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Lahui-Ako, Boe (2017) *Attitudes, beliefs and behaviour of lecturers: do they foster a climate of lifelong learning? A case of Papua New Guinea universities.* PhD thesis, James Cook University.

Access to this file is available from:

<https://doi.org/10.4225/28/5af0e5435bd7c>

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ATTITUDES, BELIEFS AND
BEHAVIOUR OF LECTURERS - DO
THEY FOSTER A CLIMATE OF
LIFELONG LEARNING?
A CASE OF PAPUA NEW GUINEA
UNIVERSITIES

BOE LAHUI-AKO

2017

**ATTITUDES, BELIEFS AND BEHAVIOUR OF LECTURERS –
DO THEY FOSTER A CLIMATE OF LIFELONG LEARNING?
A CASE OF PAPUA NEW GUINEA UNIVERSITIES**

BY

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B Ed (UPNG) and M Ed. Admin with Honours (UNE)

**A thesis submitted in fulfillment of the requirements for the degree of Doctor of
Philosophy in Education of the James Cook University, Australia**

October 2017

DECLARATION

I certify that the substance of this thesis has not already been submitted for any degree and is not currently being submitted for any other degree.

I certify that, to the best of my knowledge, any help received in preparing this thesis, and all sources used, have been acknowledged.

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.....

Boe Lahui-Ako

ACKNOWLEDGEMENTS

This thesis would not have been completed without the direction, support, guidance and assistance given to the researcher by the following people:

Neil Anderson, my thesis primary advisor, for the challenges, encouragement, direction and advice.

Professor Neil Anderson

Clifford Jackson my thesis co-advisor, for the challenges, encouragement, direction and advice.

Dr Clifford Jackson

Associate Professor Nerina Caltabiano (Chapters 1 & 3) and Mr. Micheil Paton (Chapters 1, 2, 3, 4, and 6) for proof-reading services offered to the researcher.

Associate Professor Nerina Caltabiano

Mr. Micheil Paton

To the lecturers and those postgraduate students of the University of Papua New Guinea and the Pacific Adventist University who willingly participated in this study.

The 103 Lecturers and 22 Postgraduate Students of UPNG and PAU

My family for their continuous love and support both financially and emotionally throughout the period of my candidature.

Mary Arara Ako

Constance Lahui-Ako

Cynthia Henao-Paton

Eric Lahui-Ako

Randall Lahui-Ako

Annalise Lahui-Ako

Paulina Lahui-Ako

Latisha Lahui-Ako

Micheil Paton

Late Cynthia Tanisha Jasii

La'nard Jasii

Danisha Jasii

Frank Lahui Paton

Makaylah Teagan Lahui-Ako

Lamara Ruth Paton

My late mother and father for always believing in me that I can go further, personally and professionally in my life.

Late Henao Lahui-Ako and Late Lahui Ako Arua

STATEMENT OF CONTRIBUTION OF OTHERS

Nature of Assistance	Contribution	Names, Titles and Affiliations of Co-Contributors
Intellectual support	Proposal writing Data Analysis Statistical support Cartography and GIS Editorial assistance	Professor Neil Anderson – primary advisor Dr Clifford Jackson – secondary advisor
Financial support	Fee offset/waiver Research costs Stipend Write-up Grant	James Cook University for waiving tuition fees University of Papua New Guinea for stipend payments Research Costs in Papua New Guinea met by the researcher and his immediate family members.
Data collection	Research assistance Interview design and transcription	No research assistance sought during data collection. All interviews and transcriptions conducted by the researcher.

ABSTRACT

Lifelong learning recognizes that learning takes place throughout life and in a range of situations. Papua New Guinea (PNG) education system needs to change its focus on policies related to teaching and learning, curriculum development and assessment and evaluation to develop lifelong learners. *PNG Vision 2050* calls for a major transformation of mindsets in its people in the way they think, interact and do business with one another. Lifelong learning principles if taken seriously could actualize the strategic changes aimed in the *PNG Vision 2050*.

The study aims are first to investigate and analyse the *Vision 2050* policy and the University policies to establish whether they inform lifelong learning. Second, to investigate and analyse lecturers' knowledge, attitudes, beliefs and behaviour to assess whether they foster a climate of lifelong learning. Third, to determine whether the need for lifelong learning; could be adopted and adapted as a key educational policy change in the PNG context.

The methodology used the mixed method case study approach using both quantitative data (quantifiable) and qualitative data (text). It involved procedures for collecting, analysing and mixing both quantitative and qualitative data in a single study. The argument is that the uses and the 'combination' of both methods provide a better understanding of a research problem that one method alone cannot effectively answer.

This study found that the PNG government documents implicitly state lifelong learning but there were no plans in place to do anything about it. For UPNG and PAU, complex issues associated with the teaching of generic skills and their acquisition remains uncertain. The first issue is of definition of the key generic skills. There are differences in terms of how these skills are defined and how a particular skill's significance is interpreted in context. The second issue is the questions raised both theoretically and empirically of the separability of generic and discipline-based skills. The third issue relates to the challenges university lecturers face with the teaching of generic skills within university curricula. Like earlier studies in Australia and the

United States of America, this study found that what lecturers claim that they do, does not happen in real practice.

As a way forward, education policy changes are required in the PNG education system to promote lifelong learning. The fostering of lifelong learning skills in staff development training programs could transform attitudes, beliefs and behaviour of both lecturers and students to effect these policy changes.

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Chapter 1: Introduction and Background

1.1. Purpose of the Study

As a university lecturer for the last 30 years, my personal observation of many Papua New Guinea (PNG) tertiary students is that they often approach learning from a passive perspective. In my experience, students often expect the lecturer to give them complete direction and guidance to undertake tasks within expected timeframes. Although guidance and direction could reasonably be expected, the level wanted is indicative of dependent learners. This seems at odds with the ideal of lifelong learning.

I am of the view that for PNG to grow and develop into a more prosperous country, it requires its citizens adopt a learning approach to be efficient lifelong learners. In the context of this study, this calls on lecturers at the universities in PNG to change their attitudes, behaviours and beliefs towards promoting and fostering lifelong learning. This study aims to explore the relationship between learning orientations of students and attitudes, beliefs and behaviour of lecturers towards lifelong learning.

The challenge faced by PNG universities is: how best could these lifelong learning skills be fostered in their graduates? Lifelong learning could be fostered in the minds of students and change the ways students learn by universities encouraging lecturers to change their attitudes, behaviour and beliefs regarding teaching and learning in general. Universities could also foster lifelong learning by ensuring that there are measures to encourage lecturers to use relevant and appropriate assessment practices. The use of appropriate assessment practices can be one of the most powerful levers lecturers have to influence the behaviour of students as learners and the manner in which students respond to courses and the teaching and learning activities designed for the execution of that course (Gibbs, 1999; Gibbs, 2010; Hunt, 2012).

1.2. The Concept of Lifelong Learning

The concept of lifelong learning came into the international and national arenas in the mid-1990s through the work of the UNESCO and the OECD in 1996. OECD defined lifelong learning as a process of individual learning and development across the lifespan, from cradle to grave – from learning in early childhood to learning in retirement (UNESCO, 1996; OECD, 1996; Delors, 1996; NBEET, 1996; European Parliament and the Council of Europe, 2006; Delors, 2013; Volles, 2016; Smith & Meaney, 2016). According to Collins (2009), the Commission for a Nation of Lifelong Learners in 1997 at the First Global Conference on Lifelong Learners, defined lifelong learning as:

a continuously supportive process, which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity, and enjoyment in all roles, circumstances and environments (Commission for a Nation of Lifelong Learning, 1997, p. 8).

The 2006 definition of Lifelong Learning adopted by the European Union defines lifelong learning as covering all general education, vocational education and training, non-formal education and informal learning undertaken throughout life. These learning pathways aims to provide the following results: improved knowledge, skills and competencies within a personal, civic, social and or employment-related perspective. It includes the provision of counselling and guidance services (European Parliament and the Council of Europe, 2006). A more current definition of lifelong learning adds to the previous definitions of UNESCO, OECD, the European Union and the Commission for a Nation of Lifelong Learners. Lifelong learning refers to the continued learning of tasks, from one or more domains, over the course of a lifetime, by a lifelong learning system (Tessler, Givony, Zahavy, Mankowitz, & Mannor (2017). It asserts that a lifelong learning system efficiently and effectively does three things. It retains the knowledge it has learned; it selectively transfers knowledge to learn new tasks; and it ensures the effective and efficient interaction between the first two activities (Silver, Yang & Li, 2003).

The above definitions reflect the work of Duyff in 1999 where he, argued that the philosophy underlying lifelong learning are as follows. Lifelong learning is:

1. Continuous (lifelong learning never stops);
2. Supportive (lifelong learning is not done alone);
3. Stimulating and empowering (lifelong learning is self-directed and active, not passive);
4. Incorporating knowledge, values, skills and understanding (lifelong learning is more than what we know);
5. Spanning a lifetime (lifelong learning happens from our first breath to our last);
6. Applied (lifelong learning is not just for knowledge's sake);
7. Incorporating confidence, creativity, and enjoyment (lifelong learning is a positive, fulfilling experience); and
8. Inclusive of all roles, circumstances, and environments (lifelong learning applies not only to our chosen profession, but to our entire life) (p. 538).

These definitions of lifelong learning provided by OECD (1996) and the Commission for a Nation of Lifelong Learners (1997) and the European Parliament and the Council of Europe (2006) and Silver et al. (2003) and Tessler et al., (2017), promote the principle that learning opportunities should be made available over the whole lifespan and offered on a widespread basis. Lifelong learning is based on the principle that everyone is able to learn (NBEET, 1996; Delors, 2013; Volles, 2016; Smith & Meaney, 2016). Learning should neither be restricted to any specific age group nor to the education controlled by educational institutions. Everybody regardless of age, must become motivated to learn, and should be encouraged to actively contribute in learning throughout their lifetime (NBEET, 1996; Volles, 2016; Smith & Meaney, 2016). Learning should not be restricted to occur in formal educational institutions but should be encouraged to occur informally at home, at work or in the wider community. This notion is supported by Tuijnman and Bostrom (2002), Volles (2016) and Smith and Meaney (2016) who also assert that lifelong learning occurs informally throughout one's lifetime and must not be restricted to learning that is somehow intentional and structured, or that takes place in formal institutional settings. Driven by the impact of globalisation with the social, political, economic, technological and informational changes, there is a shift in accountability to the individual person (Jarvis, 1999; Clemens, 2015; Babacan & Babacan, 2018). This shift in accountability explains an emphasis on learning that focuses on the individual rather than the traditional formal system with educational structures and institutions. The individual is at the centre of a

lifelong learning system, where lifelong learning has the potential to increase the engagement of the learners in learning and enables the learners to participate more deeply in practices after learning the appropriate knowledge, skills and attitudes in a range of formal, non-formal, community and workplace learning (Clemens, 2015; Babacan & Babacan, 2018). The understanding of lifelong learning depends to a large degree on the ability and enthusiasm of the individual person to take care of his or her own learning (NBEET, 1996; Sinebare, 2014; Clemens, 2015; Volles, 2016; Smith & Meaney, 2016; Babacan & Babacan, 2018). This study will use the concept 'lifelong learning' throughout the thesis in this context where the shift in emphasis is placed on the learner as the focus of learning and the development of the learners' knowledge, skills and attitudes through self-directed learning though self-paced. (Clemens, 2015; Babacan & Babacan, 2018).

1.3. Benefits of Lifelong Learning to PNG Individuals and PNG as a whole

The significance of lifelong learning as a reaction to change is obvious in the sense that continuous change requires continuous learning (McClucky, 1974; NBEET, 1996; Duyff, 1999; Volles, 2016; Smith & Meaney, 2016). With the impact of globalization driven by social, political, economic, technological and informational changes (Jarvis, 1999; Clemens, 2015; Babacan & Babacan, 2018), the current sets of changes are occurring rapidly and it is claimed that the cycle may repeat itself several times within a single lifetime (Jarvis, 1999). Global technological and informational changes require nations, institutions, professions and individuals to grow and stay competitive in the 21st century (NBEET, 1996; Duyff, 1999; Jarvis, 1999; Volles, 2016; Smith & Meaney, 2016). The set of changes experienced is global and transcending regional and national boundaries (Candy, Crebert & O'Leary, 1994; Tight, 1998; Jarvis, 1999; Duyff, 1999; Tuijnman & Bostrom, 2000; Green, 2002; Collins, 2009; Volles, 2016; Smith & Meaney, 2016).

Lifelong learning skills can be enhanced in students to re-orientate them to becoming lifelong learners. This means encouraging learning for understanding and adding meaning to the subject content taught (NBEET, 1996; Gibbs, 1999; Biggs, 2003;

Hunt & Chalmers, 2012; Hunt, 2012; Smith & Meaney, 2016). Subjects taught in schools should be more practically oriented than theoretical, with emphasis on learning by doing (Avoseh, 2001; Smith & Meaney, 2016). For example, students need exposure to active learning where they should gain real hands-on experience through undertaking work experiences in their fields of specialization and study (NBEET, 1996; Gibbs, 1999; Biggs, 2003; Hunt & Chalmers, 2012; Hunt, 2012; Smith & Meaney, 2016).

Furthermore, the use of appropriate assessment practices to ensure what is assessed should be aligned to the graduate attributes required of students (Hunt & Chalmers, 2012; Clemans, 2015). This is aimed at aligning assessment practices with workplace practices. The 2010 PNG Universities Review (Namaliu & Garnaut, 2010) concluded that a high proportion of the courses taught in PNG universities are not taught at an adequate standard. The focus for reforms in the PNG universities should be on raising the standards to acceptable levels, with expansion of numbers only where and to the extent that this is compatible with the raising of standards. In regards to quality control, the 2010 Review stated that employers in all fields reported that new graduates from the PNG universities were poorly prepared to take their places in responsible positions without high levels of on-the-job training. Graduates were provided more training than would normally be expected of graduates (Namaliu & Garnaut, 2010, p.15).

Such conclusions drawn from the 2010 PNG Universities Review highlights the importance and relevance of teaching lifelong learning skills to PNG students. Lifelong learning skills such as higher-order thinking skills such as problem solving, analysis, synthesis, evaluating and making sound decisions and judgements through critical-reflection and self-analysis should be the focus of assessment (NBEET, 1996; Gibbs, 2010; Krathwohl, 2002; Biggs, 2003; Reeves & Reeves, 2012; Clemens, 2015; Babacan & Babacan, 2018). These changes require lecturers to be more creative in planning their teaching and learning activities to stimulate learning and challenging students more than they are currently doing (Gibbs, 1999; Gibbs, 2010; Avoseh, 2001; Biggs, 2003; Hunt & Chalmers, 2012; Hunt, 2012; Clemans, 2015; Babacan & Babacan, 2018). By doing that, lecturers would assist students to remain focussed on understanding the subject content knowledge by providing timely feedback to add

meaning and context to what they are learning. In that way, students are encouraged to internalize the discipline's standards and notions of quality as they proceed in learning the content knowledge of the course, and the skills and attitudes required for mastering the expectations of the discipline they are enrolled in (Hunt & Chalmers, 2012; Hunt, 2012).

A major change in the mindsets of Papua New Guineans is the key focus in the Papua New Guinea Vision 2050 (*Vision 2050*) (The Government of Papua New Guinea policy document (GoPNG), 2009; Sinebare, 2014). The government report challenges Papua New Guineans to reconsider how they interact with one another and to adopt a mindset that will prepare them to meet global scientific, technological and informational challenges. All PNG government systems and institutions are expected to undertake systems and institutional measures to enable PNG's economy to be progressive and globally competitive. The report challenges educational institutions to lead the process of transforming people's thinking to meet the technological, social, political and economic challenges facing the country (GoPNG, 2009; GoPNG, 2011; Sinebare, 2014). Sinebare (2014) asserts that *Vision 2050* could be successfully realized if the country's workforce competencies are developed. To achieve a workforce that is committed, proactive and innovative, PNG's educational institutions would need to develop graduates with the following qualities and attributes (Sinebare, 2014; DHERST, 2015):

1. Right attitude to work;
2. Improved work ethic;
3. Improved work performance;
4. Achieving more with less;
5. Working smarter rather than harder;
6. Creative and innovative;
7. Denounce graft and corrupt practices in the workplace;
8. Work more for greater public good and less for self-gain;
9. Give credit to those who perform; and
10. Carry out their part of the deal in an honest and transparent manner without expecting inducement (p. 18).

Sinebare (2014) also points out that while educational institutions are very important to this process, any change in mindset must develop in partnership with individuals and that the desire to change must first emanate from within each Papua

New Guinean's heart. Sinebare (2014), however points out that such positive attitudes, attributes or virtues need to be integrated and developed in the curriculum through effective mentoring processes. If the mentoring processes are conducted well, they have the potential to transform the mindset of Papua New Guineans. The transformation of mindsets as alluded to in the *Vision 2050* is mainly based on the metacognitive in nature that involves evidential reasoning as well as critical reflecting. This change in mindsets anticipated in the *Vision 2050* links with Mezirow's transformative learning theory (Mezirow, 2003; Mezirow, 2006). Transformative learning theory is based on a metacognitive epistemology of evidential reasoning (involves task-oriented learning) and dialogical reasoning (involving critical reflecting) (Mezirow, 2006).

According to Sinebare, (2014) the transformation of mindsets of the PNG people and in particular the public servants would be from a

subservience, adhockery, lacklustre performance, lack of commitment and poor quality work performance towards an attitude that demonstrates productivity, innovative and creativity, and servitude to the needs of other people within PNG and globally (p. 20).

All PNG systems and institutions including the National Department of Education (NDOE) and the Department of Higher Education, Research, Science and Technology (DHERST), and the private sector need to embrace lifelong learning. This requires transformation of government systems and processes to change the ways Papua New Guineans think now and into the future.

Lifelong learning as a concept acknowledges that learning takes place throughout a person's life and in a variety of settings: formal, non-formal and informal (Clemans, 2015; Babacan & Babacan, 2018) as illustrated in the theoretical and conceptual frameworks designed for this study (see Chapter 4, page 106) The conceptual framework takes into account the structure and system of education in PNG; on 'Integral Human Development' (NDOE, 1986); the PNGNQFs including the TVET Framework (Office of Higher Education, 2010) which shows the vertical and forward linkages (vertical integration) and the horizontal linkages (horizontal integration) in the education system in PNG illustrated under the formal, non-formal and informal settings.

In this context, as Knapper and Cropley (2000) argue, learning cannot be restricted to a formal education setting where knowledge is acquired, nor can it be restricted to the workplace where knowledge is applied. Instead, learning can be seen as an on-going activity that occurs daily through our interactions with others and with the world around us. Knapper and Cropley (2000) further argue that the theory of lifelong learning is conceptual, social and political as well as psychological in terms of pedagogy and learning orientations, and philosophical in terms of schools, teacher preparation and education in general.

As a way forward, I am of the strong view that changes need to be made in the PNG general education system including the higher education sector. This is to encourage the use of lifelong learning as an ideology and as a policy goal. Education has the ability to change mindsets of people to meet the technological, informational, social, political and economic challenges that PNG is facing due to globalization (Jarvis, 1999; Knapper & Cropley, 2000; Clemens, 2015; Volles, 2016; Smith & Meaney, 2016; Wickramasinghe, 2017; Babacan & Babacan, 2018).

1.4. The Vision 2050

The *Vision 2050* was developed in response to an evaluation of PNG's performance between the years 1975 and 2008 (GoPNG, 2009; GoPNG, 2011). This policy document is structured around seven strategic plans to redirect PNG politically, economically, and socially. The GoPNG has identified, through *Vision 2050*, PNG's society needs to become more adaptable and responsive to the challenges posed by globalization. Some of these rapid changes include social, technological, cultural, economic, legal and educational aspects of society. The *Vision 2050* policies were based on the five national goals and directives contained in the Constitution of the Independent State of PNG:

1. integral human development;
2. equality and participation;
3. national sovereignty and self-reliance;
4. natural resources and environment; and

5. Papua New Guinea ways.

To address the emerging global economic trends, the *Vision 2050* added as the sixth goal and directive: working towards being progressive and globally competitive. This goal and directive is aimed at maximizing PNG's comparative and competitive advantages in the global environment.

The *Vision 2050* is focussed on seven strategic areas:

1. human capital development, gender, youth and people empowerment,
2. wealth creation,
3. institutional development and service delivery,
4. security and international relations,
5. environmental sustainability and climate change,
6. spiritual, cultural and community development, and
7. strategic planning integration and control.

The seven strategic areas listed above are aimed at mapping the future direction PNG is anticipated to take in the next fifty years (GoPNG, 2009; Sinebare, 2014). If these development areas are effectively and efficiently articulated, institutionalised and implemented, the outcomes could change and rehabilitate the mindsets of the PNG people. The outcomes are aimed at enabling Papua New Guineans to develop strong moral obligations; strong political leadership and willpower (GoPNG, 2009; GoPNG, 2011). Sinebare (2014) in his critique of the Vision 2050 pointed out that despite the criticisms levelled at public servants in PNG for poor performance, no one has taken a critical look at the compelling factors that cause poor performance. The PNG Universities Review (Namaliu & Garnaut, 2010) pointed out that if the GoPNG is to respond positively and effectively to the increased demands placed on it, the GoPNG has to show significant improvement in the quality of governance, service delivery and control law and order problems experienced in PNG to enhance broader national development. If governance, service delivery in general are improved and law and order is controlled, Papua New Guineans in the long run may realize PNG's potential

for rapid economic growth (GoPNG, 2009; GoPNG, 2011; Namaliu & Garnaut, 2010; Sinebare, 2014).

Since PNG is a country made up of people from different ethnic groupings, another aim was to ensure the promotion of equality within the populace. Sinebare (2014) asserts that a new cadre of Papua New Guineans have been developed through the PNG education system and some have gained higher academic qualifications abroad that makes them competitive in the international job markets. With the suppressive national salary levels that continue to remain in PNG, PNG may lose highly competent and equally qualified Papua New Guineans that PNG needs to help achieve the aims of the *Vision 2050* (Namaliu & Garnaut, 2010; Sinebare, 2014). PNG may lose qualified people with the skill sets and the right values and attitudes to achieve the aspirations of the *Vision 2050* in creating a smart, wise, fair, healthy and happy society by 2050 (GoPNG, 2009; Namaliu & Garnaut, 2010; Sinebare, 2014). This goal may sound optimistic but it is achievable if equality is promoted in the mindsets of Papua New Guineans.

Gender equality and the promotion of equal distribution of wealth and other opportunities between the different provinces of the country are seen as vital areas for improvement in general. There are no ready-made solutions available to the PNG. What PNG needs now are well-educated, healthy, and appropriately skilled and an honest workforce that is committed, proactive and innovative to achieve the aspirations of the *Vision 2050* policy document (Namaliu & Garnaut, 2010; Sinebare, 2014).

It can be argued that urbanisation is a recent phenomenon in PNG (Koczberski, Curry & Connell, 2001). Towns and cities in the early 1960s were primarily European colonial administrative centres. From mid 1960s to 1997, PNG's urban population has increased to 15 per cent of the national population (Ward, 1999; Koczberski, Curry & Connell, 2001). This is mainly due to the GoPNG developing policies to oppose migration to the towns aimed at reducing urban unemployment than out of any desire for rural development (Connell, 1987; Connell, 1997). However, the influx of migrants and the growth of 'illegal' settlements in the main PNG towns and cities has created renewed demands to control mobility of people from rural areas to urban areas. In PNG, the rural-urban migration is a response to real and perceived spatial inequalities

in socio-economic opportunities (Connell, 1987). Most migrants move from rural to urban areas seeking to secure wage employment and or to seek social services such as health and education when these opportunities are not available in the rural areas. With the influx of people moving from rural areas to the urban areas, and the increased in law and order problems in the main towns and cities of PNG (Levantis, 2001), the GoPNG in the Vision 2050 policy document has given greater attention to the attractiveness of rural and village development (GoPNG, 2009; GoPNG, 2011).

Collectively, the aims of the *Vision 2050* are closely associated with the notion of lifelong learning where the concepts of social inclusiveness, active citizenship, and personal development are vital for one's advancement in life. Such aims also lead to the encouragement of one's ability to be competitive and enhance one's employability as one acquires the required knowledge, skills, attitudes and values to live a useful and productive life in the community. These aims shift the focus of *Vision 2050* to empower Papua New Guineans through improved education and life-skills. Papua New Guineans are expected to lead necessary changes to society and industry as PNG develops (GoPNG, 2009; GoPNG, 2011). To achieve these aims requires a major change in the way Papua New Guineans think, interact with one another and engage in business. Although the *Vision 2050* aspirational goals are indirectly linked with lifelong learning principles, in the policy document the notion of lifelong learning was not explicitly articulated. Currently, there are no plans in place to actualize lifelong learning in GoPNG education systems. Strategies to implement lifelong learning in GoPNG education policies are yet to be developed.

The National Research Institute's report on PNG's development performance from 1975-2008 (NRI, 2010) indicates that past policy choices are responsible for some of the country's poor economic and social performance, increased unemployment and rapid urban drift. The report (NRI, 2010) warns that:

Policy makers must be aware of the present whilst keeping the lessons of the past forever fresh in their thinking when making policy choices for the future. It is human to make mistakes, but less so to repeat them (p. 13).

However, as highlighted in the NRI report (2010), it must be borne in mind that:

The failure of past development plans reveals clearly that plans on their own are not enough to induce the required changes in PNG. Politicians and other leaders must be willing to make the effort to ensure that the plans are implemented. Taking ownership of plans and working with the implementing agencies remain challenges to be addressed. To promote ownership, the plans need to be formulated with participation of the population. The engagement of each stakeholder in the process is critical to the ownership of the ensuring product (p. 14).

From 2003 to 2015, the PNG Department of National Planning and Monitoring (DNPM) articulated development plans for PNG (especially the Development Strategic Plan 2010-2030, Medium Term Development Plan 1 (MTDP1) 2011-2015, and the National Strategy for Responsible Sustainable Development – StaRS (DNPM, 2015). These development plans are aimed at improving the standard of living for all Papua New Guineans with targeted interventions based on the Millennium Development Goals (MDGs) that are included in the Medium Term Development Plan 2 (MTDP2), 2015-2017. The MTDP2 captures the intentions, priorities and activities of the GoPNG (DNPM, 2015).

Vision 2050 and the National Strategy for Responsible Sustainable Development –StaRS have become the key policy documents on which the MTDP2 is framed for national planning and monitoring of all developmental priority activities in PNG. Education, Health, Infrastructure, Law and Justice and the Economy in general are expected to play key roles. Hence in education, the development of the *National Education Plan (NEP) 2015-2019 Quality Learning for All* by the Department of Education (NDOE, 2015) and the *National Higher and Technical Education Plan (NHTEP) 2015-2024 Providing the higher skills, knowledge and innovation needed for PNG's sustainable development* by the Department of Higher Education, Research, Science and Technology (DHERST, 2015) have responded to the aspirations of *Vision 2050* to move education in PNG forward. The actualization of the *Vision 2050* aspirations and the StaRS policy aims requires all stakeholders in PNG to contribute and participate in achieving the targeted interventions planned by the GoPNG. The current study emphasises pillar one of the *Vision 2050* – human capital development, gender, youth and people empowerment. This emphasis aligns with the first national goal and directive principle of the PNG national constitution based on integral human development.

1.5. National Education Plan (NEP) 2015-2019 Quality Learning for All

It is without question that an important step taken in 1986 to reform education in PNG was the development of the philosophy of education based on ‘integral human development’:

integral in the sense that all aspects of the person are important, human in the sense that social relationships are basic; and development in the sense that every individual has the potential to grow in knowledge, wisdom, understanding, skill and goodness (NDOE, 1986, p. 6).

This philosophy was expected to permeate and influence educational planning, policy development and practices over time and to give direction for learning and living in PNG. It was also meant to ensure that individuals were dynamically involved in the process of freeing themselves from every form of domination and oppression and given the opportunity to develop relationships with others. Education therefore was aimed to integrate and maximize socialisation, participation, liberation and equality. The emphasis was on promotion of self and mutual respect, a sense of self-worth and self-discipline and a sense of responsibility for oneself and for others. This is fundamental to human development.

The significant role traditional education played in the lives of Papua New Guineans before the arrival of the formal education system cannot be over-emphasized. As Matane (NDOE, 1986) asserts in the preamble to the ministerial committee report in 1986, traditional education was integrated with all of the child’s needs where the individual child learnt the spiritual, social, economic and political skills necessary to participate in community life. The child as described in the 1986 education philosophy is the centre of all decisions about education irrespective of whether the decision is an economic, cultural, social or political one. However, it still remains uncertain whether the past and the present administrations of the education system have based their practices on that philosophy to achieve the NEP 2015-2019 theme of ‘quality learning for all’.

When analysing the past NEPs (1995-2004; 2005-2014), those NEPs were aimed at restructuring the education system and reforming the curriculum to increase access and participation at all levels of the education system. Past NEPs, particularly supported the United Nations Educational, Scientific and Cultural Organisation's (UNESCO) Education for All (EFA) (See Figure 1.1 on page 15) goal of universal primary education (NRI, 2013; NRI, 2015) by ensuring that the curriculum was more relevant to community life, through the introduction of vernacular education and a focus on life skills as well as allowing students to pursue a range of post-Grade 8 educational pathways.

However, a 2006 EFA Global Monitoring Report pointed out that PNG made little progress in the implementation of the EFA goals especially the adult literacy, gender parity and equality and quality of education. Current economic and educational assessments reports on PNG have found PNG in not achieving all the MDGs including universal primary education (ASPBAE, 2007; ASPBAE, 2011; Osborne et al, 2017). These economic and educational assessment reports conclude that PNG requires appropriate intervention measures to achieve current SDGs. Key policy areas such as planning and financing for EFA; teacher supply and quality; reaching the disadvantaged sectors such as out-of-school youth and adults, the poor, ethnic and linguistic minorities, the disabled, and the sick; adapting to conflict, natural disaster, and economic instability; establishing safe and healthy schools; and harnessing higher levels of better targeted, better coordinated, and more predictable international assistance (ASPBAE, 2007; ASPBAE, 2011).



Figure 1.1 UNESCO Six Education for All Goals

Source: Bray, 2015

Therefore, despite the aspirational outcomes stated in these NEPs to meet international and national targets as expected in those NEPs (NDOE, 2015; ASPBAE, 2007), significant challenges still remain uncertain in PNG. These challenges highlight uncertainties as to whether the education policies that have been developed are achieving what was initially targeted in the 1986 philosophy of education (NDOE, 1986). The PNG philosophy of education is based on the guiding principles that all aspects of a person are important, that social relationships are basic and that every individual has the potential to grow in knowledge, wisdom, understanding, skill and goodness (NDOE, 1986). I would like to argue that the aspirations that are written within the 1986 philosophy of education and that are closely linked with the guiding principles of lifelong learning in itself are not actualized in the PNG education system. There appears to be an educational policy disconnect between the 1986 philosophy of education and the NEPs that are developed to administer the education system in PNG. I therefore call for an urgent review of the educational policies that have been implemented over time since the education reforms started in 1986 with the introduction of the PNG philosophy of education based on ‘integral human development’.

Educational policies such as the abolition of school fees in basic education through the tuition fee-free policy, the removal of the use of outcomes-based curriculum (NDOE, 2014) and replacing it with the standards-based curriculum (NDOE, 2015) (NDOE, 2014; NRI, 2015; Walton, 2018); need to be reviewed in light of the PNG philosophy of education (NDOE, 1986) as the basis of all educational decision-making in PNG. Over-time this emphasis has been over-looked by educational policy decision-makers. Fee-free education refers to subsidized fees for post-basic education institutions, aimed at increasing access to education through increased enrolments (Bray, 2007; Pang, 2008; Sasaoka & Nishimura, 2010). The 2012 Tuition Fee Free policy reduced official school fees and devolved responsibility for financial management to schools and district administrations. These educational policy changes were made in the context of PNG's history of as a developing country with poor educational outcomes (Walton, 2017).

It was estimated by the World Bank that in 2015, 63% of the adult population was literate, up from 57% in 2000 (World Bank, 2017). However, a 2009-2010 survey conducted by the Asian South Pacific Bureau of Adult Education (ASPBAE) found that literacy rates were much lower. It was estimated to be 12.5% across five provinces (ASPBAE, 2011). Recent NRI studies (NRI, 2105) have indicated that there are still significant challenges that are noticeable including gross enrolment and retention targets, the need to expand the system capacity in line with population growth, remoteness, lack of resources, poor coordination between national and sub-national levels, the complexity of the society, the lack of teachers and a sub-standard curriculum (NDOE, 2015; NRI, 2015). These challenges remain the basis of the researcher's argument that the education system needs reviewing to address the current challenges faced in actualizing the outcomes of the NEP 2015-2019.

1.6. National Higher and Technical Education Plan (NHTEP) 2015 - 2024

The newly established DHERST introduced a 10-year higher and technical education plan (NHTEP 2015-2024) in 2015. This NHTEP is aimed at developing an accessible and quality higher and technical education system to advance and sustain

PNG's social, economic and environmental development. It is based on nine goals: governance, structure and coordination; resource and workforce capacity management; research, science and technology; quality assurance; access equity and diversity; industry and district alliances; technical education; internationalization and global labour mobility and monitoring and evaluation. Its immediate intent is focused on the improvement of quality and increase in access of student places in the existing higher education institutions supplemented by the creation of new higher education institutions within the country. The NHTEP addresses the skills, knowledge and innovation gaps that exist within the higher education sector of the PNG education system in order to achieve the *Vision 2050* aspirations of human capital development. The underlying core values of honesty, integrity, accountability, respect, wisdom and responsibility, in the NHTEP are based on the ethics and values-based leadership capacity framework of the PNG public service common to the traditional (clan), Christian (church) and modern contexts currently existing in PNG. These core values are directly linked with the guiding principles of lifelong learning.

The NHTEP has called upon all stakeholders including universities to develop strategic and action plans aligned to the Higher Education Plan's vision and mission to actualize the aspirations of the *Vision 2050* as well as the aspirations outlined in the higher education plan. The aim is, through a well-organised, coordinated higher and technical education sector involving all stakeholders including higher education institutions, to produce skilled, knowledgeable and conscientious graduates and researchers to showcase PNG's strengths. The NHTEP therefore calls for a major transformation in mindsets to align with the aspirations outlined in the *Vision 2050*. This call is in line with the arguments in this study in favour of shifting educational policy to build on the principles of lifelong learning.

However, one of the major challenges facing the higher education sector is the delicate balancing required in enhancing the quality of, and improvement in access to higher and technical education in PNG (DHERST, 2015). The academic programmes offered in all PNG higher education institutions could form a complementary and comprehensive set of education possibilities tied to PNG's national interests. Research and innovation could be further encouraged and fostered to inform education, support industry and therefore meaningfully contribute to the development of PNG.

1.7. Implications for Theory and Practice based on PNG's Policy Plans

Although the GoPNG's policy documents (*Vision 2050*, *NEP 2015-2019* and the *NHTEP 2015-2024*), do not explicitly articulate the concept of lifelong learning, the following strategies have implications for lifelong learning in terms of theory and practice. It is imperative that the development of social inclusiveness, active citizenship, personal development and the encouragement of economic competitiveness and employability that are underpinned in the principles of lifelong learning are encouraged and embraced in educational policy decision-making processes. These policy changes need to be conducted in the context of PNG's history as a developing country with poor educational outcomes (Walton, 2018).

It is important to point out that the PNG government's approach to education policy reform is different to the more neoliberal inspired policies that guide policy elsewhere (O'Neill, 2011; Higham, 2014; Elwick, 2018; Gerrard, Savage & O'Connor, 2017; Walton, 2018). Elsewhere for example in Australia, state funding to schools are withdrawn, non-government especially the private sector are encouraged to provide services; schools are pressured to generate their own local income, and governments encourage educational choice for parents and students (Walton, 2018).

Therefore the GoPNG through the *Vision 2050* policy document has directed PNG education institutions from elementary level to tertiary level to play pivotal and significant roles in this call for change and transformation of mindsets (GoPNG, 2009; Sinebare, 2014). However, these educational institutions cannot play their significant roles if the GoPNG does not provide adequate funding and infrastructure development to support the initiatives that they are trying to take in the latest development plans that they have developed. Although the NEP 2015-2019 and the NHTEP 2015-2024 are aimed at developing education in PNG (NDOE, 2015; DHERST, 2015), the outcomes of these national education plans are yet to be realized. .

In terms of realigning the education policies to integrate the PNG philosophy of education based on 'integral human development' outlined in the *Vision 2050* pillar one on human capital development, it becomes inevitable to argue that it is timely to

examine the philosophical and educational values of lifelong learning and to consider their place in the educational domain. For this matter, the formal, non-formal and informal sectors of the education system in PNG are required by the GoPNG through the Vision 2050 policy document to reconsider their educational practices (GoPNG, 2009). It would be appropriate for these educational sectors to also consider integrating the guiding principles and values of lifelong learning to actualize the current philosophy of education in PNG. It is also timely to draw together the main arguments in support of lifelong learning to bring to the notice of the government, educational providers and consumers alike the need for educational policies to align with the philosophy of lifelong learning and its guiding principles. Policies should reflect concrete proposals to ensure that the basic philosophical principles of lifelong learning are incorporated into educational practice. This is especially relevant at this time when all educational institutions in PNG including the universities are being challenged to adopt the National Policy Plans (NEP 2015-2019 and NHTEP 2015-2024) and adapt them to change conditions both within their own administrative structures and within the community at large.

