restructuring, linked to different modes of VET. Implicit within the quote are suggestions for diversification of academic programmes to meet educational needs of diverse individuals and communities. Her justification for raising particular standards of VET provisions may have some bearing on the provision of learning pathways, possibly through greater accreditation of academic programmes within the polytechnic.

Another comment by Mona indicated potential benefits for fostering networks. She is a senior lecturer in the engineering field. She said:

We need to link with other stakeholders like lower and higher tertiary institutions, the industry, government organisations and the community to find ways on how we can really improve the structure of our programmes. We want to provide quality education but how can we do that? [Mona]

It seems her concern is directed towards the lack of vision and urgency by the polytechnic to address deficiencies in critical aspects of VET. Her proposal for change is beneficial to the polytechnic and involves greater community engagement by the institution with current and potential stakeholders.

#### **Curriculum development**

Other perspectives were also offered by interviewees. Their concerns were more specific to a curriculum narrative. Five out of the twelve interviewees did make comments that related to this area. For example, Susie said:

Revising our existing curriculum will be a key factor. We need more input from our stakeholders like the government through TVET, the industry...other tertiary institutions and also the wider community to address this problem. [Susie]

Again, as for Mona, the importance of stakeholder involvement in curriculum development is emphasised. The need to revise the curriculum is also prevalent in other interview data and represents a key feature of thinking about change with respect to the current profiles of VET programmes. Susie's proposal for including wider groups for consultation processes is quite promising, in that it widens the scope in which this particular issue (revising curriculum) can be addressed and recognises options (e.g. networking) that are significant from a lifelong learning perspective.

The curriculum narrative is also expanded in the next quote:

...we must create through the curriculum equal opportunities for informal employment. For example, in the Applied Science field we are not providing some options for management training which I think it is an important for VET. [Frank]

In this response, the interviewee is more specific about components of skill training that are delivered through the curriculum. Implicit within this statement is an emphasis to maintain a balance as to how aspects of skills training are expanded and delivered through practice. While this thinking does have some significance in improving aspects of VET, it is still tied to the instrumentalist view of education and training.

Also noted, is another suggestion by Tony. He said:

I think the main problem is lack of vision to really revise or develop a new curriculum structure for the polytechnic. Our curriculum is outdated and needs to be restructured to meet current demands in education and training as well as meeting the requirements of the industry. [Tony]

Tony's proposal is specific to the polytechnic case. In stressing the need for revising the curriculum, he particularly identifies wider benefits of this process. That is, the changing demands of society and its implications on curriculum development.

While still within the curriculum domain, the next interviewee links back to the dual purpose of providing VET. He said:

The obvious result of getting training is for paid employment ... but again the syllabus must be looked at properly so that it caters for paid employment at the same time it also gives learners the skills that they can go back to their communities and apply. [Martin]

This comment suggests the need to revise aspects of the curriculum. This particular view on personal development by the student and its wider benefits to community is prominent and offers a positive step forward for polytechnic in addressing critical issues surrounding the nature of academic programmes which have most implication for lifelong learning. The possibility of implementing such a strategy for curriculum review, as emphasised by these interviewees, to improve the quality of skills training is potentially useful in the enhancement of lifelong learning opportunities in the VET context.

#### **Summary**

It can be seen in this section that interviewees' concerns were very much focussed on the changing nature of VET and its implications for a dynamic polytechnic education. There were variations in how interviewees constructed their comments, and it was also quite evident that the instrumentalist view of education and training was still dominant. However, there were other instances where interviewees proposed suggestions that had some possibilities for developing sub-themes of personal and community development and active citizenship related to the notion of lifelong learning.

### **Category Three: Lifelong Learning**

#### **Interviewees' perceptions about the potential for lifelong learning at the polytechnic**

In this section, interviewees' direct responses to the questions about lifelong learning are presented. It highlights the dominant ideas that emerge in relation to this theme, but also includes those views that differed from the norm. While many

of these comments do not necessarily constitute direct or explicit answers to understanding the concept of lifelong learning, together they constitute a complex picture of interviewees' current thinking about the concept.

Interviewees' perceptions will be presented from those responses that had least bearing on the concept of lifelong learning, to other responses that had strong links to the research question. This approach is taken to ascertain participants' understanding of the notion of lifelong learning and its implications for developing a lifelong learning culture that can be successfully used to redefine the direction of education and skill training within PNG Polytechnic.

The interview data revealed that the notion of lifelong learning is largely seen as a foreign concept in this research setting. Most of the interviewees' beliefs and assumptions were constructed more on educational concerns that connected with the primary focus of providing VET rather than on other elements of lifelong learning. Only four out of the twelve interviewees made comments that resonated well with the idea of lifelong learning. The dominant theme related to the 'lifelong aspect' of the idea of lifelong learning. The first quote illustrates this way of thinking:

Lifelong learning to me is that I will still be learning whenever I get the chance to learn. I feel that all of us in the tertiary education sector or the mainstream education sector should grasp this idea and grow with it. [Rex]

This interviewee's idea of lifelong learning is literally connected to notions of continuous learning. While his view of the definition of the word 'lifelong' holds true, he still falls short of describing other commonly accepted themes that connect well with the notion of lifelong learning. This may suggest a restricted understanding of the concept. A second quote displays a similar level of understanding:

In my opinion [polytechnic] is not actively encouraging lifelong learning but at the same time it has no discrimination between different categories of learners. [Frank]

This interviewee's understanding is centred more on one particular aspect of the notion of lifelong learning. He connects the idea of lifelong learning with the notion of maximising equal learning opportunities for all learners. This view links well with the widening participation agenda.

A final example is given to demonstrate this way of thinking:

My understanding of lifelong learning is some skills or knowledge that a person gains that will help him/her continuously in his/her life as long as they live. [Hellen]

In this response the interviewee explicitly links her understanding of lifelong learning to the 'lifelong aspect' of education and training. The use of the word 'continuously' with the phrase 'as long as they live' draws attention to the importance of learning throughout life. It can also be seen from these quotes that there were variations in emphasis and understanding on how these interviewees constructed their views. It strongly suggests that current thinking on the concept of lifelong learning is quite limited.

Other comments were also noted to illustrate this theme. For example, Sarah said:

I don't think many people in PNG understand the concept of lifelong learning and its importance to the development and economy of the country. I strongly believe that people (i.e. students', parents', and education providers') way of thinking will change if they are aware of the importance of lifelong learning, and how it contributes to the country's development and individual self-reliance. [Sarah]

The underlying assumption in the first sentence refers to the economy while the second sentence suggests connections with the notion of 'active citizenship', a key function of lifelong learning. This idea is further illustrated in the second sentence where the interviewee uses the phrase 'country's development and individual self-reliance' to identify learners as agents of their own life histories. The underlying assumption in this quote indicates that lifelong learning can simultaneously benefit both individuals and the nation's development, that is, if it operates at multiple levels.

The next quote differs in perspective but it identifies some aspects of VET within the lifelong learning framework:

So as far as lifelong learning is concerned we have tried to create those opportunities for learners who come here for training. For example, we have 'Trade-Testing' where potential candidates from the industry may come here and do practical block release courses to qualify for their national trade testing qualifications. So yes the idea of lifelong learning is embraced in our mission/vision statement. [Kevin]

This interviewee links the idea of lifelong learning to assessments, standards and accredited learning. He specifically identifies the skill-training aspect of 'trade-testing' to justify his views. Even though the expected skill-employment perspective is evident in this narrative, the idea of certifying or confirming previous and current skills and knowledge base of an individual through trade-testing programmes illuminates possibilities for aspects of lifelong learning.

The last quote differs slightly from the other two but sheds light on aspects of a climate of lifelong learning:

I think lifelong learning is a good concept because when people change their preference about what they choose to study they still can have that opportunity to select something that fits their interest. Through this process they can acquire skills and knowledge they want and can still move on in life and do other things in life that is of interest to them. [Martin]

The language within this comment illustrates the importance of individual choices in learning and learner autonomy. This line of thinking suggests a more humanistic approach to education and training by allowing for self-realisation in the individual. It has some links to the idea of 'personal fulfilment', a key component within lifelong learning.

Another response pattern is also present from the interview data. Ideas on lifelong learning are expanded to include considerations for who is responsible for its provisions. Mona states:

I think education is important because it provides new knowledge and skills ... this is what society needs. There are many changes in society, the industry and information technology and people need to learn to cope with these changes. It is the responsibility of institutions like [polytechnic] and the government to make this happen. [Mona]

The interviewee places emphasis on the need for new knowledge and skills. She suggests that individuals may change their attitude on how they construct their beliefs about the values of education and training. It is also implied that it is important to re-examine the benefits of education and training in response to the changing nature of society and its structures. The use of the word ‘responsibility’ in the last sentence refers to a key issue of provision and questions the polytechnic’s role in VET.

The next quote identifies diverse learners in the institution but raises further questions about whose learning needs are being addressed:

I believe there are specific areas of training that can be made available at the institution to benefit new categories of learners. We have the usual groups coming in for training like school leavers and second chance learners and people from the industries who need to upgrade their qualifications but what about those groups of people who may need basic life-skills training. [Tony]

Implicit within this comment is an unmistakable reference to barriers that restrict learners from accessing educational opportunities (e.g. adult basic education). Barriers manifest themselves in many ways and it is important for the polytechnic to rethink its strategy in promoting VET.

In forwarding a similar type of response to lifelong learning Susie said:

...we need to create different learning pathways and options that are suitable to different individuals so that it gives them the opportunities to get the type of education they want. Learning never stops so we must create a learning culture that reflects the need for knowledge and skills that our modern society needs. [Susie]

In this response the use of the terms ‘learning pathways’ and ‘learning culture’ suggests a more robust way of thinking about education and training. It implies creating a learning system that centres on the learner as part of a wider social process of interactions between the learner and the institution throughout life.

### **Summary**

Interviewees presented varying degree of understanding on the concept of lifelong learning. For some, their suggestions indicate restricted understanding on the concept. Similar views are prevalent throughout most of the interview data. Observed data suggest a lack of a nuanced understanding on the notion of lifelong learning. For others, views on lifelong learning were more transparent.

### **Other views that link to specific function of lifelong learning**

This section presents other views by interviewees on related aspects of lifelong learning. This section is presented to identify other issues that are relevant to PNG Polytechnic in achieving a lifelong learning culture. It also includes pathways of thinking that are further developed in the discussion chapter.

The strongest general perception is that of interviewees’ beliefs and assumptions surrounding the ‘lifelong aspect’ of lifelong learning. Examples include interviewees’ perceptions on ideas of social inclusion and active citizenship. These comments do not provide extended descriptions of these concepts but they do represent possible pathways of thinking that are essential in reconstructing ideas for lifelong learning at the polytechnic. The next three quotes demonstrate interviewees’ views on the idea of social inclusion:

I generally think [social inclusion] is not a problem here at this institution because we give equal opportunities to all groups of learners irrespective of where they come from. We allow second chance learners to get a chance to learn, people with disabilities, working class people irrespective of their age. We give more priority to females and encourage equal participation in all our curricular activities. [Mona]

In this response the interviewee literally links the idea of social inclusion to learning opportunities for all learners irrespective of class, gender or disability. Interestingly, the narrative also indicates purported nonexistence of issues of social inclusion. However this way of thinking may be problematic due to unavailability of substantive research data within the local setting to ascertain that fact. Measures to improve social exclusion usually extend beyond this limited view to include the changing context of social and economic realities of education.

The next quote is more specific to the inclusion of females in male dominated trade programmes. Tony states:

...we are doing a good job in promoting gender equality in our programme because we give priority to females to take up study because of the unbalanced ratio of males to females in our programmes [i.e. metal trades]. However, I would say that our society also influences the way we think about females in jobs dominated by males and this has an effect on the number of female students who are actually interested in taking metal trade studies. [Tony]

This interviewee specifically links the notion of social inclusion to the importance of promoting gender equality in male dominated trades. However, the narrative in the second sentence illustrates the existence of barriers that will be discussed further in the discussion chapter.

The last quote identifies another challenge that can be used to collate ideas on the notion of social inclusion. The quote states:

I also think that sometimes we give more enrolment privileges to certain regions of the country and we block out the others. [Susie]

This way of thinking singles out an important aspect of thinking about the changing nature of social culture within learning institutions like the polytechnic. The underlying language implies that as a consequence of this reality, the polytechnic should adopt strategies that increase participation rates of different categories of learners.

### **Views on active citizenship**

Another aspect relates to interviewees' perceptions on active citizenship. In trying to relate to this aspect of lifelong learning, interviewees based their comments on basic human qualities and how these human challenges are reflected in their workplace and the community. Three examples are used to demonstrate this idea. The first comment addresses this view:

The qualities of being a good role model in the community always reflects the family background of that person, the community that person lives in, and most importantly the type of work experience and education exposure that person has gained. All these factors help create a responsible and active person in the workplace or a community that person lives in. [Susie]

In this response, the use of the term 'role model' locates the individual learner within a framework that includes the individual, the learning organisation and wider society. This aspect of thinking about lifelong learning may be crucial for a polytechnic. It provides more alternatives for discussion on the function of a polytechnic.

The importance of recognising both internal and external dynamics of viewing education and training is further mentioned in the next quote:

We would like to see our students successfully graduate and become able citizens in their respective communities so we need to have internal and external programmes to really promote this. Our internal programmes may include both academic and social activities that promote this concept and we need links with the outside community to provide support and advice on skills and trades that are needed. [Tracy]

The use of the phrase 'internal and external programmes' within this quote suggests links to the notion of interconnectedness of learning structures within the tertiary education sector and community engagement. This may include the wider community. Such a framework for lifelong learning implies that institutions such as polytechnic could rethink their role in expanding its learning structures and

relationships. Additionally, Tracy identifies that learning within the polytechnic continue into varied communities.

The last quote is like a summary of the previous two comments:

What is needed is for the institution to come up with an active strategy to address this issue [active citizens] plus others that are badly needed to really address everything that relates to how we provide education and training in the institution. [Mona]

This interviewee specifically calls for the polytechnic to reorganise its training focus. Implicit within this language is an indication for the polytechnic to develop an active strategy for addressing implications for the idea of ‘active citizenship’ within its educational commitments.

#### **Views on community engagement**

Community engagement is an important element for most functions of lifelong learning. The following quotes represent interviewees’ views on the idea of community engagement by students and how this aspect of teaching and learning is beneficial to learners. For example, Martin said:

I would like to see more community engagement by students within the community. It can be done as part of the students’ training. For example students can complete an applied science practical in producing soap from common ingredients that is available and this idea can be extended to the community by the students as part of their learning. The end result is we create good network and understanding with the community. [Martin]

This way of thinking about VET can be extended to equip learners with experience and knowledge that is productive and meaningful to their individual careers and to communities simultaneously. This assumption of VET may make education more assessable; usually an important ingredient to motivate learners in terms of education and training. It also suggests a mechanism by which education and training within the polytechnic can become more visible to the wider community.

The next interviewee promotes a similar view but extends his comments to include ideas that block this process:

The Tourism & Hospitality Department is the only department that actively promotes community engagement by students. For other departments we are not encouraging or advocating for community engagement by students. But I think we should encourage this process because community engagement is good in many ways for the institution. The community has expectations on the institution as a [learning] community. [Steven]

In this response, Steven recognises the lack of focus by the polytechnic in promoting a community engagement perspective within VET. However, he goes further to identify an element related to social aspects of education and training. This way of thinking may promote learning as a means to crossing different sectors within the community.

The last comment endorses the same view:

I do not think there is much engagement by students with the community. I have dreams for such training for our students. That is to engage this department to go and do things in the community. While teaching or providing a service within the community the students in turn learn from that engagement in the community. [Hellen]

Hellen strongly endorses polytechnic and community collaboration as win-win solution for both parties. It implies a genuine concern by this interviewee to see community engagement promoted within teaching and learning practices at polytechnic.

## **Conclusion of chapter**

The findings in this chapter show that fewer than half of the interviewees displayed a certain degree of understanding that connected explicitly with different aspects of lifelong learning. The inability of the interviewees to frame educational concerns around facets of lifelong learning was a significant factor in

this section. Yet there were some illuminating comments on different aspects of lifelong learning.

While the interview process was seen by the respondents as an opportunity to voice their education concerns, only a handful had contemplated ideas that directly addressed the research question. Most comments related to skills and career development of adult learners. In addition the way in which respondents conceptualised their views on the general performance of the polytechnic also influenced the outcome. There was little evidence of a profound understanding by interviewees of the notion of lifelong learning. The main features of the findings will be discussed in the next chapter.

## Chapter Five: Discussion

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### Introduction

This chapter analyses the findings with regard to participants' beliefs and assumptions on the purpose of education and training within the polytechnic. The aim of this discussion is to synthesise, analyse and compare these findings with the main themes from the literature review to determine the extent to which the polytechnic can achieve a lifelong learning culture. It is important to note that the aim of this study is to gain understanding and insight of the potential for a lifelong learning culture at the polytechnic from the perspective of participants concerned. Moreover, the themes that emerged from the findings are discussed alongside themes from documentary data plus major theoretical insights which have arisen in the literature. This chapter will begin by analysing views on the purpose for providing polytechnic education and training plus others that follow.

### The purposes of the polytechnic education within the tertiary education sector

*...[although] early moves in the direction of the lifelong learning scenario were driven by concerns with upgrading skills and meeting qualification targets, the wider agenda of enhancing quality of life both personally and in the community suggests the need for a broader set of learning options. These need to build on the best traditions of [vocational] education emphasising accessibility and learner-centeredness. (Feinstein & Hammond, 2004, p. 218)*

The need for identifying 'best practices' for the knowledge-based economy has become a focal point for governmental intervention in learning institutions (ibid). Of the ideas that emerged under this theme, the predominant perspective is that the purpose of polytechnic education is to primarily serve economic ends. Hence, the strong emphasis on training for work, vocational skills and employability,

rather than a broader view of adult education for social and or individual development. Studies concerning the role of post-compulsory education (Schuetze & Casey, 2006; Schuetze & Slowey, 2012; Gallacher & Osborne, 2005) have also revealed a tendency by nation states to concentrate exclusively upon work-related aspects of education and training, rather than life-worlds of a society; at least in their approaches within policy domains. This focus is clearly the case for the polytechnic, because the existing learning culture is held responsive to the PNG Government's policy for investing in VET to create a high-wage/high skilled labour market (NDOE, 2005).

This study has demonstrated that the distinctive features of education and training at the polytechnic have the potential to promote its ability to support broader aims of lifelong learning as well as meeting the government's education policy for upgrading skills and meeting qualification targets. However, Field (2002) argues that policy makers often seem uncertain over the best means of achieving this desirable goal. This view is in part described by the deputy director of the institution in this comment.

In my point of view the training [i.e. VET] to date is being limited in a sense that it does not allow for other skills areas to be covered because of policy issues [i.e. at the governmental level]. With the current trend in development that the country has come through there are some areas where the skills are not provided.