For the philosophy of lifelong learning to be realized and actualized in the PNG education system, all teachers from elementary level to tertiary level become central, as they are the ones whose attitudes, beliefs and behaviour can foster lifelong learning in their students. Their transformation of mindsets in whatever they do in terms of educating an individual would have an impact on the students whom they teach at those levels of the educational system. Teachers serve as important role models when they employ teaching strategies that are oriented to learning throughout life. Such a strategy calls for teacher professional development to be encouraged and funded within the PNG education system so as to promote continuing education and professional skills enhancement. Nicholls (2000) and Watkins and Drury (1994) support the notion that strategies for professional development should aim to ensure the teacher is encouraged to develop a new mindset. Questions that need investigating are: are PNG universities producing graduates who are sufficiently attuned to the need for lifelong learning? Are PNG universities providing graduates with skills and knowledge to operate effectively in a range of activities over a period of time, a lifetime in effect? As Candy (1995) in his keynote address at the Australian Teaching and Learning Forum identified the six factors that seem to have pushed the need for lifelong learning in the limelight:

1. Continuing shift to an information society,
2. Competing influences of specialization,
3. Increasing internationalisation,
4. Explosion of knowledge and technology,
5. Microeconomic reform and the changing workplace, and
6. Emergence of new occupations and careers.

With the need for lifelong learning coming into the limelight, I am of the strong view that all PNG educational institutions have a critical role to play in trying to bring together the aspirations outlined in the *Vision 2050*, the *NEP 2015-2019 Quality Learning for All* and the *NHTEP 2015-2024* using the principles of lifelong learning as the way forward. Globalization has placed profound responsibilities on governments and systems of government including educational institutions to deal with lifelong learning. With the rapid pace of political, social, economic, educational, legal information and technological change, transformation of mindsets through the educational processes and in the education system in PNG is inevitable.

The impact of globalization as well as the development of the latest PNG's Development Policy Plans has challenged the traditional roles of all PNG educational institutions. All educational institutions including the NDOE and DHERST are currently challenged in terms of revising overall administrative systems, revising funding arrangements, encouraging changes in access, changes in teaching and learning methods (teaching approaches and assessment strategies) and in how to foster a climate of intellectual inquiry in the pursuit for academic excellence. All educational institutions are challenged to revise their strategies in relation to the provision of student support services including changes in counselling and study skills provision, the content of the relevant and appropriately structured curriculum to promote lifelong learning in line with global changes and trends taking place.

Through the work of UNESCO and the Organisation for Economic Co-operation and Development (OECD), countries adopting and promoting lifelong learning have been challenged to re-consider their current approaches to its internal measurement and evaluation of processes and systems including education and training systems and the worlds of work and culture, family and community life and the social dynamics of human security, justice and democracy. Making progress in lifelong learning therefore presents a number of opportunities to address challenges experienced by different countries, and PNG is no exception.

To address all these challenges and to even achieve some of the outcomes of lifelong learning requires the cooperation of experts in different disciplines and fields of specialisation (Clemens, 2015; Babacan & Babacan, 2018). Lifelong learning has generally been adopted as the guiding principle for the development of the educated society in the advanced technological western world; however, little action has been taken to translate its ideals into reality (NBEET, 1996; Cornford, 1999; Jarvis 1999; Smith & Meaney, 2016; Babacan & Babacan, 2018). Over the past decade, lifelong learning has re-emerged as an important issue in education with the impact of the technological revolution resulting in changes to the nature of work, knowledge and skills to more cognitive types of activity (Zuboff, 1988; Silver, Yang & Li, 2013; Tessler et al., 2017; Babacan & Babacan, 2018). Therefore, it is critical that PNG moves forward in that direction so as to be on par with the advanced technological western world. This should achieve one of the aspirations of the *Vision 2050*. Lifelong learning needs to be perceived as a means to reform and modernise the PNG national education system and training systems ranging from high unemployment to low innovation rates, and the lack of entrepreneurship (Volles, 2016; Smith & Meaney, 2016; Wichramasinghe, 2017) that is experienced in PNG in recent times.

1.8. Definitions of other Key Concepts

1.8.1 Lifelong Education

The concept of lifelong education was studied, not as a system of education but rather, as a philosophical belief with particular attention to the organisation of education. Dave (1976), defines lifelong education as a:

process of accomplishing personal, social and professional development throughout the lifespan of individuals in order to enhance the quality of life of both individuals and their collectives. It is a comprehensive and unifying idea, which includes formal, non-formal and informal learning for acquiring and enhancing enlightenment so as to attain the fullest possible development in different stages and domains of life (p. 34).

The values of lifelong education are recognised in the three basic terms: life, lifelong and education, upon which the meaning of the concept is based. Lifelong education is claimed to be a lifetime process and does not end at the completion of formal schooling. Lifelong education is also not restricted to adult education but it includes and merges all phases of education – pre-primary (in PNG the terms pre-schooling or elementary schooling are used), primary, secondary and post-secondary (technical and tertiary education) (Clemens, 2015). The concept of lifelong learning, view education in its entirety including formal education, non-formal education and informal education. Lifelong education is claimed to seek continuity and delivery along “its vertical or longitudinal dimension (vertical articulation). It also seeks integration at its horizontal and depth dimensions at every stage in life (horizontal integration)” (Dave, 1976, p. 51). It can then be argued that lifelong education occurs vertically through its formal learning pathways as well as horizontally through its informal and non-formal learning pathways in a person’s lifetime. Lifelong education’s basic goal is to maintain and improve people’s quality of life through a flexible and varied content, learning tools and techniques and time of learning. This goal supports the notion that education should be made available even after an individual has gone through the formal education system as well the non-formal and the informal education systems.

In support, Coombs and Ahmed (1974) view education in terms of an individual’s lifetime, from his or her earliest upbringing as an infant to adulthood. They argue that education must be acknowledged as learning that includes all phases of education and training whether it is formal, non-formal or informal. Learning can occur within an organised and structured context and may lead to a formal recognition; or it could occur with the acquisition of skills such as vocational skills and could happen at the workplace or elsewhere; or learning could also occur as a result of a person’s daily life activities and interactions with his or her family, work or leisure (Coombs & Ahmed, 1974). The three types of learning could take place at all ages and phases of an individual’s lifetime

irrespective of where it occurs and who organizes it. This view supports the notion that education is lifelong learning, which occurs throughout a person's lifetime. If the three types of education are combined and strong associations develop between them to complement each other, the value of lifelong education within an education system of a country could be realized.

1.8.2 Recurrent Education

In the early 1970s, the work of OECD promoted recurrent education as a policy to promote lifelong education. OECD (1973) defined recurrent education as:

a comprehensive educational strategy for all post-compulsory or post-basic education, the essential characteristic of which is the distribution of education over the total lifespan of the individual in a recurring way, i.e. in alternation with other activities, principally with work, but also with leisure and retirement (p. 16).

When comparing recurrent education with lifelong education, recurrent education is understood to be concerned with formal adult education policies. OECD promoted recurrent education aimed to transform the education system so that access to organised education was made available throughout the lifetime of each individual. OECD argued that degrees and certificates should not be recognised as an outcome of an educational career but rather as steps in a continuing process of lifelong education. The introduction of recurrent education was aimed to encourage policy coordination across education sectors and the labour market, to provide a planned adult education to the wider population thus enabling adults to participate in higher education and universities (Tuijnman & Bostrom, 2002).

1.8.3 Open Learning

Open learning is associated with the idea of continuing and flexible education. Open learning structures support the prospects for learners of various ages, living in different areas, and with a range of past educational experiences to commence further learning. It is highly applicable to the concept of lifelong learning.

1.8.4. Lifelong Learning Skills

Lifelong learning skills are the skills that enable graduates to continue to learn after their formal education have ended (Smith & Meaney, 2016; Babacan & Babacan, 2018). Lifelong learning skills include but are not limited to thinking and learning skills such as self-directed learning skills; the ability to seek out and assess information; critical thinking skills; lateral thinking skills; communication skills; interpersonal sensitivity; problem-solving skills; the ability to plan projects; the ability to evaluate alternatives; and the ability to work in teams (Dong, 2004, p. 75; Smith & Meaney, 2016).

1.9. An Overview of Papua New Guinea

Historically, PNG gained its independence from Australia in 1975 after being colonized by three different external powers (the German, British, and Australian governments) since 1884. Since gaining independence, it has still remained part of the Commonwealth realm of Nations having Queen Elizabeth II as the head of state who is represented in the country by a Governor-General.

PNG geographically is located in the southwest region of the Pacific Basin with a total land area of 46.17 million hectares of which 40.53 million hectares is on the mainland and the remainder is divided between the islands of New Britain, New Ireland, Bougainville, and Manus (Mousseau, 2013). PNG has some of the most rugged terrains in the world and 75% of the land surface is covered by rainforest. PNG is divided into four regions (Southern, Momase, New Guinea Islands and the Highlands) and has 22 province-level administrative divisions: twenty provinces, the Autonomous Region of Bougainville and the National Capital District. The capital city of PNG is Port Moresby, which is located in the National Capital District administrative-division in the Southern region of the country (See Map of PNG - Figure 1.2 on page 26). This study was conducted in two universities – the University of Papua New Guinea (UPNG) and the Pacific Adventist University (PAU) that are located, within (UPNG) and outside (PAU) the perimeters of Port Moresby in the National Capital District (NCD). These

universities were chosen as their relevant data was more readily accessible than other universities.

PNG has a population of approximately 7.3 million people and with a population growth rate of 2.9 per cent per annum (National Statistical Office, 2011), currently estimated at 3.1 per cent (Osborne, Harden & Hoy, 2017). The population speaks over 800 languages, and comprises a variety of rich, diverse and unique ethnical cultures. It is estimated that over 80 per cent of the population still live in rural areas with only approximately 15 to 20 per cent living in the urban areas of the country such as the provincial capitals (Rannells & Matatier, 2005).

Alongside its diversity and uniqueness with 5 per cent of the world's flora and fauna, economically, PNG has large deposits of natural mineral resources such as gold, oil, gas, copper, and silver. These natural mineral resources accounts for 72 per cent of export earnings coupled with notable coffee industry and other crops such as cocoa, oil palm and tea (Rannells & Matatier, 2005). As of 2011, PNG has been regarded as one of the fastest growing economies in the world due to its strong growth in the mining and resource sector (Australian Department of Foreign Affairs and Trade, 2012). Despite this claim and even with the current economic growth due to the introduction of the PNG Liquefied Natural Gas (PNG-LNG) project with an estimated investment of close to US\$19 billion, international organizations, for example, the World Bank and the Asian Development Bank, continue to raise concerns in terms of PNG's performance in transforming economic growth and increasing national revenues in widespread improvements throughout the country (Mousseau, 2013).

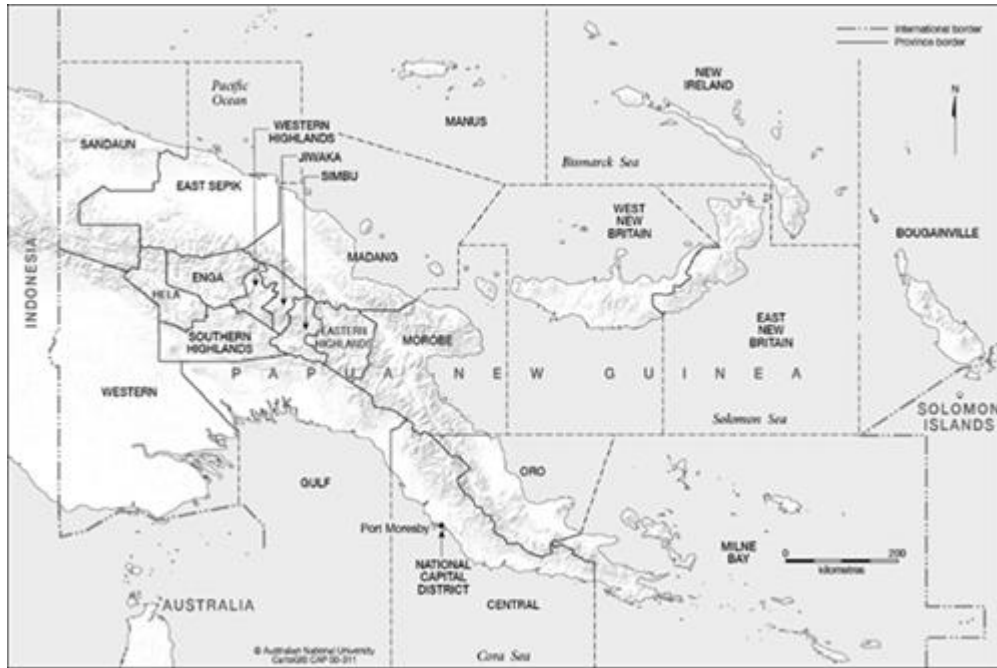


Figure 1.2. Map of Papua New Guinea

Source: CatoGIS Service, College of Asia and the Pacific, The Australian National University
http://asiapacific.anu.edu/maponline/systemsfiles.force/maps/nitmap/elevation/2016_PNG_provinces_2016png?download=1

1.10. An Overview of the University of Papua New Guinea

UPNG was established as a result of the Australian Government's Currie Commission enquiry into higher education in PNG in 1964. UPNG is situated within the National Capital District (See Figure 1.3 Map of National Capital District on page 28). UPNG became a corporate body under the UPNG Ordinance in 1965, which was repealed in May 1983 and replaced by a new Act known as the UPNG Act No. 18 of 1983 by the PNG National Parliament (UPNG, 2015). The 1983 UPNG Act saw the restructuring of the University Council which was followed by another restructure, which eventuated in a Bill to amend the University Act (Chapter 169) and its statutes in June 2000, making changes to academic programs and the administration of the university. The existing academic programs at that time with the faculty structure were de-established and replaced by the current school structure. Five Schools (School of Business Administration, School of Humanities and Social Sciences, School of Law, School of Medicine and Health Sciences and School of Natural and Physical Sciences)

and the UPNG Open College offer various academic programs through the provision of teaching, research and publications, consultancy and community outreach.

The main aim of the restructure, which commenced in January 2001 was to enhance the operations of the whole university fostering interdisciplinary and inter-school relationships in the interest of the core business of education, research, scholarship and service. It also enabled the reorganisation of the UPNG Open College from the former Institute of Distance and Continuing Education (UPNG, 2015). As the first government university, UPNG has a rich history of producing prominent personalities and national leaders of PNG and other Melanesian countries such as the Solomon Islands. The philosophy of UPNG lies in its vision and mission statements which advocates its dedication to academic excellence and the provision of quality education and research for nation building and global advancement towards an innovative and empowered society as well as in the provision of service to PNG and the Pacific (UPNG, 2015).

1.11. An Overview of Pacific Adventist University

PAU is a Christian institution of higher learning and research run by the Seventh Day Adventist (SDA) mission and situated at a rural setting, 14 miles outside of Port Moresby (See Figure 1.3 Map of National Capital District on page 28). In 1983 the PNG Parliament passed the Pacific Adventist College Act, which enabled the college to offer its academic programs in 1984. The Pacific Adventist University Act 1997 PNG turned the Pacific Adventist College into Pacific Adventist University in December 1997. PAU is owned and operated by the South Pacific Division of the SDA church in Australia. Fulton College in Fiji and Sonoma Adventist College in Rabaul, PNG are affiliated campuses of PAU. PAU offers undergraduate and postgraduate study in six schools: Arts and Humanities, Business, Education, Health Sciences, Science and Technology and Theology (PAU, 2012; PAU, 2014).

The philosophy emphasized at PAU is to educate and prepare young people for effective Christian service, which is reflected in the University's motto "Educate to

Serve”. This is based on the biblical view of life under the SDA Church’s fundamental beliefs in which God is recognised as the Creator and Sustainer of all life, and the belief that nothing is of greater significance than a person’s relationship to God (Nelson; 1994: Matthew 23:23; Corinthians 9: 9-14; Peter 3: 1-4). Staff and students of PAU are encouraged to cultivate a Christ-like character and develop a personal relationship with their Creator, by providing daily opportunities for worship, prayer, meditation and Bible study with an ultimate aim to promote the development of the whole person in body, mind and soul (PAU, 2014). As a mission statement, PAU is committed to providing higher education which empower graduates to serve not only the SDA church but also the wider community through employment throughout the Pacific. This mission statement ensures that the education delivered at PAU is aimed at balanced spiritual, social, mental and physical development of men and women who are destined to be leaders of tomorrow (PAU, 2012; PAU, 2014). (See Figure 1.3 Map of National Capital District below).

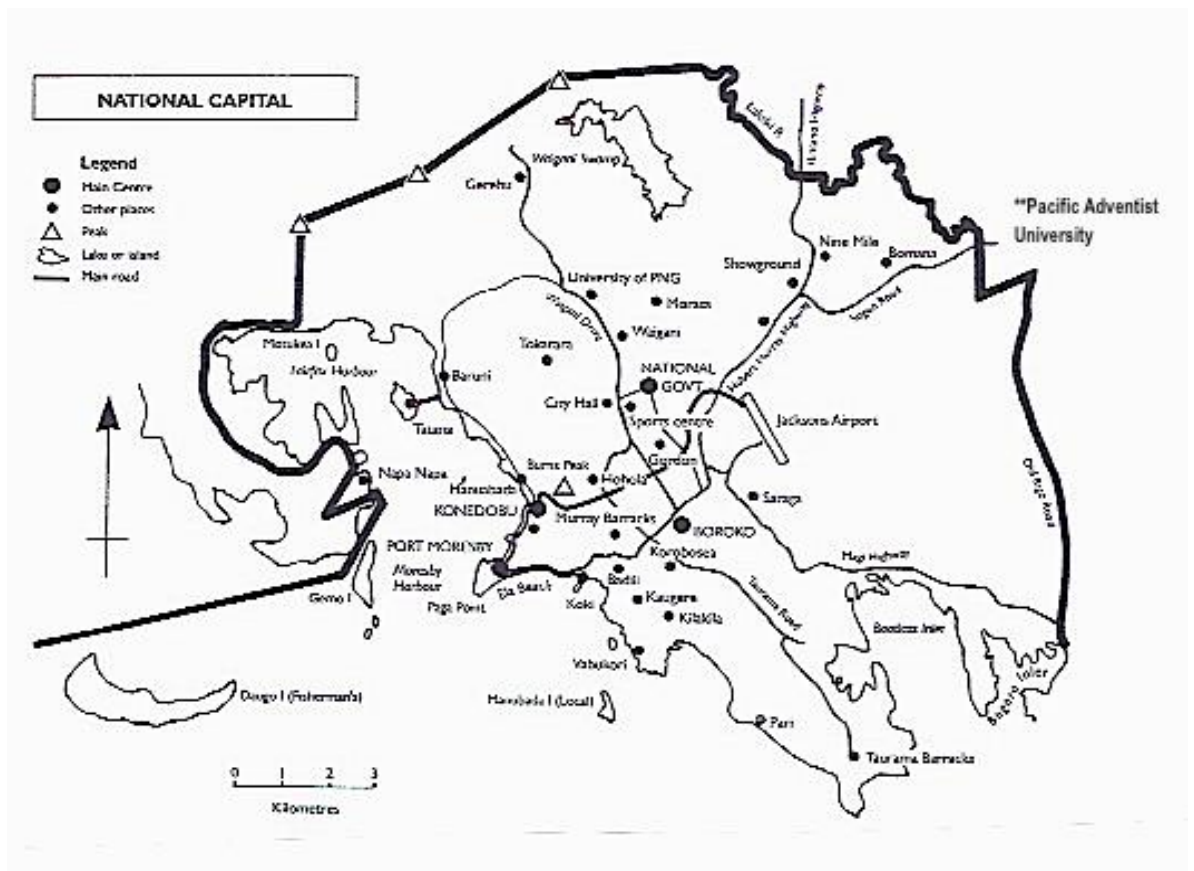


Figure 1.2 Map of National Capital District

Source: Rannells & Matatier, 2005, p. 145

1.12. Significance of the Study

The project aims to engage with university staff and review relevant policies at two PNG universities (UPNG and PAU) to investigate whether the knowledge, attitudes, beliefs and behaviour of lecturers foster lifelong learning. This is an area of research that has received relatively little attention over time either in PNG or elsewhere.

The aspirational goals of the *Vision 2050* are indirectly linked with lifelong learning principles of enhancing social inclusion, active citizenship, personal development and the encouragement of competitiveness and employability through the concept of lifelong learning (Avoseh, 2001; Clemens, 2015; Osborne, Rimmer & Houston, 2015; Babacan & Babacan, 2018), however, it is not clearly articulated in the policy document. To improve the basis of socioeconomic growth to enhance social inclusion and personal development, there is a call for the expansion of all secondary schools to target universal basic education; national high schools to integrate with universities; universities and other institutions to expand initiatives such as one hundred per cent literacy for the adult population over 15 years and the introduction of good citizenship, ethics, morality and personal viability in all education and training institutions' curricula (GoPNG, 2009).

Universities have been challenged to produce top quality research and development outcomes that will provide solutions in areas such as education and health in relation to medicine and disease patterns and climate change. Universities educate the people who will later shape the development of society. The importance of universities is derived from the influence they have and from the role they play in developing theory and conducting research (Knapper & Cropley, 2000; Wichramasinghe, 2017; Babacan & Babacan, 2018). University lecturers are central to this role as they are the ones whose attitudes, beliefs and behaviour would be expected to have an impact on the students whom they teach at the universities. University lecturers serve as important role models when they employ teaching strategies that are oriented to learning throughout life (Clemens, 2015; Babacan & Babacan, 2018). If university graduates are committed to self-development, they are likely to survive in an

environment of continuous change in a rapidly evolving society. Universities therefore have significant potential to foster lifelong learning skills amongst students, and so to contribute towards the goals of the Vision 2050.

Graduates are more likely than other groups of people to engage in further learning, and to be motivated by the intrinsic nature of the subject matter (Fitzgerald et al., 2003). However, Brooks and Everett (2008) argued that,

little is known about how experiences of higher education affect attitudes of graduates towards learning in the years after graduation. What is known is the possible changes to the role of higher education within a 'learning society'; the compulsion felt by all workers especially graduates to keep learning throughout their careers and the increasing importance of postgraduate qualifications as a result of the expansion of higher education and consequent credential inflation (p.240).

Various studies (e.g. Candy & Everett, 1991; NBEET, 1996; Knapper & Cropley, 2000; Avoseh, 2001; Brooks and Everett, 2008; Volles, 2016; Smith & Meaney, 2016; Wickramasinghe, 2017; Babacan & Babacan, 2018) have pointed to the increasing level of expectation that we will all engage in learning throughout our lives. In this context, lifelong learning should be seen as more than a means to an end; it is an end in itself. It embraces the ideals of an education that is ongoing and openly accessible to all at any stage of life. It stands outside and above short-term political goals. The role of the universities in turning these ideals into practical realities is crucial (Candy & Crebert, 1991; Jarvis, 1999; Hunt & Chalmers, 2012; Biggs, 2014; Volles, 2016).

The necessity of lifelong learning is based on the phenomenon of change whether it is social (Cropley, 1979; Avoseh, 2001; Bamber, 2006), economic (Cropley, 1979; Jarvis, 1999), cultural (Cropley, 1979; Jarvis, 1999; Avoseh, 2001), scientific (Stonier, 1979; West, 2006; Bamber, 2006; Evison, 2006; Volles, 2016), technological or informational (Stonier, 1979; Cropley, 1979; Jarvis, 1999). The importance of lifelong learning as a reaction to change is obvious in a sense that continuous change requires continuous learning (McClucky, 1974; Evison, 2006; West, 2006; Bamber, 2006; Hunt & Chalmers, 2012; Volles, 2016). Changes at present are occurring rapidly and it is argued that the cycle may repeat itself several times within a single lifetime. Furthermore, the present set of changes is global and transcending regional and national

boundaries (Candy, Crebert & O'Leary, 1994; Tight, 1998; Jarvis, 1999; Tuijnman & Bostrom, 2000; Volles, 2016). The declaration of 1996 as the year of lifelong learning in the European Union countries is an example of the rapid scientific and technological change that affected its people thereby calling for ways to adapt their lives to those changes both for their own well-being and for that of the societies in which they live (European Commission, 1996; UNESCO, 1983; Volles, 2016).

A goal of all PNG universities is to produce university graduates who are committed to self-development through the continuous acquisition of knowledge and experience in their selected career pathways (Kavanamur, 2013). University graduates must be able to thrive in the continuously changing environment of a evolving PNG society. This emphasis is associated with the concept of lifelong learning. The *Vision 2050* (GoPNG, 2009) has focused on university graduates and challenged all education providers in the country to reconceptualise their programs to align graduate attributes with the document's aspirational statements. The *Vision 2050* is focused on empowering the people of PNG through improved education and life-skills. Many university graduates in particular are expected to lead necessary changes to society and industry. To acquire qualities and attributes expected in the *Vision 2050* requires an educational system that is willing to embrace and integrate such qualities and attributes as part of its curriculum. However, it is argued that such positive attitudes, attributes or virtues need to be actualized through effective mentoring processes by the facilitators of learning. If the mentoring processes are conducted well, it is likely that it could transform the mindsets of Papua New Guineans towards an attitude that demonstrates productivity, innovative and creativity, and servitude to the needs of other people within PNG (Sinebare, 2014).

Drastic policy changes by government and universities are needed if the aspirations of the Vision 2050 is to be realized. Such changes as in funding arrangements, in access, in teaching and learning methods, and in the provision of counselling and study skills. The Vision 2050 policy document challenges the institutions of higher education in PNG to make the necessary changes and re-align their vision and mission statements to address the key development focus areas. (GoPNG, 2009; Sinebare, 2014).

However, there are still uncertainties in the debate internationally as to how lifelong learning operates in practice or context; hence, the reason for this study investigating the knowledge, attitudes, beliefs and behaviour of university lecturers in fostering lifelong learning in two universities in PNG. The study argues that fostering lifelong learning in students and graduates is highly dependent on the attitudes, beliefs and behaviour of lecturers who teach them. The study endeavours to establish the status of lifelong learning in the PNG context using the *Vision 2050* as the foundation document to frame the argument.

The current PNG government education policies are guided by the Matane's 1986 Report on the PNG philosophy of education (NDOE, 1986; Haihuie, 2003) under the key guiding principle: integral human development. There is still no clearly defined government policy on lifelong learning in PNG. Furthermore, although a few universities have statements in their vision and mission statements in respect to lifelong learning, no concrete strategies are put in place to actualize the philosophy of lifelong learning in practice. The six universities in PNG based on the principles of lifelong learning. Taking such actions by higher educational institutions in PNG could promote the goals of lifelong learning.

One major hurdle that these higher educational institutions have faced is in relation to accessing adequate and sufficient funding from the GoPNG to facilitate such initiatives. Another major obstacle has been the lack of available infrastructure to accommodate the ever-increasing rate of enrolments in those educational institutions. The scenario presented in the discussion of the significance of this study suggests that this study is timely, relevant and significant for the formal PNG education system, the PNG non-formal employment sector and the PNG informal education sector, mainly the family and the individual Papua New Guineans.

1.13. Aim of the Study

The purpose of this study is threefold. First, this study aims to investigate and analyse the *Vision 2050* policy and the university policies as to whether they inform lifelong learning. Second, this study aims to investigate and analyse lecturers'

knowledge, attitudes, beliefs and behaviour to establish whether they foster a climate of lifelong learning. Third, the study seeks to determine whether the GoPNG needs to formulate a formal government policy on lifelong learning.

1.14. Key Research Questions

Consistent with the aim of the study, the following key research questions were posed:

1. Do government and university policies inform lifelong learning in PNG universities?
2. What are the lecturers' knowledge, attitudes, beliefs and behaviour concerning lifelong learning?
3. How do lecturers perceive lifelong learning?
4. Why do lecturers perceive lifelong learning as they do?

1.15. Methodology in Brief

This study employed a mixed method case study approach using both quantitative data (quantifiable) and qualitative data (text). It involved procedures for collecting, analysing and mixing both quantitative and qualitative data in a single study (Hammersley, 1996; Berg, 2009; Yin, 2014; Yin, 2003; Yin, 2011; Creswell, 2014; Creswell, 2011).

Mixed methods research design uses both quantitative and qualitative methods to collect; analyse and 'mix' research methods in a single study or a series of studies aimed at understanding a research problem (Creswell & Plano, 2011; Creswell, 2014; Teddlie & Tashakkori, 2011; Johnson et al., 2007). The key argument in this approach is that the use of both quantitative and qualitative methods provides a better understanding of a research problem than one of the research methods alone can answer effectively (Creswell, 2014; Teddlie & Tashakkori, 2011; Johnson et al., 2007). Mixing research methods requires advanced methodological procedures, requiring extensive

data collection and analysis protocols (Creswell, 2011; Creswell, 2014). Using mixed methods involves “merging, integrating, linking, or embedding” both quantitative and qualitative data collected within a mixed methods study (Creswell, 2014, p. 565). Johnson et al. (2007, p. 123) describe it as “use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques” aimed at deducing the “breadth and depth of understanding and corroboration”. Using mixed research methods in a single study ensures that it can eliminate potential weaknesses if only quantitative or qualitative methods alone are used (Hammersley, 1996; Berg, 2009; Yin, 2014; Yin, 2011; Creswell, 2011; Creswell, 2014).

In executing the mixed research methods approach, the Case Study Approach (CSA) was selected over other methods because it was seen to be the most convenient and practical means of investigating and analysing the *Vision 2050* policy and the University policies to determine whether they inform lifelong learning. The CSA was also seen as being the most convenient and practical means of investigating and analysing the lecturers’ knowledge, attitudes, beliefs and behaviour to establish whether they foster a climate of lifelong learning. The CSA was also seen as the most suitable and practical means to determine whether the PNG government needs an education policy change towards lifelong learning as an ideology.

The decision to select the use of the CSA largely depends on the research questions. The more the questions seek to explain some present circumstances, for example, with the use of ‘how’ and ‘why’ some social phenomenon works, the more appropriate the use of the CSA as a research method. Furthermore, CSA is appropriate if the questions require a more extensive and ‘in-depth’ description of some social phenomenon (Hammersley, 1996; Berg, 2009; Yin, 2014; Yin, 2011; Creswell, 2011; Creswell, 2014).

The major strengths of the selection and use of the CSA over other research methods reaffirms that CSA deals with the issue of complexity very well even in a single case study. The descriptive data collected in a single case study could address problems of meaning by examining the records of past events and relate it to the present activity. CSA could also provide intelligible, non-technical findings due to using multiple sources of evidence, which provides a holistic multi-dimensional picture of

the activity under investigation. In addition, CSA is argued to provide interpretations of other similar cases due to the fact that the method has properties of ‘reliability’ where similarities and differences can be readily identified to other similar case studies (Johnson, 1994; Hammersley, 1996; Berg, 2009; Yin, 2014; Yin, 2011; Creswell, 2011; Creswell, 2014).

Triangulation through the process of blending multiple approaches to data collection allowed the researcher to decide on the emphasis given to each form of data (priority), which form of data is collected first (concurrent or sequential), and how to ‘mix’ the data (integrating or connecting) (Hammersley, 1996; Berg, 2009; Yin, 2014; Yin, 2011; Creswell, 2011; Creswell, 2014). This process of the use of multiple approaches to data collection in this study as it could happen under different methodological approaches allowed the researcher to use the theoretical and conceptual frameworks devised for this study in combination with the key research questions to guide the data collection process. Using multiple sources of evidence was essential for cross-verification purposes. This process enabled the researcher to crosscheck the data collected showed relevance, accuracy and construct validity. It also allowed the researcher to interpret the evidences collected in multiple but interconnected ways to capture a holistic and contextual portrayal of how university lecturers’ knowledge, beliefs and behaviour reflect lifelong learning. Data triangulation also allowed the researcher to establish a broader range of historical, attitudinal and behavioural issues as well as beliefs in developing a descriptive, coherent and holistic interpretation of the data, which increases confidence in the results obtained (Berg, 2009; Yin, 2003; Yin, 2011; Yin, 2014; Creswell, 2011; Creswell, 2014).

1.16. Study Subjects

Participants for this study were selected using the convenient sampling technique (Creswell, 2014). Those who participated were appropriate participants and also conveniently available and demonstrated their willingness to participate using the JCU informed consent form after reading the provided information. Participants were selected from a cross-section of full-time university lecturers from tutor level to the professorial level. Full-time postgraduate students enrolled in the masters and PhD

programs in all disciplines within the two universities were also invited to participate. A total of 103 full-time lecturers and 22 full-time postgraduate students participated in this study.

1.17. Organisation of the Thesis

Chapter 1 specifies the purpose, provides background to the study, details the research setting and outlines the significance of the study.

Chapter 2 describes the *Vision 2050* and outlines the latest development changes in the PNG Education System including the Higher Education System, especially highlighting the changes that have taken place historically and including the current phase of development in order to actualize their aspirations that are documented in the 2015 policy documents for both NDOE and DHERST in light of the *Vision 2050* aspirational goals.

Chapter 3 presents a review of related literature and explores the importance and significance of the concept of lifelong learning. Research into lifelong learning has been largely conducted within the framework of UNESCO and OECD lifelong learning frameworks. The concepts of lifelong education and other related concepts are described. The chapter identifies, reviews and describes the principal guidelines needed to effectively highlight the importance or significance of incorporating the ideology of lifelong learning in education policy decision-making in the PNG education system.

Chapter 4 outlines a detailed description of the research plan and the methodology that was used in conducting this study. Theoretical and conceptual frameworks drawn from the literature review are described and presented in diagrammatic forms to illustrate the ideology of lifelong learning in the PNG context. The case study method used in this study is also described. In addition, data collection determinants: the sample, setting and the instrumentation used in this study as well as the analytical procedures and ethical issues are also described.

Chapter 5 outlines the analysis and presents the findings of the study using statistical analysis and interpretations of the analysis using qualitative data to verify and

validate the results. The findings are then critically discussed using the review of literature to support (or not support) each finding and are discussed in relation to the four key research questions.

Chapter 6 provides a summary of the study by restating the problem; a summary description of procedures with a brief summary of the major findings is also restated to justify its importance. From these findings, recommendations for further investigations are suggested and conclusions are drawn.

Chapter 2: The Vision 2050 and the Education System

2.1 Introduction

This chapter introduces the *Vision 2050* and the PNG Education System from the elementary level to the higher education level. The chapter begins with a brief description of the *Vision 2050* as it is the key policy document that this study is based on. This chapter provides a descriptive account of the development of the *Vision 2050* and the presentation of its aspirational goals as relevant to this study. It also explains how one of the *Vision 2050*'s key pillars is linked with the ideology or concept of lifelong learning to set the scene for investigation in this study. The document analysis undertaken on the *Vision 2050* allows the researcher to critically discuss whether the concept of lifelong learning is embedded in the strategic focus areas identified in the *Vision 2050*. This informs the study's context in order to critically assess whether the strategic focus areas of the *Vision 2050* could potentially influence the practice of lifelong learning in the PNG context.

The second section of the chapter introduces the PNG Education System from elementary to tertiary levels of the education system incorporating the policy guidelines as stipulated in the 2015 published documents (the NEP 2015-2019 and the NHTEP 2015-2024) by the NDOE and the DHERST, the two PNG government departments that are responsible for the operationalization and administration of education in general in PNG. In this section, it is important that the 1986 Philosophy of Education and the PNG National Qualification Frameworks (PNGNQF), which are related to the principles of lifelong learning, are described and discussed to set the scene for investigation in this study.

2.2 The *Vision 2050* Government Policy Document

The *Vision 2050* policy document was an outcome of discussions held at meetings of the National Planning Committee (NPC), a ministerial committee founded by the National Executive Council (NEC) Decision NG 21/2007. The *Vision 2050* document was grounded on the five national goals and directives in the PNG National Constitution: integral human development, equality and participation, national

sovereignty and self-reliance, natural resources and environment, and Papua New Guinea ways. In response to the possible impacts of future global economic developments on PNG, the NPC in 2009 added to the *Vision 2050* a sixth goal that targeted changes to make PNG progressive and globally competitive.

The NPC decided on a political system and a service delivery system in the National Strategic Plan (NSP) Framework to deliver the NSP. The Eight Point Plan (EPP) was developed in 1973 to coincide with PNG's independence in 1975 and aimed to build a peaceful and harmonious society of prosperous and empowered Papua New Guineans. The specific aims were to increase the people's participation in the country's economy; inspire in the minds of the people, equality amongst the different ethnic groupings in PNG, between the genders and between the different provinces in the country; and ensure that there was more attention devoted to rural and village development initiatives; as well as promote self-reliance in the minds of the people (GoPNG, 2009). The EPP commissioned by the then Chief Minister Michael Somare was based on the following key development initiatives:

1. A rapid increase in the proportion of the economy under the control of Papua New Guinean individuals and groups and in the proportion of personal and property income that goes to Papua New Guineans.
2. More equal distribution of economic benefits, including movement toward equalisation of incomes among people and toward equalisation of services among different areas of the country.
3. Decentralisation of economic activity, planning and government spending, with emphasis on agricultural development, village industry, better internal trade, and more spending channelled to local and area bodies.
4. An emphasis on small-scale artisan, service and business activity, relying where possible on typically Papua New Guinean forms of business activity.
5. A more self-reliant economy, less dependent for its needs on imported goods and services and better able to meet the needs of its people through local production.
6. An increasing capacity for meeting government spending needs from locally raised revenue.