This critique directly challenges the normative perspective of skill training that is prevalent within the PNG tertiary education framework. It explicitly identifies the policy-gap that continuously undermines future developments in VET. Given the growing importance of knowledge and skills in the production of goods and services, education policy makers need to monitor as accurately as possible the development trends pertaining to industry and technology developments (OECD, 1999). In this context, the polytechnic needs to rethink the purpose of VET and the institution's changing status in the knowledge economy. The potential for developing both horizontal and vertical learning pathways that advance career mobility and drive social change is a feasible option for the polytechnic (see Schuetze & Casey, 2006). Such a model has the potential to deliver skills

development in ways that are efficient and fit for purpose to meet the needs of both individuals and the economy.

Tuschling and Engemann (2006) report that tertiary institutions such as the polytechnic who offer short-cycle VET programmes should consider adapting their learning culture to the demands of more open, flexible and democratic learning systems. The new learning culture needs to build on the best traditions of vocational education that emphasises accessibility and learner centeredness (Feinstein & Hammond, 2004). As the UNESCO (1996) report states:

*Not only must it adapt to changes in the nature of work, but it must also constitute a continuous process of forming whole human beings their knowledge and aptitudes, as well as the critical faculty and the ability to act. It should enable people to develop awareness of themselves and their environment and encourage them to play their social role at work and in the community. (p.20)*

The UNESCO report points to valid responses to the problems of the mismatch between the supply and demand of education provisions that come from a more flexible system that allows greater curriculum diversity and builds bridges between different types of education (e.g. formal, non-formal or informal) or between work life and lifelong learning. As reported in this study, such flexibility will reduce system wide failure to accommodate learner diversity and tremendous wastage of human potential resulting from it. For all these reasons, it seems that the concept of tertiary education that is pursued throughout life, with all its advantages in terms of flexibility, diversity and availability at different times and in different places, should command wide support (ibid). Based on this understanding it can be argued that there is a need for the polytechnic to broaden the purpose of VET under a framework of lifelong learning. A potential way to expand this understanding is to analyse the dual perspective of skill training that emerged from the findings.

### **The dual purpose of VET**

The dual perspective of VET emerged in part as a response by interviewees to differentiate between the accepted standard for preparing graduates for formal employment opportunities as compared to other provisions that can potentially improve the wellbeing of the individual in the non-formal sector (e.g. self-employment opportunities). A few commentators held views that expanded beyond the strong instrumentalist view of VET. The following example is given by a senior lecturer in science who had strong views about this idea:

The training provided [i.e. within the polytechnic] is focussed towards meeting industry requirements. Meaning that, the training provided in this sector is geared towards meeting the requirement of formal employment. There is minimum focus on training that is geared towards self-employment.

This dual perspective that differentiates between VET as a pathway to formal employment and the other that promotes non-formal employment opportunities implies a broader view about the role of polytechnic education and hints at possibilities for a broader lifelong learning approach. This broader view of skills training accommodates both the economic imperative and social aspects of education and training, both, equally important in a learning society. This approach has a strong focus on the centrality of the learner and shifts the attention from institutional arrangements for providing VET to the demand side of meeting the learner's needs. The need to satisfy individual learning needs of learners becomes a priority and the institution is required to harness its resources to satisfy this course. On this issue, Wyn (2007) asserts that learners are now more aware that the gaining of educational credentials does not guarantee them a secure pathway through life, and that they must actively construct education and employment biographies that are both attractive and satisfactory to their individual needs and to the labour market. A senior lecturer in arts made a comment that emphasises this view:

The programmes offered in [polytechnic] are fixed and structured towards high academic achievement and qualification. Students are expected to study hard to gain good marks to successfully complete their programmes. Specific individual needs for personal development are not catered for since the programmes or courses offered are standardized and benchmarked ... to meet demands for labour market in the industry in trades and skilled manpower.

The mention of ‘individual needs’ and ‘personal development’ suggests a more comprehensive way of thinking about the purpose of providing VET. It strongly suggests a view that promotes learner centeredness. However, Leader (2003) argues that “the social and economic consequence of this trend underpins a progressive and extensive change in the development of learning societies and access to lifelong learning opportunities” (p.366). Leader’s argument is consistent with educational practices that promote the centrality of the learner. This argument has serious implications on how the polytechnic accommodates this dual perspective within its training plans. Most government policies on this issue are based in part on the premises that education and training can solve society’s problems, but the consequence of this political arrangement with higher learning institutions like the polytechnic will continue to impact on wider returns of tertiary education to individuals and to society.

Moreover, the reality that exists within the polytechnic is in part a reflection of the broader political arrangement that defines its purpose as a public institution. The PNG Government’s *Vision 2050* and the *Development Strategic Plan (DSP)* along with the *National Higher Education Plan* and the *Human Resources Development Strategy 2020* all emphasise the importance of developing the overall skill capacity of the PNG work force (NDOE, 2005). These policy frameworks underpin a strong view of the industry-skill perspective of tertiary education and training in PNG.

### **The employment related perspective**

The employment related perspective of VET (e.g. facilitating VET for formal employment) is a dominant theme in the findings (i.e. more than half of all interviewees' data). These views represent a more direct way of thinking about VET with less emphasis given to ideas that promote discussions on lifelong learning. An example of this view is given by a recently appointed head of department:

What polytechnic is trying to do is teach the students in such a way that they are able to graduate and find jobs in the industry. Not to train students here to go to other higher learning institutions then to the industries, but straight after studies to find employment in the industries.

The comment indicates a strong view about the role of polytechnic education in facilitating job entry requirements for graduates. This remark represents a strong functionalist view of education and training and holds little promise for an integrated culture of lifelong learning. The dominance of this economic rationale underpins the focus of VET within the polytechnic, based largely, on the PNG Technical and Vocational Training (TVET) Division policy agenda that drives VET provisions. The TVET policy is guided by the PNG Government's *Medium Term Development Strategy 2005-2010*, which states:

*The Medium Term Development Strategy (MTDS) articulates an overarching development strategy which provides a framework for prioritising the Government's expenditure programme. It is based on the Government's Programme for Recovery and Development, which comprises good governance; export-driven economic growth; and rural development, poverty reduction and empowerment through human resource development. (NDOE, 2005, p.3)*

This policy framework identifies economic and government priorities and highlights the key role of TVET in human resource development within the tertiary education sector. The "dominance of this economic rationale presents a stark contrast" to strategies of lifelong learning that are defined by a democratic

rationale for reforming the front-end based education system (Schuetze & Casey, 2006, p.282). Whilst the TVET policy framework recognises the need for human resource development it is driven on the other hand by the government's economic agenda to promote a strong employment related perspective in terms of VET provisions within the tertiary education sector. It can be argued that the policy drive is to generally recognise the need for adult learners (i.e. students and workers alike) to acquire training for career development in response to the government's agenda for promoting economic growth. This model of skills training advocates for 'human capital development' which has "strong links to work related training and skills development to meet the needs of economy and the industry for a qualified, flexible and adaptable work force" (Schuetze & Casey, 2006, p.283)

This model of VET largely contrasts with the "emancipatory or social justice model which pushes the notion of equality of opportunity and life chances through education in a democratic society" that promotes lifelong learning for all (ibid, p.282). The polytechnic needs to redefine its purpose in providing VET if it is committed to its mission statement to promote the "development of individuals in various life skills through quality and relevant educational programmes" (NPIPNG, 2012, p.7). However, the dramatic increase in admission rates and the changing context of education and training at the polytechnic in terms of its structure, purpose, social and economic roles, have resulted in diversity in student population who now attend training. This has placed greater strain on the function of the polytechnic in providing skills training.

### **The changing context of polytechnic education**

The findings under this theme generally relate to the changing context of education and training at the polytechnic. They include suggestions for changing the structure and nature of the training programmes offered at the institution. The findings indicate that changes experienced at the institution are a response to the change of status of the polytechnic (i.e. from a technical college to a polytechnic) plus the increase in admission rates at the institution. An example of this view is given by a senior lecturer in arts:

We need a new way of thinking about how to provide quality education...to address learning needs of all groups of learners and we also need our institution to change to accommodate that fact.

The comment identifies the need to change the nature of education and training at the polytechnic. It also suggests a pathway for the polytechnic to change and adapt to the changing demands of new categories of learners.

A report in the polytechnic's *Five Year Infrastructure Development Plan* also indicates that the admission rate has doubled over the last ten years. Around half of the student population are mainstream school leavers and are sponsored by the Government's Tertiary Education Assistance Scholarship (TESAS); the majority of the other half are self-sponsored, and about a tenth of the student population are corporate sponsored students (i.e. students sponsored by big firms). Part time students make up a very small percentage (NPIPNG, 2012). The changing context of the polytechnic is also illustrated in the PNG TVET Needs Analysis Study:

*NPIPNG is the only Polytechnic Institute formally established at this stage. It has the largest enrolment and has the most diverse range of courses (20 in total). ...community expectations in terms of the polytechnic status are already quite high. Specifically there is an expectation of new courses at diploma and degree levels and an upgrade of facilities, curriculum and staff qualifications. The management and council of the College feels it is not adequately prepared to respond to these stakeholder expectations. (Hind et al., 2011, p.134)*

Based on these facts, it can be argued that the growth in student numbers associated with the shift in status from a technical to a polytechnic institution is a response to the changing structure, purpose, social and economic roles of the tertiary education sector in PNG. On this issue, Schuetze and Slowey (2002) argue that "as part of this expansion and heterogenisation, new groups of students who, for a complex range of social, economic and cultural reasons were traditionally excluded from or underrepresented in [tertiary education], might be expected to participate in increasing numbers" (p.312). This argument suggests that the polytechnic should adapt quickly to this change and put in place mechanisms that

would cater for the learning needs of these diverse groups of learners. For example, student learning support can be of great help to slow learners.

Moreover, Osborne (2003) reasons that international studies concerning the expansion of higher education indicate that expansion does not necessarily result in widening access to all groups of learners. Osborne's view should be valued because in the process of trying to accommodate the diverse learning needs of new groups of learners it is also possible to overlook others who were traditionally under-represented in the first place. For example, these groups include adult learners with no entry qualifications, people from working class backgrounds, those from rural areas, and those from lower socioeconomic backgrounds. The same can be said for the polytechnic, since the changing context of its learning environment has greatly increased community expectations for various students to access learning opportunities. These changing conditions of education and training demand a radical departure from traditional forms of providing VET to others that can potentially address this problem.

There are other factors that need to be considered under this perspective of change. Schuetze and Slowey (2002) point out that higher participation rates do not automatically imply that functions of tertiary education "in social selection and social reproduction are obsolete, or issues of inequality or access are features of the past" (p.314). Evidence from the study by Schuetze and Slowey also suggests that diversification in the tertiary education sector has not been sufficient to eliminate unequal rates of participation by different social groups. This differentiated pattern of participation in tertiary education is a big issue internationally and must therefore be of policy concerns in the case of PNG if the country is to commit to opportunities for lifelong learning for all (OECD, 1996b). PNG has a lot of social issues and the demand for education is high with limited opportunities for those are traditionally under-represented in higher levels of learning (e.g. those who do not have formal qualifications).

As indicated in the study by the OECD (1996b), the concept of non-traditional students in many countries differs in contexts but mostly the need for participation of such students in tertiary education is a response to the changing demands of society (e.g. socioeconomic issues). On the other hand, successful entry, retention

and completion of studies depend on other factors. There exist barriers at different levels in transitions from school to work, or from work to school, or to higher levels of learning.

## **Existing barriers and proposals for change**

### **Existing barriers**

The findings highlighted major barriers that impinged on the changing context of skill training at the polytechnic. These barriers are endemic to the PNG-TVET sector. The existing barriers identified from the findings include policy issues, management practices and issues relating to the teaching and learning environment. These barriers will be analysed separately to point to the implications they may have on the potential of polytechnic in achieving a lifelong learning culture.

### **Policy Issues**

The study identified that the implications of government policy on education and training within the tertiary education sector directly impacts on the purpose of providing VET within the polytechnic. The study found that there is no government policy that distinctively defines the role of polytechnic education within the PNG tertiary education sector. On this issue a senior official at the institution made the following comment:

...there has to be a decision at the top level to amend the existing education act to recognise the polytechnic educational concept. I have been looking at the education act and it is alarming to me to realise that the act only covers technical and business colleges and no mention of polytechnics. So my question; is the polytechnic legally operating as an education provider?

This macro-level barrier has serious implications for policy directions concerning the development and implementation of skills training at the polytechnic. Official documents from the polytechnic reveal that the polytechnic concept was officially recognised under the *PNG Education Act 1983* as a provider of VET training in

2009 (NPIPNG, 2012). There is no clause under the education act that explicitly defines the role of the polytechnic. As noted from the needs analysis study of TVET colleges in PNG, a major policy gap exists in terms of a polytechnic model in relation to student intake, governance, course offerings and resource provisions (Hind et al., 2011). The report further notes that the policy implications on the roles of the polytechnic as:

*...significantly altered and raised stakeholder expectations regarding the type and level of training to be provided in these institutions. This has placed the management and Councils in a very difficult position as the resources at their disposal cannot meet these new expectations.*  
(ibid, p.32)

Consistent with the findings from this study, the needs analysis study of TVET colleges also found that TVET in PNG suffers from fragmentation, low capacity in terms of policy development, and research, evaluation and strategic planning for the sector. The presence of this structural barrier places less emphasis on educational and training provisions that target educationally or socially disadvantaged groups (Parnham, 2001). Building effective learning pathways for learners to transfer from and between education sectors and qualifications has been the focus of extensive research, policy development and practice internationally, but is lacking in the tertiary education sector in PNG (Mills et al., 2013; Phillips, 2006). Mills et al. (2013) argue that “improved learning pathways constitute an essential feature in a more flexible and integrated tertiary education system” (p.10). The polytechnic is now challenged by these policy structures to redefine its purpose in providing VET. The suggestion of adopting a lifelong learning framework as part of its policy goal is a potentially viable solution for the polytechnic. This would largely depend on how it aligns its administrative functions with this goal.

#### **Management issues**

Management issues were identified as a common area of dissatisfaction in the study. These concerns were connected to broader educational issues that are thought to hinder the progress of skill training within the polytechnic. The findings indicate that interviewees were generally preoccupied with views that

linked to basic needs of providing skill training. There was not enough space for thinking on other kinds of visions for skill training. An example of this view is given by a section head in communication arts.

We are basically aware of what needs to be done, but we are not doing enough to achieve these goals in making our educational programmes more accessible to more people who want to get the type of training they need.

The comment implies a general lack of vision by the management to expand options of skill training beyond traditional norms. Management issues in this context refer to the systemic approach employed by the polytechnic to address educational concerns.

Mathews and Candy (1999) report that the advance of the knowledge economy has brought about “significant changes in organisational structure, strategies, culture and patterns of interactions” (p.49). They further assert that more flexible forms of management structures are now being developed to maximise knowledge development and practice. These developments have replaced bureaucratic structures and relationships, and the shift from the practice of command and control to a more participative or collaborative approach, often through team work. However, Finsden and Formosa (2011) argue that “within organisations there are hierarchies which operate to preserve the privilege of status and power” (p.39). It can be argued that learning organisations like the polytechnic are not neutral places where idealistic policies and practices are implemented without contestations. In considering this argument it will be viable for the polytechnic to adopt a more democratic approach that serves its purpose in developing as a learning organisation. In partly addressing this concern a senior lecturer made this comment:

I have not seen any initiative shown by the institution to involve local industries in its development plans. I think the administration is not doing enough. The individual department can initiate dialogue with industries but I think the administration should take the lead, I think they are not doing enough to realise the importance of what this can have on the many challenges the institution is facing.

This comment questions the level of diplomacy and concessions extended within the management practice. Implicit within this statement is a compartmentalised view of how management responsibilities operate. It clearly supports the argument given above and requires a shift from rigid structures of management practices to a more participative or collaborative approach.

#### **The teaching and learning environment**

The constrained nature of the teaching and learning environment was identified as an issue that impacted negatively on the success and progression of students through their learning. The majority of the interviewees reported that teaching resources and classroom facilities were not conducive to the standard of teaching and learning practices. The needs analysis report on technical vocational and education training (TVET) colleges also confirmed the poor nature of the extremely improvised learning environment that pervaded all the learning institutions (Hind et al., 2011).

The findings and documents from the institution also show that the student population in the polytechnic is diverse and display a wide range of needs. This is partly because the polytechnic usually provides both ‘pre-service’ and ‘in-service’ programmes as part of its curricula. Learners are drawn from different cohorts (i.e. young to older adults) and they represent different layers in society that include diverse family and cultural backgrounds. Some members of these groups may not be strongly motivated to learn when they enter the programmes, and correspondingly, some academic staff may not possess the necessary skills to deal with some of these participants who may have specific learning difficulties. Within this context the OECD approach to lifelong learning strongly advocates for the “centrality of the learner” (OECD, 2007, p.10). This approach requires a systemic shift of attention from a “supply side focus, for example on institutional arrangements for learning to the demand side of meeting learner needs” (ibid, p.10).

Motivation to learn is paramount to student success for continuous learning throughout life (Knowles, 1980). The sources of motivation are complex, individualistic and come from within the individual, but can be influenced by external factors such as less formal learning environments. Educators are

recommended to keep the principles of motivation at the forefront of all instructional design. Findings from the study suggest that the polytechnic is not fulfilling this purpose. A new approach should be considered to enhance the educational, employment and social attributes of adult learners within the system (Beddie et al., 2013). Institutional barriers that limit students' success rates should be addressed accordingly.

The findings point to the fact that a holistic change to all aspects of the delivery of VET in the polytechnic is needed if its role is to be strengthened. This view is reiterated by a section head in the engineering field:

We need a new way of thinking about how to provide quality education...to address the learning needs of all groups of learners and we also need our institution to change to accommodate that fact.

Hence, the individual's ability to adapt to the idea of "learning to learn" and to remain abreast of constantly changing work conditions is necessary when the idea of knowledge production becomes the main economic drive (Kessels, 2001, p.498). The study by Simons and Smith (2006) on understanding learners and learning provides useful insight. They report that adult learners bring with them to any learning situation "a complex array of characteristics which have the potential to influence and be influenced by the learning process" (p.19). They note that while it is not possible to fully understand the impact of these characteristics on the learner, the ability to identify potential ways in which learners are differentiated from each other is critical to building a solid foundation in the development of 'good' teaching and learning environments. This study of PNG polytechnic has provided evidence that there is general dissatisfaction among staff over institutional barriers that block this progress. Issues of resourcing and a general lack of mission by the polytechnic administration seem to be key contributing factors. For example, a senior lecturer made the following comment:

...we have a good structure and foundation for the different disciplines we have in the institution but we are not doing enough to create more learning opportunities for our learners...we need to take a holistic approach and be proactive in addressing these issues.

Her selective use of the phrase ‘create more learning opportunities’ suggests limitations concerning existing structures of professional training inside the polytechnic. She also acknowledges that greater proactivity is required by the polytechnic in terms of innovation. Her ideas are consistent with the views discussed above in the literature.