7. A rapid increase in the equal and active participation of women in all forms of economic and social activity.
8. Government control and involvement in those sectors of the economy where control is necessary to achieve the desired kind of development.

(GoPNG, 2009, p. 1)

When assessing the country's development performance in order to justify the development of the *Vision 2050* policy document; it was found that from 1975 to 2006 using the EPP as a guide, the NPC found that there was lack of rapid development and that the objectives of the EPP were not achieved after four decades of political independence. Since 1975, the majority of the rural population in PNG lacked basic government services such as health and education. Despite the fact that there was a gradual increase in the annual rate of 2 per cent in the Gross Domestic Product (GDP) from about K1.2 billion in 1975 to K14.5 billion with a per capital rate of K1, 959 in 2012 (GoPNG, 2009), the country was still placed 130 among 184 countries on the GDP rankings.

Recent reports indicate that PNG is currently ranked 154 out of 188 countries on the UN Human Development Index, compared with Fiji's ranking of 91, Vanuatu's of 134 and Solomon Islands' of 156 (Osborne, Harden & Hoy, 2017). This GDP annual rate of 2 per cent was found to be disappointing in relation to pre-independence period and when comparing the economic performance of other countries in the region at that time (May, 2004). The GDP per head as at 1973 was US\$556 for PNG (Dommen, 1980), which was higher than other neighbouring and Pacific Island countries, for example, Indonesia (171), Tonga (268), and Western Samoa (250). It was also found at that time that forty per cent of the total population still lived below the poverty line that was US\$1.25-\$2.00 daily (GoPNG, 2009). Poverty is defined as a situation in which the consumption set of the individual is severely constricted (Goedhart, Halberstadt, Kapteyn & Praag, 1977). In other words, the less command one has over resources, the less welfare one enjoys, it indicates the poorer one is. Therefore, if poverty is then defined as a situation where command over resources falls below a certain line, then that is referred to as the poverty line. Poverty line can also be referred to as what people themselves consider to be the minimum income in their circumstances (Praag, Goedhart & Kapteyn, 1980; Hagenaaers & Praag, 1985).

In 2010, the National Research Institute (NRI) released statistics that indicated that PNG has a high population growth rate of 2.9% per annum with a life expectancy at 54 to 57 years (NRI, 2010). The population growth rate has increased to 3.1 per cent with an economic growth rate of 2.7 per cent (Osborne, Harden & Hoy, 2017). The current literacy rate of the total population at the age of 15 and above is 64 percent. It is now estimated that 37 percent of the population still live below the poverty line. The statistics also points out that between 30 and 50 percent of rural children are malnourished. With an infant mortality rate of 64 deaths for every 1000 live births, and a maternal mortality rate of 370 deaths for every 100,000 births (NRI, 2010), drastic steps need to be taken to improve the delivery of health services in PNG. The NRI report shows that the social indicators of development for PNG from 2003 to 2006 were amongst the worst in the Pacific region (NRI, 2010). Due to increased unemployment, the rapid urban drift and with the country's poor economic performance to date, these issues raise concerns for the GoPNG to seriously review its actions that are contributing to the poor economic performance of PNG (NRI, 2010; Howes, Nicholas, Prabhakar, & Rova, 2015; Osborne, Harden & Hoy, 2017). The NRI report (2010) warns that:

Policy makers must be aware of the present whilst keeping the lessons of the past forever fresh in their thinking when making policy choices for the future. It is human to make mistakes, but less so to repeat them (p. 13).

Recent economic assessment reports indicate that the economic growth in PNG is significantly weaker compared to the period 2003 to 2015 where there was evidence of increased formal sector employment and strong growth in government revenue. This was also supported by the high prices for PNG's commodity exports, supportive macroeconomic policy settings, and developments in the resources sector in particular the PNG LNG Project and the first gas exports in 2014 (UNEP, 2014; Cornish et al., 2015; Osborne, Harden & Hoy, 2017). When comparing the NRI report to this recent report as stated above, it indicates that there is a mismatch in how the economic growth of PNG was assessed during that period.

However, the current robust economic growth coupled with rapid growth in government expenditure on projects will not expand the productive capacity of the economy remains undesirable for PNG (Cornish et al., 2015; Osborne et al., 2017).

This current economic scenario has not improved the social indicators or improved standards of living, particularly for PNG's 80-85 per cent rural population (Osborne et al., 2017).

Hence, in *Vision 2050* the move for a major change in the ways Papua New Guineans think was emphasized. The move towards a change in the ways Papua New Guineans interact with one another socially, economically and culturally and in the ways they do business globally to meet the scientific, technological and informational changes that challenges them. There is a need in PNG to foster in the mindsets of the people, a unified, complimentary and win-win attitudes and behaviour and to ensure that PNG moves forward to be competitive economically in the global market.

2.3 Strategies for Change in the *Vision 2050*

Driven by the impact of globalisation due the rapid social, political, economic, technological and informational changes (Jarvis, 1999), the GoPNG through the *Vision 2050* policy document (GoPNG, 2009) has identified seven strategic focus areas that will assist PNG to be more competitive in the global market. Government institutions that direct, manage, lead and provide services in the different focus areas are required to communicate, realize and apply the directives. To better understand the strategic focus areas in the *Vision 2050* policy document and their implications for lifelong learning, it is important that each of them are analysed and discussed in turn.

2.3.1 Strategy 1: Human Capital Development, Gender, Youth and People Empowerment

Human resource development is critical to PNG's development (UNEP, 2014). By developing and producing healthy and knowledgeable incisive people, with high moral and honest character and attitudes, such investment will bring PNG forward in the global competitive market (ASPBAE, 2007; Namaliu & Garnaut, 2010; Sinebare, 2014; UNEP, 2014; Walton, 2018). The empowerment of the people including the marginalized to take ownership of their own livelihood and recognize excellence and to become more innovative in their approach to life will bring forth happiness, wealth and prosperity for PNG. The goal in this strategy is to improve and identify the

knowledge, skills and aptitudes of the people to enhance and empower them to be more productive and engage in all activities and contribute to the social and economic development of PNG (GoPNG, 2009).

The NDOE and the DHERST are challenged through the *Vision 2050* policy document to address critical issues such as: the high illiteracy rate by improving basic literacy and other life-skills training; the gender gap on access to education and high dropout rates by ensuring that learning pathways identified in the PNGNQF are also used to improve and or enhance access at all levels of the formal education system including open, flexible and distance education. The higher education institutions including research-based institutions and universities have also been tasked to increase, improve, support and produce top quality research and development outcomes as well as engage in fostering alignment and partnerships to integrate research and development in teaching and learning to enhance the quality of education.

Through the encouragement of non-formal education, a need for social capital development within communities is enhanced to promote cooperation and cohesion and social relationships within the communities. Those who are marginalized such as women, children and youth are encouraged to participate in the development processes to reduce the current social and economic disparities and to eliminate poverty and inequalities in the livelihood of the people (GoPNG, 2009; Sinebare, 2014).

2.3.2 Strategy 2: Wealth Creation

Papua New Guineans owned only ten per cent of businesses in PNG whereas 90 per cent are owned by foreign companies due to the lack of entrepreneurial capacity development and skills training provided to Papua New Guineans (GoPNG, 2009). Since independence, income generation has mainly focused in the non-renewable resources sector (Matthews, 2017). The goal is to identify ways to make the most effective and efficient use of PNG resources, both natural and human; that includes value adding to extractive industry products, to develop and increase reasonable benefit sharing and involvement in nationwide prosperity. It is therefore important that the manufacturing, agriculture, forestry, fisheries and tourism ventures are established (Sinebare, 2014; UNEP, 2014) to re-structure the country's Gross Domestic Product

(GDP) to comprise seventy percent from these sectors with thirty percent coming from the non-renewable resources sector. Opportunities must be created for people to start-up businesses and to expand existing businesses; and for the people to develop entrepreneurial skills so that they are empowered to compete with foreigners who own businesses in PNG (GoPNG, 2009; Sinebare, 2014).

2.3.3 Strategy 3: Institutional Development and Service Delivery

Overall government service delivery to the rural population over the decades since independence has decreased despite government funding to provinces for that purpose (Connell, 1987; Connell, 1997). It is estimated that sixty percent of provincial annual budgets have been spent on administration costs rather than the delivery of government services to the people (GoPNG, 2009; Sinebare, 2014). The main goal in this strategy is to improve relationships, networks and linkages between government and all stakeholders to deliver services to the people. The improvement of the present administrative and management systems in PNG are essential to reduce shortfalls and inefficiencies (Namaliu & Garnaut, 2010; UNEP, 2014). Reskilling of public servants at the national and provincial government levels with suitable work-related training, ethics, discipline and assurance are needed to comply with the current GoPNG legislative framework (UNEP, 2014; Sinebare, 2014). The main priority for public servants is to ensure that effective execution and delivery of government policies to expedite the efficient delivery of government services. For effective service delivery, critical infrastructure and utilities must be in place to support public servants to do their service delivery in rural and remote areas of PNG (GoPNG, 2009; Sinebare, 2014).

2.3.4 Strategy 4: Security and International Relations

Security and law and order remains a major concern for the GoPNG if economic development is to prosper. Law and order problems have hindered nationwide development (Levantis, 2001; May 2003; Hayward-Jones, 2012; Hayward-Jones, 2016) therefore all PNG security organisations including police and the army need to be sufficiently maintained and funded in order to maintain national security and consciousness as well as law and order throughout PNG (Levantis, 2001; Osborne, Harden & Hoy, 2017). The main goal in this strategy is to provide adequate security

for the people, investors and priorities and to facilitate related infrastructure development for border surveillances. As a result of the impact of globalization worldwide and regional developments in the Asia Pacific region, the current PNG foreign policy need reviewing to accommodate the challenges and opportunities faced by PNG (GoPNG, 2009; May, 2011; Sinebare, 2014; Hayward-Jones, 2012; Hayward-Jones, 2016; Matthews, 2017).

2.3.5 Strategy 5: Environmental Sustainability and Climate Change

The significant impact of climate change and climate variability on PNG poses a challenge to the GoPNG (UNEP, 2014). Climate change and climate variability will have a wide-ranging and major impact on the economy, environment, and the people. Adaptation and mitigation measures are needed to address the challenges brought about by climate change (Sinebare, 2014; UNEP, 2014). The key goal in strategy 5: environmental sustainability and climate change is to address education and awareness at all levels of community on the impact and importance of climate change as well as the issue of sustaining the environment. Papua New Guineans need to be encouraged to preserve the country's unique and diverse cultures and traditions and ensure that they are passed on to the future generations (UNEP, 2014). All institutions are therefore called upon to realign their programs and systems to re-think a learning process in order to encourage an all-inclusive human capital asset (GoPNG, 2009; Sinebare, 2014).

2.3.6 Strategy 6: Spiritual, Cultural and Community Development

Churches in PNG have contributed immensely towards the integral human development of Papua New Guineans and are still continuing to provide health and education services as part of their ministry and gospel work (Sinebare, 2014). The churches' role as partners in national development is appreciated and encouraged. The key goal in this strategy is to identify ways in which progressive PNG spiritual and cultural values, norms, beliefs are adopted and applied by the communities in PNG for their wellbeing and development (GoPNG, 2009; Sinebare, 2014).

2.3.7 Strategy 7: Strategic Planning, Integration and Control

For tangible and sustainable nation building, it is the aim of the GoPNG to institute an independent monitoring and evaluation body to provide the pathways to realize a gradual and efficient long-term planning and management of resources. The key goal in this strategy is to ensure that PNG has sound, achievable and progressive long-term policies and programs (NRI, 2010; Sinebare, 2014; Osborne, Harden & Hoy, 2017; Walton, 2018). The independent body will carry out strategic assessments of major policy areas, work with essential agencies to encourage strategic thinking, conduct routine strategic audits and monitor and evaluate the long-term policy drivers and outcomes of the *Vision 2050* policy document. The establishment of reliable up-to-date reports from stakeholders is fundamental for efficient planning. It is vital that all bilateral and multilateral arrangements as well as trade policies are consistent with the country's development agenda (GoPNG, 2009; May, 2011; Hayward-Jones, 2012; Sinebare, 2014; Hayward-Jones, 2016; Matthews, 2017).

2.4 Expected Outcomes of the *Vision 2050*

If the seven strategic change areas described above are successfully and competently acknowledged, realized and applied by the all stakeholders involved in their implementation, the outcomes anticipated by the GoPNG could be achievable. These outcomes include:

1. to change and re-educate the mindset of the people with strong moral obligation;
2. the development of strong political leadership and will power;
3. the improvement in governance, service delivery and law and order; and
4. the realization of a rapid economic growth including improved education and health (GoPNG, 2009; Sinebare, 2014).

These initiatives taken by the GoPNG have driven the development of the Development Strategic Plan (DSP) 2010-2030 by DNPM in 2010 which took into consideration the reports of the country's performance in attaining the Millennium Development Goals (MDGs). The recent economic assessment reports (e.g. Cornish et al., 2015 & Osborne

et al., 2017) indicate that PNG has failed in achieving any of the MDGs as it is ranked a low 154 out of 188 countries on the UN Human Development Index, This is in comparison to other Pacific island countries, Fiji with a ranking of 91, Vanuatu of 134 and Solomon Islands of 156 (Osborne et al., 2017). However, the GDP indicator of welfare can be misleading in PNG's case (Cornish et al., 2015) due to the fact that most of the PNG LNG project is owned offshore resulting in a significant proportion of revenue showing no benefit to the PNG economy.

The GoPNG in the Vision 2050 policy document and the other subsequent policy documents (the DSP 2010-2030) have designed and proposed intervention measures and monitoring and evaluation processes to improve the standard of living for all Papua New Guineans through appropriate budgetary resource allocations to effectively actualize these plans (GoPNG, 2009; GoPNG 2010). Therefore, all provincial, district and local level governments as well as development partners; the private sector, churches, non-government organisations and civil society organisations have been called upon to contribute towards the target interventions highlighted in the *Vision 2050* document.

The concept of lifelong learning derived from arguments of global competition and technological challenges of a knowledge economy (Babacan & Babacan, 2017) capturing the social humanist orientations of social inclusion, active citizenship, self-improvement and flexibility (Osborne et al., 2015; Babacan & Babacan, 2017). These social humanistic orientations are linked with some of the seven strategic focus areas of the Vision 2050 policy document (Sinebare, 2014). There is a significant need for changes in the current PNG educational systems and processes. Key stakeholders including government institutions are expected to play pivotal roles in the change to support and improve the systems and processes through adequate funding and infrastructure development. The private sector has to be heavily involved in stimulating and promoting business activities in order to boost the economy. The active participation of communities in the cultural, social and economic activities of PNG are required for economic prosperity.

By 2050, it is envisaged by the GoPNG that PNG should become a smart, fair, wise, happy, wealthy and united country. The *Vision 2050's* aspirational goal is to

generate wealth through smart innovative ideas, quality government services and fair distribution of benefits nationwide. This goal is guided by values such as integrity, maturity, diversity and win-win relationships (GoPNG, 2009). The objectives are then to make PNG become more progressive and globally competitive by encouraging the people to play a greater role in the economy and to promote equality among the people and the different provinces of the country. Rural development through effective service delivery should be the focus enabling a balanced regional development between the different regions of the country. There should also be a shift in the economic activity from primary industries to manufacturing, service and knowledge economies; as well as encouragement of self-reliance.

On the education front, it seems appropriate for the GoPNG to call on the formal, non-formal and informal sectors of the education system to reconsider their educational administrative practices and/or teaching and learning processes and consider the guiding principles and values of lifelong learning in their philosophy. It is also crucial to draw together the main arguments in support of the notion of lifelong learning to bring to the notice of the GoPNG, educational providers and clients alike the need to formalise educational policy changes vital to the realization of the guiding principles of lifelong learning as embedded in PNG's philosophy of education – integral human development. Education policies based on the basic philosophical principles of lifelong learning should be merged with effective educational practices to promote lifelong learning in PNG. This call for a transformation of mindsets is relevant as higher educational institutions including universities are now being challenged to adopt changes within their own administrative structures and adapt to changing conditions within the community at large to actualize the aspirational goals of the *Vision 2050* (GoPNG, 2009; Sinebare, 2014).

However, in the *Vision 2050* policy document, it is evident that although the concept of lifelong learning is not explicitly articulated, a further analysis of the strategies implies that the *Vision 2050* strategies have implications for lifelong learning into the PNG education system. The *Vision 2050* strategies are as follows:

Strategy1: human capital development, gender, youth and people empowerment;

- Strategy 2: wealth creation;
 - Strategy 3: institutional development and service delivery;
 - Strategy 4: security and international relations;
 - Strategy 5: environment sustainability and climate change, and
 - Strategy 6: spiritual, cultural and community development
- (GoPNG, 2009).

The six strategies policy focus areas encompasses social humanist orientations of social inclusion active citizenship, personal development and the encouragement of competitiveness and employability through continuous learning in the span of one's lifetime (Osborne et al., 2015; Babacan & Babacan, 2018). A reassessment of the current national education policies becomes inevitable and significant for the actualization of lifelong learning in the PNG context. The *Vision 2050* has challenged all educational institutions within PNG to place a greater emphasis on the importance of the transformation of mindsets so that Papua New Guineans become globally competitive. The transformation of mindsets in the PNG context of this study refers to the transformative aspects of lifelong learning (Mezirow, 2003; Mezirow, 2006). This is whereby lifelong learning has the potential to increase learners' engagement in learning. Lifelong learning also positions learners to actively participate in a range of formal, non-formal, community and workplace learning (Clemens, 2015; Volles, 2016; Smith & Meaney, 2016; Babacan & Babacan, 2018). The learner is facilitated to transit between personal, professional and academic contexts (Clemens, 2015).

2.5 Linkage between *Vision 2050* and Lifelong Learning

From the discussion so far, it can be deduced that the aspirational goals alluded to in the *Vision 2050* policy document in PNG are closely associated with the concept of lifelong learning's humanistic ideals and aspirations (Dehmel, 2006; Sun, 2008). Humanistic ideals such as in the context of social inclusiveness, active citizenship, and personal development (UNESCO, 1996; OECD, 1996; OECD, 2004; Delors, 1996; Osborne et al., 2015) which are vital for one's advancement in life (Avoseh, 2001; Clemens, 2015; Osborne et al., 2015; Babacan & Babacan, 2018). Such advancements could lead to the encouragement of one's ability to be competitive as well as enhances

one's employability as he or she acquires the required knowledge, skills, attitudes and values to live a useful and productive life in the community (Jarvis, 1999; Avoseh, 2001; Volles, 2016; Smith & Meaney, 2016).

The concept of lifelong learning has become a widely accepted ideology and an education policy goal in the last two decades (Cropley & Knapper, 1983; Candy & Crebert, 1991; Knapper & Cropley, 2000; Candy, 2002; Green, 2002; Volles, 2016) in several developed countries such as the European Union (EU) countries (e.g. France, Germany, Italy), the United Kingdom (UK), the United States of America (USA), Canada, Australia, and New Zealand. Some countries in the Asia Pacific region, for example, South Korea, India, Malaysia, Tonga and the Cook Islands have also responded to the call for change due to their connections with international organisations such as UNESCO and OECD. The recognition of the significance of lifelong learning has prompted some governments including politicians and educators in these countries to acknowledge and embrace lifelong learning as an appropriate educational goal and the governments of several countries have formulated government policy change strategies to address it (Coolahan, 2002; UNESCO, 2014; Volles, 2016). However, the lifelong learning literature in Australia and elsewhere portrays, the need to articulate a policy standpoint around lifelong learning has been divided in Australia (Clemens, 2015; Babacan & Babacan, 2017), in the European Union (Volles, 2016); and in the United States of America (Smith & Meaney, 2016). Australia does not have a formal lifelong learning policy despite its inclusion in many university mission statements and advertising documents. Government policy papers were published discussing lifelong learning's importance and relevance in Australia (Babacan & Babacan, 2018). Australia's standing in relation to lifelong learning policy formulation is not much different to the situation in PNG.

Lifelong learning has developed as a universal undertaking for most of the UNESCO and OECD countries and has become a controversial educational discussion issue of this new era (Volles, 2016). For example, UNESCO (2014, p. 29), in the UNESCO Institute for Lifelong Learning Annual Report 2013 reported that in Asia and the Pacific countries were encouraged "to share good practices and to build capacities for developing effective policies and high-quality programmes related to lifelong learning (UNESCO, 2014, p. 29; Volles, 2016). A plan of action was developed to

ensure quality provision and broad participation in adult learning and education. Asia Pacific countries such as Korea, China, India, Tonga and the Cook Islands shared their good practices. PNG although a member of UNESCO, did not present due to lifelong learning policies not being explicitly integrated in the past and current NEPs and education policy guidelines and directives.

However, it is important to point out that policy changes towards lifelong learning in the more developed countries may not be similar in context for adaptation in developing countries, like PNG for example. In PNG, the concept of lifelong learning appears significantly in some educational policy documents such as the 1986 Philosophy of Education (NDOE, 1986; NDOE 2015), and the PNG National Qualification Frameworks (DHERST, 2015) both for the general formal education sector as well as the Technical, Vocational Education and Training (TVET) sector. However, it has not been explicitly pronounced in the national policy documents such as the *Vision 2050*, the NEP 2015-2019 and NHTEP 2015-2024. Whether or not lifelong learning may affect education policy change in PNG remains uncertain. Such discrepancies in education policy formulation to incorporate or integrate lifelong learning remain to be actualized in the PNG context. This supports the notion and importance raised in the significance of this study that it is timely and relevant as a way forward for PNG to seriously consider the ideas of lifelong learning in its educational policy decision-making processes.

2.6 The PNG Education System

The PNG state-run education system was adopted and modelled against the Australian system. This adoption of the Australian education system meant that the Australian education structure and system including Australian curriculum based on western concepts were taught to Papua New Guineans (Thomas, 1975). This transition happened in PNG's educational history because levels of education for most Papua New Guineans at that time were relatively very little and localisation of positions held by the Australian colonial administrators and officials was non-existent (May, 2003). Australians and other foreigners played a dominant role in both public and private sectors of the PNG systems and institutions pre- and post-early years of independence

(May, 2003). Papuan New Guineans at that time had very little input in what was happening during this transition period.

Historically, there are three time periods that show the development of education in PNG: pre-independence, early-independence to 1992 and post 1992 to the present. All three-time periods have distinct characteristics that have contributed to the changes that are experienced in PNG now (Lahui-Ako, 1997). The pre-independence period was one when education in PNG was controlled primarily from outside PNG. The church missions had been the main providers of education and they continued to have a strong presence before World War II and after the introduction of administration schools when the Australian colonial administration was established in PNG. It was not until PNG gained independence that the current national education system was established, but was yet modelled on the Australian education system (Haihuie, 2003; NDOE, 2015). Most or all educational policies at that time were adopted from the Australian educational system with limited inputs from the very few educated Papua New Guineans at that time.

During the early 1940s in the PNG educational history, the managers and administrators in Mission-run schools were primarily expatriates, with a few Papua New Guineans involved in the decision-making process in administrating those schools (Haihuie, 2003). The missionaries controlled the school curriculum in the early development of schools that had a great deal of influence (Walton, 2018) especially in the villages and particularly with the use of English as a medium of instruction. In addition to teaching western values, the missionaries instilled their western Christian values and doctrines in the mindsets of Papua New Guineans who attended their schools. This could be understood at this current time to educate Papua New Guineans but yet could also be argued as the beginning of the process of indoctrination of western Christian values on the people without teaching them to be more critical thinkers and decision-makers to prepare Papua New Guineans for the future that lay ahead of them.

The 1960s saw the growth and development of a philosophy of education focused on western values in the education system and English was used as a means of making PNG into a nation that is now today (Litteral, 1999). This western educational philosophy was taught at the expense of the PNG traditional knowledge that existed

before the arrival of the Australian colonial administration and the other foreigners who set themselves up in PNG as part of the Mission churches. Yet Papua New Guineans at that time had very little input into the education system that was used to shape the communities (May, 2003; Haihuie, 2003). This also meant that the vernacular languages were viewed as deficient for formal education and emphasis was placed on English as the only means of instruction in the classroom. This resulted in the introduction of a westernizing education system that potentially alienated students from their own cultures rather than strengthening their appreciation of, and participation in education (Litteral, 1999).

The early post-independence period showed the beginning of a new era where Papua New Guineans were seen to be participating in making important decisions in consultation with their expatriate counterparts in relation to education. However, Australians and other foreigners continued to play important roles in the decision-making processes that were meant to provide prosperity and progress in PNG (May, 2003; Haihuie, 2003; Walton, 2018). It was at this period that a few Papua New Guineans made inroads to participate in discussions of educational issues relevant to PNG's development. However, it can be argued that the levels of localisation and of education and experience of those few Papua New Guineans were relatively low (May, 2003; Haihuie, 2003). Furthermore, this time period also saw a tremendous expansion in the education system with expatriates and Papua New Guineans working together, however, most decision-making were left to the expatriates to perform. Those few tertiary educated Papua New Guineans working along the expatriates still felt inferior towards the expatriates as they felt that the expatriates knew better and could make better rational decisions than them. Such inferior complex attitudes held by those Papua New Guineans enabled the expatriates to still play major roles in what was considered relevant curriculum and thought useful and relevant for PNG's development (May, 2003; Haihuie, 2003). Where such inferior complex attitudes demonstrated by those Papua New Guineans were cultural-is debatable and still remains uncertain. Hence, the idea of a westernizing education system was prevalent and encouraged in the PNG education system with continued emphasis given to the use of English as the medium of instruction in PNG schools. From 1976 to 1986, there was a rapid decline of expatriate teachers teaching in government schools.

The 1990s saw the introduction of the ‘education reforms’ restructuring the system that provided for nine years of basic education (3 years elementary and 6 years primary) and four years of secondary education from Grades 9 to 12. Grades 9 and 10 were considered lower secondary with parallel provision for vocational education and Grades 11 and 12 comprised upper secondary (See Figure 2.1 below). Technical training for employment is structured under technical colleges and tertiary education including universities and a range of colleges, including teacher education institutions and technical colleges. Access to education enhanced through the increasing number of private providers and Open learning through the College of Distance Education and other distance education providers.

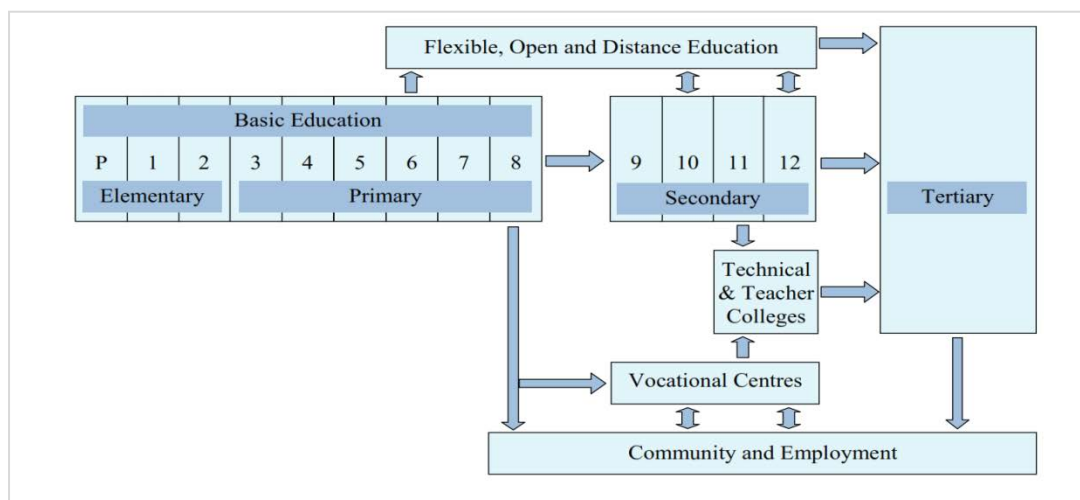


Figure 2.1 Structure of the PNG Education System

Source: NDOE, 2013

The 2000s saw the expansion and restructuring of schools (elementary, primary and secondary) throughout PNG (Howes et al., 2012). This expansion was due to the introduction of the tuition fee-free policy that abolished school tuition fee payments by parents and in compensation the O’Neil Government paid subsidies as a grant to schools. This was also the era when Outcomes-Based curriculum was introduced and then abolished (NDOE, 2013) in favour of a Standards-Based curriculum (NDOE, 2015). However, despite these structural and curriculum changes to the PNG education system, the education system was still considered ineffective and unable to meet the targeted national and international goals as stipulated in the NEPs; and the MDGs. For example in the attainment of the MDGs related to education (MDG 2 – achieving

universal primary education, MDG3 – promoting gender equality and empower women, and MDG8 – global partnership for development) as illustrated in Figure 2.2 below, PNG failed to achieve any of these MDGs (ASPBAE, 2017; ASPBAE, 2011; Osborne et al., 2017).



Figure 2.2 The Millennium Development Goals

Source: Bray, 2015

The GoPNG was blamed for the non-achievement of the MDGs (ASPBAE, 2007; NRI, 2010; ASPBAE, 2011) resulting in the development of possible interventions projected in the National Education Plan 2015-2019 (Bellew, 2010).

Since 2016 MDGs have now being replaced by the SDGs with a targeted attainment year of 2030 (See Figure 2.3 on page 56). The fourth SDG is based on quality education and its goal is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. It is envisioned in this SDG that the targets for the fourth goal are as follows:

1. Universal free and quality primary and secondary education;
2. Access to early childhood care and education;
3. Affordable and quality technical, vocational and tertiary education;
4. Increased skills for employment;
5. Eliminate gender disparities;
6. Literacy and numeracy for youth and adults; and

7. Knowledge and skills for sustainable development.

(Source: Bray, 2015, p. 4)



Figure 2.3 Sustainable Development Goals

Source: Bray, 2015

With the shift in emphasis on the centrality of the learner towards lifelong learning post-2000 period (Babacan & Babacan, 2018), it is imperative that the PNG education system develops firm foundations aimed at developing students' capacities to learn through the principles of self-directed learning (OECD, 2004; Watson, 2004; Cornford, 2009) at the primary and secondary and post-secondary levels of the education system. The emphasis placed on lifelong learning could increase learners' engagement in their learning (Clemens, 2015). These change in focus on the learners; advancement could happen if there is access to education open to all (Babacan & Babacan, 2018). The current SDGs now place greater significance on lifelong learning, and should serve as a prompt for the GoPNG through the two education departments (NDOE and DHERST) to seriously revise their education plans to incorporate the principles of lifelong learning as part of its policy directives.

Driven by the political, social, economic, technological and informational changes due to the impact of globalization UNESCO, 1996; OECD, 1996; Delors, 1996; Delors, 2013), the European Commission presented four pillars of education as

“learning to know, learning to do, learning to live together, and learning to be” (p. 86). These pillars were aimed to guide European Union countries to re-align their education system towards lifelong learning (Delors, 1996). Philosophically, it can be argued that in most formal traditional education settings, the focus of education has mainly been on the learning to know and to a lesser extent on the learning to do (European Commission, 1996). In most cases, the other two (learning to live together, and learning to be) are to a larger extent left to chance or assumed that they are natural products of the first two (learning to know and learning to do).

When relating these 4 pillars to the PNG educational context, the learning to know was evident in most or all formal traditional education settings. However, in most or all informal traditional education settings were based on the learning to do. These different learning orientations created a learning gap of Papua New Guineans who were coming from communities that encouraged learning to do. They were forced to adopt the learning to know orientation. The learning to know opposes the PNG philosophy of education of integral human development (NDOE, 1986). Conceptually, the learning to know makes learners become passive rather than active learners (Delors, 2013). This defeats the purpose of developing or nurturing learners’ value and refine their human qualities (Smith & Meaney, 2016; Volles, 2016; Babacan & Babacan, 2018). The development of human qualities such as curiosity, creativity and problem-solving and critical thinking skills. This shift in emphasis in education to learning to do requires a reconceptualization of why and how we learn (Smith & Meaney, 2016; Volles, 2016; Babacan & Babacan, 2018) and a review of the current philosophy of education in PNG. Such review need to consider the assessment of technical competencies at all levels of the education system, the encouragement of partnerships with the churches, private sector and other stakeholders vital to the enhancement of education in PNG (Bray, 2015).

2.7 Lessons learnt in relation to the Education Policy Reforms from 2005-2015

The last decade (2005-2015) has presented PNG education system with several policy reforms that were planned in the early 1990s and early or mid-2000s which have

either failed in planning or implementation or are still in progress due to the five year spanned cycle set for its implementation in each sector plan. Kukari (2015) presents a chronological list of these reforms in a situational analysis undertaken for the NDOE (See Table 2.1 on page 59).

Year	Intervention	Main Aims
Access and Retention		
2012	Tuition Fee Free Education Policy	To abolish school fees and allow all school-aged children to go to school.
2005	Education Subsidy Policy	To subsidise school fees to enable more children to go to school.
	Education Access and Expansion Program	To expand the capacity of the NES to allow more children to have access, in particular, to basic education.
Quality		
2013	Medium of Instruction Policy	All schools in the NES to use English as the medium of instruction.
2010	National Education Media Policy	To provide the focus and the direction for designing, developing, implementing, and managing education media programs to support the department's initiatives in making the benefits of education available to all and to improve the quality of education.
2006	School Improvement Program	To empower school boards and communities to take ownership of their schools, by working together to improve teaching and learning outcomes.
2005	National Education Skills Plan	To promote the development of skills for living within and beyond the school.
1999	Policy for Language in Schools	To use PNG languages as a medium of instruction in elementary schools, bilingual education to Grade 5, and vernacular maintenance after Grade 5.
1993	Curriculum Reforms (Introduction of Outcomes-Based Curriculum)	To develop, implement, and monitor a relevant curriculum.
	Relevant Education for All Program	To develop an education system that will meet the needs of PNG and its people, and provide appropriately for the return of children to their communities, formal employment, or for further education and training.
Equity Interventions		
2003	Gender Equity in Education Policy	To provide a framework for providing equitable educational opportunities for girls.
Administration /Governance		
2011	Medium-Term Development Strategy	To provide a medium-term strategy for development by clearly setting the sector strategies, targets, deliverables, and their projected estimated cost of implementation.
	TVET Strategic Management Plan	To provide a framework for the development of TVET in PNG.
2009	Papua New Guinea Vision 2050	To provide a strategy for guiding the socioeconomic development of PNG, transform it into an emerging developing country, and place it amongst the top 50 countries in the UN HDI.
	Assigning Service Delivery Functions Provincial and LLGs	To clearly demarcate the basic service delivery functions and responsibilities of provincial and local-level governments.
2005-2014	National Education Plan	To provide strategies for improving access, retention, and the quality of education across the whole of the education system.
2005	DoE Corporate Plan	To provide a platform for the implementation of the DoE's mandate and strategies for improving education delivery.
2005-2014	Provincial Education Plans	To provide provincial strategies for ensuring access, retention, and quality of education for all children in the province.
2004	Special Education Plan	To provide a framework for providing an inclusive education system that caters to the needs of children with special educational needs.
1997	Provincial Education Acts	To provide an enabling legal framework for the governance and management of the education system in the provinces.
Cross-Cutting		
2007	HIV/AIDS Policy	To provide a policy framework for approaching and addressing HIV/AIDS in the NES.
2005	HIV/AIDS/STIs Implementation Plan	To provide a list of activities for implementation by the DoE to respond to the multiple challenges of HIV/AIDS.

Table 2.1 Chronology of Major Interventions in PNG

Source: Kukari (2005)

The significant major policy reforms, identified in the Table 2.1 are discussed below that have either impacted growth, expansion and or enhanced quality:

1. The reorganisation of the structure of education in PNG from the 6-4-2 structure (6 years in primary school; 4 years in secondary school; and 2 years in upper secondary school), to a 3-6-2-2 structure (3 years in elementary school, this was a community-based education; 6 years in primary school, the primary schooling expanded to include Grades 7 and 8; 2 years in lower secondary, mainly Grades 9 and 10 and 2 years in upper secondary, mainly Grades 11 and 12 respectively).

What lessons were learnt from this policy reform and expansion? Reports (NRI, 2015; NDOE, 2015) indicate that there was a greater increase in enrolment figures especially in the primary education sector. The huge increase in enrolment figures in the primary as well as the secondary levels placed immense pressure on the tertiary levels to take in more students coming out of those levels for further studies. This was mainly due to the lack of infrastructure development that was to be developed to complement the expansion and the increase in access for students from one level of education to the next.

Some of the benefits experienced were that a new curriculum was redesigned based on the recommendations from the 1991 Education Sector Review. Local languages were used as the medium of instruction and in early grades multi-grade instruction was introduced.

2. In 2003 the NDOE introduced the Outcomes-based Education. The curriculum reform was aimed to introduce child-centred instruction (Asimi, 2014). The main emphasis for teaching and learning was for the teacher to focus on each individual student's mastery of the learning outcomes, therefore encouraging teachers to organise student assessments accordingly.

What lessons were learnt from this policy reform? Teachers found that implementing such a student-centred approach was more tedious than the previous teacher-centred approach. This created many challenges for most teachers to accept the

shift in emphasis in teaching and learning towards a more student-centred approach. It is argued that as the education system is re-engineered once more, steps should be taken to identify clearly the change processes at the national levels to support and underpin future reform (NDOE, 2013). Sectoral reform of education should be linked to broader reform processes as part of national building (NRI, 2010; NDOE, 2013). At the same time, it will be necessary to identify the drivers of change, taking into account the interests and view of potential opponents of change whose resistance could be mitigated if they are identified at an early stage (Jarvis, 1999; Smith & Meaney, 2016; Volles, 2016).

The approach of imposing a curriculum framework or paradigm from a developed country for example Australia without proper evaluation of its strengths or an assessment of the capacity of the teachers to respond to its demands was a flawed process (NDOE, 2013). There was a public outcry involving parents, the public, political, professional and academic communities concerned with the state of education as a result of the introduction of outcomes-based education in PNG in 2012. In 2013, outcomes-based education was abandoned in PNG. It was found in a study commissioned by the GoPNG headed by Fr Jan Czuba that the leadership of the implementation of the OBE reforms was poor. There was no clear vision in regards to use of the pedagogy and curriculum. An implementation strategy for the sectoral reform that took place to introduce OBE was not developed to guide the implementation process (NDOE, 2013). Educational leadership practices at that time hindered transparent decision-making processes (UNEP, 2014) when a quality assurance assessment of the education system was conducted (NDOE, 2013).

As an intervention measure, the GoPNG challenged the NDOE to respond to the lesson that standard formulas, imported solutions and rigid frameworks borrowed from outside countries rarely worked in the PNG context. However, the failure of the introduction of the OBE was mainly due to the failure of the NDOE in coming up with a workable strategy to implement OBE by involving all stakeholders, experts and professionals to act as resource persons (GoPNG, 2013). As transition occurred the NDOE was challenged by the GoPNG to ensure that design of curricula, syllabuses and resource materials preceded the implementation of wholesale, system-wide reforms. This intervention measure could also consider the re-training and up-skilling of teachers

and school leaders to claim ownership of the rigours of the change process introduced in the proposed reforms (NDOE, 2013).

The NDOE has now shifted its focus towards standards-based education in 2015 aimed at improving the standards of education in relation to school curriculum, teacher preparation and professional development, examinations, inspections, school governance and restructuring the school system and structures in the process of this change. In an effort to improve the school system in this shift, the restructuring will include:

1. Two years of Elementary education;
2. Six years of Primary education from Grades 1-6;
3. Six years of High School education from Grades 7-12.

This restructuring is aimed to enhance the standards of education and to ensure retention levels are kept high and attrition levels are kept low. In terms of curriculum and syllabus design and development: English, Language, Mathematics, Culture and Community incorporating Science are taught at the elementary level (NDOE, 2015). This policy shift is also to teach English as a subject with an emphasis on teaching phonics to address the low literacy rates (ASPBAE, 2007; ASPBAE, 2011; Walton, 2018) experienced in PNG. This policy change making English as the medium of instruction replacing the use of the vernacular languages repeats the policy that was used in the past (NDOE, 2013; NDOE 2015).

The introduction of the standards-based education in 2014 enabled the development of curriculum in the elementary, primary and secondary levels of education. It also provided the re-training and up-skilling of teachers to understand why and how to implement the standards-based curriculum in the schools (NDOE, 2015). The introduction of the Tuition Fee Free (TFF) Education Policy is another initiative of the NDOE (Walton, 2018). However, it is interesting to note that the abolition of tuition fees was introduced in 2002, withdrawn in 2003 and reintroduced in 2012. The TFF is aimed to reduce official school fees and decentralise responsibility

for financial management to schools and district administrations (Walton, 2018). This means that the GoPNG through the NDOE pays schools a subsidy of K270 per student each year (NRI, 2015). This tuition-free policy aims to encourage children access to education (ASPBAE, 2007; ASPBAE, 2011; NRI, 2015; Walton, 2018). Improving access to education (ASPBAE, 2007; ASPBAE, 2011) however, means increases in student enrolments in schools throughout PNG. The increase in student enrolments has placed a strain on the education budget considering the number of elementary, primary and secondary schools in PNG (NRI, 2015; Walton, 2018).

2.8 Chapter Summary

This chapter has concentrated on the *Vision 2050* and the PNG National Education system and discussed the importance and relevance of lifelong learning driven by social, political, economic, technological and informational changes taking place due to globalisation. The shift in emphasis places the learner as the central focus in both formal educational institutions and non-formal settings. The discussion has presented a move by the NDOE to bring changes to enhance the education system and to ensure that the SDGs are addressed after failing to achieve any of the MDGs.

The chapter identified some of the gaps that remain between policy and practice and the discussed the role that universities may play in filling these gaps. The chapter concluded that future education reforms should derive from an endogenous, country-led process engaging all stakeholders, experts and professionals.

The next chapter will present a review of literature on the concept of lifelong learning. It will focus on its historical development as an ideology and critically relate the concept of lifelong learning to PNG and the higher education sector as the basis for discussion.

Chapter 3: Review of Related Literature

3.1 Introduction

The aim of this chapter is to explore existing scholarship about the concept of lifelong learning, the conceptual foundations of lifelong learning, the application of lifelong learning in formal learning and other contexts, and how the PNG education system could engage with lifelong learning as a policy goal, and discuss its impact on learners. With the current shift in emphasis on lifelong learning focusing on the learner, it necessitates that teachers are encouraged to prepare learners to engage in self-directed learning processes though self-paced. This development entails the learners to acquire requisite skills necessary to promote lifelong learning. This shift is emphasis reduces the focus on structures and institutions and increasing the emphasis on the individual at the centre of the educational process who has the responsibility to take charge of his or her own learning (Borg & Mayo, 2005). This is the main focus of this review of literature. It narrows the broad concept of lifelong learning and links it with higher education teaching and learning, which is relevance to PNG and also the focus of this study.

Extensive searches were conducted centred on the concept of lifelong learning. The first part of the review will critically discuss the development of the concept from the late 1960s. It will discuss how the concept of lifelong emerged as an evolving concept in the western world. The discussion will then move on to describe the current theoretical and conceptual status of lifelong learning and how and why it is practised in context globally in the countries that are associated with the international organisations such as UNESCO and OECD. It will also discuss the outcomes and impacts of lifelong learning in those countries. A theoretical and conceptual frameworks underpinning this study were used to discuss the current status of the PNG education system. This chapter will conclude by discussing the roles universities globally and in particular in PNG could teach lifelong learning skills to prepare learners towards self-directed learning.

3.2 The Development of the Concept of Lifelong Learning

In the late 1960s, the concepts of lifelong education and lifelong learning came into prominence in the educational world through a report commissioned by UNESCO together with their related concepts of formal, non-formal and informal education (Faure, 1972; Coolahan, 2002; Kwo, 2010; Volles, 2016). OECD and the Council of Europe in the 1970s contrasted lifelong education with the concept of recurrent education and the concept of *education permanente* (Tuijnman & Bostrom, 2002; Coolahan, 2002; Volles, 2016). Through the work of UNESCO and OECD in the *mid-1990s*, lifelong learning then evolved as a broader and more holistic concept (OECD, 1996; Coolahan, 2002; Kwo, 2010; Volles, 2016). This comparative analysis will help to establish a clear definition of the development of the concept of lifelong learning, as it is now widely known.

3.2.1 The Concept of Lifelong Education

Dave (1976) defines lifelong education as a:

process of accomplishing personal, social and professional development throughout the lifespan of individuals in order to enhance the quality of life of both individuals and their collectives. It is a comprehensive and unifying idea, which includes formal, non-formal and informal learning for acquiring and enhancing enlightenment so as to attain the fullest possible development in different stages and domains of life (p. 34).

The concept of lifelong education was studied, not as a system of education but rather, as a philosophical belief with particular attention to the organisation of education. The values of lifelong education are recognised in the three basic terms: life, lifelong and education, upon which the meaning of the concept is based. Lifelong education is claimed to be a lifetime process and does not end at the completion of formal schooling. Lifelong education is also not restricted to adult education but it includes and merges all phases of education – pre-primary (in PNG the terms pre-schooling or elementary schooling are used), primary, secondary and post-secondary (technical and tertiary education). The concept of lifelong learning, views education in its entirety including formal education, non-formal education and informal education (Volles, 2016). Lifelong education is claimed to seek continuity and delivery along “its vertical or longitudinal dimension (vertical articulation). It also seeks integration at its horizontal and depth dimensions at every stage in life (horizontal integration)” (Dave, 1976, p. 51).

It can then be argued that lifelong education occurs vertically through its formal learning pathways as well as horizontally through its informal and non-formal learning pathways in a person's lifetime (Volles, 2016). Lifelong education's basic goal is to maintain and improve people's quality of life through a flexible and varied content, learning tools and techniques and time of learning. This goal supports the notion that education should be made available even after an individual has gone through the formal education system through non-formal and informal settings.

Education is viewed in terms of an individual's lifetime, from his or her earliest upbringing as an infant to adulthood that includes all phases of schooling and training whether it is formal, non-formal or informal (Coombs & Ahmed, 1974; Volles, 2016; Smith & Meaney, 2016). In these settings, learning could occur within an organised and structured context that may lead to a formal recognition. Alternatively, learning could occur with the acquisition of skills such as vocational skills and could happen at the workplace or elsewhere. Learning could also occur as a result of a person's daily life activities and interactions with his or her family, work or leisure (Coombs & Ahmed, 1974; Volles, 2016; Smith & Meaney, 2016). The three types of learning could take place at all ages and phases of an individual's lifetime irrespective of where it occurs and who organizes it. This view supports the notion that education is lifelong learning, which occurs throughout a person's lifetime. If the three types of education are combined and strong associations developed between them to complement each other, lifelong education within an education system of a country may have individual, societal and country benefits (Volles, 2016; Smith & Meaney, 2016).

3.2.2 Recurrent Education

OECD (1973) defined recurrent education as:

a comprehensive educational strategy for all post-compulsory or post-basic education, the essential characteristic of which is the distribution of education over the total life-span of the individual in a recurring way, i.e. in alternation with other activities, principally with work, but also with leisure and retirement (p. 16).

When comparing recurrent education with lifelong education, recurrent education is understood to be concerned with formal adult education policies. In the

early 1970s, the work of OECD promoted recurrent education as a policy to promote lifelong education. OECD promoted recurrent education aimed to transform the education system so that access to organised education was made available throughout the lifetime of each individual. OECD argued that degrees and certificates should not be recognised as an outcome of an educational career but rather as steps in a continuing process of lifelong education. The introduction of recurrent education was aimed to encourage policy coordination across education sectors and the labour market to provide a planned adult education to the wider population and enable adults to participate in higher education and universities (Tuijnman & Bostrom, 2002; Volles, 2016).

3.3 The Concept of Lifelong Learning as of Mid-1990s

It was the work of UNESCO and OECD in 1996 that brought into prominence the concept of lifelong learning into the international and national education agenda. OECD in the process discarded the idea of recurrent education and instead embraced the idea of lifelong learning. OECD defined lifelong learning as a process of learning and development an individual takes in his or her lifetime, learning that takes place in early childhood to learning in retirement and beyond until the individual dies (OECD, 1996; Volles, 2016). The Commission for a Nation of Lifelong Learners at its first Global Conference on Lifelong Learning, defined lifelong learning as:

a continuously supportive process, which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity, and enjoyment in all roles, circumstances and environments. (Commission for a Nation of Lifelong Learners, 1997, p. 8)

The European Union later improved the definition of lifelong learning as learning undertaken throughout life. This learning happens in all general education, vocational education and training, non-formal education and informal learning resulting in an improvement in knowledge, skills and competencies within a personal, civic, social and or employment-related perspective. Lifelong learning includes also the provision of counselling and guidance services (European Parliament and the Council of Europe, 2006). A more current definition of lifelong learning adds to the previous definitions of UNESCO, OECD, the European Union and the Commission for a Nation of Lifelong

Learners. This definition asserts that lifelong learning is the continued learning of tasks, from one or more domains, over the course of a lifetime, by a lifelong learning system (Tessler et al., 2017). It argues that a lifelong learning system efficiently and effectively does three things. It retains the knowledge it has learned; it selectively transfers knowledge to learn new tasks; and it ensures the effective and efficient interaction between the first two activities (Silver, Yang & Li, 2003).

The philosophy underlying these definitions of lifelong learning as asserted by Duff (1999) stresses lifelong learning as:

1. Continuous (lifelong learning never stops);
2. Supportive (lifelong learning is not done alone);
3. Stimulating and empowering (lifelong learning is self-directed and active, not passive);
4. Incorporate knowledge, values, skills and understanding (lifelong learning is more than what we know);
5. Spanning a lifetime (lifelong learning happens from our first breath to our last);
6. Applied (lifelong learning is not just for knowledge's sake);
7. Incorporates confidence, creativity, and enjoyment (lifelong learning is a positive, fulfilling experience); and
8. Inclusive of all roles, circumstances, and environments (lifelong learning applies not only to our chosen profession, but to our entire life).

(Duyff, 1999, p. 538)

These definitions of lifelong learning provided by OECD (1996) and the Commission for a Nation of Lifelong Learners (1997), the European Parliament and the Council of Europe (2006) and by Silver, Yang and Li (2013) promotes the idea that in modern societies learning opportunities should be made available over the whole life span and accessible on a widespread basis. The key ideas that emerge from the definitions are that learning should neither be confined to any specific age group nor to the education administered by educational institutions (NBEET, 1996; Volles, 2016; Smith & Meaney, 2016; Silver, Yang & Li, 2013; Tessler et al., 2017; Babacan & Babacan, 2018); . Learners, irrespective of age, must become motivated to learn, and

should be encouraged to actively participate in learning throughout their lifetime (NBEET, 1996; Volles, 2016; Smith & Meaney, 2016; Silver, Yang & Li, 2013; Tessler et al., 2017; Babacan & Babacan, 2018). Learning should not be restricted to occur in formal educational institutions but should be encouraged to occur informally at home, at work or in the wider community (NBEET, 1996; Volles, 2016; Smith & Meaney, 2016; Silver, Yang & Li, 2013; Tessler et al., 2017; Babacan & Babacan, 2018). Lifelong learning is, therefore, based on the belief that everyone is able to learn. The learner is therefore placed at the centre of the process of education (Sutherland & Crowther, 2006; Volles, 2016; Smith & Meaney, 2016; Silver, Yang & Li, 2013; Tessler et al., 2017).

Tuijnman and Bostrom (2002) support the notion that lifelong learning occurs informally throughout one's lifetime and is not restricted to learning that is somehow intentional and structured, or that takes place in formal institutional settings (Clemens, 2015). Such understanding of lifelong learning implies a shift in accountability to the individual person from the formal structure to the world of work and civil divisions of society (Avoseh, 2001). This explains an emphasis on learning that focuses on the individual rather than the traditional formal system with educational structures and institutions (Avoseh, 2001; Clemens, 2015). The individual is at the centre of a lifelong learning system, and the understanding of lifelong learning depends to a certain degree on the ability and enthusiasm of the individual person to take care of his or her own learning (Sutherland & Crowther, 2006; Volles, 2016).

3.4 Principles that underpin Lifelong Learning

Cropley and Knapper (1983) adopted and modified the work of Cropley (1980) in conceptualizing lifelong education as a means to facilitate lifelong learning. Cropley and Knapper (1983) asserted that four main principles underpin lifelong learning. Lifelong learning ideally would:

1. Last the whole life of each individual; meaning that it should be available throughout an individual's lifetime;

2. Lead to the systematic acquisition, renewal, upgrading or completion of knowledge, skills and attitudes of the individuals involved; thereby lifelong learning should respond to each person's needs to cope with the demands of contemporary society;
3. Foster and indeed depend for its existence on people's increasing ability and motivation to engage in learning, much of the time without dependence upon traditional schools or school-like institutions; where it would involve the learner in guiding and directing their own learning;
4. Depend upon the contribution of all available educational influences including formal, non-formal and informal; that would encourage learning from a variety of sources (p. 17).

Based on these guiding principles, it is argued that the necessity of lifelong learning is based on the phenomenon of change whether it is social (Cropley, 1979; Bamber, 2006), economic (Cropley, 1979; Jarvis, 1999), cultural (Cropley, 1979; Jarvis, 1999), scientific (Stonier, 1979; West, 2006; Bamber, 2006; Evison, 2006; Volles, 2016), technological or informational (Stonier, 1979; Cropley, 1979; Jarvis, 1999). The significance of lifelong learning as a reaction to change is evident in a sense that continuous change requires continuous learning (McClucky, 1974; Duyff, 1999, Evison, 2006; West, 2006; Bamber, 2006; Volles, 2016, Smith & Meaney, 2016). The present set of changes is occurring rapidly due to the impact of globalization. Today's workers are demanded to adapt to changes at the workplace and know how to enhance their job skills in ways that will help them remain current with modern technology (McCombs, 1991; Volles, 2016; Smith & Meaney, 2016). Duyff (1999, p. 540) argues, "change requires nations, institutions, professions and individuals to grow and stay competitive in the 21st century". The set of changes experienced is global and transcends regional and national boundaries (McCombs, 1991; Candy, Crebert & O'Leary, 1994; Tight, 1998; Jarvis, 1999; Duyff, 1999; Tuijnman & Bostrom, 2000; Green, 2002; Evison, 2006; West, 2006; Bamber, 2006 Collins, 2009, Hunt & Chalmers, 2012; Volles, 2016; Smith & Meaney, 2016).

Lifelong learning as a concept is based on the notion that learning takes place throughout a person's life and in a variety of settings, formal, non-formal and informal (Clemens, 2015; Volles, 2016; Smith & Meaney, 2016). In this context, learning cannot be neither restricted to a formal education setting where knowledge is acquired nor

restricted to the workplace where knowledge is applied. Instead, learning can be seen as an on-going activity and occurs daily through our interactions with others and with the world around us. This notion of lifelong learning is conceptual, social and political as well as psychological in terms of andragogy and pedagogy learning orientations, and philosophical in terms of schools, teacher preparation and higher education (Cornford, 1999; Jarvis, 1999; Knapper and Cropley, 2000; Longworth, 2006; Sutherland & Crowther, 2006; Volles, 2016; Smith & Meaney, 2016).

From the onset, the definitions and interpretations of lifelong learning as a concept shows differences mainly based on the provenance of the research and development activity and the interpretation of the concept itself (Longworth, 2006). This study acknowledges lifelong learning as a concept that embraces all learning that takes place from infancy and throughout adult life, in families, schools, vocational training institutions, universities, the work place, and in the community at large in PNG. The significance of lifelong learning lies in the challenge it brings to using institutional and age criteria as delimiting factors in educational policy. With this understanding, it is important that lifelong learning activities could be achieved through the formal, non-formal and informal types of learning irrespective of whether these learning activities are publicly or privately organised, funded or supported. However, whatever learning activities that take place is also depended on the characteristics of the learners themselves, based on their social and economic backgrounds such as initial educational attainment, age, sex, ethnicity, income situation, motivational orientations and leisure and/or career orientations. The shift in emphasis from the broader notion of education to learning has reduced the focus on structures and institutions and increased the focus on the individual at the centre of the educational process. This means that the individual must understand that lifelong learning is undertaken not only for job and career advancement related reasons but also and especially for personal development, self-fulfilment, aimed to enrich the quality of life for that individual (Borg & Mayo, 2005; Volles, 2016).

3.5 Concept of Learning

Learning is a critical concept that has been studied in many theoretical standpoints of psychology: cognitive psychology (Sfard, 1998; Hagar, 2004; Cornford, 2005), educational psychology and developmental psychology (Barros, et al., 2013; Stewart, 2012). A view of learning that is widely accepted now defines learning as coming to understanding things and developing increased capabilities to do what one wants or needs to do (Schoenfeld, 1999). The misinterpretation of learning by those who view that when learning is described as a product; it disregards many forms of learning, including lifelong learning. Hagar (2004) points out that, if learning is viewed and described so as to obtain understanding of a subject or skill as a result of study, experience or teaching, such description interprets learning as a product which therefore, confines learning to knowledge and skills. However, learning is more than that, it also include attitudes. Learning is observed if there is a change in behaviour (Schoenfeld, 1999).

Sfard (1998) argues that there are two basic descriptions of learning. Learning as acquisition and learning as participation. These descriptions of learning have raised much educational thought and debate. Sfard asserts that learning, as acquisition is the process of learning where the learner acquires to learn something or even understands what he or she is learning. This acquisition of leaning could be knowledge, skills, attitudes, values, or behaviour. In contrast, learning as participation is a process of learning where the learner through his or her active participation or engagement in the learning process through practice (Sfard, 1998). Hagar (2004), however, argues that learning by acquiring and learning by participating are not the only ways that learning occurs. Hagar adds that there is another process of learning that is learning by construction and or reconstruction. This process of learning by construction and or reconstruction, (Hager, 2004) includes the construction of learning of self and the construction of the environment that includes the self:

the construction of the learning, of the self, and of the environment which includes the self. It is the construction of self, and construction of the environment that brings forward change in a person's behaviour towards self and the environment since appropriation of a personal kind

clearly implies something stronger than mere replication (Hagar, 2004, p. 29).

The process of learning through construction and or reconstruction description of learning aligns well with the concept of lifelong learning. This notion implies that learning has occurred as a person interacts with the environment. This is a process of learning that is lifelong and life-wide. If an individual's behaviour changes due to construction of self and of the environment; this means that the individual has learned something through his or her experiences, therefore, learning has taken place.

3.6 Thinking Skills Frameworks and Taxonomies

The literature on thinking skills frameworks and taxonomies in the past two decades has presented structures aimed to help identify, articulate, discuss and assess aspects of thinking in the process of learning (De Corte et al., 2001; Anderson & Krathwohl, 2001; Halpern, 2002; Fuchs et al., 2003; Sternberg, 2003; Lipman, 2003; Higgins et al., 2004; Moseley et al., 2005). To plan, monitor and evaluate what is taught and learned at all stages of lifelong learning is paramount in developing such frameworks and taxonomies. All these frameworks identified higher-order cognitive or productive thinking (analysis, synthesis and evaluation) as significant in the process of learning. The use of these higher order thinking processes results in a productive outcome involving the learner to use critical thinking to show a deeper understanding of an issue, a judgement, solution or decision or producing an invention or work of art (Moseley et al., 2005; Nettelbeck, 2005).

An integrated framework or model for understanding thinking and learning was proposed by Moseley et al. (2005) as a practical device for use in planning, monitoring and evaluating what is taught and learned at all stages of lifelong learning. This model delineates cognitive from metacognitive/self-regulatory processes. Cognitive and strategic/reflective processes differ in a number of ways. Unlike information gathering, building understanding and productive thinking, which are phases in the process of thinking, strategies and reflective thinking may be employed at any phase. See Figure 3.1 on page 74.

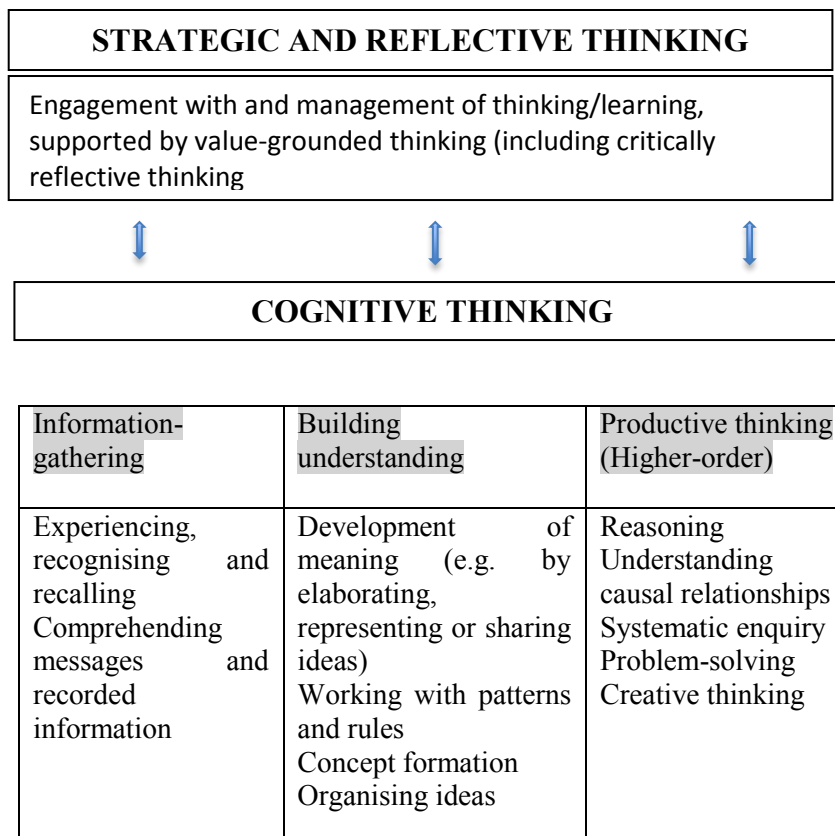


Figure 3.1 An Integrated Model for Understanding Thinking and Learning

Source: Moseley et al., 2005, p. 378

Centra (1993), on the other hand, developed a teaching development model that argues that if teaching improvement is to take place, the process of improvement must result in some newly gained knowledge by the learner. The individual investing time in the process must perceive the improvements as having some value. Support systems and appropriate mechanisms must be available to assist the individual in the process of improvement and change. In addition, sufficient intrinsic or extrinsic motivation (rewards, promotions, salary increments), and the like must be present (Saroyan et al., 2004).

The age of globalization as experienced today with its uncertainties and complexities (Branditt, 2007; Homayounzadeh, 2015) is challenging universities to reinvestigate its policies on teaching and learning to accommodate the many changes that globalization brings with it. There is a strong interest in education and learning that demands the development of learning competencies to enhance one's current level

of knowledge and skills (cognitive, metacognitive, sociocultural and affective) (Luftenegger et al, 2013; Klug et al, 2014; Deci & Ryan, 2000; Bandura, 1991; McCombs, 1991; Wigfield & Eccles, 2000) to become lifelong learners (Cornford, 2000; De La Harpe & Radloff, 2000; Edwards et al., 2001; Fisher, 2007; Johnstone, 2008; Brodie, 2012; Homayounzadeh, 2015).

Various scholars in the realms of critical pedagogy have also raised the same concerns especially in relation to what is the most appropriate pedagogy one should use to promote or develop lifelong learners, particularly when the desire for learning is concerned. Despite the efforts of many scholars (e.g. Luftenegger et al, 2013; Klug et al, 2014; Wigfield & Eccles, 2000; Cornford, 2000; De La Harpe & Radloff, 2000; Edwards et al., 2001; Brodie, 2012; Homayounzadeh, 2015) the question of trying to motivate students to become lifelong learners still remains uncertain. This is possibly because many scholars view motivation as a thing to be done on people rather than about creating learning conditions to allow a support of lifelong learning. A recent study by Babacan and Babacan (2018) found that the enhancement of critical reflection and dialogue with the use of practice-based teaching and learning strategies can make students motivated towards lifelong learning. Their argument is that the use of critical reflection and dialogue teaching strategies can encourage learners to critically reflect on the topic studied and contest their beliefs and biases. Providing adult learners to gain practices necessary for self-development is motivational as learners take responsibility for their own learning (Babacan & Babacan, 2018).

It can be argued that if learners are given the responsibility to create their knowledge and or change their social relations, learners ultimately may realise that they can be agents for change. This is the social and personal transformation of a learner that in turn may encourage a continued commitment to lifelong learning after graduation (Carson & Fisher, 2006; Choy, 2009; Johnston, 2010; Babacan & Babacan, 2018). The social and personal transformation requires the enhancement of skills of problem solving, communicating, researching, acquiring knowledge and transferring knowledge to new situations either individually or in groups (Cornford, 2000; De La Harpe & Radloff, 2000; Fisher, 2007; Johnstone, 2008; Brodie, 2012).

In the context of motivation for lifelong learning, the process of enabling students' autonomy and self-direction in their own learning enhances opportunities for

critical reflection and dialogue (Babacan & Babacan, 2018). Applying appropriate instructional strategies by teachers provide students with opportunities to develop skills in communication, collaboration, cooperation, self-direction as well as self-regulation thereby making informed decisions using either logical, lateral, analytical, creative, flexible and critical thinking processes (Luftenegger et al, 2013; Klug et al, 2014; Homayounzadeh, 2015). These are the social and personal transformation required to encourage a continued commitment to lifelong learning (Babacan & Babacan, 2018).

Logical or analytical thinking skills are similar in nature as both skills allow the development of critical thinking and help the learner to select the best alternative solution to a problem. Logical or analytical thinking skills include: ordering, comparing, contrasting, evaluating, and selecting (Raiyn and Tilchin, 2015).

Numerous studies have been conducted on the theories of critical thinking (Swanwick et al., 2014) or on the use of higher-order cognitive thinking in students and how teaching occurs in various university courses or settings (Sanders, 2004; Boyce, 2004; Belski, 2005; Johnstone, 2006; Johnstone, 2008; Raiyn & Tilchin, 2015). These studies have pointed to the fact that critical thinking is often structured as a formal logic subject when taught in a university setting. Johnstone (2008) is of the view that although there is nothing wrong with teaching students logic, logic does not necessarily equate with the teaching of critical thinking and or lateral thinking. In the university settings, the assessment of these thinking skills is somewhat problematic and remains debatable to this stage.

According to Fisher (2007), the development and application of lateral thinking is vital as it enhances creativity and innovation (De Bono, 1990; Wright, 2002) when students are encouraged to think 'out of the box'. Wright (2002) for example, when teaching health education, used drama skills when working on a wide range of topics such as building relationships, discussing racial issues, stress, peer pressure, relationships with parents and siblings, gender relations and anger management. Lateral thinking is important for stimulating the brain's creativity so a learner is forced not to follow its routine thinking patterns (De Bono, 1990). The habit of applying multidisciplinary knowledge to solve problems is one way that helps develop the process of lateral thinking (Dong, 2004).

Using experiential learning as the basis, lecturers use the known knowledge (local or national experiences) to introduce or link with the unknown knowledge (local, national or abroad experiences) through the use of questioning. Students are also encouraged to think ‘outside of the box’ as per se using higher-order cognitive thinking processes (analysis, synthesis, evaluation) to develop creativity, innovation, and flexibility in the thought processes of the students when investigating a problem or case study. The use of mind-mapping or concept mapping is also used as a teaching strategy to assist students to enhance their understanding of themes or concepts under study in a course. When students are taught flexible thinking skills, they are required to produce a broad range of ideas that characterizes their flexible understanding of the issue under investigation (Hmelo, & Cindy, 2004; Cottrell, 2011; Cottrell, 2013; Raiyn & Tilchin, 2015).

According to Hmelo-Silver (2004), Cottrell (2011 & 2013); and Raiyn and Tilchin (2015), there are two distinct types of higher order cognitive thinking skills needed for problem solving: analytical and creative thinking skills. Creative thinking skills deal with problem finding (identifying a problem), efficiency (producing many ideas), flexibility (producing a broad range of ideas that characterize flexible understanding), originality (producing uncommon ideas) and elaboration (developing ideas) (Hmelo-Silver, 2004; ; Nettelbeck, 2005; Fisher, 2007, Jitgarum et al., 2008, Cottrell, 2011; Cottrell, 2013; Raiyn & Tilchin, 2015). Creative thinking skills are needed for problem solving.

If the use of creative thinking skills deals with problem finding (identifying a problem), efficiency (producing many ideas), flexibility (producing a broad range of ideas that characterize flexible understanding), originality (producing uncommon ideas) and elaboration (developing ideas), then this raises the question of misconception of what creating thinking skills is or does in the learning process (Hmelo-Silver,2004; Fisher, 2007; Jitgarum et al., 2008; Frois & Niekamp, 2010; Cottrell, 2011 & 2013; Raiyn & Tilchin, 2015). For example, the study by Frois and Niekamp (2010) described how they fostered and strengthened the creative abilities of their students by using deeper questioning in their teaching approach. Students were encouraged not to

focus primarily on the end product but also to value the importance of the process of learning. Students were challenged to discern between major and minor issues, think broadly and laterally and critically assessed the notions of themselves, others and the world. Such outcomes in Frois and Niekamp's study are achievable if the teaching and learning environments are conducive to produce such results. Similar studies in Australia (Hewitt, 2005; Hammer et al., 2013) found that the development of a student's capacity for judgement, self-knowledge and information organisation skills developed through the encouragement of self-directed learning enhances the development of lifelong learning skills (Babacan & Babacan, 2018). These outcomes are attainable if educators' apply appropriate pedagogies to enhance learning through developing creative thinking skills in the process of teaching and learning.

3.7 Lifelong Learning Skills

Lifelong learning skills; according to Dong (2004, p. 75) refers, to how successful graduates are able to continue to acquire the information they learn after the formal education has ended. Lifelong learning skills include but are not limited to thinking and learning skills such as:

- self-directed learning skills;
- the ability to seek out and assess information;
- critical thinking skills;
- lateral thinking skills;
- communication skills;
- interpersonal sensitivity;
- problem-solving skills;
- the ability to do project planning;
- the ability to evaluate alternatives; and
- the ability to work in teams.

(Dong, 2004, p. 75)

Fostering these skills at the universities and colleges requires reconsideration and changes to traditional approaches to the practice of teaching and learning. Quality teaching and learning at the tertiary levels of the education system should aim to develop students' lifelong learning skills.

3.7.1 Learning-to Learn Skills

Learning-to-learn skills refer to where a teacher helps students to develop metacognitive learning skills and most importantly, a passion for learning (Cornford, 1999; Zeidner et al., 2000). The development of metacognitive learning skills focuses on what the learner does in a new context (Brakke et al., 2016; Colthorpe et al., 2018). The development of metacognitive learning skills in students helps them to plan, theorize, hypothesize and generate new ideas in different contexts (Biggs, 2003; Brakke et al., 2016; Colthorpe et al., 2018). Teachers should plan thought-oriented activities that should challenge students (Brakke et al., 2016; Colthorpe et al., 2018). With this approach, the student claims ownership and responsibility for his or her own learning (Brakke et al., 2016; Colthorpe et al., 2018). Effective lifelong learning is dependent upon the ownership and quality of learning-to-learn skills and knowledge by the learner for effective learning to occur. Brakke et al. (2018) argue that students can take control of their own learning by defining goals and monitoring their progress in achieving them through the use of metacognitive approach to instruction (Bransford et al., 1999; Cooper et al., 2014). Cornford (2002, p. 358) supports this notion and he argue that “lifelong learning is first and foremost about learning.” It is learning that occurs over an individual’s lifespan that is centred upon the use of basic learning-to-learn skills and knowledge centred upon cognitive and metacognitive skills. Without the establishment of such skills learning may not occur effectively or more realistically will occur with more effort and less effectively than if individuals have a good range of the most effective skills and make use of them (Cornford, 2000, p. 358; Krathwohl, 2002; Mezirow, 2012; Biggs, 2014). This places great significance on the learning-to-learn skills as a basis for developing effective lifelong learning skills. The learner establishes and develops cognitive and metacognitive skills in order to ensure that he or she uses the skills in his or her lifetime to learn effectively.

Weinstein and Meyer (1994) and Cornford (2000) assert that cognitive learning strategies and metacognitive strategies such as collaboration, cooperation and teamwork involve skills development, will and self-regulation by the individual if they are to be effectively executed over a long period of time. It is paramount that in the learning processes in the classrooms, lecturers must encourage students to learn through these learning strategies in small groups collaboratively, involving cooperation and teamwork. Fitts (1968) identifies the different stages of the learning processes as

cognitive, practice-fixation and regulation phases of learning. The phases will be discussed in turn.

A learner in the cognitive phase of learning learns to comprehend and recognize the different steps and parts of a skill in order to gain an overall understanding. In the process or at the end of learning the steps and parts of a skill, the learner is able to assess whether the standard of performance is good or bad, right or wrong (Locke & Latham, 1990; Zimmerman, 2000; Cornford, 2002). In the practice-fixation phase of learning, the learner through practice and feedback is able to learn to firmly establish the skill in his or her long-term memory. Using speed and accuracy, the skill performance is further improved and developed when the learner understands the skill features and standards of performance. In this phase, the feedback he or her receives from others, for example, a teacher is vital in assisting the learner to do these things efficiently (Locke & Latham, 1990; Zimmerman, 2000; Cornford, 2002). In the autonomous phase of learning, the learner monitors and corrects his or her own performance through self-regulation against a proven standard stored in his or her long-term memory with the skill appearing to be performed automatically. In order for learning to take effect, a learner uses intrinsic motivation to perform the skills through planning, monitoring and evaluating in order to maintain the required standards of performance (Locke & Latham, 1990; Zimmerman, 2000; Schunk, 2001; Cornford, 2002; Cassazza, 2006). During this phase, the learner develops a plan for problem solving to counter possible hitches that are anticipated in his or her own performance. He or she then comes up with corrective actions to correct his or her own performance.