Another important factor that contributes to a strong learning environment is work-based learning. As part of the VET curriculum, this practice relates to the attachment of students to job related training in formal work environments. Work-based learning offers realistic experience to participants and can make it easier for learners to acquire up-to-date knowledge as well as practical skills. Findings from the study indicate that only students who study at the certificate level undertake work-based learning as part of their curricula, while those who engage in diploma level programmes miss out. It can be argued that this inequality of learning opportunities impacts negatively on the second group of learners. As a social as well as an individualistic process, work-based learning has the potential to promote improved learner outcomes and professional development of learners. The study conducted by the OECD (2001a and other 2001 studies) confirms that skills development and knowledge acquisition are central to professional development. Hence, the opportunity to engage in work-based learning usually increases the ability of the learner to acquire, develop and use knowledge effectively within the work context, but this learning may also transfer to other domains of life. The extent to which the polytechnic engages in developing a culture of continuing education of students is reflected in the quality of the academic programmes (e.g. both theory and work-based learning) and the support services it offers. This would require a change of perspective on how it pursues broader aims of education and training.

### **Proposals for change**

The main thematic proposal for change relates to the need for the polytechnic to develop a new curriculum structure. Curriculum development was viewed as a significant step forward for the polytechnic as a means to define the main features

of its academic programmes. This view is illustrated in the comment by a section head in the engineering field:

I think the main problem is lack of vision to really revise or develop a new curriculum structure for the polytechnic. Our curriculum is outdated and needs to be restructured to meet current demands in education and training as well as meeting the requirements of the industry.

The comment specifically identifies the changing demands of society and its implications for curriculum development. A similar concern is outlined for the polytechnic in the PNG-TVET needs analysis report. The report noted in part that “over 80% of students are enrolled in courses in which the curriculum has not been reviewed for at least 15 years” (Hind et al., 2011, p.19). These challenges identify the need for developing a new curriculum structure, but there are many overarching questions that underpin the development of a curriculum. Carpenter (2001) identified six categories:

- 1) *Who should be responsible for controlling the selection of knowledge?*
- 2) *Should learners from different social background (e.g. different social class or ethnicity) experience a different curriculum?*
- 3) *Should aspects of curriculum be compulsory?*
- 4) *To what extent should learners experience the real world as part of their learning?*
- 5) *How should the curriculum be organised?*
- 6) *What is the role of assessment and evaluation in the curriculum?*

The reality of these questions indicates that the question of curriculum development is highly contested because it generally “embodies the values, norms, objectives, interests, priorities, and directions of the state and other powerful sectors of society” (Jansen, 1991, p.79). Based on these views, it can be argued that the polytechnic approach to developing a new curriculum should aim to equally answer all these questions.

Many writers (Rowley, 2000; Findsen & Formosa, 2011; Bloom, 2006) acknowledge that knowledge has become a key driver for productivity and

economic growth. Policy makers often seem uncertain over the best means of achieving this desirable goal (Field, 2002). Within this context, lifelong learning can be viewed as an essential policy strategy for the development of individual fulfilment and self-realisation. Based on these arguments, it can be suggested that the polytechnic should identify emerging issues, problems and possibilities that extend beyond the discipline based curriculum and standardised forms of assessment. The challenge is to create a curriculum-policy that advocates for development of people and not for engineering of employees (Schostak, 2000).

A few interviewees also commented that the syllabus material that was covered through the general course of learning had a strong skills focus and lacked other knowledge attributes that were significant for higher level skills in the workplace. The following statement by a senior official of the institution illustrates this fact:

In the Applied Science field we are not providing some options for management training which I think is important for a learner. The graduate will have applied and technical skills training but will miss out on other aspects of training that would give more opportunities to the learner after leaving school.

This comment identifies the need for continuing education of students for professional development. The study by Prebble et al. (2004, p.xi) suggests that there is a need for tertiary institutions such as polytechnics to provide more comprehensive evidence for the “efficacy of the various forms of academic development in place” both in terms of their effect on pedagogy and students’ learning outcomes.

The findings also suggest that the general curriculum (e.g. mathematics and literacy) was considered to be an important component of the curriculum practice at the polytechnic. A few interviewees commented that only students in the certificate programmes were exposed to technical communication studies and it should be extended to the diploma programmes. In support of this argument, a report by the OECD (2010) emphasised that sound generic skills are important as personal attributes in current work environments. The OECD report states that advances in technology, and in the information technology sector has made problem solving and complex communication skills more important in the labour

market. This example demonstrates that the development of these skills is underpinned by effective literacy and numeracy skills. Hence, it can be argued that learning in both VET and lifelong learning is difficult without strong basic skills.

## **Lifelong learning**

The study found that while the interview process was seen by the respondents as an opportunity to voice their education concerns, only a handful had contemplated ideas that directly addressed the research question. Most comments related to skills and career development of adult learners. In addition, the way in which respondents viewed the general performance of the polytechnic also influenced their interpretation of lifelong learning. The main themes that emerged under this category will be analysed to ascertain the potential of lifelong learning at the polytechnic.

### **The potential for lifelong learning**

The findings under this theme show that fewer than half of the interviewees displayed varying degrees of understanding of different aspects of lifelong learning. The notion that education should be a lifelong and life-wide process seemed foreign to most of the interviewees. In trying to conceptualise this issue a senior academic in the business study stream said:

I don't think many people in PNG understand the concept of lifelong learning and its importance to the development and economy of the country. I strongly believe that people (i.e. students', parents', and education providers') way of thinking will change if they are aware of the importance of lifelong learning, and how it contributes to the country's development and individual self-reliance.

This statement points to the general lack of understanding of the concept of lifelong learning, however, the underlying statement in the second sentence advocates links to the notion of active citizenship. This comment indicates that

there is a potential for advancing the idea of lifelong learning. It can be argued that explicit understanding of the concept is not there, but general education concerns by the interviewees are expressed in a way that promotes the advance of the knowledge based economy as well as promoting social mobility and increased opportunities for learners to access education and training.

As discussed earlier in the chapter, the findings do illustrate the changing context of VET training within the PNG Polytechnic, but this progress is characterised by many factors that make the idea of lifelong learning seem unattainable. Many of the challenges PNG faces as a learning society are in part related to improving the quality of tertiary education so that learners can acquire a solid foundation as lifelong learners. Unfortunately, tertiary institutions such as the PNG Polytechnic (one of the largest VET providers) perform well below the expected standard and individuals are not given the opportunity to acquire the basic knowledge and skills to live meaningful lives in their communities (Hind, et al., 2011).

Indeed, as the findings indicate, broader aims of skills training are not appropriately addressed, and there are major structural barriers (e.g. policy issues) within the PNG tertiary education system that limit participation by adult learners. Additionally, those who are given the opportunity to study are representative of the traditional pool of learners (main-stream school leavers) but what about the non-traditional groups (second chance learners, workers, individuals from low socioeconomic class) who seek similar opportunities? The report by OECD (1996a) suggests that this difference appears to be centred on the strong link between the notion of lifelong learning and its institutional context. It requires a shift of attention from a supply side focus; for example on formal institutional arrangements for learning, to the demand side of meeting learners' needs (ibid). This means that the polytechnic should focus more on broadening the existing structure of its programmes to target those who are under-represented within the system.

In the PNG context, the real or potential demand for and support of lifelong learning stems from a still large population of people who lack the minimal qualifications needed for qualified work and for participation in civic and cultural life (Schuetze & Slowey, 2006). This problem is further magnified by the

dominance of an economic rationale for tertiary education that pursues an agenda of skill training that is focused on meeting the demands of the labour markets. Within this context it is important to ask, whose responsibility is it to promote the idea of lifelong learning? This view is illustrated in the comment made by a section head in communication arts:

I think education is important because it provides new knowledge and skills ... this is what society needs. There are many changes in society, the industry and information technology and people need to learn to cope with these changes. It is the responsibility of institutions like [the polytechnic] and the government to make this happen.

The responsibility for lifelong learning is usually distributed between the individual, the government and the institution. Firstly, “individuals have not only more choice but also greater personal agency for taking action and making meaningful choices among the various options open to them” (Schuetze & Slowey, 2006, p.281). The burden of making an informed choice depends on how much information is available for the individual to choose from. A determining factor in exercising such choice is the individuals’ motivation and ability to engage in learning beyond compulsory schooling. Their motivation and capacity to learn will also depend on other factors including the individuals’ socioeconomic background, links to family and culture, social capital and the quality of their compulsory education experience (ibid).

Secondly, the government has a much bigger role in developing sound educational policies. The UNESCO (2007) report on benchmarking knowledge economies outlined that for policy design and evaluation purposes, governments need to monitor as accurately as possible the development trends and structural shifts pertaining to education, work, industry and technology, not only in their own countries but also in comparison to other nation states. As noted in the report by Field (2002), policy-makers must target the importance of knowledge and skills production in tertiary institutions by mapping the existing patterns of participation; evaluating measures being developed to promote lifelong learning; and assessing the prospects of achieving a viable learning society. As indicated by Candy and Crebert (1991) it is important to present the idea of lifelong learning as

an “identifiable and achievable goal if certain politically expedient policies are adopted, rather than to offer it as a philosophically desirable alternative to an educational policy currently based on rationalism and utilitarianism” (p.3).

The Technical Vocational and Education Training (TVET) division of education in PNG is recognised as having a high profile in the PNG Government’s *Vision 2050* and twenty-year *Development Strategic Plan (DSP) 2010-2030*; with human capital development being one of the Vision’s seven key pillars (see Hind et al., 2011). There is an emphasis on development of a knowledge-based economy and wealth creation as key components of the strategic direction for PNG’s growth and development. The strengthening of the capacity and quality of educational provisions at the polytechnic is central to the achievement of the Visions 2050 goals through the DSP (NPIP, 2012).