However, Cornford (2002, p. 359) warns that the use of cognitive and metacognitive learning strategies “should not be confused with the use of the older study skills approach (Biggs, 1988; Hattie et al., 1996; Cornford, 1999), or with even more general techniques and approaches that are likely to facilitate lifelong learning (Knapper & Cropley, 2000)”. Older study skills approach refers to when a learner uses generic study skills as ways of managing time and space as well as in terms of learning a particular content (Biggs, 2003; Biggs, 1988; Hattie et al., 1996; Cornford, 1999). Cornford (2002) asserts that:

The more general methods of teaching and presentation, which can facilitate lifelong learning generally, are also different to the teaching and use of cognitive and metacognitive strategies. At certain points there will be overlap between the more general approaches advocated by Knapper and Cropley and study skills, but in essence cognitive and metacognitive skills focus upon the actual, basic learning processes used and controlled by the individual learner. This explains in part why cognitive and metacognitive learning strategies are often referred to more generally as learning-to-learn skills (p. 359).

Research has shown that the older study skills approach is not always particularly successful (Biggs, 1988; Hattie et al., 1996), however, as Cornford (2002, p. 359) argues “it is better for a learner to have some form of study skills approach rather than having no specific approach at all to improve one’s learning”. Other studies (Dean, 1977; Thomas & Robinson, 1982; Ramsden et al., 1986; Hattie et al., 1996; Chalmers & Fuller, 1996; Hunt et al., 2012; Biggs, 2014) also assert that the teaching of generic study skills does have positive effects on student learning performance if teachers effectively teach useful study skills in their teaching and guide students in how to learn what is being taught.

Both cognitive and metacognitive skills focus upon the actual basic learning practices; used and controlled by the individual learner; and involves cognition and skill. Although both cognitive and metacognitive strategies “are goal-directed intentionally implored, effortful”; there are noticeable differences in their application (Cornford, 2002, p. 359). The differences are that cognitive learning strategies are situation specific and metacognitive strategies are universally applicable and focus upon planning for implementation, monitoring and evaluation which involves generic skills that are more complex forms of thinking (meta-memory) and problem solving crucial to adults (Schraw, 1998; Locke & Latham, 1990; Zimmerman, 2000; Cornford, 2002). However, the responsibility of developing learning-to-learn skills is critical for schools, especially secondary schools to take on board. For these skills to be developed and mastered by students, teachers, trainers and mentors in both formal and informal post-secondary education, tertiary higher institutions including universities must be able to build upon previously learned skills and knowledge of effective learning strategies (Cornford, 2002; Brakke et al., 2018; Colthorpe et al., 2018).

3.7.2 Knowledge and skills involved in Cognitive and Metacognitive Learning Strategies

There are a number of different types of knowledge and skills involved in developing more effective cognitive and metacognitive learning strategies by an individual learner. These knowledge and skills include the learner's knowledge about him/herself as a learner; the learner's knowledge about course content and learning tasks; and the learner's knowledge about what learning strategies to select and use. These sets of knowledge or cognitive skills are developed over certain phases in the lifetime of a learner, particularly in the puberty period (Weinstein & Meyer, 1991; Krathwohl, 2002). A learner during the process of learning develops the ability to use these skills in more difficult and intellectual situations (Schraw, 1998; Krathwohl, 2002). A student can also develop the ability to be impartial and deal with self-regulation as well as self-discipline (Zimmerman, 1989; Locke & Latham, 1990; Zimmerman, 2000; Cornford, 2002). Through self-learning, the learner over time then develops the knowledge of favoured styles to learning and best times for study based on personal judgements (Zimmerman, 1989; Locke & Latham, 1990; Zimmerman, 2000; Cornford, 2002).

In a classroom situation, good teachers could help students to manage their learning situations by encouraging them to consider their own personal learning strengths and weaknesses, using reflection. When students are encouraged to reflect on their personal learning strengths and weaknesses, these self-reflections would allow students to learn what works for them from their own personal learning experiences. In this process, reflection is needed as part of the learning-about-self process; however, more objective external sources of feedback such as learning from others through mentoring and similar socially based strategies could effectively facilitate learning and changes in behaviour and make learning-about-self effective (Cornford, 2002; Butler, 1996; Mezirow, 1997; Biggs, 2014; Roberts, 2015).

Although, the learner's knowledge about course content and learning tasks and his or her knowledge about what learning strategies to select and use appear to lend themselves more to direct teaching, Cornford (2002), however, argues that learning these basics still involves considerable skill development over periods of time. It is the

responsibility of a teacher to help the learner learn the curriculum material especially if the material is conceptual and abstract (Brakke et al., 2018; Colthorpe et al., 2018). Metacognition is a fundamental learning skill where students explore their own thinking or learning processes. Moreover, Brakke et al. argue that many teachers fail to make explicit the skills and mindset required for success in schools (Brakke et al., 2016). Conceptually, other scholars (Jackson, 2004; Bostrom & Lassen, 2006) have described metacognition as meta-learning, which is a mixture of understanding, processes and attitudes. It involves the self-knowledge about how one learns whereby the learner becomes aware of the learning strategies and behaviours applicable to a learning context. The learner also develops an appreciation of the knowledge that they have gained and establish an understanding of how to use that knowledge (Colthorpe et al., 2018).

The notion that learners routinely know how best to learn is a myth (Cornford, 2002; Hunt et al., 2012; Biggs, 2014). Learners could develop effective learning-to-learn skills if a teacher explains to them how to learn strategies quite openly in the classrooms. The basic strategies necessary for initial learning are repetition, elaboration and organization (Cornford, 2002). Repetition strategies include a learning process that can help a learner to store information in permanent long-term memory through repeating. A typical example of the use of repetition from a classroom situation is when a learner learns the letters in the alphabet, or numbers, or even actions by repeating them over time. A more complex example of repetition would be when a learner uses highlighting pens to emphasize class notes, or sections of journal articles and copying down key ideas when preparing to write an assignment or a formal piece of writing (Cornford, 2002). Elaboration strategies aid the purpose of building linkages between what the learner already knows and the new information that he or she has to remember. In this process, it is important that the new information is built upon and related to what the student already knows. By relating the new information to existing ones, it helps the student to understand the new idea that he or she is learning. Common examples include when a learner paraphrases or summarizes a piece of text into his or her own words and when a learner learns a rule or principle or even uses an analogy or a metaphor to describe something (Cornford, 2002). Organisation strategies are learnt when a learner is required to change information into a different form and/or when a learner is required to develop some graphic system that creates the connections between

parts or elements. A typical example is when a learner can draw mind maps of a key concept to ensure that all features are recognized and linked in a correct, coherent way (Cornford, 2002).

The learning process described by Cornford (2002) above, is also described by other scholars though different terms such as meta-learning and self-regulation of learning (Brakke et al., 2016; Colthorpe et al., 2018). Both learning strategies are active, internal processes in which a learner's point of view using repetition, elaboration and/or organisation to view themselves and their surroundings. Developing these initial learning strategies in students has been shown to improve academic performance (Biggs, 1985; Colthorpe et al., 2018). Metacognition of learning can help students to become more effective learners, as they become more aware of self-regulatory behaviours and begin to recognise the effectiveness of various strategies they use such as repetition, elaboration and organisation.

An example of the use of explicit strategies coupled with experiential learning through solving complex problems, currently being used by universities globally, is the escalating use of 'design thinking' strategies. Anderson (2013) defined design thinking as the use of steps or strategies that replicate the way designers approach the framing or reframing and solving of complex problems. The steps or strategies fall broadly under three main areas: (a) inspiration, (b) ideation and (c) implementation (Brown, 2008). Design thinking has been described as a methodology to enable people to learn skills and strategies that provide an ongoing scaffold throughout life to solve problems in creative and innovative ways. This is particularly pertinent considering the emphasis on enabling innovation that is explicit in the PNG Vision 2050 document. Design thinking provides learning to learn scaffolding in each of the three areas for initial learning - repetition, elaboration and organization (Cornford, 2002).

The design thinking model promoted by Stanford University broadened the three key areas to: understand, observe, point of view, ideate, prototype and test. Under each of these general themes, a suite of explicit strategies are being used and developed to support the learning to learn process, so that all people throughout life can tap into their creative potential to solve problems associated with rapid change and globalisation.

While design thinking is not the only example of explicit strategies that can be used to enhance learning to learn skills, it is one that is being increasingly successfully used across multiple discipline areas including education, business, engineering, creative arts, health and medicine. It is also being adopted in professional development for government employees and in private business through corporate training and consultancies. In addition, it is becoming embedded in national curriculums such as the new subject 'Design in Technologies' in the new Australian National curriculum (Australian Curriculum, Assessment and Reporting Authority (ACARA), 2013). It is important to examine a range of successful strategies to choose effective means of explicitly scaffolding the development of learning-to-learn skills to achieve the Vision 2050 goals.

The next sub-section 3.7.3 presents an example of a learning-to-learn strategy. This does not mean to state that there is no other strategies ways that can enhance lifelong learning. The development of learning culture historically or socially, and other learning paradigms and perspectives (Barr & Tagg, 1995), for example transformative learning (Mezirow, 2003; Mezirow, 2006) and problem-based learning (Brodie, 2012), are other strategies used to promote the ideas of lifelong learning. However, the stand that this study takes is based on the significant discursive shift in conceptualising lifelong learning and its interdisciplinary nature of it (Volles, 2016). This study stands firmly on the importance of lifelong learning in a knowledge economy as a result in a shift away from a teacher-centred or focused, passive, content-based approach to a more student-centred approach (Babacan & Babacan, 2018). This shift has placed heavy emphasis on the development of specific skills and capabilities (such as problem solving, communication, critical thinking, collaboration and information, self-management and technology or digital literacy through teaching, learning and assessment practices (Clemens, 2015). This shift necessitates that universities prepare learners to engage in self-directed learning processes (Babacan & Babacan, 2018).

3.7.3 A Learning-to-Learn Strategy - Self-Directed Learning to enhance Lifelong Learning

The idea of self-directed learning is largely linked with the concept of lifelong learning (Cornford, 2000; Babacan & Babacan, 2018). According to Collins (2009), self-directed learning is described as:

a process in which learners take the initiative, with the support and collaboration of others, for increasing self and social awareness; critically analysing and reflecting on their situations; diagnosing their learning needs with specific reference to competencies they have helped identify; formulating socially and personally relevant learning goals; identifying human and material resources for learning; choosing and implementing appropriate learning strategies; and reflecting on and evaluating their learning (p. 616).

This definition by Hammond and Collins (1991) supports the notion that was discussed earlier in this paper by Cornford (2000). Self-directed learning could be encouraged by teachers in PNG as a learning-to-learn strategy that could enhance lifelong learning with their students. The encouragement of self-directed learning in schools in PNG could assist students to take initiative and ownership of their own learning with support from the teacher as well as from other students; allow students to critically explore and suggest ways to improve their own learning situations. Self-directed learning could also help students to identify their learning needs with individual orientation to proficiencies. Self-directed learning could also help students to decide and apply suitable learning approaches that work for them as well as reflect on and evaluate their own learning for effective learning to take place.

Of this approach, Schwinfurth (2007) argues that self-directed learning as a learning-to-learn strategy could enable students to devise social and personal relevant learning goals for themselves. This approach could lead towards the development of a sense of social awareness and responsibility, self-actualization and the recognition of personal accountability for one's own learning. Collins (2009) asserts that if self-directed learning is encouraged by teachers, students could be assisted to realize their own learning potential as they develop know-how in "learning to learning (knowing what and how to learn), and when they have access to a relevant knowledge base to build on, and being motivated to learn" (p. 616).

The following traits and skills resemble a lifelong learner who is a self-directed learner (Collins, 2009). A self-directed learner, according to Collins (2009) must have the following traits and skills:

Traits:

- Curious
- Venturesome and creative
- Innovative in practice
- Resourceful
- Motivated to learn
- Confident in ability to learn from others, share what they know, and accept feedback
- Willingness to make and learn from mistakes
- Persistent
- Flexible in thinking
- Interdependent and interpersonally competent as well as independent and self-sufficient
- Methodical and disciplined
- Logical and analytical
- Reflective and self-aware
- Adaptable to changing healthcare needs
- Responsible and accountable for work

Skills:

- Well-developed communication skills
- Self-directed learning skills
- Information-seeking and retrieval skills
- Metacognitive skills (skills for “thinking about thinking”)
- Able to develop and use defensible criteria for evaluating learning
- Able to work as a change agent
- Able to share good practices and knowledge

(p. 616)

The challenge faced by educators in promoting lifelong learning through the use of self-directed learning is to basically reorganize learning, teaching, and education. This is derived from arguments of global competition and technological challenges of a knowledge economy (Osborne et al., 2015; Babacan & Babacan, 2018). This challenge is explicitly linked with the aspirations that are stated in the *Vision 2050*. Fischer (2001) affirms that lifelong learning includes and involves learners of all ages in acquiring and applying knowledge and skills in the context of real, self-directed learning situations. By combining working and learning using the traits and skills as listed earlier on page 87, an individual, irrespective of age and gender can learn within

the context of his or her work and life experiences on real-world problems that he or she faces in this information age (Smith, 2003; Wall, 2017).

3.8. Learner Centred Teaching Strategies

The higher education literature on teaching and learning (Biggs, 1988; Weinstein & Meyer, 1991; Hattie et al., 1996; Schraw, 1998; Sternberg, 1998; Cornford, 1999; Leamnson, 1999; Duch at al., 2001; Cornford, 2002; Weimer, 2002; Saroyan et al., 2004; Blumberg, 2004; Michaelsen et al., 2004; Whitefield & Kloot, 2006; Richlin, 2006; Hunt & Chalmers, 2012 Blumberg, 2012) uses several terms to describe the teaching approach that focuses on the learner or student. Learner-centred teaching places the emphasis on the person who is doing the learning (the student) (Weimer, 2002; Michaelsen et al., 2004; Hunt & Chalmers, 2012; Blumberg, 2012); and the important interrelationships between the teachers and learners (Blumberg, 2004).

A variation of learner-centred teaching referred to as learning-centred teaching focuses on the process of learning (Saroyan et al., 2004; Michaelsen et al., 2004; Hunt & Chalmers, 2012; Blumberg, 2012). Student-centred learning takes the lecturer out of the traditional critical role and encourages students to be more empowered in the learning process. Research evidence supports the notion that student engagement through learner-centred approaches leads to desirable student learning outcomes (Sternberg, 1998; Cornford, 1999; Cornford, 2002; Saroyan et al., 2004; Michaelsen et al., 2004; Hunt & Chalmers, 2012; Blumberg, 2012). The benefits include increased motivation for learning and greater satisfaction with their learning and education in general and these outcomes lead to greater academic achievement (Slavin, 1990; McCombs, 1991; Johnson, 1991; Maxwell, 1998 Sternberg, 1998; Cornford, 1999; Cornford, 2002; Blumberg, 2012).

When writing about the use of small group in a class, different authors over time have used different terms (learning groups (Bouton & Garth, 1983), collaborative learning (Hamilton, 1997; Bruffee, 1999), cooperative learning (Slavin, 1983); Johnson, Johnston & Smith, 1991; Millis & Cottell, 1998) and team-based learning (Michaelsen, 1983; Michaelsen & Black, 1994; Michaelsen, Black, and Fink, 1996).

All these authors, despite the use of the varying terminology, have referred to the same general idea that for the purpose of promoting more active and more effective learning, individual students in a class are put into small groups (Michaelsen, Knight and Fink, 2004).

Collaboration encompasses inter-related skills such as cooperation and teamwork. Collaboration refers to how an individual learns to interact with others in life showing responsibility for one's own actions including learning and respecting the abilities and contributions of other individuals in a group setting (Panitz, 1999). These types of learning strategies have advantages and disadvantages when used in a class. The advantage of using collaboration, cooperation or teamwork gives the possibility of an individual student to interact with others in a group setting where they could share ideas, split tasks assigned to get the job done thus decreasing the time and effort required to accomplish the task successfully (Garrison, 2007; Blackmore, 2010; McLeod & Dzielgel, 2011; Land, 2012). The disadvantage of using collaboration, cooperation or teamwork is that an individual student within the group setting may not successfully handle the part of the process assigned to him or her thereby failing the whole group in accomplishing the task. Furthermore, in a group setting, an individual student's initiative may not be fully acknowledged in the process of trying to accomplish the task (Land, 2012).

In order to promote active participation of group members, it is imperative that lecturers ensure that specific roles are assigned to each individual student making up the group. It is important also that gender equity, equal contribution, sense of belonging and togetherness are promoted in the process of learning together in a group situation (Blackmore, 2010; McLeod & Dzielgel, 2011; Land, 2012). In courses where students are coming from different disciplines or different schools, such group activities through collaborative work will enhance proper linkages of programs and enable student-centred learning to take effect. Each student coming from the different discipline or school will bring with them what they know and through collaborative learning help each other to understand content from a different perspective in the subject matter under investigation (Blackmore, 2010; McLeod & Dzielgel, 2011; Land, 2012).

Various writers, (Gibbs, 1992; Michaelsen et al., 2004; Duch et al., 2001; Fink, 2004; Richlin, 2006), assert that cooperative learning is highly engaging where students are put into groups to work together in co-operative action. Cooperative learning involves peer feedback, small group seminars, shared laboratory experiments, group project work or learning teams based on problem-based learning and interdisciplinary work. Gibbs (1992) points out that students can learn to cooperate on assignments and projects, laboratory work, fieldwork, seminar presentations and even reading assignments in a small group. The encouragement of such strategies influences the ways in which students study independently and generate a great deal of discussion outside of the class by students (Michaelsen et al., 2004; Richlin, 2006).

Students in learning teams could be encouraged to tackle more complex, more extensive and more open-ended projects to develop students' teamwork skills (Gibbs, 1992; Michaelsen et al., 2004). The learning team manages itself and supervises its members. The general idea of putting individual students in a class into small groups is aimed to promote more active and more effective learning among individual students. Such teaching strategies when executed should aim to develop collegiality where students learn from each other as well as learn to work in harmony with other people (Gibbs, 1992; Michaelsen et al., 2004). More active and more effective learning could take place if students are provided opportunities to learn from each other in small group settings within and outside of the classrooms.

When using collaboration, cooperation and teamwork as teaching strategies in small group learning, they aim to promote the skills of self-reflection, self-consciousness, deciding for self-values of good and bad, and changing mindsets based on sound decision-making thereby encouraging independent learning (Gibbs, 1992; Michaelsen et al., 2004). As students engage in their own learning and they develop skills to learn by doing, seeing and hearing; balancing theory with practice and blending intellectual learning together with the spiritual, physical and social aspects of their own development and growth (Gibbs, 1992; Michaelson et al., 2004). Additionally, the practice of sharing experiences in small group settings through collaboration, cooperation and teamwork also influence students to critically assess examples of good practices that other group members have experienced in their lifetime. Such practices enhance the notions of being innovative, industrious, resourceful, creative, and flexible

as well as stimulating a constructive, productive and conducive learning environment where competitive learning is minimized and being culturally sensitive to accept differences in opinion or views (Gibbs, 1992; Michaelsen et al., 2004).

The use of learner-centred teaching strategies is aimed to present students with complex, real-world problems as a group project or case study to solve. Students are tasked to identify and research the concepts and principles they need to know to work through those problems or issues under investigation (Gibbs, 1992; Michaelsen et al., 2004). Students are also encouraged to work in small learning teams, bringing together collective skills at acquiring, communicating, and integrating information. During the learning process, students are challenged to think critically and be able to analyse and solve complex, real-world problems or issues; find, evaluate and use appropriate learning resources; work cooperatively in teams and small groups; demonstrate versatile and effective communication skills, both verbal and written; and use content knowledge and intellectual skills acquired at the university to become continual learners (Duch, Groh, & Allen, 2001; Brodie, 2012). In using case studies, the case material in effect becomes a trigger to assist students to analyse and synthesize the information they gather and apply concepts and principles in a course to solve the problem presented and make decisions and in general to identify and examine broader implications of the content in theory and in practice (Grasha, 1996; Richlin, 2006).

In encouraging the application of problem-based learning, students are challenged by the lecturer to foster the ability to identify the information needed for a particular application to an assigned case (Duch et al., 2001; Brodie, 2012). Students are then encouraged to learn cooperatively in learning groups and decide where and how to seek the information required, find possible solutions to the case (Duch et al., 2001; Brodie, 2012). Students are also encouraged to decide in their learning groups, how to organise that information in a meaningful conceptual framework, and how to communicate that information to others (Gibbs, 1992; Duch, Groh & Allen, 2001). Working in cooperative learning groups enhances student achievement (Gibbs, 1992; Johnson, Johnston & Smith, 1991), as well as learning concepts in the context in which they will be used and applied appropriately (Gibbs, 1992; Albanese & Mitchell, 1993). It is important to point out that problem-based instruction highlights interconnections

between disciplines and the integration of concepts as required to meaningfully understand the case presented.

Problem-based learning develops problem-solving thinking skills in students asked to tackle problems provided for students in learning teams or groups (Gibbs & Jenkins, 1992; Duch et al., 2001; Michaelsen et al., 2004; Saroyan et al., 2004; Brodie, 2012). The purpose of problem-based learning is clearer to the learners even if the learning outcomes are not yet obvious, as it is natural for people to tackle problems and find the process engaging and challenging. For students to effectively define specific problems in complex, real-world settings, and in providing students the opportunities to gather and evaluate information related to those problems and develop workable solutions is seen as encouraging the development of their abilities to make informed judgements (Duch et al., 2001; Michaelsen et al., 2004, Saroyan et al., 2004; Brodie, 2012).

Brown and Race (2012) alludes to the fact that in recent years there has been a shift in emphasis in the higher education sector that places assessment as an integral part of the process of learning rather than a measurement of the outcomes of learning. Race (2010) argues that university teachers still assess too much and this behaviour has caused students to strategize in their approach to learning and concentrate more on those things (assessment) that will count towards their attaining a degree (Brown & Race, 2012). The question that remains to be answered is: how best can lecturers at the universities redesign assessment to make it fit-for-purpose by taking into consideration the context, level, learning environment, students' background, individual differences and learning content?

Numerous studies have been conducted on using effective assessment to promote learning (Sadler, 1989; Race, 2010; Boud & Associates, 2010; Gibbs, 2010; Brown & Race, 2012) that identifies the use of providing to students effective assessment feedback as a tool to improve student learning. These studies also point out that the assessment feedback given to students should focus on their performance rather than on students themselves or their characteristics. The assessment feedback given should be timely and students should be encouraged to use the feedback towards

enhancing their further learning, primarily by acting on the feedback so as to change their future learning and performance (Sadler, 1989; Gibbs, 2010; Race, 2010).

The purpose of lecturers developing appropriate classroom assessment is to improve the quality of learning as an on-going process (Angelo & Cross, 1993; Richlin, 2006). Using appropriate classroom assessment techniques (CATS) is an effective way to gauge student learning and provide feedback to the lecturer and students on how the course is going. If CATS are designed and applied in courses effectively as well as rooted in good teaching practices, their proper use could be a vehicle to enhance student learning. Students can use the results obtained from these tests to change their study habits as well as develop their cognitive and metacognitive skills including problem-solving abilities as well as analytical skills.

The role of lecturers as facilitators of student learning requires an incremental change process from what the lecturers are used to doing and that is from a teacher-centred teaching to learner-centred teaching. This gradual transformation of instruction with an emphasis on learner-centred learning requires the use of learner-centred teaching techniques in the learning process (Blumberg, 2012; Brodie, 2012; Hunt & Chalmers, 2012). Scott (2005) argues that for university lecturers to establish a conducive learning environment, there must be emphasis placed on establishing social connectedness that forms a part of inclusive teaching practice. The argument that students need to be engaged in their learning or studies at the university with each other is an understatement (Wilson, 2009; Broughan & Hunt, 2012). The key idea as argued by Wilson (2009), Blumberg (2012), Hunt & Chalmers (2012) is that building student engagement in their learning is an on-going process through using teaching strategies that are interactive and that introduces students to each other (Hogan 2007; Michaelsen et al., 2004; Saroyan et al., 2004). From the onset, it is important to point out that there is no one teaching approach that will meet the needs of all students all of the time. The different learning needs of students must be considered when deciding on the most appropriate teaching approach to use in the teaching and learning processes; to be inclusive in their teaching practice and for students to be interactive in their learning with each other (Michaelsen et al., 2004; Saroyan et al., 2004; Broughan & Hunt, 2012).

3.9. Significance of Lifelong Learning to PNG

In the last two decades, the concept of lifelong learning has become a widely accepted ideology and an education policy goal in education (Cropley & Knapper, 1983; Mezirow, 1997; Knapper & Cropley, 2000; Coolahan, 2002; Candy, 2002; Green, 2002; Volles, 2016). Candy (2002, p. 102) asserts that “the rapid pace of social, technological, cultural, economic, legal and educational change throughout the world”, combined with the rapid pace of globalization has informed the need for people to become more adaptable and responsive to the challenges and changes confronting their societies (McCombs, 1991; Jarvis, 1999; Mezirow, 1997; Candy, 2000; Coolahan, 2002; Green, 2002; Hunt & Chalmers, 2012; Biggs, 2014; Roberts, 2015; Volles, 2016). Earlier studies (Candy & Crebert, 1991; Cornford, 1999; Jarvis, 2010; Volles, 2016) have argued that there is still a huge disagreement and difference in the understanding of the ideology and its practice, the policy and the application of systems that should bring about the actual commitment to the value of lifelong learning. All these disagreements and differences in the understanding of the ideology and its practice have prevented most governments to take serious action to translate its ideals into reality (Cornford, 1999; Volles, 2016). This earlier finding is also supported by the current literature on lifelong learning which reveals that the concept of lifelong learning continues to be highly debatable in academia and as a result, it is still widely contested from differing perspectives in various education and social policy documents (Volles, 2016; Babacan & Babacan, 2018). Apart from the European Union countries (Volles, 2016), many countries outside of Europe, including Australia (Babacan & Babacan, 2018) have not formally developed lifelong learning policies, despite the many academia and government policy papers published on the concept (Babacan & Babacan, 2018). Therefore, the need to articulate a policy standpoint around lifelong learning has been divided in those countries outside of the European Union. This knowledge gap has prompted me to undertake this study to establish whether lifelong learning has the potential to be articulated in PNG educational policy documents and as a practice in educational institutions at all levels in PNG.

The realization of the importance of lifelong learning has encouraged some governments (politicians and educators) to recognize and embrace it and to develop change strategies to include it in the formulation of their education policies (Candy et

al., 1994; Knapper & Cropley, 2000; Cornford, 2009; Volles, 2016; Babacan & Babacan, 2018). As Cornford (2002, p. 357) states lifelong learning has “emerged as an international movement; it has become the catch-cry of the new millennium”. However, despite the claim by Duke (1976) that lifelong learning based on a number of “interrelated system of values such as equal opportunity, openness, participation, individualism, culturalism and sense of community” (Duke, 1976, p. 19); the difficulty in understanding lifelong learning as a concept has “not lent itself readily to the bother of government controls and regulations” (Candy & Crebert, 1991, p. 5) thereby creating misunderstandings in its meaning and purpose of its values (Babacan & Babacan, 2018). These misunderstandings of the meaning and purpose of lifelong learning values have contributed to countries like Australia and PNG, not responding positively to officially formulating its government’s lifelong learning policies (Babacan & Babacan, 2018).

3.9.1 Theoretical Framework

In using an analogy of an overarching umbrella, Candy and Crebert (1991, p. 5) argue that “lifelong learning radiates the many ‘spokes’ of alternative forms of education, such as formal, non-formal, informal, recurrent education, lifelong education, cooperative education, and open learning” (Candy & Crebert, 1991; Volles, 2016). Lifelong learning, according to Candy and Crebert (1991, p. 5) is actually “a process of continuous learning and adaptation” that takes place in a person’s lifetime. Lifelong learning is similar in context with lifelong education however lifelong education advocates the structures, systems, methods and practices that heighten lifelong learning. Open learning’s systems, however, support the opportunity for learners living in different localities or places and of different ages especially from adolescence to adulthood, and with a range of earlier educational experiences to undertake further learning when the need arises (Candy & Crebert, 1991; Volles, 2016).

Green (2002, p. 612), however, argues that although lifelong learning is similar in some ways to “earlier 1970s discussions around recurrent education, continuing education and lifelong education”, the idea of lifelong learning in the 1990s has finally “shifted the policy ground by stressing *‘learning’* rather than *‘education’* and *‘society’*”

rather than 'school' ” (Green, 2002, p. 612; Butler, 1996; Coolahan, 2012; Volles, 2016). Candy and Crebert (1991, p. 7) support the notion that lifelong learning is “characterised by its unstructured nature, is openly and easily accessible to any individual at any time of his or her life”. Candy and Crebert (1991, p. 7) add that lifelong learning encourages “self-improvement and enrichment as goals” and allows an individual to “update his or her professional and vocational skills” throughout his or her lifetime. The underlying values of lifelong learning, according to Candy and Crebert (1991), therefore is based on:

1. The understanding that such educational experience is available either on a full-time or part-time basis when required; and that some government funding is necessary to facilitate those opportunities;
2. There should be greater interaction between universities and the community, and stronger links between universities, secondary and primary schools, the professions, the graduate population and the community at large; and;
3. Alternative educational sources, such as television, radio; the press, computer-based learning packages and distance education should be used to compliment learning.

(Candy & Crebert, 1991, p. 7)

This study has adopted the Candy and Crebert’s (1991) analogy of lifelong learning and a theoretical framework was devised that illustrates the nature of lifelong learning as a concept in the PNG context. The theoretical framework also illustrates how lifelong learning encapsulates the relationship and contexts of learning and training in the different forms of education: formal, non-formal, informal, recurrent education, lifelong education, cooperative education, and open learning; it is lifelong and life-wide. Lifelong learning is a lifetime activity of continuous learning and adaptation (Candy & Crebert, 1991).

The theoretical framework illustrates that the integration in lifelong learning for an individual could occur on two distinct axes as one participates in learning throughout life. Learning, as illustrated, either occurs vertically throughout life in sequential levels or in chronological stages of lifelong education, or horizontally across the different

phases of a person's life as he or she relates with different groups of people in different situations (Candy & Crebert, 1991).

The theoretical framework designed for this study is aligned with Candy's (2000) framework used for examining university systems and structures in the context of lifelong learning. Candy (2000) argues that there are three dimensions rather than two in which lifelong learning can occur and he identifies them as vertical linkages (vertical integration), sideways linkages (horizontal integration) and forward linkages (vertical integration). Candy's argument is based on the notion that universities have three main ways of relating to other learning contexts. In the vertical linkages, he asserts that universities have to establish its relationship with the school sector, adult and community education by developing various bridging courses that should provide other learning pathways for a student to get into higher education. The sideways linkages will allow universities to establish relationships with out-of-school learning contexts such as the home, the workplace or the community where some of the student's learning occurs. The forward linkages allow universities to encourage the establishment of postgraduate study or training through the provision of continuing education programmes, public lecture series and various forms of community outreach. Candy (2000), however, asserts that both the vertical integration (lifelong education) and horizontal integration (life-wide education) are embedded in lifelong learning as illustrated in the theoretical framework.

Regretfully, the Namaliu and Garnaut report on PNG Universities Review concluded that the quality of the educational experience is dropping (Namaliu & Garnaut, 2010). The report adds that standards of the educational experience have deteriorated over time and most courses taught at PNG state universities are not at adequate standard (Namaliu & Garnaut, 2010). Another finding is that employers in all fields have reported that graduates from state universities are poorly prepared for the workplace (Namaliu & Garnaut, 2010). These findings raise issues in relation to teaching and learning of generic skills or lifelong learning skills as expected in the mission and advertising documents of these universities. This knowledge gap has again prompted the need for this study on the assessment of lifelong learning skills in the two universities in PNG.

There are many ways to promote deep learning approaches (Biggs, 2003; Angelo, 2012) to enhance lifelong learning. Deep learning is defined by Angelo (2012), as “learning that lasts and can be recalled and used effectively after the subject or course has been completed” (p. 99). Other scholars (e.g. Gibbs, 1999; Biggs, 2003) have defined deep learning as encouraging learning for understanding and adding meaning to subject content taught. Angelo (2012) developed seven very practical research-based guidelines, teachers can use in their teaching and designing learning activities to encourage students to learn more deeply. Students can learn more deeply if teachers help them to:

- I. explicitly become aware of their own relevant prior knowledge, preconceptions, misconceptions, beliefs and values and to unlearn, as needed (Land, 2012);
- II. set and maintain realistically high and personally meaningful learning goals and expectations for academic success;
- III. learn how to study and learn effectively, so that they become increasingly self-directed, self-regulating independent learners;
- IV. understand the criteria, standards and methods used in assessing and evaluating their learning and how to make good use of feedback on their performance against those standards;
- V. collaborate regularly and effectively with other learners and with teachers to achieve meaningful, shared learning goals;
- VI. invest adequate time and effort, effectively and efficiently, in their academic work; and
- VII. seek and find connections to and applications of the concepts and skills they are learning to their lives and work (Garrett, 2012).

Angelo (2012, p. 100)

What do these guidelines mean to a university teacher? Teachers at the universities can make their courses more practical oriented rather than theoretical with emphasis on learning by doing. Teachers can organise practicums for students to gain exposure and gain real hands-on experience whilst on work experiences in their fields of specialization and study (Gibbs, 1999; Biggs, 2003; Hunt & Chalmers, 2012; Hunt, 2012). Some strategies include designing assessment practices to accommodate the changes taking place in the workplaces; encouraging the development of higher-order thinking skills such as problem solving, analysis, synthesis, evaluating and making sound decisions and judgements through critical-reflection and self-analysis in the learning and teaching processes in their classroom (Gibbs, 2010; Krathwohl, 2002; Biggs, 2003; Reeves & Reeves, 2012). Creativity could be encouraged to stimulate learning and challenge students in the process (Gibbs, 1999; Gibbs, 2010; Biggs, 2003; Hunt & Chalmers, 2012; Hunt, 2012). Learners as a result may develop an adaptive mindset toward continuous learning and embrace the continuously evolving nature of learning skills required to succeed in the workforce and in life in general (Smith & Meaney, 2016).

So far the review of literature on lifelong learning argued that lifelong learning can be fostered in the students and change the way students learn. These changes are attainable in students if teachers change their approach to curriculum design as well as in the way they facilitate learning. The use of relevant and appropriate assessment practices can also change students' approach to learning. In terms of students' behaviour toward learning and the manner in which they respond to the courses and the learning activities designed by the teacher (Gibbs, 2010; Hunt, 2012). Teachers can use a fit-for-purpose approach to assessment suggested by Brown and Rice (2012) to enhance student learning.

Brown and Rice (2012) argue that student assessment cannot be taken lightly as it is a “complex, nuanced and intricate activity” (p. 74). Making assessment fit-for-purpose is necessary to take account of the “context, level, learning environment, students' background, individual differences and learning context” (p. 74) aimed for students as well as the teacher to maintain quality.

An assessment strategy based on a fit-for-purpose approach to assessment (Brown & Rice, 2012) requires answers to the following questions: Why am I assessing?, What am I assessing?, How am I assessing?, Who is undertaking the assessment?, and When should assessment take place? (p. 77). Based on the answers to these key questions, teachers can capture the attention and time of the students as learners and stimulate learning (Gibbs, 2010; Biggs, 2003; Hunt, 2012). Moreover, timely feedback of any assessment conducted by teachers on students adds meaning and context to what students are learning (Brown & Rice, 2012). In giving fast, effective feedback to students, those feedbacks provide opportunities for students to respond to feedback and as a result improve their performance in the next assignment task.

3.10 Mezirow's Transformative Learning Theory

The theoretical and conceptual frameworks devised for this study are based on Mezirow's (2006) transformative learning theory. Mezirow's transformative learning theory is closely linked with the goals of the *Vision 2050* aspirations, which calls for transformation of mindsets of all Papua New Guineans. With the shift in emphasis on lifelong learning system now placed on the individual with the development of the learners' knowledge, skills and attitudes through self-directed learning though self-paced, such transformation of mindsets could be realized if the learners develop their cognitive and metacognitive skills (Cornford, 2005). This is whereby an individual is made to feel empowered to act on his or her own transformed perspectives, both in an individual and collaborative context. Using critical reflection, one is in a position to question the integrity of one's own deeply held assumptions and beliefs based on prior experience (Taylor, 2008; Tett, 2017; Mason, 2018).

Transformative learning theory was developed in 1978 and introduced in the field of adult education in North America. The development of the theory is influenced; by the "works of Freire, Kuhn, Gould and philosophers Jurgen Habermas, Harvey Siegal and Herbert Fingerette" (Mezirow, 2006, p. 24). According to Habermas (1981), adult educators must work toward a society of learners that fosters the following ideals:

1. To have accurate and complete information;

2. Learners who must be free from coercion, distort self-deception and are in a position to immobilize anxiety;
3. Learners who are open to alternative points of view;
4. Learners who have equal opportunities to participate in the various roles of discourse; and
5. Learners who must yield sound judgements based on a test of validity when encountering new perspectives, evidence or arguments and validate through discourse.