Thirdly, Tuschling & Engemann (2006) observed that tertiary education needs to adapt its learning culture to the demands for more open, flexible and democratic learning systems. Furthermore, Schuetze and Slowey (2002) reported that the shift in perception of participation by students from privilege to right has however led to massive changes, for which the structures and functions of tertiary education in many countries have had to, and continued to change. A fundamental issue that is posed to the polytechnic is to what extent can different learning needs of learners be addressed? This view is illustrated in the comment by a section head in the engineering discipline. :

I believe there are specific areas of training that can be made available at the institution to benefit new categories of learners. We have the usual groups coming in for training like school leavers and second chance learners and people from the industries who need to upgrade their qualifications but what about those groups of people who may need basic life-skills training.

This quote identifies multiple types of students; how then, can the polytechnic cope to address the learning needs of these different groups of learners? Crucial to this task is for the polytechnic to identify the barriers that restrict learners from accessing equal learning opportunities. This relates to the structural, institutional, situational and dispositional barriers that impinge on recruitment, retention,

progression and completion rates of learning. Another important mission for the polytechnic is to properly define itself and its existing programmes against the PNGQF. As a technical tool for improving consistency and coherence, the PNGQF can be used broadly to identify missing links; create new qualifications or new routes to existing ones; or it can be used to bridge qualifications (see Werquin, 2007).

Moreover, the polytechnic has the opportunity to expand the scope of its programmes to cater for a more diverse group of learners. For example, the ‘trade testing’ programme in the metal trades is the only recognised pathway for external students under the PNGQF, but what about the other departments who can achieve similar success in their programmes? As a newly established institution, the polytechnic can use the PNGQF to modernise its education and training system. The PNGQF was designed to allow credit transfer for learning requirements in other qualifications and can be used to promote procedures for access, transfer and progression in learning (see Coles, 2006). On this issue the OECD (2007) report outlined that this process provides a fundamental step in developing lifelong learning; such that the overarching structure of the NQF would provide the basis for learners to access learning more frequently and carry forward some credits for achievement to new jobs and studies. Given this opportunity, more learners from the underrepresented groups can have the opportunity to participate, whereby their social capital increases and in the process there is reduction in social stratification within the system (ibid).

Potential approaches to lifelong learning can best be viewed through international perspectives. Schuetze and Casey (2006, p.282) maintained that the demand for and support of lifelong can be generalised based on three sources:

- *An increasing number of better educated adults who require continuous learning opportunities*
- *A still large population of people who lack minimal qualifications needed for qualified work and for participation in civic and cultural life, and*
- *The contemporary economy that operates in an environment where markets, technology, work organisation and skill requirements are frequently changing.*

Based on the findings and the local context of the study, it can be argued that the demand for and the support for a lifelong learning culture at PNG Polytechnic stems from the last two sources described above. According to general understanding of lifelong learning (see, Schuetze and Casey, 2006), individuals learn at various times throughout their lives and actively participate in society and in their working lives. Their ability to learn allows them to promote social cohesion and increased productivity through adaptation and innovation. Hence, society and the knowledge based economy are at the same time both the foundation of lifelong learning and its beneficiaries” (Álvarez-Mendiola, 2012, p.158).

However, the reality of education in PNG (e.g. within the polytechnic) as expressed above does not correspond to the notion of a learning society. This is largely due to the country’s high level of poverty and socioeconomic inequality. Massive educational achievements are not matched by wider social progress, and there are limited spaces in tertiary institutions compared to the number of students leaving compulsory schooling, and issues of access, equity and gender are high (Hind et al., 2011).

As discussed earlier in this chapter, the changing context of the tertiary education sector has also lead to a differentiated structure of the polytechnic that is inaccessible to students who were initially under-represented in the system. This includes working class adults, students in rural areas and those from low socioeconomic backgrounds. Therefore, the challenge is how to accommodate the learning needs of these different groups of learners. Similar challenges and potential solutions can be observed from country studies in New Zealand, the USA and England (Anderson, 2005, Osborne, 2003, Parry, 2005). For example, Weelahan and Moodie (2005) reported that in Australia social association is closely linked to social class, and the impact of tertiary education on adult learners disadvantaged those who were less likely to come from families with privileged socioeconomic backgrounds.

The issue of inequality is widespread in PNG and directly threatens the livelihoods of potential learners. It can be argued that the potential solution for the polytechnic is to create a more robust system that centres on the learner as part of

a wider social process of interactions between the learner and the institution throughout life. As reported by Parry (2005), different modes of delivery need to be identified to specifically address the needs of these groups of learners. Short-term programmes, bridging programmes and distance learning are some potential options. The recognition of prior learning and credit transfer processes are an integral part of this objective.

### **Other views**

The study also found that community engagement activities were integral for skills development for students. However, it was noted that the rate of community-based learning was far less than the expected levels at the institution. This view is illustrated in the comment made by a head of department.

I do not think there is much engagement by students with the community. I have dreams for such training for our students. That is to engage this department to go and do things in the community. While teaching or providing a service within the community the students in turn learn from that engagement in the community.

The comment strongly endorses the polytechnic and community collaboration as win-win solution for both parties. It implies a genuine concern to see community engagement promoted within teaching and learning practices at the polytechnic. On this issue, some writers observe that the pedagogy of community-based learning has the potential to promote active citizenship (Beddie et al., 2013; Billet & Seddon, 2004). As reported by Beddie et al. (2013), tertiary institutions have the potential to act as mechanisms for ensuring that local communities become “integral parts of the knowledge economy by offering technology and expertise to both community and businesses to increase competitiveness and expertise” (p.48). These utilities also serve to raise expectations and aspirations of the community (ibid). Through this process, the learning environments of learners are extended to include social experiences and training for professional development that is normally not experienced in traditional learning areas (i.e. the classrooms).

It was also reported by other writers (Kezar, 2004; Gumpert, 2000) that potential networks between tertiary institutions and society can generally be referred to as a “reciprocal relationship” (p.463). Kezar asserts that society provides resources, political support and guiding influence, and in return tertiary institutions such as universities, colleges and polytechnics “educate students, serve as developers and repositories of knowledge, provide social critique and contribute to community” (p.463). Hence, the articulation of skills and knowledge developed in classrooms with expanded student experience in the community also ensures a better-skilled community, and links to the promotion of wellbeing and community cohesion, a key ingredient of a learning society (Beddie et al., 2013).

### **Conclusion of chapter**

The analysis of major themes intended to identify the potential for lifelong learning at the PNG polytechnic reinforces the notion that a dichotomised approach exists to lifelong learning in PNG. If the idea does exist at all, it is usually identified with a notion of older adults, or working class people who seek opportunities for further learning, and not one that can be used to improve standards of education systems that provide learning opportunities to individuals of all age groups irrespective of where they are or wherever they come from.

In light of this understanding, the main argument that underpins this study is that lifelong is simply not recognised as a visible learning system; that is, it is not counted as part of the formal education system nor broadly taken into account for public policy purposes in terms of education and training. Thus, if a lifelong learning system does exist, it is not usually registered in common language that is used to describe education and training in the PNG context.

Whereas the findings do not explicitly mention a lifelong learning model, a lifelong learning framework could potentially create awareness on equity-oriented perspectives in education that focus on learners and their ability for success as lifelong learners. In order to meet this requirement, an integrated approach is needed at the national level and within the polytechnic to assess and consolidate

educational goals to be better equipped to develop the potential for lifelong learning in a broader framework.

## **Chapter 6: Conclusions and recommendations**

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This chapter discusses the conclusions and recommendations of the study. In considering the scope of this qualitative study, it would be unwise to offer too many generalisations, particularly with reference to the small sample size used in the study. However, a number of important issues will be discussed in relation to the implications of the findings that primarily relate to the extent to which the PNG Polytechnic can achieve a lifelong culture and includes broader applications to the tertiary education system. Recommendations are made to stakeholders in relation to the implementation of a lifelong learning framework and a possible new model for the PNG Polytechnic.

### **Concluding remarks**

The study consisted of an enquiry into the potential for lifelong learning in the tertiary education system, particularly the extent to which lifelong learning can be achieved within a polytechnic (see Chapter Two). It is important to note that international perspectives were included to highlight issues that were relevant to this study because of the social, political and historical significance of past and current developments in tertiary education within these country settings and consequent comparative trends in PNG.

The primary aim of lifelong learning is centred on the notion of continuing learning throughout life and the life-wide learning opportunities which can be made accessible to individuals. The study focused on how well a tertiary education system (i.e. the case of PNG Polytechnic) can adapt, to effectively contribute towards a lifelong learning culture. Within global perspectives, literature and research in the areas of tertiary education and lifelong learning have extensively covered issues pertinent to this topic. However, this study found that there is a profound lack of understanding of the concept of lifelong learning and its implications for the wider context of education and training in PNG. This study is unique in that it focuses on promoting discussion on an educational model that

is potentially useful in addressing wider societal concerns such as unemployment, poverty reduction and inequality of access to higher levels of learning in the context of PNG.

Tertiary education and lifelong learning are building blocks of a learning society. The main agent in the process of lifelong learning is the individual or, in the context of neoliberal policies, the 'consumer' (Slowey & Schuetze, 2012). The principal agent of a 'learning society' is the society itself which constitutes the collective arrangement of individuals at different levels of society, and is usually coordinated by governments at the national level (ibid). This common understanding of a learning society is largely missing in terms of government policies and practices in PNG. This study found that there needs to be an intervention at national level by the government and policy makers to redefine the purpose of tertiary education and its wider benefits to this society. In particular, this redefinition would include the need of a policy direction that would characteristically define the individual roles of tertiary institutions such as the polytechnic within the tertiary education system.