(Mezirow, 2006, pp. 25-26)

Mezirow (2006), argues that transformative learning theory is based on a metacognitive epistemology of evidential reasoning (involves task-oriented learning) and dialogical reasoning (involving critical reflecting). Transformative learning theory is defined by Mezirow (2006) as:

the process by which one can transform problematic frames of references (mindsets, habits of mind, meaning perspectives) – sets of assumptions and expectation – to make more inclusive, discriminating, open, reflective and emotionally able to change. Such frames are better because they are more likely to generate beliefs and opinions that will prove more true or justified to guide action (p. 26).

In addition, Mezirow (2006), adds that these frames of reference are the structures of culture and language through which a learner construes meaning by attributing coherence and significance to one's experiences. These frames selectively shape and delimit one's perception, cognition and feelings by predisposing one's intentions, beliefs, expectations and purposes. These preconceptions set out one's 'line of action'. Once set or programmed, one automatically moves from one specific mental or behavioural activity to another. One thereby will have the strong tendency to reject ideas that fail to fit one's preconceptions (Taylor, 2008; Tett, 2017; Mason, 2018).

The theory argues that the end goal is whereby one can transform problematic frames of references (mindsets, habits of mind, meaning perspectives) where one is able to view their own experiences as more inclusive, discriminating, and are open to other

viewpoints, and are critically reflective of assumptions of others and are emotionally capable to change (Mezirow, 2006, p. 26; Taylor, 2008; Tett, 2017; Mason, 2018).

3.11 The Role of Universities in promoting Lifelong Learning in PNG

All universities in PNG whether they are government owned or mission owned are tasked to produce university graduates who are committed to self-development through the continuous acquisition of knowledge and experience in their selected career pathways. These graduates if equipped well will enable them to survive in an environment of continuous change in a rapidly evolving PNG society (Namaliu & Garnaut, 2010). This emphasis may be associated with the concept of lifelong learning, however the introduction of the *Vision 2050* has challenged all education providers in the country to rethink and realign as per the aspirations prescribed in that document.

In comparing the state of PNG state universities in the early years of PNG's independence from Australia to the current state, Namaliu and Garnaut (2010) found that the universities did very well as “they were able to meet extraordinary demands placed on them to provide leaders of crucial public institutions” (p. 13). However, they concluded that to meet the current larger contemporary challenges, major changes are necessary. They found that there was a pressing problem of quantity due to the widespread and powerful demands by parents for more university places, and the quality of the educational experience was lacking. Namaliu and Garnaut (2010) conclude that, “a high proportion of the courses in PNG state universities were not taught at an adequate standard” (p. 13). The primary focus of reform in the next decade 2010-2020 should be on the raising standards to acceptable levels, with expansion compatible with the raising of standards (Namaliu & Garnaut, 2010).

The question that needs to be answered is: How can the educational experience in the state universities in PNG be reformed to improve the quality and the standard of courses offered at these universities? Jarvis (1999) argues “what universities teach is not knowledge, but information, which only becomes knowledge when it has been learned, and only becomes legitimate knowledge when it has been found to work for

the learners” (p. 251). This raises fundamental mission and policy implications for any universities in this changing information age.

Candy (2006) points out that Australian universities; in the last decade, have “undergone dramatic and far-reaching changes, which have had major implications for all aspects of academic work, and for the role of academic staff. These changes have impacted on staff and educational development” (p. 7). The Universities’ and Colleges’ Staff Development Agency (UCoSDA) Task Force Five (1994) also concluded that universities in Australia have had to:

1. Respond to government directives related to diverse educational needs and steadily increasing expectations.
2. Be more accountable about their performance through quality assessment and audit of educational provision, research assessment and media analyses and investigations.
3. Respond to accountability measures by improving their quality of research, teaching, consultancy activities and other institutional services.

(UCoSDA, 1994, p. 3)

Candy (2006), asserts that these “changes have impacted on all areas of university life: institutional structures and organisation, funding and finances, student enrolments, staff profiles, programmes and courses and relationships with various groups of stakeholders including the government, the professions, employers, and other educational providers” (p. 8). If universities and other tertiary institutions in Australia have gone through these changes, it can be argued that the same implications can be said of PNG universities in all aspects of role that they have to perform in all academic work and the role of academic staff in the universities with the introduction of the *Vision 2050*.

Universities worldwide have graduate attribute policies that list skills and attributes as well as categories of capabilities and qualities such as cognitive and metacognitive skills that graduates are to attain after completing a university degree program (Fallows & Steven, 2000; Gardner & Martin, 2003; Muldoon, 2009; Chalmers & Partridge, 2012). These policies emerged as a result of the influence of employers of graduates who expressed dissatisfaction with the demonstration of skills and

attributes in addition to discipline knowledge and related expertise required of these graduates (Candy et al., 1994; Crisp, 2003; King & Nunan, 2003; Barrie & Posser, 2004; Garnett, 2012; Chalmers & Partridge, 2012; Volles, 2016).

Chalmers and Partridge (2012) defines graduate attributes as “the skills, knowledge, abilities and attitudes that students are expected to have developed as a result of their study for a university degree” (p. 57). These graduate attributes are cognitive and metacognitive skills closely associated with the development of lifelong learning skills (Cornford, 2009). These lifelong learning skills can be developed by in the curriculum taught at the universities through such extra-curricular activities for example work experience (Smith, 2003; Wall, 2017).

Barr and Tagg (1995) argue that the current learning paradigm “shifts what the institution takes responsibility for: from quality instruction (lecturing, talking) to student learning” (p. 15). Students can be encouraged to take responsibility for their own learning, therefore, it becomes a win-win situation where two agents (institution and the students) take responsibility for the same outcome. Barr and Tagg (1995) asserts that when two agents take such responsibility, it can produce powerful results.

Therefore, careful planning of the university curricula is essential in the development of lifelong learning skills or graduate attributes at the universities. Such approach to curriculum design, will enable students to gain work experience for practice and critical examination of self and learning in the curriculum inevitably leading toward less subject content knowledge being covered for every subject at every level (Cornford, 1999; Harpe & Radloff, 2000). Research evidence (e.g. Chi et al., 1989; Bielaczyc et al., 1995; Schraw, 1998; Cornford, 1999; Harpe & Radloff, 2000), have proven that self-monitoring and self-regulating students learn far more effectively than those that do not. Work experience, therefore, requires serious consideration by curriculum designers at the university as an extra-curricular activity to encourage students to apply their acquired knowledge and skills at the workplace (Smith, 2003; Wall, 2017).

Regretfully, not all universities worldwide are reacting proactively in recognizing the potential extra-curricular activity such as work experience has for

student development (Ward, 1998; Jackson et al., 2000). It is recognized that workplaces provide valuable informal learning experience for students (McGivney, 1999; Conrad, 2008; Sawchuk, 2008). If workplaces are required to provide learning experiences for students, they must ensure that appropriate insurance covers are put in place if things go wrong. However, in the PNG context, the value of institutional recognition of work experience on the attainment of graduate attributes is unknown. Work experience could be an effective means by which most graduate attributes and desirable attitudes and personal qualities are enhanced to enable employability of graduates after university (Scott, 2005; Muldoon 2010; Chalmers & Partridge, 2012). It is, therefore, important for university lecturers to assess the situation in their own universities and seek ways to explicitly encourage the teaching and learning of the graduate skills and attributes through exposing students to gain work experience as part of their studies at the universities.

So what is the role of PNG universities in lifelong learning in light of the *Vision 2050*? As incubators of new concepts, the role of universities in lifelong learning in light of the *Vision 2050* context is to:

1. Produce graduates to take active roles in PNG's expanding industries, graduates in Business, Education, Health Sciences, Law and other disciplines that form the core of the professional skills in the country;
2. Produce individuals with leadership skills, capable of independent and critical thought, who are leading the nation in its early stages of growth;
3. Provide evidenced-based directions for the provision of health care, the development of industries and the social programs necessary to sustain a happy and healthy population; and
4. Produce technology that can develop into products and lead to spin-off businesses. This innovation is the driver of small business start-up and wealth creation (Barrows, 2013, p. 3).

According to Knapper and Cropley (2000), how and what universities teach, investigate and promote; influences knowledge, attitudes, values and practices in many areas of society. Universities educate the people who will later shape the development of society. The importance of universities is derived from the prestige and influence they have and from the role they play in developing theory and conducting research

(Knapper & Cropley, 2000). However, in the past two decades, universities throughout the world have been forced to respond to the dominant pressures, especially the difficulties of “advanced capitalism and globalisation” (Jarvis, 1999, p. 249). Since information is changing rapidly, universities are beginning to realize that much of the information they teach now is fast becoming out-dated (Jarvis, 1999; Hunt & Chalmers, 2012). The demands of the advancing information age has encouraged universities throughout the world to respond to keep up with the changes in information due to globalisation. As asserted by Jarvis (1999):

In this information age, universities are not the only providers of high status information. The mass media, the electronic systems that many people use nowadays, business and corporations; as they undertake the education and training of their own workforces. This has resulted in universities experiencing dramatic and far-reaching changes, and thereby becoming more corporate and businesslike in their approach to their clienteles and stakeholders alike (p. 252).

The same implications that have been discussed by Jarvis (1999) can also be said of PNG universities where universities have being called upon to adapt their missions, visions and strategic plans to actualize the aspirations stated in the *Vision 2050* document. University lecturers are central to this role as they are the ones whose attitudes, beliefs and behaviour towards fostering lifelong learning would have an impact on the students whom they teach at the universities. University lecturers serve as important role models when they employ teaching strategies that are oriented to learning throughout life. Nicholls (2000) asserts that professional development is one aspect of lifelong learning, and that practitioners (the lecturers) have to understand the need to continually learn, whether this is learnt formally or informally. Watkins and Drury (1994), Butler (1996) and Hunt and Chalmers (2012) suggests that strategies for professional development should aim to ensure the professional is encouraged to develop a new mindset by taking charge of self through self-regulation or assessment; the professional is encouraged to learn to promote and market the skills and competencies he or she has acquired in training through networking and developing professional relationships with others.

The review of literature illustrates that for the past two decades, due to the changing demands of the work environment globally (McCombs, 1991; Kemp &

Seagraves 1995; Leckey & McGuigan 1997; Badcock, Pattison & Harris 2010) and in PNG in particular, the higher education sector has been challenged to produce versatile and adaptable graduates. Research studies (Harvey et al. 1997; NBEET 1992; Hesketh 2000; Holmes 2001; Crebert et al. 2004) assert that many employers now expect graduates from universities globally to value and demonstrate various higher-order cognitive thinking skills as well as social skills at the workplace. The widely cited generic skills and graduate attributes include critical thinking, problem solving, interpersonal skills, a capacity for logical and independent thought, communication and information management skills, intellectual curiosity and rigor, creativity, ethical awareness and practice, integrity and tolerance (Bath et al., 2004). Most employers expect graduates to be able to initiate and respond to change when the use of these generic skills and graduate attributes are required at the world of work and or life in general. Most employers have placed increasing pressure on the universities to equip their graduates with these required 'generic' skills or broad skills or attributes that can be applied across different contexts and beyond disciplinary content knowledge and proficiencies (Drummond et al., 1998; Barrie, 2006).

However, for the universities, complex issues associated with the teaching or generic skills and their acquisition by students as part of the learning process remain uncertain (Aspin & Chapman, 2000; Badcock et al., 2010). Firstly, according to Badcock et al. (2010) is the issue of definition. They argue that there are widespread differences between employers, academics and government bodies in terms of how these skills are defined and how a particular skill's significance is interpreted in context (Bennet et al., 1999; Aspin & Chapman, 2000; Bowden et al., 2000; Badcock et al., 2010). The second issue is the questions raised both theoretically and empirically (Nusche, 2008; Barrie et al., 2009) of the separability of generic and discipline-based skills. Drummond et al. (1998) assert that although generic skills are developed in conjunction with the development of knowledge and skills within a discipline area, however, when dealing with assessment of generic skills in tasks assigned as part of the assessment, apart from reporting the attainment levels of the discipline content knowledge, the attainment levels of particular generic skills are rarely reported.

The third issue is in relation to the challenges university lecturers face with the teaching of generic skills within university curricula (Chalmers & Partridge, 2012).

Although many university lecturers consider generic skills such as writing skills and critical thinking as central to learning in their disciplines, they are faced with the challenge of balancing and integrating the teaching of discipline-specific knowledge and skills with the development of more transferrable skills in the courses they teach (Barrie et al. 2009).

Finally, the claims by some employers; that universities are failing to adequately prepare graduates for the workplace (Namaliu & Garnaut, 2010; DHERST, 2015). Studies in Europe and the United Kingdom (Leckey & McGuigan, 1997); the United States of America (O'Brien, 1997), and Australia (HEC, 1992; BHERT, 1992; Candy & Crebert, 1991; NBEET, 1992; ICAA, 1994; Candy et al., 1994; ACNielsen Research Services, 1998; Karpin, 1995; Nelson, 2003; Whitefield & Kloot, 2006; Pitman & Broomhall, 2009; Badcock, Pattison & Harris, 2010) revealed that there are considerable gaps between employer expectations of graduate skill levels compared to what is provided by universities. The major concern raised in these studies has been the problem of teaching lifelong learning skills by the universities in preparing their graduates for the workplace.

In the PNG context, if the university graduates are committed to self-development, they are likely to survive in an environment of continuous change in a rapidly evolving society (Kavanamur, 2013). Both UPNG and PAU Graduate Profiles highlight the importance for self-development and the encouragement of lifelong learning. The 2007-2017 UPNG Strategic Plan states that graduates from the university need to be:

1. Technically literate, receptive to new ideas and are prepared to be innovative and acquire knowledge, skills and creative ability to meet specific national manpower needs;
2. Acquire adequate skills in communication, information technology, critical thinking or inquiry and problem solving into the great question of human nature, society and the world;
3. Accept criticism and self-criticism as self-development processes and are able to face the realities of hardship in life in communities (UPNG Strategic Plan, 2008, p. 16).

For example, PAU in its Mission statement asserts that their mission is to prepare graduates who are equipped and willing to serve the best interests of the country including the interests of the communities which they will work in, the SDA church and God. The PAU's Vision is to produce the best graduates who care. For their graduates, PAU envisions graduates to:

1. Grow towards excellence *through lifelong learning*;
2. Be ready to lead by example to make a positive difference;
3. Be active in pursuing a balanced lifestyle;
4. Dedicated to introducing others to Christ;
5. Understand current needs and opportunities;
6. Acknowledge God's sovereignty and experiencing His grace;
7. Trustworthy and reflecting the character of God;
8. Educated to serve all regardless of status, belief, gender or culture; and
9. Specialised in their chosen field of expertise.

(PAU, 2014, p. 7)

The graduate profile presented above supports the notion that the key role of PNG higher education institutions in national development is to develop human capital that is to become the key drivers for PNG's economic growth and prosperity. Chalmers and Partridge (2012) alludes to the notion that if universities align their teaching and learning activities to acquire universities' specified graduate qualities, effective learning and inquiry could be acquired in the processes of teaching and learning even at the discipline levels. Assessment and evaluation of learning could also be aligned to assess the graduate qualities required so that the assessment is authentic (Brown & Race, 2012). Kavanamur (2013) alluded to the fact that when economic and social development is rapidly becoming more knowledge intensive and relies increasingly on professional and managerial specialists with advanced training, the role of higher education becomes a crucial element for a balanced and coherent national development strategy. Universities in PNG should ensure that advance training is provided for its graduates to move further in their life. This is an aspiration that all PNG universities are still trying to grasp and move forward with into the 21st Century.

3.12 Lifelong learning in the PNG context

This review of literature has so far identified the similarities in nature of the aspirations that are projected in the *Vision 2050* and the principles of lifelong learning.

Both are seen to encourage the enhancement of social inclusion, active citizenship, personal development and the encouragement of competitiveness and employability through continuous learning. Therefore it is imperative to argue that if the *Vision 2050* policy document is to become a practical reality in PNG, drastic changes are required to be made in PNG: changes in policy by government and universities, changes in funding arrangements, changes in access, changes in teaching and learning methods and changes in counselling and study skills provision to mention but some. It is going to be a challenge to implement these policy changes in PNG due to the traditional resistance to change by bureaucracy and institutions; however, it is far from impossible to change.

In PNG some institutions of higher education are already significantly involved in attempts to make the changes to adopt the *Vision 2050* policies and are in the process of re-aligning their vision and mission statements of their institutions to comply with the pillars of the *Vision 2050* and practice some of the principles of lifelong learning. Therefore, the idea of encouraging active participation by all people of all ages in educational programmes and opening up the exchange of ideas, innovations, training and educational programmes between industry and higher education is possible.

Through a review of the literature, a conceptual framework for this study was developed based on the current structure of the PNG education system. This review took into consideration, PNG's philosophy of education (NDOE, 1986), the PNG National Qualification Frameworks (Office of Higher Education, 2010b), to illustrate the vertical and forward linkages as well as horizontal linkages in the PNG education structure. The conceptual framework emphasizes the role of teachers play in the PNG educational institutions to develop learning-to-learn skills so that students become self-directed learners. Teachers in developing learning-to-learn skills in turn develop design-thinking skills (Anderson, 2013; Anderson, et al., 2014) to foster and develop adaptive mindsets based on the development of the skills of innovation and creativity. Such a shift in this educative direction promotes the development of self-directed learners with innovative minds to enhance economic growth, competitiveness and open up their opportunities for employability within the PNG employment market or the global employment market. As an outcome, promoting the ideas of social inclusiveness and in developing more active citizens (Osborne et al., 2015).

The review of literature so far has clarified critical aspects of the *Vision 2050* policy document and its congruence with the concept of lifelong learning. The review of literature in the field of lifelong learning has also revealed knowledge of what it is, what it does, how it works and the benefits of it and how it places emphasis on the importance of learning throughout a person's life. Green (2002) provides a very good summary of what this review of literature on lifelong learning has presented:

Lifelong learning has no doubt served various complex ideological purposes connoting, as it does, vision, change and policy interconnectedness. However, at its heart is a very simple and significant notion. Lifelong learning implies that learning should take place at all stages of the life cycle and it should be life-wide. The life-wide notion takes into account all life contexts from the school to the workplace, the home and the community. The notion of creating a learning society is therefore the vision of a society where there are recognized opportunities for learning for every person, wherever they are and however old they should be. (p. 613)

As argued by Green (2002) the notion of lifelong learning has made a significant shift focused on formal learning to non-formal and informal learning. It is now widely accepted that informal learning and non-formal learning are as important as formal learning, because as Green (2002) further argues:

Informal learning is essential because expanding formal learning to the point where it will meet the new skill demands is simply too expensive. Informal learning is seen to be more flexible than formal learning, which is often slow to respond to the fast changing nature of skill demands in the economy. (p. 617)

The notion of creating a learning society encourages the sharing of costs by both the individual and the government. The key motives for the call for policy changes to effect lifelong learning in education is mainly due to the effects of globalization, including both economic restructuring and cultural and social change which has impacted on all developed and developing countries throughout the world. Though international organisations such as UNESCO and OECD have placed emphasis on lifelong learning since the mid-1960s, most countries outside of the European Union (Volles, 2016) have not responded to developing lifelong learning policies. Most countries outside of the European Union do not see the immediate need to articulate a policy standpoint because it is argued that these countries' education systems have an

overarching educational approach which is lifelong learning (Babacan & Babacan, 2018). The argument that the development of a formal lifelong policy is not needed can be contested and debated (Babacan & Babacan, 2018). This review argues that the importance of lifelong learning shifting its emphasis from the broader context (structure and institutions) to a narrow context (the learner) requires governments to formally possess lifelong learning policies in their education systems.

3.13 Chapter Summary

It is without doubt that the rapid pace of political, social, economic, educational, legal, information and technological change brought about by globalization has influenced governments and systems of government of which education is a part of, to make strategic policy changes. Such policy changes have placed numerous implications on educational institutions including universities to deal with changes the countries are facing due to globalization.

The traditional roles of universities and the whole education systems in different countries have been challenged in more ways than one. They have been challenged in terms of revising overall systems, changes in funding arrangements, changes in access, changes in teaching and learning methods (teaching approaches and assessment strategies) and in how to foster a climate of intellectual inquiry, its student support services including changes in counselling and study skills provision, the content of the curriculum, the structure of the curriculum to mention but some.

Countries adopting and promoting lifelong learning are required to re-consider their current approaches to internal measurement and evaluation of processes and systems including education and training systems and the worlds of work and culture, family and community life and the social dynamics of human security, justice and democracy. The formulation of lifelong learning policies is aimed to increase the general levels of learning and skills due to global economic changes (Green, 2002).

Making progress in promoting and nurturing lifelong learning therefore presents a number of major challenges facing governments of different countries and PNG is no exception. To address these challenges and to even achieve some of the outcomes of

lifelong learning requires the cooperation of experts in different disciplines and fields of specialisation in PNG. Given that lifelong learning has generally been adopted as the guiding principle for the development of the educative society in the advanced technological western world, it is critical to find out how it is perceived and accepted in developing countries like PNG.

The next chapter will explain the research plan and the methodology that was used when undertaking this study. Both the theoretical and conceptual frameworks developed out of the review of literature will be revisited and will be used as the analytical frameworks to analyse the knowledge, behaviour, attitudes and belief of lecturers who participated in this study.

Chapter 4: Research Plan and Methodology

4.1 Introduction

This chapter outlines the research plan and the methodology that was used in conducting this study. First, the purposes of this research, together with the problem, are re-stated. Second, the rationale for the designing of a theoretical framework and a conceptual framework for this study is discussed. The theoretical and conceptual frameworks are presented in diagrammatic formats. The consequent research plan is outlined which explains the sequence adhered to during the study. The Mixed Methods Case Study Approach with its justification for its selection over other approaches is explained. Third section describes the sources of data and data collection determinants used. Following by descriptions on the sample, the setting and the instrumentation (survey questionnaires and interviews) used. The fourth section describes the method that was used in analysing and interpreting the raw data collected. In the fifth section ethical considerations associated with this research are outlined and examined in terms of this study. A chapter summary concludes this chapter.

4.2 Purpose of the Study

The purpose of this study is threefold, first to investigate and analyse the *Vision 2050* policy and the university policies as to whether they inform lifelong learning. Second, to investigate and analyse lecturers' knowledge, attitudes, beliefs and behaviour to establish whether they foster a climate of lifelong learning. Third, to determine whether the GoPNG needs to formulate a formal government policy on lifelong learning.

4.3 Key Research Questions

Consistent with the aim of the study, the following key research questions were posed:

1. Do government and university policies inform lifelong learning in PNG universities?

2. What are the lecturers' knowledge, attitudes, beliefs and behaviour concerning lifelong learning?
3. How do lecturers perceive lifelong learning?
4. Why do lecturers perceive lifelong learning as they do?

4.4 The Study on Lifelong Learning in PNG

This study on lifelong learning in PNG acknowledges lifelong learning as a concept that embraces all learning that takes place from infancy throughout adult life, in families, schools, vocational training institutions, universities, the work place, and in the community at large. The significance of the concept of lifelong learning lies in the challenge it brings to using institutional and age criteria as controlling factors in educational policy.

With this understanding, it is important that lifelong learning activities could be achieved through the formal, non-formal and informal types of learning irrespective whether these learning activities are publicly or privately organised, funded or supported. However, whatever learning activities take place is also determined by the characters of the learners themselves, based on their social and economic backgrounds such as initial educational attainment, age, sex, ethnicity, income situation, motivational orientations and leisure versus career orientation.

The social, political, economic, technological and informational changes with the impact of globalisation has shifted the focus of lifelong learning on the individual (Jarvis, 1999; Clemens, 2015, Babacan & Babacan, 2018). The individual is the centre of a lifelong learning system where lifelong learning has the potential to increase the engagement of the learners in learning and empower the learners to participate more deeply in practices after learning. Lifelong learning therefore, is undertaken especially for personal development, self-fulfilment and to enrich the quality of life for that individual.

4.5 The Theoretical Framework - Theorizing Lifelong Learning

The theoretical framework devised for this study (see Figure 4.1 below) was adopted from Candy and Crebert's (1991) work and adapted to illustrate the PNG education context. The theoretical framework aligns the research questions within the conceptual framework designed also for this study based on the structure and the system of education in PNG. Using the analogy of an over-arching umbrella, Candy and Crebert (1991, p. 5) argued that 'lifelong learning radiates the many spokes of alternative forms of education as it encompasses a truly lifelong process of endless learning and adjustment in one's lifetime.

According to Candy and Crebert (1991, p. 7) the characteristics of lifelong learning are its unstructured nature, where it is open and accessible to all at any time of life. Self-improvement and enrichment are its goal and as an end, lifelong learning establishes opportunities to update professional and vocational skills in an individual.

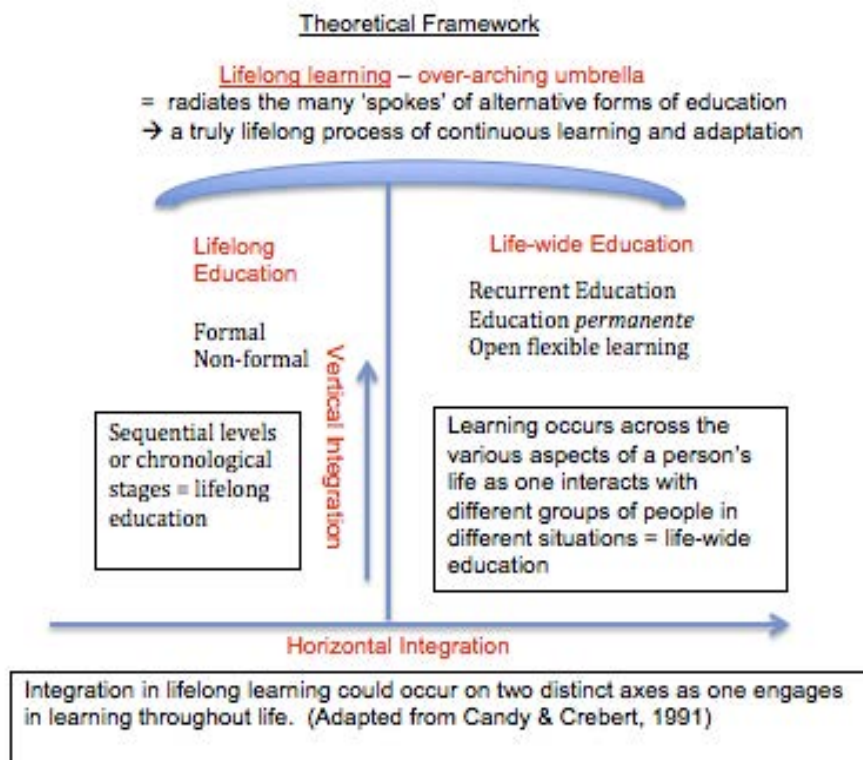


Figure 4.1 Theoretical Framework theorizing Lifelong Learning

The theoretical framework as illustrated above, shows the integration in lifelong learning for an individual. The integration could occur on two distinct axes as an individual engages in learning throughout life. Learning either occurs vertically throughout life (in sequential levels, in chronological stages – lifelong education), or horizontally across the various aspects of a person’s life as one interacts with different groups of people in different situations (life-wide education) (Candy & Crebert, 1991). The diagram in the framework illustrates how lifelong learning as an over-arching umbrella that covers both lifelong education and life-wide education. The vertical and horizontal integration lines shows continuous learning and adaptation as an individual learns throughout his or her life from cradle to grave in a variety of settings either formally or non-formally.

4.6 The Conceptual Framework – Conceptualizing lifelong learning

The conceptual framework designed for this study illustrated in Figure 4.2 on page 120, takes into account the structure and system of education in PNG. The aim is for an individual to engage in learning throughout life leading towards that individual becoming a lifelong learner.

The conceptual framework shows that there are three main settings of education (formal, non-formal and informal) where one could learn in PNG. In the formal sector, it is important that teachers use appropriate teaching and learning strategies to develop lifelong learning skills through developing learning-to learn skills in students. These lifelong learning skills learnt in the formal setting could then be transferred to the non-formal (workplace) or the informal (home or life experiences) settings. This empowers the learners to learn generic skills that are transferrable across all sectors.

The impact of globalisation, there has been a variety of changes affecting the lives of individuals in a country, whether it is social, political, economic, cultural, scientific, technological and informational changes. As part of these changes and to develop a culture of knowledge economy, it is vital that learners are taught lifelong learning skills as well as digital literacy. Digital literacy could be taught in formal or non-formal settings through the application of design thinking skills (Anderson, 2013; Anderson, et al, 2014), however, with an emphasis on self-directed learning. The

development of design thinking skills could be a way forward to foster and promote innovative minds (Anderson, 2013; Anderson, et al, 2014) to enhance economic growth, competitiveness and employability as well as social inclusiveness and active citizenship (Clemens, 2015; Babacan & Babacan, 2018).

The concept of design thinking is a recent development of thinking placing emphasis on the need to develop innovation through learning strategies of creative problem solving. The NDOE could utilize this approach as a way forward to stimulate the minds of students to be more innovative in disciplines such as education, engineering, business, architecture, design schools and medicine (Anderson, 2013). Design thinking skills is taught as part of the curriculum in PNG could contribute to the attainment of the aspirations of the *Vision 2050* especially in relation to the transformation of mindsets. This is in line with the emphasis placed on the development of thinking skills through evidential reasoning (involving task-oriented learning) and dialogical reasoning (involving critical reflecting) aligned with Mezirow's transformative learning theory (Mezirow, 2003; Mezirow, 2006).

The benefits of developing lifelong learning skills are to:

- i. Increase self and social awareness;
- ii. Develop critical thinking through analysing and reflecting on situations;
- iii. Diagnosing learning needs to improve and enhance one's own learning competencies or skills;
- iv. Formulating relevant social and personal learning goals; identifying human and relevant material resources for learning; and
- v. Choosing and implementing learning strategies through self-reflection and evaluation to enhance learning throughout life.

(Collins, 2009, p. 616)

The design of the conceptual framework as illustrated on Figure 4.2 on page 120 maps the lifelong learning principles in the PNG situation and frames the particular context of the study. The framework is intended to portray that lifelong learning

principles have already been adopted in the current PNG education system and structure. The philosophy of education which is based on integral human development highlights the guiding principles of lifelong learning when it defines 'integral' as acknowledging that all aspects of the person are important; 'human' as social relationships are basic and 'development' as every individual has the potential to grow in knowledge, wisdom, understanding, skill and goodness.

The PNGNQF presents the possible learning pathways in the formal education system by encouraging cross accreditation and acceptance of prior learning. The PNG TVET NQF encourages job skills that are fundamental and required in the workplace thereby placing the importance of the non-formal education as another learning pathway for individuals who are employed by government or industry. Both systems operate in parallel with the informal education system. There are four exit points (Grade 8, Grade 10, Grade 12, and at the tertiary level) for an individual to exit into the workplace or go back into the community. However, learning must be encouraged to continue for an individual, if access to learning through other alternative avenues is made available by the government, government funding arrangements are revised to promote lifelong learning irrespective of age or gender and changes are made to systems and policies that educational institutions practise in PNG. Universities and other institutions of higher education have multiple ways in which they can, if they choose, promote the goal of lifelong learning.

Using the conceptual framework as a guide, it informed the design of the survey and interview questions (See appendices D and E, pages 310-326) as adapted from the Candy, Crebert and O'Leary's 1994 study conducted in Australian universities where lifelong learning skills and attitudes form part of the core of all undergraduate courses.

AIM IS FOR AN INDIVIDUAL TO ENGAGE IN LEARNING THROUGHOUT LIFE LEADING TOWARDS THAT INDIVIDUAL BECOMING A LIFELONG LEARNER

CALLS FOR:

1. An **INDIVIDUAL** to see **EDUCATION** as an **ONGOING PROCESS** throughout life
2. The **NATIONAL GOVERNMENT** to ensure that **EDUCATION** is openly **ACCESSIBLE** through the following means

throughout any stage of life either through:

FORMAL MEANS (Schooling)	NON-FORMAL MEANS (Workplace)	INFORMAL MEANS (Home/Life Experiences)
Teachers or lecturers in the entire education system from elementary to tertiary levels to use teaching and learning strategies or approaches to develop in students lifelong learning traits and skills Teachers or lecturers to develop learning-to-learn strategies in students	Workplace Training and experiences to develop lifelong learning traits and skills	Home environment to be conducive to promote lifelong learning traits and skills
<p>For an individual to meet an end to become a lifelong learner, that individual must accept CHANGE – social, economic, cultural, scientific, technological, informational changes</p> <p>Continuous change requires continuous learning whereby requires the individual to adapt his or her life to these changes. The INDIVIDUAL must take initiative and ownership of his or her own learning and develop social and personal learning goals which leads to the development of a sense of social awareness and responsibility, self-actualization and recognition of personal accountability for one’s own learning. The INDIVIDUAL realizing his or her own learning potential as they develop “know-how” in learning to learn (learning what and how to learn) and when to access relevant knowledge base to build on and being motivated to learn.</p>		
<p>A LIFELONG LEARNER is a SELF-DIRECTED LEARNER who is required to develop COGNITIVE and METACOGNITIVE LEARNING STRATEGIES</p>		
LIFELONG LEARNING TRAITS	LIFELONG LEARNING SKILLS	
<ul style="list-style-type: none"> • Curious • Venturesome and creative • Innovative in practice (LINKED WITH DESIGN THINKING) • Resourceful • Motivated to learn • Confident in ability to learn from others, share what they know, and accept feedback • Willingness to make and learn from mistakes • Persistent • Flexible in thinking • Interdependent and interpersonally competent as well as independent and self-sufficient • Methodical and disciplined • Logical and analytical • Reflective and self-aware • Adaptable to changing healthcare needs • Responsive and accountable for work 	<ul style="list-style-type: none"> • Well-developed communication skills • Self-directed learning skills • Information-seeking and retrieval skills • Metacognitive skills (skills for “thinking about thinking”) • Able to develop and use defensible criteria for evaluating learning • Able to work as a change agent • Able to share good practices and knowledge • Able to acquire digital literacy skills 	
<p>THE CHALLENGE FOR LIFELONG LEARNING IS TO REORGANISE LEARNING, TEACHING AND EDUCATION FOR THE INFORMATION AGE AIM TO CHANGE MINDSETS in terms of FUNDING ARRANGEMENTS, ACCESSIBILITY THROUGH DIFFERENT MEANS OR SOURCES AVAILABLE, APPROACHES TO TEACHING AND LEARNING METHODS, and STUDENT SUPPORT SERVICES</p>		

Lifelong learning traits and skills (Collins, 2009) is closely linked with the idea of self-directed learning. This is where the learner takes initiative, with support and collaboration of others in the three systems (Formal, Non-formal and Informal) to acquire the following:

- Increase self and social awareness;
- Develop critical thinking through analyzing and reflecting on situations;
- Diagnosing learning needs to improve and enhance own learning competencies or skills;
- Formulating relevant social and personal learning goals;
- Identifying human and material resources for learning;
- Choosing and implementing learning strategies through self-reflection and evaluation to enhance learning throughout life.

Figure 4.2 Conceptual Framework conceptualizing Lifelong Learning in PNG

4.7 Research Plan

The research plan illustrated in Figure 4.3 on page 126 is derived from the conceptual framework, and was designed for the purpose of obtaining information on the principles of lifelong learning.

Stage 1 – Application for Ethical Clearance Approval and Approval of Questionnaires and Interview Guide to be used in the Field Study

The first stage was to apply for Ethical Clearance Approval from the James Cook University (JCU) Human Ethics Committee (see Appendix A: page 302) as well as to seek approval for the two questionnaires designed, one for the lecturers and one for the post-graduate students after a thorough literature review to cite trialled and approved questionnaires in similar studies conducted in Australian universities. The Ethical Clearance Approval form and the questionnaires as well as the Interview Guide were sent to the Human Ethical Clearance Committee based in Townsville to seek approval. Once the Ethics Clearance was granted, the researcher then proceeded to seek approval from the DHERST and from the UPNG and PAU Vice-Chancellors through the Research and Ethics Committees of the two universities (See Appendix A pages 303-305).

Stage 2 – Field Study

This field study element of the research involved the actual data collection in the two selected universities (UPNG and PAU), located within and outside the boundaries of Port Moresby, NCD. Within Stage 2, six steps representing the data collection, verification, processing, and initial analysis of data were included. These steps are now explained below:

In *Step 1*, data were collected using two separate Survey Questionnaires, one designed for the lecturers from a cross-section from the tutor to the professorial levels. The other questionnaire was designed for the post-graduate students who were enrolled on full-time basis with the two universities (See Appendix D, pages 310-326). The data collection was conducted in a sequential manner:

1. A letter of invitation with the study information sheet and a consent form was delivered through the school offices for distribution to all full-time lecturers. The researcher followed up with the school office secretary to ensure that all lecturers did receive a letter of invitation to participate in the study.
2. For full-time postgraduate students, the letter of invitation with the study information sheet and a consent form was delivered through the coordinators of the postgraduate programs in each school or university. Again, the researcher followed up with the respective coordinators to ensure that the letter of invitations were delivered to each postgraduate student available on campus at the time of data collection.
3. The researcher allowed one week for both lecturers and postgraduate students to respond through completing the consent forms which were attached with the letter of invitation.
4. For those lecturers who accepted the invitation indicated their willingness to participate in their consent forms returned to the researcher. They indicated their intention to either participate in completing the survey questionnaire only or participate in both the survey questionnaire and the interview. For postgraduate students, they indicated their willingness to participate in completing the survey questionnaire only in their consent forms. Postgraduate students were not included to participate in the semi-structured interviews.
5. The researcher then distributed the survey questionnaires to the lecturers and postgraduate students who consented to participate in the study. Before giving the survey questionnaires to each of the participants, the researcher explained the aims of the study and reiterated the ethical considerations to be observed in the data collection process. The researcher also answered any questions or queries or concerns the participants had in participating in the study.

6. Both the lecturers and postgraduate students were allowed a week to complete the questionnaires. They were then left alone to complete the questionnaires in privacy without any interaction with the researcher.
7. Upon completing the questionnaires, participants returned the completed questionnaires to the researcher during that week.
8. The researcher upon receiving the completed questionnaires; entered the responses into an Excel database he had created.
9. The questionnaires upon entering the responses were then stowed in a safe place to adhere with the ethical considerations guiding the conduct of the study.

In *Step 2*, the researcher conducted follow-up interviews with selected lecturers who willingly indicated to participate in the semi-structured interviews (Candy et al., 1994; Creswell, 2014; Yin, 2011; Yin, 2014) in their consent forms. The researcher ensured that there was a gender balance in selecting the lecturers. Therefore ten females and ten males were selected out of those who consented to participate in the interviews from the two universities. The lecturers selected represented a cross-section of the lecturers from the tutor level to the professorial level. The researcher also ensured that there were representations of lecturers from all the disciplines or programs offered in the two universities. At least a representative from the different age groups as well as years of service were also considered in the selection of the lecturers who participated in the interviews. These measures were taken by the researcher to ensure that the interviews were conducted with lecturers from a cross section of all the other sub-categories. These measures were also taken to ensure that not one group of lecturers from one particular sub-category influenced the outcomes of the research. This approach was undertaken in order to ensure accuracy of data to cross check and verify the responses that were received through the survey questionnaires. Each interview was audio-recorded. This was done to allow the respondents to respond to questions without any interruptions. During the interview, the researcher asked additional questions to seek clarification when responses were considered ambiguous. The

interviewee was then allowed to clarify what was felt ambiguous by the researcher to ensure that there were no misunderstandings (Yin, 2011; Yin, 2014).

The interview questions asked were based on the four key research questions, (see the Appendix E - Interview Guide, on page 327 and Appendix F – Sample Interview Transcripts, on pages 328-349). They were aimed to find out from the respondent, whether government and university policies inform lifelong learning, to determine the knowledge, attitudes, beliefs and behaviour of respondents concerning lifelong learning; how they perceived lifelong learning and why they perceive lifelong learning as they did.

In *Step 3*, the researcher spent one month in each university informally observing the activities happening in the universities (Creswell, 2014; Yin, 2011; Yin, 2014). The informal observations were mainly focused on the teaching and learning activities happening in those institutions. The month spent in the institution also allowed the researcher to have informal conversations with some of the lecturers and postgraduate students. The researcher wanted to find out from those participants as to what was really happening in relation to issues such as assessment practices, the structure and content of the curriculum, and the state of the student support services (Yin, 2011; Yin, 2014). Reflective summary notes of the weekly activities were compiled at the end of the week and reported in a diary or journal. The reflective data was used to validate data gathered from the questionnaires and semi-structured interviews (Creswell, 2014; Yin, 2011; Yin, 2014).

In *Step 4*, the initial consolidation and process of summarizing responses from questionnaires was conducted. At the same time, interviews recorded on the tape recorder were also transcribed (qualitative data) (see Appendix F, pages 327-348).

The researcher conducted *Step 5* in Port Moresby, PNG. The raw data were recorded and processed into manageable form (Creswell, 2014; Yin, 2014)). The responses from the questionnaires (quantitative data) were converted into tables and then graphs, to illustrate the interim findings (Creswell, 2014; Yin, 2011; Yin, 2014). This processed information was then used as the basis to proceed to Stage 3.

Stage 3 – Analysis of Data

This involved the composite analysis and comparison of the data in relation to the four key research questions.

Stage 4 – Conclusions

In this final stage, the Implications, recommendations and conclusions of the study were deduced from the Analysis of Data conducted in Stage 3 of the Research Plan.

Figure 4.3 shows the Research Plan illustrated in a diagrammatic form on page 126.

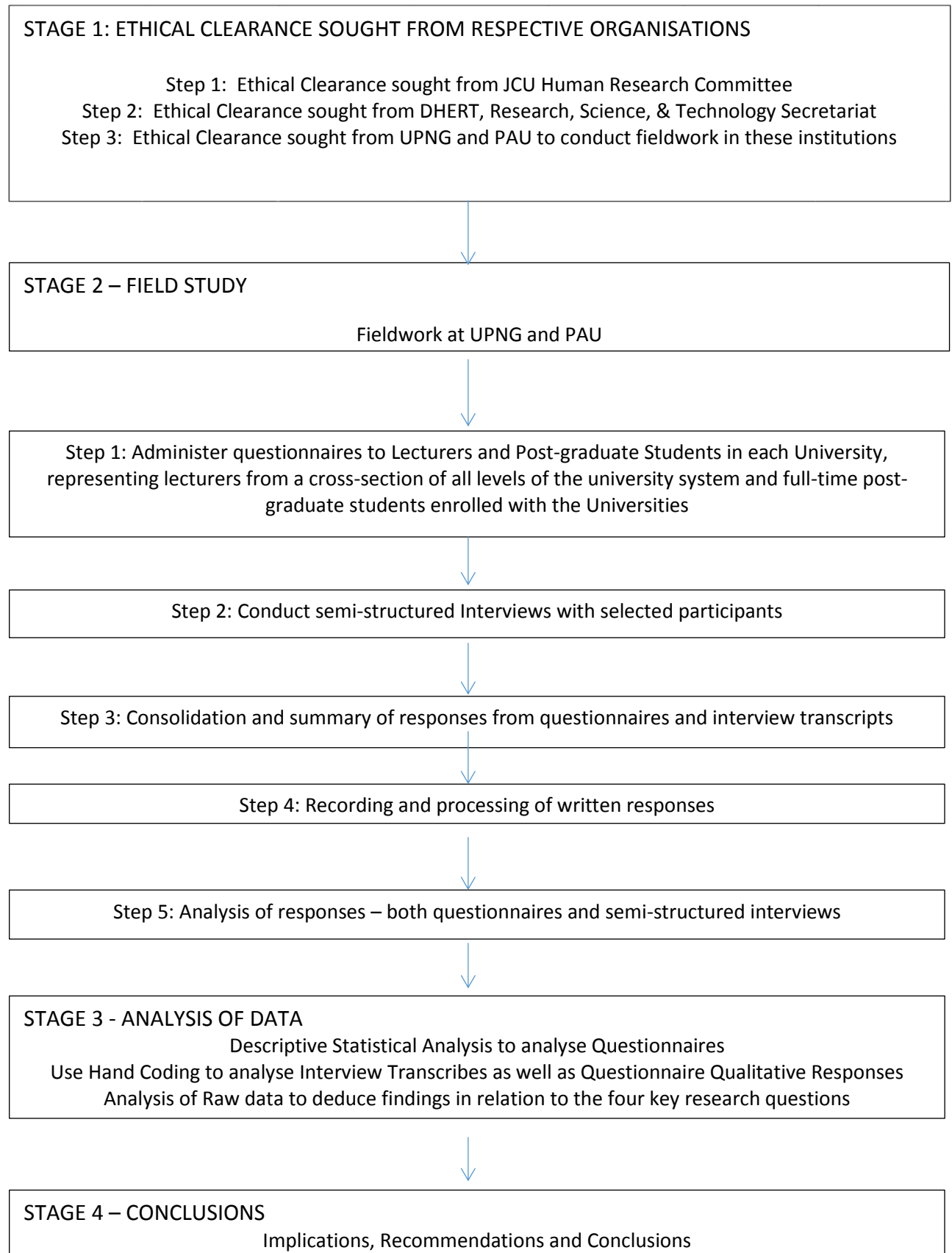


Figure 4.3 Research Plan

4.8 Mixed Research Method

This study used the mixed method case study approach using both quantitative data (quantifiable) and qualitative data (text). It involved procedures for collecting, analysing and mixing both quantitative and qualitative data in a single study (Hammersley, 1996; Berg, 2009; Yin; 2014; Yin, 2003; Yin, 2011; Creswell, 2011; Yin, 2014; Creswell, 2014; Patton, 2015). In other words, mixed methods uses both statistics and stories to explain or describe what the numbers mean.

Mixed methods research design involves using both quantitative and qualitative methods to collect; analyse and ‘mix’ research methods in a single study or a series of studies aimed at understanding a research problem (Johnson et al., 2007; Creswell & Plano, 2011; Teddlie & Tashakkori, 2011; Creswell, 2014; Patton, 2015). The key argument in this approach is that the use and the ‘combination’ of both quantitative and qualitative methods provide a better understanding of a research problem with set research questions under investigation that one of the research methods either quantitative or qualitative alone cannot effectively answer (Johnson et al., 2007; Teddlie & Tashakkori, 2011; Creswell, 2014; Patton, 2015). Mixed methods is recognised as using advanced methods, procedures, requiring extensive data collection and analysis protocols (Creswell, 2011; Creswell, 2014; Patton, 2015). Mixed methods involve “merging, integrating, linking, or embedding” both quantitative and qualitative data collected within a mixed methods study (Creswell, 2014, p. 565). Johnson et al., (2007, p. 123) describes it as “use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques” aimed at deducing the “breadth and depth of understanding and corroboration”. Using mixed research methods in a single study ensures that it could be used to eliminate potential weaknesses if only one research method is used either quantitative or qualitative alone (Hammersley, 1996; Patton, 2015).

4.8.1 Justification of Method Chosen

The core arguments in deciding to use the mixed method case study approach are threefold. First, the combination of both forms of data provided a better understanding of the research problem. Second, the use of triangulation is essential to allow the researcher to be confident in the results. Finally, as convergent results in the

use of multiple methods occur, it is argued by Jick (1979) that confidence in the results will also grow considerably. It is important to argue that the quantitative data collected will deduce and the qualitative data will induce range, patterns and consistencies and points of differences leading towards identifying gaps and leading towards making recommendations for appropriate interventions (Hammersley, 1996; Berg, 2009; Yin, 2014; Yin, 2003; Yin, 2011; Creswell, 2014; Creswell, 2011; Patton, 2015).

Through the process of blending multiple approaches to data collection, it allowed the researcher to decide on the following:

1. emphasis given to each form of data (priority), whether to conduct the document analysis ahead of collecting data using the survey questionnaires followed by conducting interviews;
2. which form of data is collected first (concurrent or sequential), whether to collect the together or separately and deciding on when was the most appropriate time to conduct informal observations of lifelong learning activities in the institutions; and
3. how to 'mix' the data (integrating or connecting), that is deciding how to integrate or connect the different sources of data to add meaning to the analysis.

This process of the use of multiple approaches to data collection also allowed the researcher to use the theoretical and conceptual frameworks devised for this study as well as the key research questions to guide the data collection process (Yin, 2003; Berg, 2009; Yin, 2011; Yin; 2014; Creswell, 2011; Creswell, 2014; Patton, 2015).

The reason for taking this approach was mainly to ensure that the results obtained from one source of evidence was confirmed or validated by the other sources of evidence. The mutual confirmation of measures and the validation of findings were aimed to increase reliability and validity in the raw data collected and the findings of the study. The attempt made by the researcher to relate the different sources of evidence was found crucial to counteract the threats to validity identified in each source of

evidence collected and analysed (Jick, 1983; Berg, 2009; Creswell, 2011; Creswell, 2014; Yin, 2011; Yin, 2014; Patton, 2015).

4.9 Case Study Approach (CSA)

The researcher used the CSA as it was the most relevant and appropriate approach one could use to make an intensive investigation of the issues related to lifelong learning. Yin (2014) argues that the decision to select the use of the CSA largely depends on the research questions. The more that the questions seek to explain some present circumstances, for example, with the use of ‘how’ and ‘why’ some social phenomenon works, the more it is relevant to use the CSA as a research method or if the questions require a more extensive and ‘in-depth’ description of some social phenomenon.

Johnson (1994), Yin (2014) and Patton (2015) when identifying the major strengths of the selection and use of the CSA over other research methods reaffirms that CSA deals with the issue of complexity very well even in a single case study. The descriptive data collected in a single case study could address problems of meaning by examining the records of past events and relate it to the present activity. CSA could also provide intelligible, non-technical findings due to using multiple sources of evidence, which provides a holistic multi-dimensional picture of the activity under investigation. In addition, CSA is argued to provide interpretations of other similar cases due to the fact that the method has properties of ‘reliability’ where similarities and differences can be readily identified to other similar case studies.

4.9.1 Justification of Approach Chosen

The CSA was selected as the preferred methodology as it was seen to be the most convenient methodology to use in this study. The CSA was the most practical means of investigating and analysing the *GoPNG* and institutional policy documents to determine whether they inform lifelong learning. The CSA also seen as the convenient method to investigate and analyse the lecturers’ knowledge, attitudes, beliefs and behaviour to establish whether they foster a climate of lifelong learning. In using the

CSA as a method it was possible to determine whether the PNG government needs an education policy change towards lifelong learning as an ideology.

4.10 Sources of Data and Data Collection Determinants

4.10.1 Sample

Using the convenience sampling technique and based on who agreed to participate in the study, the researcher approached the participants who have opted to participate in the study from a cross-section of full-time university lecturers from the tutor level to the professorial level. Full-time postgraduate students enrolled in the masters and PhD programs in all disciplines within the universities were also invited to participate.

During the time of data collection at the UPNG, full-time post-graduate students from one out of five schools took part. All the other postgraduate students from the other four schools were part-time students and were not on campus to participate in the study. This was an unfortunate situation encountered by the researcher during the data collection period.

For PAU, the full-time masters post-graduate students were readily and willing available to participate in the study. This was mainly due to the awareness of the study conducted by the Director of Research prior to the arrival of the researcher at the university.

The procedures the researcher used to engage the participants are as follows:

1. Letters to seek permission to conduct the study in the participating universities were sent to the Vice-Chancellors at least four months in advance to allow the institutions time to discuss the application before the researcher conducted the study.
2. Lists of full-time lecturers and post-graduate students were obtained from the respective Human Resource divisions of the universities. Using the letters of approval from the DHERST (through the Research, Science and

Technology Secretariat) and the respective university, and the Study Information Sheet (See Appendix B on pages 306-307), prepared by the researcher, copies of these documents were disseminated to all lecturers within each of the universities through the Deans of each School in each of the universities.

3. Those lecturers and postgraduate students who accepted the invitation signed the informed consent form (See Appendix C, pages 308-309) to indicate their willingness to participate in the study
4. Next the researcher followed up in person to meet each participant and explain the nature of the study.
5. This led to the completion of the required questionnaires. It took one week to receive back the completed.
6. Lecturers who opted to participate in the interviews were then approached in person by the researcher. The meeting was aimed to organise a convenient interview time at the choice of the participant and at a venue convenient to the participant to conduct the interview. Most interviews on average lasted one hour and only a few interviews went beyond one hour up to a maximum of 90 minutes in duration.

Table 4.1 on page 132 shows the number of participants who took place in this study from the two universities:

UNIVERSITY OF NUMBER OF PARTICIPANTS (LECTURERS)	UPNG	PAU
Males	47 – 67%	14 – 42%
Females	23 – 33%	19 – 58%
SUB-TOTAL	70	33
GLOBAL PARTICIPATION (UPNG & PAU)		
Males	61 – 59%	
Females	42 – 41%	
TOTAL	103 – 100%	
UNIVERSITY OF NUMBER OF PARTICIPANTS (POSTGRADUATES)	UPNG	PAU
Males	8 – 73%	8 – 73%
Females	3 – 27%	3 – 27%
SUB-TOTAL	11 – 100%	11 – 100%
GLOBAL PARTICIPATION (UPNG & PAU)		
Males	16 – 73%	
Females	6 – 27%	
TOTAL	22 – 100%	

Table 4.1 Participants of the Study

4.10.2 The Participants and their Personal Particulars

Table 5.1 below shows the details of the 103 lecturer participants who willingly participated in this study in compliance with the convenience sampling technique used.

Category	Lecturers		Postgraduate Students	
	Gender	Total – 103	Percentage	Total – 22
Male	61	59%	16	73%
Female	42	41%	6	27%
Designation	103	100%	22	100%
Professors	3	3%		
Associate Professors	6	6%		
Senior Lecturers	25	24%		
Lecturers	58	56%		
Tutors	11	11%		
Age Groups	103	100%		
61 and over	11	11%		
51-60	32	31%	2	9%
41-50	34	33%	8	36%
31-40	26	25%	7	32%
20-30	0	0%	5	23%
Disciplines	103	100%	22	100%
Law	2	2%	0	0%
Sciences	16	15.5%	1	4%
Medical Health Sciences	37	40%	1	4%
Business	17	16.5%	12	55%
Humanities	26	25%	7	33%
Others	5	5%	1	4%
Highest Qualification attained	103	100%	22	100%
PhD	22	21%		
Masters (Hons)	3	3%		
Masters	54	52%	3	14%
Honours	4	4%	1	4%
Degree	20	19%	18	82%
Diploma	0	0%	0	0%
Years of Service	103	100%	22	100%
20 and over	11	11%		
15-19	15	15%		
10-14	22	21%		
5-9	26	25%	13	59%
4 and less	29	28%	9	41%
	103	100%	22	100%

Table 4.2 Details of Participants

It can be deduced from Table 5.1 that a total of 125 participants participated in this study comprising 103 lecturers and 22 postgraduate students. Out of the 125 participants, 77 males (62%) and 48 females (38%) representing both universities participated. Out of the 103 lecturers, 61 males (59%) and 42 females (41%) participated and out of the 22 postgraduate students, 16 males (73%) and 6 females (27%) participated, representing both universities.

The 103 lecturers represented a cross-section of academics from the professorial level to the tutor level. The majority of lecturer participants were lecturers (58 out of 103 – 56%), followed by senior lecturers (25 out of 103 – 24%), tutors (11 out of 103 – 11%) and from the professorial level, both associate professors and professors, (9 out of 103 – 9%).

In terms of Age Groups, the majority of lecturer participants (66 out of 103 – 64%) came from the age groups 41-50 years of age (34 out of 103 – 33%) and 51-60 years of age (32 out of 103 – 31%). The third highest age group was the 31-40 years of age (26 out of 103 – 25%) and only 11 out of 103 lecturers came from the age group 61 and over. No lecturers came from the age group 20-30 years of age. For the postgraduate students, the majority of participants (15 out of 22 – 68%) came from the age groups 41-50 years of age (8 out of 22 – 36%) and 31-40 years of age (7 out of 22 – 32%). Five out of 22 (23%) came from the 20-30 years of age group and only 2 out of 22 (9%) came from the 51-60 age group. None came from the age group 61 and over.

In regards to Disciplines in which the lecturer participants came from, the largest group (37 out of 103 – 40%) had Medical Health Sciences backgrounds, Humanities and the Social Sciences (26 out of 103 – 25%), Business (17 out of 103 – 16.5%), Science (16 out of 103 – 15.5%), Law (2 out of 103 – 2%) and Others, representing academic support services (Flexible and Distance Learning, Teaching, Learning and Academic Support and Research), 5 out of 103 – 5%). For postgraduate students, the majority of students came from the Business (12 out of 22 – 54.5%), 7 out of 22 (32%) students came from the Humanities and the Social Sciences and one each from Medical Health Sciences, Sciences and Agriculture (3 out of 22 – 13.5%).

In terms of Highest Qualifications attained, the majority of lecturers who participated hold at least a Masters' degree (54 out of 103 – 52%), 22 (21%) participants had a PhD qualification, 20 (19%) participants had a first degree, 4 (4%) participants had an Honours degree and 3 (3%) participants had a Masters with Honours degree. For postgraduate students, the majority (18 out of 22 students – 82%) have had a first degree, 4 out of 22 (18%) have had a Masters' degree before doing a second masters. None were enrolled in a PhD program.

With regards to Years of Service, the majority of participants (55 out of 103 – 53%) have served the universities with nine (9) years of service or less. Out of the 55 out of 103 participants who have served the universities nine (9) years or less, 29 out of 55 (28%), four (4) years or less and 26 out of 55 (25%), 9 years or less. Twenty-two (22 out of 103 participants – 21%) have served the universities for less than 14 years, 15 out of 103 (15%) less than 19 years and only 11 out of 103 participants (11%), have served the universities for over 20 years or more.

These statistics indicates the range and spread of participants from the wider cross- section of the universities' academia as well as the main disciplines that are taught at those two universities. For postgraduate students, the numbers of students registered on full-time studies in most academic programmes offered at both universities were low at the time of data collection. Most postgraduate students from the Schools of Sciences and Medical Health Sciences at the UPNG were registered as part-time students so they did not qualify to participate in this study.

4.10.3 Setting

This study was conducted in two universities (UPNG and PAU) within and outside the perimeters of Port Moresby in the NCD. PAU is located 14 miles outside of Port Moresby. (See Figure 1.2, p. 28) The other four universities are UniTech in Lae, Morobe Province, UNRE in Vudal, East New Britain Province, DWU in Madang, Madang Province and UOG in Goroka, Eastern Highlands Province. Port Moresby is not linked by road to any of the other major towns in which the other universities are situated. It was therefore considered most convenient to conduct this study in the two universities (UPNG and PAU). Most importantly, in using the CSA, it was seen as

essential to have easy access of entry into these institutions due to the researcher's previous professional attachments and liaisons with both universities.

4.10.4 Instrumentation

4.10.4.1 The Survey Questionnaires

Survey questionnaires were designed for both lecturers and postgraduate students (See Appendices D on pages 310-326). These questionnaires items were designed using samples of questions validated in a similar study conducted in Australian universities by Candy, Crebert and O'Leary (1994). The question items were carefully selected by the researcher to contextualize the questions to the PNG education context. The researcher selected the questionnaire items based on the aims of the study including the four key research questions posed for this study.

The researcher is aware that there are other assessment tools available that could have been used such as the Course Experience Questionnaire (CEQ) and the Graduate Skills Assessment (GSA) (Wilson et al., 1997; Hambur et al., 2002; Harris & James, 2006; Bradley et al., 2008; Badcock et al., 2010). CEQ ask graduates to self-assess the extent to which their course of university study has contributed to the development of generic skills. GSA is a standardized, objective measure of four generic skills – critical thinking, problem-solving, interpersonal skills, and written communication. However, for this study, the researcher decided that the questionnaire designed for the lecturers would be adopted and adapted for the postgraduate students to assess the extent to which their course of university study contributed to the development of lifelong learning skills.

One hundred and three (103) questionnaires were administered to lecturers in both universities covering a cross-section of academics from the professorial level to the tutor level. Twenty-two (22) questionnaires were also administered to full-time post-graduate students in both universities. The post-graduate students were administered the questionnaires to use as a source to verify and cross-validate the responses received through the questionnaires administered to lecturers.

4.10.4.2 Semi-Structured Interviews

Semi-structured interviews were conducted using the Semi-Structured Interview Guide (using interview questions validated in a similar study conducted in Australia by Candy, Crebert and O’Leary (1994, pp. 309-317) (See Appendix E, page 327) and carefully selected by the researcher to contextualize the questions to relate to the PNG education context and using the aims and the four key research questions. The interviews were intended to seek a deeper understanding of the views of selected individuals who willingly consented to participate in the study. The interview was unstructured using a conversational approach so that the participant was not pressured during the interview. (Yin, 2014, Berg, 2009, Christians, 2011)

Out of the 103 participants from both universities, the researcher interviewed 20 participations, (10 male lecturers and 10 female lecturers), who consented their willingness to participate in the interviews in the informed consent forms distributed to all participants. Each interview took at least one to one-and-a-half hours to complete. These interviews were audio-recorded based on the acceptance of the participant as indicated in the informed consent form and later transcribed by the researcher. Ethical considerations and protocols listed in this study were observed by the researcher to ensure privacy, anonymity and confidentiality. The signed informed consent form by each participant, confirms that the participants knowingly participated in the study and were doing so of their own choice rather than being coerced to participate by the researcher (Berg, 2009; Yin, 2003, Yin, 2011, Yin, 2014; Creswell, 2014).

4.11 Methods of Data Analysis and Interpretation

In analysing the data collected, the analysis focussed on answering the four key research questions using both quantitative and qualitative analysis techniques (using descriptive statistical analysis and hand-coding) aimed at identifying range, patterns, themes and consistencies and points of differences in the raw data collected. This led to identifying gaps and allowed the researcher to make recommendations for appropriate interventions related to the application of lifelong learning ideology and its guiding principles in policy formulation and activities related to teaching and learning,

assessment and evaluation, curriculum design and development and the provision of student support services.

The researcher initially used descriptive coding in the first cycle of analysis of the qualitative data gathered in both the questionnaires and in the semi-structured interviews. Qualitative data was 'qualitized' for statistical analysis using descriptive measures such as frequencies and percentages. Each comment was summarized in a word or short phrase. The descriptive codes were then categorized.

Further analysis and interpretation using magnitude coding followed which was aligned with the research questions posed for this study. Magnitude coding was used concurrently with evaluation coding. The codes were then placed in a summary table or matrix. According to Saldana (2013), magnitude coding is appropriate to enhance description, especially basic statistics such as frequencies or percentages as evidence of outcomes. The use of magnitude coding also adds texture to codes, sub-codes and categories to compose a richer answer and corroborate numbers and text.

4.12 Ethical Considerations

Preparing to conduct a case study places greater demands on the researcher to seriously consider ethical considerations for all research involving human subjects and involving human affairs (Yin, 2014); Bergs, 2009; Christians, 2011). To adhere to the ethical processes of the JCU Human Ethics Committee, it was vital that formal approvals to conduct research in PNG was sought from the respective authorities before moving back to PNG to collect data. The researcher made every effort to ensure that there was an equal gender participation in collecting the qualitative data required for this study through interviews thereby selecting equal numbers of participants (males and females) from the institutions the study was conducted in. Five males and five females were selected to be interviewed from each university totally twenty participants, ten males and ten females. In collecting the quantitative data through the use of a survey questionnaire, it was found impossible to gain even representation for the participation of both males and females, as the two institutions participating in the study were male-dominated.

In attempting to avoid the problems of embarrassing, hurting, frightening, imposing on, or otherwise negatively affecting the lives of the participants who were making the research possible by their willingness to participate, the following ethical considerations were addressed when conducting this study: confidentiality, privacy and anonymity. Studies on ethical considerations (Creswell, 2014; Neuman, 1991; Yin, 2014; Yin, 2011; Yin, 2003; Berg, 2009; Christians, 2011) have all stressed the importance of research ethics.

4.12.1 The Right to Privacy

The right to privacy, in general, refers to the right of the participants in a study to keep from the public certain information about themselves. To safeguard the privacy of the subjects and to ensure willing participation, the researcher for this study took care to avoid asking unnecessary questions or questions of a private nature in the interviews, and most importantly, obtained written consent for participation from the lecturers and post-graduate students who participated in this study. In gaining informed consent, the researcher explained the nature of the study to each participant and formally solicited their volunteering in the study by going through the consent form and getting the participant to sign the form. This was mainly aimed at protecting the participant from any harm (fraud, duress, unfair inducement or manipulation), and protecting the privacy as well as the confidentiality of the participants from unwitting and undesirable positions in any form (Yin, 2003; Berg, 2009; Christians, 2011; Yin, 2014).

4.12.2 The Right to Remain Anonymous

To ensure anonymity of participants in this study, the participants were informed both verbally and in writing that their individual identities would not be disclosed in whatever manner and their anonymity would be maintained by using a code of identification in the questionnaires as well as interview transcriptions (Yin, 2003; Berg, 2009; Christians, 2011; Yin, 2014). This means that any research records kept by the researcher will remove their names so the raw data collected remains nameless.

4.12.3 The Right to Confidentiality

Similar to the concerns of privacy and anonymity was the concern over confidentiality in relation to who will have access to the data (Yin, 2003; Berg, 2009; Yin, 2014; Christians, 2011). To guarantee the right of participants to confidentiality, the researcher informed participants that the data collected from them would be coded with an identification number. The researcher also informed the participants that the questionnaires would be kept in a safe secure location. The data will be submitted to the JCU Archives for safe storage upon completion of analysis as per the JCU data management guidelines. The participants, especially those who participated in the interviews were reassured that an active attempt will be made by the researcher to remove from the transcriptions any elements that might indicate their identity (Berg, 2009; Christians, 2011). The participants were also reassured that any discussion that took place between the researcher and the participant will be kept strictly confidential. To ensure participants' identities were not revealed, the researcher took extreme care in how he discussed participants others during the process of data collection as well as during the stage of analysis and reporting.

4.13 Chapter Summary

This chapter detailed the research plan and methodology. The research plan emerged from the theoretical and conceptual frameworks drawn from the literature review. The research plan consisted of four main stages, which involved a series of activities to effectively administer the progress of research.

The mixed method case study approach using both quantitative data (quantifiable) and qualitative data (text) was used in this study for triangulation purposes. It involved procedures for collecting, analysing and mixing both quantitative and qualitative data in a single study using multiple sources of evidence. This was aimed to cross-check and validate possible findings from one source of evidence and provide a better understanding of the research problem. It is important to argue that the quantitative data collected will deduce and the qualitative data will induce range, patterns and consistencies and points of differences leading towards identifying gaps and leading towards making recommendations for appropriate interventions.

This chapter ended with the discussion of the ethical considerations that were observed to ensure that privacy, anonymity and confidentiality was maintained throughout the conduct of this study. The next chapter will describe the analysis of the data, the findings of this study as well as a critical analysis of the findings in relation to the review of literature in order to identify implications for further research as well as implications for theory and practice.

Chapter 5: Analysis of Data, Findings and Discussion

5.1 Introduction

This chapter provides an analysis of data, which were collected during the field study at the University of Papua New Guinea (UPNG) and the Pacific Adventist University (PAU) respectively in the National Capital District (NCD) of Papua New Guinea (PNG). This study used the convergent parallel design in which the researcher collected both quantitative and qualitative data simultaneously. The process used involved two data collection efforts that were related to each other – concurrent and sequential processes of data collection. As argued by Creswell (2014):

one data collection form supplies strengths to offset the weaknesses of the other form, and that a more complete understanding of a research problem results from collecting both quantitative and qualitative data (p. 570).

It was therefore found more appropriate to converge or compare in some way quantitative data (scores) and the qualitative data (text) followed by a discussion. This is known as a side-by-side analysis about the themes emerging from the data and how they support or refute the statistical analysis. In comparing the two sources of data (both questionnaires and interviews) it was aimed to determine if the interviews supported the questionnaire results.

In using triangulation, it allowed the researcher to decide on the emphasis given to each form of data (priority), which form of data is collected first (concurrent or sequential), how to ‘mix’ the data (integrating or connecting). The use of multiple approaches to data collection also allowed the researcher to use the theoretical and conceptual frameworks devised for this study as well as the key research questions to guide the data collection process.

5.2 The Procedure

Two surveys were developed and administered to investigate the status of lifelong learning from two different perspectives – the lecturers and the postgraduate

students. Both questionnaire data were recorded after the data collection period and processed into manageable form using the Excel spread sheets in preparation for analysis.

It was intended to first analyse the survey data from both questionnaires which contains both quantitative data and qualitative data to present a global picture of how each item in the questionnaires were rated by the respondents. Next the survey data was categorized under each item related to lifelong learning activities and later re-categorized under key themes. The researcher then compared whether the qualitative data supported the quantitative data in both surveys. The researcher then identified any points of differences in a discussion linked with the literature review and the conceptual framework designed for this study. This process was aimed to support an in-depth discussion of the major themes emerging from the data and how they confirmed or refuted the results and findings of this study. The aims of the study and the four research questions designed for this study guided the analysis procedures and processes conducted.

5.3 Survey Questionnaire Analysis

The first part of the analysis examines the results and findings of the overall responses from the 27 items–questionnaire quantitative data gathered from the 103 questionnaires from lecturers representing the two universities. The results from the 27 items–questionnaires were later re-categorized into key themes representing lifelong learning activities.

In preparing and organizing the data for analysis, the researcher scored the data and created a codebook, determining the types of scores to use for Excel program analysis. A numeric score or value was assigned to each response category for each question on the questionnaires. Using the Likert Scale ranging from Strongly Agree, Agree, Undecided, Disagree and Strongly disagree, the scores of ratings were summed up and percentages calculated to show the distribution of respondents per item. The researcher worked out percentages to determine how one score relates to the other scores in comparison. These simple statistical analyses were performed to establish the trends or tendencies in the data aimed at providing an understanding of how varied the

results in the scores were and provided insights into where one score stood in comparison with other scores.

The results of the 22 post-graduate students' questionnaires were used to cross-reference the results of the 103 lecturers' questionnaires. The results and findings were further cross-referenced using the results of the interview transcriptions of semi-structured interviews conducted with 20 selected lecturers, 10 males and 10 females representing the two universities. Data gathered from the document analysis was also used for cross-referencing purposes to further justify the results and findings in the triangulation of results from the two survey questionnaires and the interviews.

The use of triangulation of multiple sources of data is considered necessary in using the mixed research methods approach. The triangulation of data has allowed the researcher to justify and validate the common and divergent views of the participants of this study from the two universities through cross-referencing.

5.4 Results of the 27-Item Questionnaires

The purpose of conducting the first survey questionnaire with lecturers was to establish whether the lecturers taught students lifelong learning skills in the courses they taught. As a guide for the participants to respond to each item in the questionnaire, two key questions were posed. First, what did the lecturers do to encourage lifelong learning skills in the students they taught? Second, how did the lecturers go about doing that?

The statistical results of each questionnaire item is now presented and discussed. Total number of lecturers who participated in the study was 103. Total number of postgraduate students who participated in the study was 22. The total number of lecturers interviewed was 20 consisting of 10 males and 10 females representing the two universities.

Item 1 examined the lecturers' perceptions on whether courses taught were structured to teach students to become lifelong learners. Out of the 103 respondents, ninety-seven respondents (97, 94%) indicated that courses were structured to teach

students to become lifelong learners. Five respondents (5, 5%) were undecided and only one respondent (1, 1%) disagreed, see Figure 5.1 below.

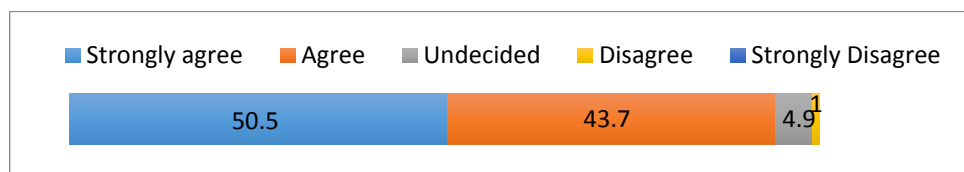


Figure 5.1 Lecturers' perceptions on structuring of courses to develop lifelong learners

In analysing the qualitative data, out of the 103 respondents, eighty-one (81, 79%) respondents commented whereas twenty-two (22, 21%) respondents did not. Out of the 81 who commented, seventy-two (72, 89%) respondents argued that the courses lecturers taught were structured to teach students to become lifelong learners. Both the overall survey responses (97 out of 103 respondents) as well as the qualitative comments (72 out of 81 respondents) support the notion that lecturers structured their courses to teach students to become lifelong learners. These results confirm that the majority of lecturers perceived that the courses they taught were structured to enable students to become conscious of their own performance in learning due to encouraging students to self-regulate their own academic performances. The majority of lecturers also claimed that after mastery of the knowledge, skills and values learnt in courses, students were able to transfer or apply that knowledge, skills and values in life at the workplace or in their personal lives. The emphasis placed on continuous search for updated information encouraged continuous learning to take place throughout the period of the students' studies and after graduating from the universities. This is what three of the lecturers had to say:

The students learn more than content matter. The acquiring of values and development of attitudes are significant which will enable them to use for as long as they live. PAUEDU2

... skills-based course which enhances students' skills in the areas of time management, stress management, communication etc. and encourages them to apply these skills in both their academic and personal lives. UPNGSHSS16

... learning does not stop when a degree is awarded and that the skills they acquire in assembling material from different sources and constructing analyses are more important than the information they are given. UPNGSHSS13

Some lecturers perceived that in encouraging self-directed learning, students will become lifelong learners as they master learning-to-learn skills, develop learning strategies that work for themselves and claim ownership of their own learning. Self-directed learning is believed to reinforce and encourage the use of logic and development and use of higher cognitive thinking processes (Cornford, 2002; Butler, 1996; Mezirow, 1997; Biggs, 2014; Roberts, 2015). Some lecturers were of the view that they continuously encourage students to be critical thinkers by allowing students to question what they learn in class rather than accepting what is taught to them. With the use of deep learning approaches, students are challenged to learn for understanding and encouraged to be logical thinkers by using logic, to add meaning to what they learn. The use of these teaching approaches according to the lecturers who commented, enhance and foster lifelong learning skills in students. This is what two of the lecturers had to say:

I tell my students to be inquisitive, to challenge the norm and question why things are the way they are and whether there is room for continuous improvement. UPNGSBA5

... relate what they learn in their designed profession after graduating ... putting into practice what they've learned theoretically to serve their clients in a meaningful and productive way. UPNGSMHS3

The students learn more than content matter. The acquiring of values and development of attitudes are significant which will enable them to use for as long as they live. PAUEDU2

Out of the 81 respondents that commented, nine (9, 11%) respondents stated that courses taught were not structured well to enable students to become lifelong learners. The main issues raised in the comments section of the questionnaires were in relation to how the content of some courses were poorly designed in its initial stages resulting in the courses not been taught effectively and achieving the required lifelong learning outcomes. In addition, it was argued that some courses focus more on theory than practice therefore making it difficult to assess whether students are taught lifelong learning skills that they could transfer to the workplace after graduating from the universities. It was also pointed out that some lecturers are more didactic and instructive in their approach to teaching, thereby becoming a hindrance to producing lifelong learners. Some lecturers claimed that it was premature to assess whether students are trained to become lifelong learners as no evaluative assessment has been

conducted previously. These views stated by the lecturers indicate that there are gaps in the teaching and learning environment. The gaps identified by lecturers require training of lecturers to foster lifelong learning. This is what three of the lecturers had to say:

I am not sure I could point to structural features for this. PAUTHE1

Difficult to say as no evaluation has been done to determine whether students become lifelong learners. Most of my lectures are didactic and instructive. UPNGSMHS25

Knowledge of course contents very poor resulting in poor students. UPNGSNPS9

Lecturers' perceptions of whether courses were structured to make students become more lifelong learners were compared with the perceptions of postgraduate students (n=22), eighteen (18, 82%) respondents agreed while four (4, 18%) respondents were undecided, see Figure 5.2 below.