The mission and profile of individual institutions (e.g. the polytechnic) would need to be clearly defined in accordance with viable educational models. This study concurs with other research (Schuetze, 2012; Slowey & OECD, 2008; Schuetze & Casey, 2006; Gallacher & Osborne, 2005) in finding that lifelong learning as a concept for redefining established systems of education and non-formal learning is fundamental for a learning society. It also found that the current model that defines the tertiary education system in PNG concentrates too exclusively upon work-related aspects of education and training, rather than the life-worlds of the society. The PNG Government's commitment to an educational policy framework that centres on lifelong learning is essential to the mission and profile of tertiary education institutions. The government and policy makers should be seen to value the principles of lifelong learning by accommodating it within policy domains.

In the PNG context, the real or potential demand for and support of lifelong learning stems from a still large population of people who lack minimal qualifications needed for qualified work and for participation in civic and cultural

life (Schuetze & Slowey, 2006). From this perspective, the opportunities for individuals to engage in continuing learning processes has become increasingly critical for PNG to compete effectively as a learning economy. This study examined this perspective of education and training and found that while the vision for the development of a knowledge-based economy is embedded in the PNG Government's major policy frameworks (e.g. *DSP 2010-2030* and *Vision 2050 Plan*), the strengthening of the capacity and quality of tertiary education provision is well below expected standards. The Government and major stakeholders must make the necessary effort to make lifelong learning become a reality within the tertiary education system.

### **Recommendations: Using a lifelong learning framework**

A lifelong learning framework should consider key links between and pathways through a wide range of learning activities that exists at all levels of the education system. This approach is based on the argument that the wider agenda of enhancing quality of life both personally and in the community is directly related to the need for a broader set of lifelong learning options for learners to access education and training opportunities when needed. This would require tertiary institutions, in particular, the polytechnic, to build on the best traditions of vocational education and training that emphasises accessibility and learner-centeredness so that learners can acquire a solid foundation as lifelong learners. The polytechnic should be encouraged to value this process of change by ensuring that its learning culture is transformed into one that embraces the basic principles of lifelong learning.

The purpose of education and training at the polytechnic should be aimed at developing a lifelong learning culture that encompasses broader aims of vocational education and training. Different modes of delivery of educational opportunities should be identified to address specific needs of different groups of learners. These may include in part, short term programmes, bridging programmes and more distance learning. The recognition of prior learning and credit transfer is an integral part of this objective. This study examined each of these options for

widening access to education and training and found that while they have been beneficial in other country settings, there is considerable room for adopting these educational features within the existing educational structure of the polytechnic. This opportunity would provide the necessary foundation for the polytechnic to redefine its purpose in terms of lifelong learning opportunities for a diverse group of learners.

The polytechnic should adapt its learning culture to the demands for more open, flexible and democratic learning systems. It should attempt to discover educational opportunities that make lifelong learning more visible by ensuring that there is improved access to tertiary education, in terms of a polytechnic curriculum reform that focusses on diversity in learning opportunities and on continuing education. Consideration should be given to promoting the *lifelong* and *life-wide* aspects of vocational education and skill training. Respondents in this study generally agreed that the polytechnic should place emphasis on improving the overall structure of its training system. To some extent, the fact that some of these structural concerns were identified in the study indicates a systemic challenge for the polytechnic in its role as a provider for short-cycle vocational education and training.

On a systemic level (i.e. within the tertiary education sector), the polytechnic should ensure that the demand for, and the supply of, learning opportunities become more visible as part of a connected system within the PNG tertiary education sector. This learning pathway should cover all forms of formal learning, non-formal, and informal learning opportunities. This approach to learning requires a shift from institutional arrangements for learning to the demand side of meeting learners' needs (OECD, 2007). This study found that the polytechnic has the basic foundation that can potentially accommodate this broad perspective of purposeful learning activities, but consideration should be given to how alternative learning structures can be developed to complement and integrate with existing traditional structures of vocational education and training. If we begin to view vocational education and training as a continuous pathway of offerings through distinctive forms of qualifications, requiring distinctive pedagogical practices and assessment, then a more optimistic view about the future of VET, which is grounded in a contemporary definition of democratic learning

opportunities and personal fulfilment of learners, may emerge. This may create the necessary foundation that is conducive to lifelong learning for all individuals who are determined to learn.

Lifelong learning has emerged globally as a viable concept for rethinking and re-modelling established systems of education and training and differs from ideas that overlook multiple goals of education. It has proven to be a resilient and influential concept in OECD countries and other parts of the world based on two fundamental reasons, as identified in the OECD (2008) report. Firstly, it has adapted to a new political, socio-economic and cultural environment, in which it has emerged as a viable concept for re-modelling educational and social reforms. Secondly, governments and industry are seeing it as a useful instrument for generating a well-trained, flexible and productive workforce that is important to the country's development and its competitiveness in the world market. Papua New Guinea, and in particular the polytechnic, should learn from this reality and adapt to this changing global perspective of education and training.

### **Recommendations for a new educational model for the PNG polytechnics**

As stated in Chapter One and Chapter Two, the place of tertiary education within a lifelong learning framework depends on two fundamental qualities of lifelong learning. Firstly, the *lifelong aspect* which seeks to identify crucial prerequisites for continuing education and training over a lifetime; a system that provides flexible learning opportunities and navigational routes for all learners irrespective of where they are and wherever they come from. Secondly, the *life-wide* aspect recognises the fact that education does not occur only in formal settings, but in a variety of forms and in different settings, and it sets precedence to a vision of a learning society. The major finding in this study is that there is a profound lack of understanding on this important educational concept and it is critical that major changes need to occur if the PNG polytechnic is serious about becoming a prime mover for promoting educational growth and individual prosperity for potential learners. For this to happen, certain considerations should be given to the following options suggested by this study.

### **The need for a new training model**

While the specific focus of education and training at the polytechnic is at the tertiary level, the importance of both the horizontal and vertical linkages between different components of the broader education and training system must not be overlooked in any discussion concerning the notion of lifelong learning. The motivation and the ability of an individual to freely engage in any form of learning are fundamentally linked to earlier learning stages in the life of that individual. Based on this fact, the importance of building connections across the different layers of the education system becomes an absolute necessity. The polytechnic should consider reviewing the extent to which its current model of vocational education and training can contribute effectively to lifelong learning and assess the flexibility of its system and relevance of provisions, and evaluate whether its funding arrangements are suited to lifelong learners (OECD, 2008). This study suggests that the polytechnic would benefit from shifting its focus on systemic dimensions of promoting education and training (i.e. those activities that concentrate solely on mass production of graduates) to the potential effect of an educational practice that focuses on lifelong learners and their opportunities to gain access to work, or from work to school, or to higher levels of learning when needed. This approach would require certain mechanisms to be put in place to facilitate students' successful transition of lifelong learners to enter and exit different learning programmes. One such mechanism is the accreditation pathways for different learning programmes.

### **Accreditation of academic programmes**

The polytechnic should consider accrediting its programmes to ensure their quality as well as providing transition links for learners to enter and exit these programmes or vice versa from work to education and training. This process might best follow curricula change and other measures (e.g. student support services) to improve the learning environment and to support students. As a tertiary education provider, it should develop a new educational model that would distinctively characterise the nature of its short-cycle VET provisions, which from a pedagogical standpoint should align with the theoretical notions of lifelong

learning. Such a model should include admission requirements, pastoral care services, curriculum flexibility to diversify potential for learning, teaching resources and facilities, recognition for prior learning, staff development, community engagement initiatives and links to the labour market (Álvarez-Mendiola, 2005). It is recommended that the new model be used to resolve educational deficiencies prevalent in the existing traditional model. The traditional model is characterised by an instrumentalist view of education and training which is not favourable to a culture of lifelong learning. It is imperative that the polytechnic recognise students' socioeconomic and cultural diversity in order to design an educational platform that is directed at improving student recruitment, retention and progression to jobs or higher level learning. Furthermore, it is necessary that the polytechnic reinvent the traditional educational structure that exists. As the largest public provider of VET in the non-university sector in PNG, its advocacy for a pathway to institutional autonomy is potentially a viable option for the PNG Polytechnic.

### **Course links: Pathways**

PNG's separation of the vocational education and training from lower levels of learning (e.g. in vocational schools) as well as university education has not resulted in a coherent framework to support student transition from one sector to another. A nationwide system for articulation of credits and recognition of qualification between tertiary institutions is needed. This system can create clearly defined links between two programmes so that successful completion of one may be used as the basis to enter another with credit transfer. Alternatively, this system can also provide credit transfer between different levels of the tertiary education system. Standardised pathways can be approved by the institution to ensure that all students meeting the specified conditions are granted the same benefits, usually credit transfer, or customised pathways can be developed to where no formal arrangements exist, or to meet specific needs of different groups of learners (Weelahan & Moodie, 2005).

This study suggests that the polytechnic value the role of the PNGQF within this ongoing discourse. As a potential policy tool the PNGQF can be utilised to allow

credit transfer for students. It can also provide a foundation for improving the quality, linkages and social recognition of qualifications within a country (Werquin, 2007). It is hoped that this system will support student mobility among programmes. The PNG Polytechnic is in need of developing policy guidelines that are closely aligned with the PNGQF, to allow learners to access training in and between the components of the tertiary systems more frequently, as well as access to employment related training in the industries (e.g. as part of work-based learning). In this process the recognition of prior learning becomes an important tool.

If lifelong learning is to develop further, this study suggests that the polytechnic should value the extent of its relationship with the industries and the wider community. VET serves the interest of individuals and industries as well as communities, and has an economic and social justice dimension (Beddie et al., 2013). It is important for the polytechnic to realise that the pedagogy of community-based learning (e.g. work-based learning as part of curricula) has the potential for promoting active citizenship for students (ibid). It should be part of all academic programmes (i.e. both the certificate and diploma programmes) offered at the institution. The polytechnic has the potential to act as a mechanism for ensuring that the wider community (e.g. local communities and businesses) benefit from the knowledge and skill base it has on offer. This study recommends that the articulation of skills and knowledge developed in classrooms be expanded to include student experience in the community. This action would help promote the idea of active citizenship, and community cohesion, a key ingredient of a learning society.

### **Alternative access programmes**

The polytechnic should value the promotion of alternative access programmes to provide more opportunities for diverse groups of learners. These programmes may include in part, bridging programmes for those learners who need to upgrade their qualifications; more in-service programmes (e.g. the trade-testing programmes in the metal trades) which extends to other departments; extended study programmes with the potential for the use of online technology, and existing and new types of

active engagements with communities. It should value an approach that systematically integrates these programmes into its main framework of education provision. It should not view these programmes as a temporary substitution to its established programmes, but value them as part of its social responsibility to the wider community.

## **Conclusion of chapter**

This thesis has reported on the extent to which the PNG polytechnic can achieve a lifelong learning culture, with particular regard to how well a lifelong learning system can benefit individuals and the wider society. The research involved a qualitative case study consisting of interviews in an attempt to gain participants' beliefs and understanding on the potential for lifelong learning in the PNG tertiary education system, particularly the polytechnic. While there was a general lack of understanding on the concept of lifelong learning within the research setting this study attempted to show that there would be more to gain if the notion of lifelong learning is accommodated within educational policy domains.

The role of the polytechnic as a tertiary level learning institution is critical to addressing the social and economic needs of PNG society. The study argues for a paradigm shift in thinking about the role of tertiary education in PNG. There needs to be an intervention at government level in terms of viable policy frameworks to make the idea of lifelong learning a reality. Finally, the study suggests that there is a great potential for the polytechnic to achieve a lifelong learning culture if only it values what this educational concept has to offer.

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## Appendices

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### Appendix 1: Interview Guide



FACULTY OF EDUCATION

## INTERVIEW GUIDE

### RESEARCH PROJECT

**To what extent is National Polytechnic Institute of PNG (NPIPNG) able to achieve a lifelong learning culture?**

Participants Identification code:	
Initials of the Interviewee:	
Date of Interview:	
Location:	

Semi-structured interviews will be used as a tool to collect data. Listed here is an indicative sample of interview questions that are likely to be employed to answer the research question.

### Questions

1. From your perspective, what are some of the main features of tertiary education in PNG?

2. From what you have mentioned so far, are there any supportive policy or practice documents that would be useful to me?
3. I want to gain an idea on lifelong learning, what is your perspective on that?
4. To what extent do you think lifelong learning is promoted in NPIPNG?
5. To what extent do you think lifelong learning is influenced by economic factors in PNG?
6. Social inclusion is an important feature of a learning society. Based on your understanding how do you think social inclusion is played out in NPIPNG in terms of, (i) curriculum, (ii) professional development, (iii) teaching and learning, (iv) policy or, (v) community engagement?
7. In your view, how is active citizenship promoted within NPIPNG?
8. In your opinion, what features of NPIPNG promote community engagement?
9. From your perspective, how do economic factors influence curriculum development in the polytechnics?
10. In your view, how is personal development in the learning undertaken by students at NPIPNG?
11. What features of active citizenship are promoted within the curriculum at NPIPNG?

## Appendix 2: Information Sheet



**FACULTY OF EDUCATION**

### **PARTICIPANT INFORMATION SHEET**

#### **Research Project**

##### **1. Study title**

Investigating Polytechnic education development within a lifelong learning culture in Papua New Guinea

##### **2. Invitation paragraph**

You are invited to participate in a research study that aims to make a substantial contribution to current debates and understanding of the importance of polytechnics education and lifelong learning in a PNG context. This research project is conducted by me as part of meeting an academic requirement in completing Master's study at the University of Waikato, New Zealand. Please take time to read the following information carefully. Ask questions if anything is not clear or would like more information.

##### **3. What is the purpose of the study?**

The main objective of the proposed study is to understand the role of polytechnic education within a lifelong learning framework. In doing so, it seeks to:

- c) Understand post-compulsory education in PNG by locating polytechnics education within the overall PNG educational framework.

- d) Investigate the extent to which NPIPNG is able to promote lifelong learning.
- e) Examine the institution's mission/vision statements to identify any elements of lifelong learning in its practices.
- f) Examine reforms and understand whether any of these have enhanced lifelong learning.

#### **4. Why have I been invited?**

The Ministry of Education has been chosen as a site to recruit participants because the research project concerns directions of tertiary education. Around twelve participants are expected to participate and include senior management staff of National Polytechnic Institute of PNG. You are invited to participate because I believe you can make an important contribution to the research. Your participation is voluntary. You can decide to withdraw from the study at any time. If you decide to take part, you will be asked to sign a consent form. When your consent form has been signed and returned, you will be contacted to discuss your participation in the study.

#### **5. What does this study involve?**

You will be invited to undertake a one on one interview with me. This may usually take up to 50-60 minutes. The interview will be digitally recorded and notes may be taken. The transcript of the interview will be returned to you for confirmation of accuracy. In addition, you may have to supply any electronic or printed documents that may assist me to understand polytechnic education in PNG.

#### **6. What are the possible risks of participation?**

Whilst you may be asked to answer questions on polytechnic developments or related matters, all information you provide will be kept confidential at all times. All responses to questions during the interview and any other information provided by you will be anonymised (i.e. no personal details relating to you or where you work will be recorded anywhere). However there is a small risk that you may be identified by your role, despite precautions.

## **7. What are the benefits of participation?**

The completion and publication of the results of the study will contribute to the collective benefit of tertiary education in PNG. At a personal level, it is intended that you may have a chance to reflect on aspects of lifelong learning in this country.

## **8. Will my participation be kept confidential?**

All information you provide will be kept confidential and can only be accessed by the researcher. All data collection, storage and processing will be the sole responsibility of the researcher. Under no circumstances will identifiable responses be provided to any third party. Information generated will only be made public in a manner that is not attributed to you in anyway or at an aggregate level in order to optimise that no participant will be identified.

## **9. What will happen to the results of the research project?**

All information that you provide will be anonymously stored on a computer and additional copies securely stored in a safe place. Analysis of the information will be carried out by the researcher at the University of Waikato, New Zealand. The results from this analysis will be made available through the Waikato University Library, once the written thesis has been completed. Participants can obtain a copy through this link and can also get direct feedback by contacting the researcher.

## **10. What if I require further information?**

If you require further information, you can contact me as follows:

Email address: [rt149@students.waikato.ac.nz](mailto:rt149@students.waikato.ac.nz)

Phone number (New Zealand): +64 223586873

Phone number (PNG): 722 58929

## **11. What if I have a complaint or concerns?**

This research project has been approved by the Faculty of Education Ethics Committee of the University of Waikato, New Zealand. If you have concerns

or complaints about the conduct of this study please contact either Professor Brian Findsen on [bfindsen@waikato.ac.nz](mailto:bfindsen@waikato.ac.nz) or Mrs. Dorothy Spiller on [dorothy@waikato.ac.nz](mailto:dorothy@waikato.ac.nz)

**Thank you for taking the time to consider this study. If you wish to take part in it, please sign the attached consent form.**

### Appendix 3: List of participants

Pseudonyms	Discipline of practice	Position
Kevin	Administrative staff	Senior administrator
Martin	Administrative staff	Administrator
Greg	Trades	Senior lecturer
Hellen	Science	Head of department
Steven	Trades	Head of department
Rex	Engineering	Head of department
Frank	Science	Senior lecturer
Mona	Arts	Senior lecturer
Tony	Engineering	Section head
Sarah	Arts	Section head
Susie	Trades	Senior lecturer
Tracy	Arts	Senior lecturer

## Appendix 4: Ethics Approval

Dean's Office  
Faculty of Education  
*Te Kura Toi Tangata*  
The University of Waikato  
Private Bag 3105  
Hamilton, New Zealand

Phone +64 7 838 4500  
[www.waikato.ac.nz](http://www.waikato.ac.nz)



THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

### MEMORANDUM

**To:** Raymond Toli  
**cc:** Professor Brian Findsen  
**From:** Associate Professor Garry Falloon  
Chairperson, Research Ethics Committee  
**Date:** 14 March 2014  
**Subject:** Supervised Postgraduate Research – Application for Ethical Approval (EDU015/14)

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Thank you for submitting the amendments to your application for ethical approval for the research project:

**Investigating Polytechnic education developments within a lifelong learning culture in Papua New Guinea**

I am pleased to advise that your application has received ethical approval.

Please note that researchers are asked to consult with the Faculty's Research Ethics Committee in the first instance if any changes to the approved research design are proposed.

The Committee wishes you all the best with your research.

A handwritten signature in cursive script that reads 'Garry Falloon'.

Associate Professor Garry Falloon  
Chairperson  
Research Ethics Committee

## Appendix 5: Consent Form



FACULTY OF EDUCATION

### CONSENT FORM

**Investigating Polytechnic education developments within a lifelong learning culture in**

**Papua New Guinea**

I have read the attached Participant Information Sheet. I understand that:

1. Participation in the research project is voluntary.
2. I have the right to withdraw from the study at any time but data collected after commencement of data analysis may be used by the researcher.
3. I may provide archival data as supporting document for the interview based on the endorsement to conduct the research project.
4. I have had the opportunity to ask questions and they have been answered to my satisfaction.
5. All data will be reported anonymously using pseudonyms and confidentiality will be maintained.
6. All data will be securely stored in a locked office for up to five years.
7. Data gathered from this study will be used in the writing of a thesis.
8. Presentations and or academic articles may be published as a result of this research.

Name of Participant: \_\_\_\_\_

Signature of Participant: \_\_\_\_\_

Date: \_\_\_\_\_