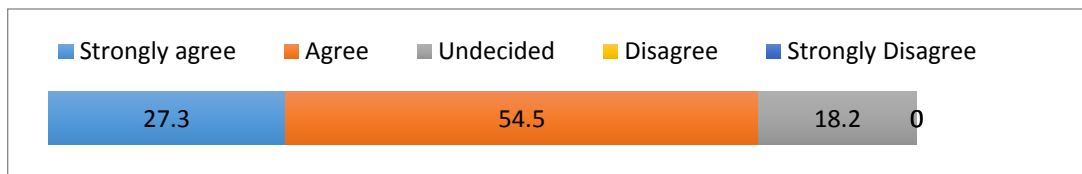


Figure 5.2 Postgraduate students' perceptions on whether lecturers structure courses to develop lifelong learners

Out of the 22 respondents, eighteen (18, 82%) respondents commented and four (4, 18%) respondents did not. Out of the 18 respondents who commented, fourteen (14, 78%) respondents claimed that courses taught by lecturers were structured to teach students to become lifelong learners whereas four (4, 22%) respondents voiced that they did not. Both the overall survey responses (18 out of 22) as well as the qualitative comments (14 out of 18 respondents) support the notion that lecturers structured courses to enable students to become lifelong learners. These results confirm that the majority of postgraduate students (14 out of 18 respondents) thought that the way the course contents were taught assisted students to realize the importance of transferring knowledge, skills and attitudes to new situations after graduating from the universities. The majority of postgraduate students (14 out of 18 respondents) perceived that the challenge is for students to be more proactive in their attitudes and behaviour towards

learning. Students should be more innovative, creative and flexible in their approach to life and adapt to the societal changes and challenges after graduating. The majority of postgraduate students (14 out of 18 respondents) perceive that students should show more responsibility and take ownership of their own learning rather than becoming dependent on the lecturers to impart knowledge, skills and attitudes. This is what one of the postgraduate student had to say:

I am trained to be creative, a critical thinker, evaluator and problem-solver. These skills are demonstrated in the postgrad level at a bigger scale. Values such as patience, trust and honesty are also developed. These values and skills become reality in life and practised in life situations and experiences as well. PAUPG11

However, a few postgraduate students (4 out of 18) argued that courses were not structured to encourage students to become lifelong learners. The postgraduate students revealed that students are more dependent on lecturers to impart knowledge and skills in the courses the lecturers taught. The perception was that the teaching of generic skills from the undergraduate level programs to the postgraduate level programs was lacking. This is what one of the postgraduate students had to say:

We are left to read and find out with no proper guidance. Basic generic skills need to be taught properly at the undergraduate level to equip students with skills to use at the postgraduate level. PAUPG2

From the interviews the researcher conducted (n=20), it was apparent that lecturers in general had the view that curriculum taught is loaded with subject content knowledge at the expense of teaching learning-to-learn skills, information literacy and other essential lifelong learning skills or generic skills or competencies. This is what one of the lecturers had to say:

I think most of the students and I suspect it is a reflection on the PNG education system rather than PNG character but most of the students will be absolutely delighted if I could screw off the top of their head and put the knowledge in ... they would rather be given just the information and to have to work for it, think about it, ruffle about it but for many of them is just no they don't want to do this. Just tell us what it is ... a lot of rote learning, a lot of memorization, a lot of summarising without necessarily much analysing, much reflection, much thought. PAUSMI4

It is not surprising that the analysis of documents from the two universities UPNG and PAU, also confirmed that both universities had clauses in their ‘prospectus’ that identified lifelong learning as a tool to enhance teaching and learning activities and foster lifelong learning skills in students. However, the documents did not explicitly outline strategies to facilitate the development of lifelong learning skills. The lack of clarity in ways to foster and nurture lifelong learning skills in the students within these universities was evident in the interviews despite what some of the lecturers and postgraduate students indicated in the survey questionnaires. This is what four of the lecturers had to say in the interviews:

There is no such thing as lifelong learning policies. It is built in but not emphasized. We only talk about lifelong learning but actually we don’t practice it ... talk about running workshops but workshops are not been conducted ... that’s the thing. UPNGSMI9

I haven’t seen any ... any information or anything that’s out there disseminated by the university telling us that is happening and this is to instil lifelong learning skills in the students or staff ... I’m not sure but certainly I don’t know. UPNGSMI7

I don’t know how to answer that question but as I have said there are so many ideal documents that we have ... people can interpret the mission and vision in different ways but explaining it in detail ... that this area is about lifelong learning I don’t think so. UPNGSMI4

No I don’t think so ... if it does and if there is any, I am yet to see it. The absence of more mature people on campus seem to be an indication that the university is not getting its policies to promote this aspect of learning within the community. UPNGSMI5

These quotations suggest that in the two universities at least for some lecturers the process of teaching lifelong learning skills is not clear. Rote teaching and learning was observed to be predominant. The use of deep approaches to teaching and learning to enhance deeper understanding and adding of meaning and value to what students learn becomes secondary. The government documents (Vision 2050, the National Higher and Technical Education Plan 2015-2024, and the National Education Plan 2015-2019) also implicitly suggest lifelong learning as a strategic goal, however, strategies in how to actualize lifelong learning as an ideology within the education system are yet to be developed. This highlights a mismatch between the government of PNG’s view of lifelong learning as a priority measure, and how the government of

PNG plans to enhance the quality or standards of education in PNG educational institutions.

Learning is about making meaning: how we perceive and understand the world (Marton & Booth, 1997). A learner learns abstract principles, factual information and acquires methods, techniques and approaches. A learner also learns ideas, behaviours appropriate for different types of situations, use recognition and reasons for logic to add meaning and value to what he or she learns (Fry, Ketteridge & Marshall, 1999). Studies on learning styles have found that students whose learning styles are focused on deep learning (meaningful learning or productive thinking) are found to be more confident than their counterparts who focus on surface learning (rote learning) to pass courses and programs (Biggs, 1987; Biggs, 1988; Candy, 1988; Biggs, 2003; Ramsden, 2003). Deep learning involves an active search for meaning where higher cognitive level activities are required to do the task properly. Students who are deep learners strive for a deeper and complete understanding of the context and meaning of what they are learning. These students are likely to deduce principles that could be applied wherever and whenever necessary later in life (Candy, 1991; Biggs, 2003; Ramsden, 2003). In contrast, surface learning involves getting the learning task done without much use of higher cognitive level activities. The learner's intention is to get the task completed without due care to details (Boud, 1981; Biggs, 1987; Marton et al., 1997; Weimer, 2002; Biggs, 2003; Ramsden, 2003; Amundsen, Winer & Gandell, 2004).

The results of the surveys and the interviews make it clear that the students' approaches to learning and the outcomes of learning are interrelated. Surface approaches to learning are usually more strongly linked to poor learning and the learner may struggle to develop understanding. Rote learning is a common surface approach (Fry, Ketteridge & Marshall, 1999). In contrast, deep approaches to learning are more strongly linked to effective learning (Biggs, 1987; Candy, 1991; Ramsden, 2003). Deep approaches represent the type of learning such as the use of imagination, flexibility and adaptive skills that lecturers expect students to do. Deep approaches also allow students to use academic knowledge to control and clarify the world outside academic knowledge (Biggs, 1987; Candy, 1991; Ramsden, 2003). Deep approaches to learning could foster lifelong learning skills in students if encouraged by lecturers.

Based on the researcher's informal general observations during data gathering phase at the two universities, the researcher identified the teaching and learning as rote teaching and learning. Most students were viewed to be more dependent on the lecturers to impart the knowledge required to pass the courses. The attitude and behaviour of lecturers to load students with all the information they will need for life is impossible due to rapid global changes in information and technology (Boud, 1981; Weimer, 2002; Ramsden, 2003; Amundsen, Winer & Gandell, 2004). This observation by the researcher was confirmed by lecturers who were interviewed (n=20), that the majority of lecturers (16 out of 20) believe that teaching and learning strategies required to promote the deep approach to learning and teaching need to be encouraged at the universities. This is aimed to move students from being dependent to become independent learners (Ramsden, 2003; Amundsen, Winer & Gandell, 2004). Such views reinforced the need for universities to introduce appropriate academic staff development programs as well as student academic support programs, to foster lifelong learning skills in both the lecturers and students (Boud, 1981; Weimer, 2002; Ramsden, 2003; Amundsen, Winer & Gandell, 2004).

Item 2 examined the lecturers' perceptions on whether courses are structured in a way to move students from being dependent learners to become independent learners. Out of the 103 respondents, the majority of respondents (95, 92%) indicated that the courses taught were structured to move students from being dependent learners to independent learners. Five respondents (5, 5%) were undecided and three (3, 3%) disagreed, see Figure 5.3 on page below.

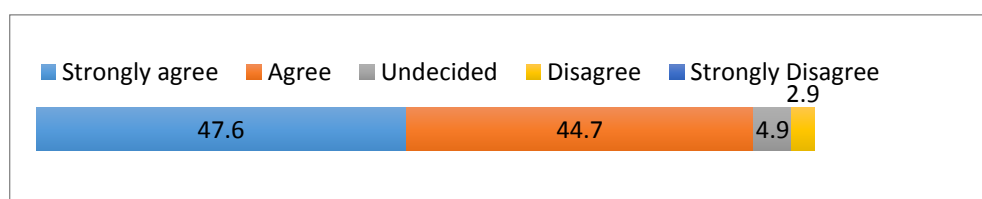


Figure 5.3 Lecturers' perceptions on structuring of courses to move students to become independent learners

In analysing the qualitative data, out of the 103 respondents, seventy-six (76, 74%) respondents commented whereas twenty-seven (27, 26%) respondents did not. Out of the 76 (74%) respondents who commented, sixty-one (61, 80%) respondents argued that the courses taught were structured to move students from being dependent learners to become independent learners. However, fifteen (15, 20%) respondents were

of the view that in the courses they taught students were more likely to act more dependent than independent learners. Both the overall survey responses (95 out of 103 respondents) as well as the qualitative comments (61 out of 76 respondents) support the notion that lecturers make attempts in through their teaching to move students from been dependent to independent learners. The majority of lecturers (61 out of 76 respondents) were of the view that teaching strategies were applied to develop curiosity for learning in the minds of students. The emphasis was based on self-directed learning where students were encouraged to take responsibility in their own learning. When students reach a level where they can be identified as self-directed learners, they are found to set their own goals and standards where they learn in an atmosphere of autonomy (Grow, 1991) Lecturers are required to facilitate or cultivate the student's ability to learn independently or in collaboration with others. Lecturers use teaching strategies to set challenging learning activities and events to actively challenge students to develop their higher order thinking skills or generic skills required to be successful learners.

Exposing students to problem-based learning also helps develop generic skills (Boud, 1985; Duch et al., 2001; Weimer, 2002; Dee Fink, 2003; Savin-Baden, 2003) that are transferrable in new work integrated learning situations. Problem-based learning develops in students the ability to think critically and analyse and solve complex, real world problems. It also allows students to work cooperatively in teams and small groups to find, evaluate and use appropriate learning resources. Problem-based learning also develop both verbal and written communication skills. Problem-based learning also enable students to use content knowledge and intellectual skills to become continual learners (Boud, 1985; Duch et al., 2001; Weimer, 2002; Dee Fink, 2003; Savin-Baden, 2003). In using problem-based learning, students are challenged to think and find ways to improve current practice and work out ways to solve problems presented to them.

In most learning situations, lecturers encouraged students to develop generic skills when work integrated learning opportunities are pre-arranged and provided by lecturers as part of the courses (Weimer, 2002; Dee Fink, 2003; Cooper, Orrell & Bowden, 2010). Students were given opportunities in these work integrated learning situations to make their own decisions and come up with answers and solutions to cases

and issues. The use of problem-based learning as well as work integrated learning encouraged active learning of students in both universities. This is what two of the lecturers had to say:

Students are told to read up materials and do case presentations. They talk and discuss cases. No longer am I directing but students direct their own learning. UPNGSMHS17

Assignments are set in a way that encourages students to find and search for information. Collaborate in independent learning. PAUEDU1

In contrast, a minority of the lecturers (15 out of 61 respondents) expressed their dissatisfaction with students' orientation to learning arguing that in most classes they taught, lecturers were expected to provide handouts and explain in detail the subject matter. This approach in learning promotes 'surface' learning or rote learning where content is presented as a discrete set of facts to be memorized. In preparation for tests and examinations, some lecturers pre-empted topics that could be included in a test or an examination to guide students in their study for the scheduled test or examination. These lecturers (15 out of 61) observed students to be more passive than active learners in their classes. The students expected direction and guidance from lecturers to get tasks completed successfully and within the time expected. Lecturers were also expected to identify what needs to be learned, to prescribe the learning methods, and to assess what and how well students have learned (Fry et al., 1999; Weimer, 2002). Such attitudes encourage dependency on lecturers to regulate and monitor the teaching and learning of students (Boud, 1981; Fry et al., 1999; Weimer, 2002). This is what two of the lecturers had to say:

Yes I would like to think so [students to be more independent], however, students continue to be dependent. UPNGSHSS4

Not quite so as no follow up studies have been done to establish whether students become independent learners post-graduation. UPNGSMHS25

Lecturers' perceptions of whether courses were structured to enable students to become independent learners was compared with the perceptions of postgraduate

students (n=22), nineteen (19, 86%) students agreed while one (1, 5%) respondent was undecided and two (2, 9%) disagreed, see Figure 5.4 below.

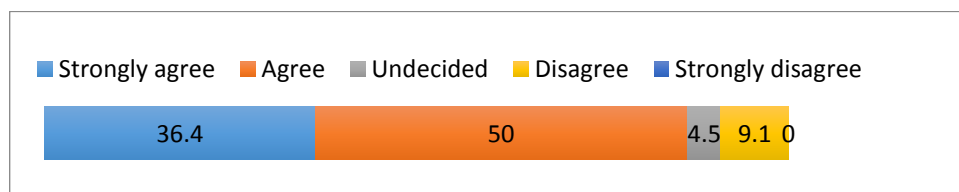


Figure 5.4 Postgraduate students' perceptions on whether lecturers structure courses to move students to become independent learners

Out of 22 respondents, eighteen (18, 82%) respondents commented and four (4, 18%) respondents did not. Out of the 18 respondents who commented, thirteen (12, 67%) respondents declared that courses taught were structured in a manner to move students from being dependent learners to become independent learners whereas (6, 33%) indicated no. Both the overall survey responses (19 out of 22 respondents) as well as the qualitative comments (12 out of 18 respondents) support the notion that lecturers make attempts in their teaching to move students from been dependent to independent learners.

The perception of the majority of postgraduate students (12 out of 18) is that in most classroom learning activities lecturers challenged students to search for information on their own to accomplish the requirements set in an assigned tasks. The use of this teaching strategy encouraged in students the idea of self-directed learning. Such learning approach also helped students to develop higher cognitive thinking skills such as analysing, synthesizing, and evaluating real-world problems or cases. The views of these two postgraduate students summarized the sentiment expressed by a majority of those postgraduate students (12 out of 18) who commented:

I am able to determine the gap in my area of interest and contribute findings that fit respective situations. By finding meaningful contributions I become an independent learner. PAUPG9

In postgraduate studies, you tend to work/learn alone most times. You organise, you think, you plan, you research and work to meet deadlines. PAUPG11

However, the views of the minority of postgraduate students (6 out of 18) who disagreed, was that lecturers should be more resilient in their approach and challenge

students to think critically of what they are learning rather than passively engaging students in the learning processes in their classrooms. These postgraduate students felt that they were 'spoon-fed' the subject content knowledge without being challenged to use their higher-cognitive thinking skills. There was more didactic teaching than active learning taking place in the classrooms. This is what two of the postgraduate students had to say:

Some lecturers spoon-feed us while others make us search for answers.
UPNGPG3

Students need more exposure to developing higher-level cognitive thinking processes. PAUPG1

The interviews (n=20) conducted by the researcher revealed higher cognitive thinking skills were lacking in students in both undergraduate and postgraduate levels of study. When these lecturers were asked to identify barriers to learning, the poor attitude of some academic staff was identified as one factor. Negative attitudes such as lack of compassion, non-attendance to teaching responsibilities, lack of providing detailed assessment feedback, lack of critical self-reflection in both lecturers and students to improve and enhance own teaching and learning performances.

Most lecturers (16 out of 20) stated that imparting subject knowledge content to students during lectures and tutorials was encouraging students to become dependent on lecturers. Rote teaching seem to be the way out due to increases in the number of students enrolled in academic programs at the universities. Other issues such as inadequate funding contributed to lack of teaching and learning resources; inadequate infrastructure to promote active engagement of students in the learning processes. This is what one of the lecturers in the interviews had to say:

The university is constantly pressured with time and resources and there is a sense of continually attempting to doing more with less and certainly I feel less ... we haven't yet developed a way yet to develop more hours in the day and there is nothing less to be done ... we have triple our numbers ... we go research students in our postgraduate level, we are expected to publish, we are expected to attend conferences, we are expected to do all these things that we were not expected to do fifteen years ago ... I think I am not the only one in this university that feels that ... so by the time you have finished organizing and marking and teaching far more students than we used to have and publishing more and researching more and

supervising more postgraduates or yes let's think about lifelong learning!
It tends to be one of those things that might get pushed lower and lower
into the list of priorities. PAUSMI4

The scenario illustrated in the above quotation reveals a common trend of teaching in PNG universities. However, it must be pointed out that it can be improved because students do mature in their learning and most students develop intellectually at the universities (Candy, 1991; Weimer, 2002). But how students develop intellectually, the learning processes that they learn to develop themselves, and how lecturers might constructively intervene in the learning process still remains uncertain. There is limited literature that addresses the actual process of making student become independent, self-directed learners (Weimer, 2002). It is important that when using learner-centred teaching strategies, these strategies are used in ways that are effective for students' growth and development as learners. If learning is understood as incremental, then it is important that assignments, learning activities, learning events and courses are sequenced so that the order in which they are experienced expedites growth, intellectual development and interpersonal maturation (Weimer, 2002). As Weimer (2002, p. 176) argues, "growth as a learner happens in the context of other kinds of growth and growth in all areas overlaps, interrelates, and reciprocally influences."

One way to promote students to grow as learners is by encouraging learning for understanding and learning to add meaning and value to the subject content taught (Gibbs, 1999; Weimer, 2002; Biggs, 2003; Hunt & Chalmers, 2012; Hunt, 2012). Courses taught at universities should be more practical oriented than theoretical. Courses should emphasize learning by doing through organizing practicums for students to gain exposure and gain real hands-on experience whilst on work experiences in their fields of specialization and study (Gibbs, 1999; Weimer, 2002; Biggs, 2003; Hunt & Chalmers, 2012; Hunt, 2012). Assessment practices utilized at the universities need to change to accommodate the changes taking place in the workplaces. Higher-order thinking skills such as problem solving, analysis, synthesis, evaluating and making sound decisions and judgements through critical-reflection and self-analysis should be the focus of learning and teaching (Krathwohl, 2002; Weimer, 2002; Biggs, 2003; Gibbs, 2010; Reeves & Reeves, 2012). Lecturers at the universities need to be more creative in planning their teaching and learning activities to stimulate learning and challenging students more than what they are currently doing (Gibbs, 1999; Gibbs,

2010; Biggs, 2003; Hunt & Chalmers, 2012; Hunt, 2012). This is what one of the lecturers had to say:

You know critical thinking is lacking ... to be able to think critically in looking at things and understanding a question and be able to ask the right question ... we are struggling with this one ... so the analytical thinking skills, the critical thinking skills, the creative thinking skills are sometimes questioned ... we need to do more. PAUSMI9

From the interviews, some of the respondents (6 out of 20) blamed the previous high or secondary school system and the previous teaching and learning experiences the students acquired in their earlier levels of the formal education system. They argued that teaching and learning in the lower levels of learning were more focused on rote learning (surface learning) rather than active learning (deep learning) for understanding and adding meaning to what subject content was learned at those levels. This is what one of the lecturers had to say:

Our learners are very dependent maybe because of the high school coming up ... they've been taught rote learning ... in the high schools they just teach them theory on the blackboard ... the teacher in the high school is probably not teaching them how to be problem solvers so when they come here they carry that mentality here to depend on the lecturers and so those students are very dependent. PAUSMI5

From the discussion thus far, lifelong learning could be fostered in the minds of students and change the ways students learn by universities encouraging lecturers' to change their approach to curriculum design and development. Universities could also foster lifelong learning by ensuring that there are measures to encourage lecturers to use relevant and appropriate assessment practices. The use of appropriate assessment practices can be one of the most powerful levers teachers have to influence the behaviour of students as learners and the manner in which students respond to courses and the teaching and learning activities designed to actualized the execution of that course (Gibbs, 1999; Hunt, 2012). By adopting appropriate assessment practices; lecturers could capture the attention and time of the students as learners, generate appropriate learning activities to challenge students and stimulate learning (Gibbs, 1999; Biggs, 2003; Hunt, 2012). Lecturers could assist students to remain focus on understanding the subject content knowledge by providing timely feedback to add

meaning and context to what they are learning. In that way, students are encouraged to internalize the discipline’s standards and notions of quality as they proceed in learning the subject content knowledge of the course, the skills and attitudes required for mastering the expectations of that discipline they are enrolled in (Hunt & Chalmers, 2012; Hunt, 2012).

Item 3 examined the lecturers’ perceptions on whether the curriculum content both in theory and practice is balance. Eighty (80, 78%) respondents indicated that the curriculum content they teach is balanced in theory and practice. Seven (7, 7%) respondents were undecided and sixteen (16, 15%) of respondents disagreed, see Figure 5.5 below.

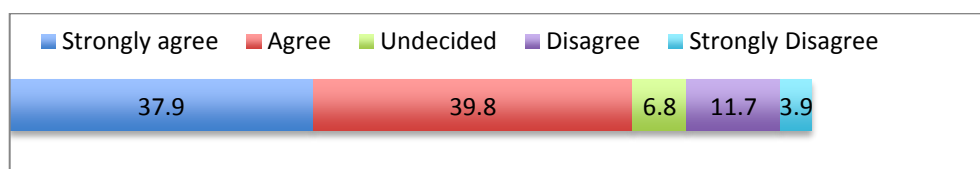


Figure 5.5 Lecturers' perceptions on whether curriculum is balanced theoretically and practically

In analysing the qualitative data, out of the 103 respondents, seventy-eight (78, 76%) respondents commented and twenty-five (25, 24%) respondents did not. Out of the 78 (76%) who commented, forty-two (42, 54%) respondents conveyed that the amount of content in the curriculum they teach to students is balanced theoretically and practically. Both the overall survey responses (80 out of 103 respondents) as well as the qualitative comments (42 out of 78 respondents) support the notion that the content in the curriculum lecturers taught to students was balanced theoretically and practically.

Most lecturers (42 out of 78 respondents) were of the view that practicums, field trips or excursions enable students to apply theory into practice. This is what two of the respondents had to say in the comments section of the questionnaire:

Theoretical foundation of any learning has a practical extension. Students must be well versed in their application. UPNGSHSS3

Mostly balanced approach. I teach a competency-based skill subject meaning that they (the students) are expected to translate theory into practice. PAUHSC7

In contrast, thirty-six (36 out of 78) lecturers who commented on this item perceived that there was no balance between the theoretical and practical aspects of the curriculum. They perceived that the content taught in the curriculum was mainly theoretical. The majority of lecturers (30 out of 36) argued that the number of weeks in the semester does not allow for additional practical sessions. Another factor contributing to the lack of emphasis placed on practical sessions is the limited resources available for lecturers to work with. This is what three of the lecturers had to say in the comment section of the questionnaire:

There is not much time to balance the theory and practice. At present it is more theoretical than practical. UPNGSHSS2

I disagree because our practical component is dependent on availability of equipment and associated consumables and finances to purchase needed items to give a balanced practical delivery. UPNGSNPS2

The content is structured mostly to provide theories and concepts, not allowing time for students to do practical exercises. UPNGSBA7

In some disciplines, for example history, the nature of the discipline either balances or creates an imbalance in the emphasis placed on theory and practice. Lecturers teaching medicine and health sciences argued that the subjects they taught require more balanced approach. Whereas for lecturers teaching in humanities and social sciences and business subjects, they argued that it depended on the nature of the subjects to determine whether the delivery of the subject is more theory than practice or otherwise.

Lecturers' perceptions of whether content taught in the curriculum was balanced theoretically and practically was compared with the perceptions of postgraduate students (n=22), eighteen (18, 68%) respondents agreed while one (1, 5%) respondent were undecided and six (6, 27%) disagreed, see Figure 5.6 below.

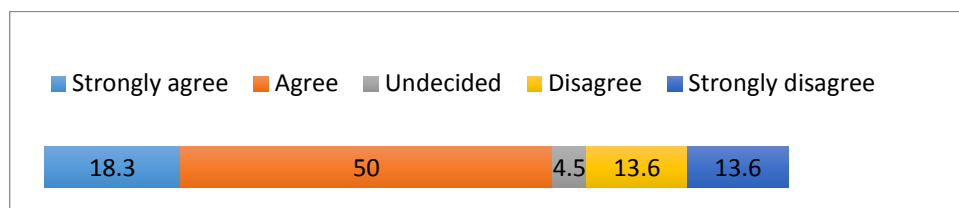


Figure 5.6 Postgraduate students' perceptions on whether the curriculum is balanced theoretically and practically

Out of the 22 respondents, nineteen (19, 86%) respondents commented and three (3, 14%) respondents did not. Out of the 19 respondents who commented, eight (8, 42%) respondents revealed that the courses were balanced theoretically and practically, indicating that what is learnt in theory is quickly applied in practice whereas eleven (11, 58%) respondents argued otherwise. This result indicated that most of the postgraduate students (11 out of 19) view that most courses taught by lecturers were more theoretical than practical. A factor contributing to lecturers teaching mainly theory is the lack of sufficient resources available to facilitate practical sessions. This is what three of the respondents had to say in the comment section of the questionnaire:

All that was taught was coursework. I think curriculum should be all be practical or rather have a practicum part in it. UPNGPG9

In theory, curriculum is been taught, however, when it comes to practical, there is nil practised. It means the university is not practising what it preaches. UPNGPG10

It is not balanced. More of theory and less practical. 75% theory and 25% practical. PAUPG4

From the interviews, lecturers (16 out of 20) revealed that students should be given opportunities to learn outside of the classroom to allow them to practice theory and skills learnt in the classroom. Such practices promote self-directed learning with minimal supervision from the lecturers and enabling students to use self-reflection to improve their own practice. Such practices will also promote up-skilling to reinforce what is taught in theory, developing character building or formation as well as providing opportunities for the mastery of transferable and generic skills to promote lifelong learning. This is what one of the lecturers had to say:

We find that when students come back from doing this practical experience they are more confident ... they completely change their way of communication ... speak with precision, they really know what they are talking about ... they can interact with people. PAUSMI2

The scenario described above places great emphasis and importance on the use of practical sessions to reinforce theory taught in class. There needs to be a balance between theory and practice to enhance understanding and add meaning to practice. Practice allows students to gain confidence and believe that they can do the tasks with

minimal supervision from the lecturers enabling them to have hands-on practical experience, learning by doing to develop skills learnt in class. This is what two other respondents had to say when asked to identify some ways in which lecturers could promote lifelong learning:

I always uphold this saying “theory without practice is emptiness, practice without theory is blindness” ... a theoretical aspect of the curriculum is as important as the practical part in a course so that one is neither empty nor blind. UPNGSMI2

Share experiences of good practices ... information technology ... be more innovative and change with the times to be on par with changes brought by the impact of globalization. UPNGSMI2

Globalization has brought about many changes that affect good workplace practices which lecturers teaching at universities must be made aware of both theoretically and practically. Lifelong learning should respond to a person’s needs to cope with the demands of contemporary society through systematic acquisition, renewal, upgrading or completion of knowledge, skills and attitudes (Cropley and Knapper, 1983; Cornford, 1999; Bridgstock, 2009; Cooper, et al., 2010; Smith-Ruig, 2013; Homayounzadeh, 2015; Volles, 2016). Some writers for example Jarvis (1999) have argued that universities teach is information that can only become knowledge when it has been learned. The knowledge can only become legitimate knowledge when it is found to work for the learner especially in practical terms (Jarvis, 1999; Cornford, 1999; Bridgstock, 2009; Cooper, et al., 2010; Smith-Ruig, 2013). This raises fundamental implications to utilization of appropriate teaching and learning activities at universities that promote and balances both theory and practice.

The literature on thinking skills frameworks and taxonomies in the past two decades have presented structures aimed to help identify, articulate, discuss and assess aspects of thinking in the process of learning (De Corte et al., 2001; Anderson & Krathwohl, 2001; Halpern, 2002; Fuchs et al., 2003; Sternberg, 2003; Lipman, 2003; Higgins et al., 2004; Moseley et al., 2005). To plan, monitor and evaluate what is taught and learned at all stages of lifelong learning is paramount in developing such frameworks and taxonomies. All these frameworks identified higher-order cognitive or productive thinking (analysis, synthesis and evaluation) as significant in the process

of learning. The use of these higher order thinking processes results in a productive outcome involving the learner to use critical thinking to show a deeper understanding of an issue, a judgement, solution or decision or producing an invention or work of art (Moseley et al., 2005; Nettelbeck, 2005).

Item 4 examined the lecturers' perceptions on whether students are taught learning-to-learn skills in the courses they teach. Eighty-four (84, 81.5%) respondents indicated that they teach learning-to-learn skills in the courses they taught. Seventeen (17, 16.5%) respondents were undecided and two (2, 2%) respondents strongly disagreed, see Figure 5.7 below.

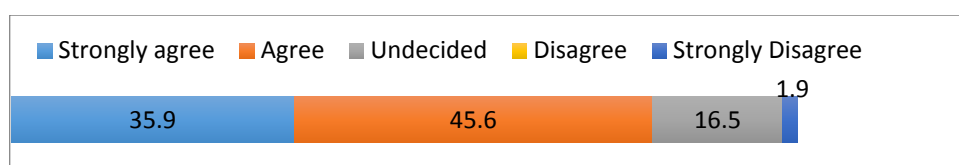


Figure 5.7 Lecturers' perceptions on whether learning-to-learn skills are taught

In analysing the qualitative data, out of the 103 respondents, sixty-six (66, 64%) respondents commented whereas thirty-seven (37, 36%) respondents did not. Out of the 66 (64%) who commented, fifty-two (52, 79%) respondents thought that students are taught learning-to-learn skills in the courses they taught. Both the overall survey responses (84 out of 103 respondents) as well as the qualitative comments (52 out of 78 respondents) support the notion that lecturers teach learning-to-learn skills in the courses they taught. Most lecturers (52 out of 66) pointed out that the nature and the content of the courses taught determined how students develop learning-to-learn skills to enhance students' learning and understanding of the subject content taught. Lecturers ensure that practical hands-on learning activities are designed to enhance the development of learning-to-learn skills. These hands-on learning activities enable students to develop their styles of learning that works for them to learn effectively in the courses. This is what three of the lecturers had to say:

It is my utmost teaching goal to teach my students to learn to learn by being resourceful, creative and independent. PAUEDU3

This is truly my passion ... turning knowing into skills and I spent more time teaching skills. PAUHSC9

Learning styles are more an individual and personal aspect through I often communicate to students both in class and during consultation that learning is about developing a strategy of acquiring, consuming and communicating what we learn ... we each must develop our own effective strategies. UPNGSNPS1

In contrast, fourteen (14 out of 66) lecturers who commented; admitted that they were not aware of the concept ‘learning-to-learn’ skills and did not know what it meant. Due to this lack of knowledge, the lecturers were unable to indicate whether they were teaching students learning-to-learn skills or not. These lecturers were of the view that the demand to teach theoretical content outweighs the emphasis placed on them to teach learning-to-learn skills to students. This was typical of what the majority of respondents (13 out of 14 respondents) had to say:

I have never heard of learning-to-learn skills. I teach another version of the skill ... one involving the development of spiritual, intellectual, emotional and physical aspects of the body. PAUTHE1

What are learning-to-learn skills? UPNGSOL1

Lecturers’ perceptions of whether courses were structured for students to become lifelong learners was compared with the perceptions of postgraduate students (n=22), fourteen (14, 64%) respondents agreed while seven (7, 32%) respondents were undecided and one (1, 5%) disagreed, see Figure 5.8 on below.

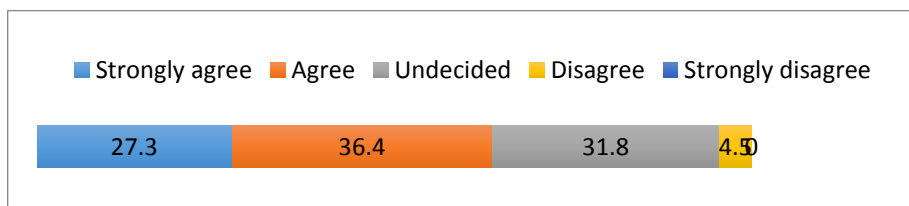


Figure 5.8 Postgraduate students' perceptions on whether lecturers teach learning-to-learn skills in their courses

Out of the 22 respondents, sixteen (16, 73%) respondents commented and six (6, 27%) respondents did not. Out of the 16 respondents who commented, nine (9, 56%) respondents argued that learning-to-learn skills were taught throughout the courses lecturers taught whereas seven (7, 44%) respondents thought that lecturers did not teach learning-to-learn skills to students. Four (4 out of 7) postgraduate indicated uncertainty or were not aware of what learning-to-learn skills meant. The difference between those who agreed and those who disagreed is not that significant to indicate

that the result indicate a clear majority despite what was indicated in the overall survey results on this item (14 out of 22) who agreed and (7 out of 22) who disagreed.

The nine postgraduate students (9 out of 16) who agreed, they were of the view that as students they were challenged to apply learning-to-learn skills through the projects they were given to do and through the field trips and practicums they experienced. Some of these students claimed that being challenged by lecturers to work on their own also helped them to develop learning-to-learn skills. This is what two of the postgraduate students had to say:

I've developed different ways of studying and learning myself.
UPNGPG3

I can apply the knowledge that I have learnt to gain or enhance what I know now. PAUPG9

In contrast, those seven postgraduate students (7 out of 16) who stated that lecturers did not teach learning-to-learn skills argued that learning-to-learn skills need to be taught throughout the courses. However, these postgraduate students also pointed out that they were unsure of what learning-to-learn skills meant. This is what two of the postgraduate students had to say:

Not sure what this question means but referring to my 3 university course experiences, I am also taught to learn skills outside from my study.
PAUPG8

I believe that due to my inability to catch up in schoolwork in my early age; I've developed different ways of studying and learning myself.
UPNGPG3

From the interviews (n=20), sixteen lecturers (16 out of 20 respondents) were of the view that universities should ensure that students acquire and practice the required basic generic and transferable skills, or learning-to-learn skills to enhance their learning in later stages of their studies. Lecturers also argued that lecturers should be trained to develop learning strategies to actualize lifelong learning skills in students. Through effective course designing and delivery of courses, lecturers should aim to promote deep learning in students. Universities should also revise their strategic plans and academic policies to internalize the vision and mission statements and translate the

vision and mission statements into learning outcomes for students to acquire to reflect lifelong learning. This is what one of the lecturers had to say:

Yeah well that's what I think because right now the strategic plan is this way and the academic plan is this way and there is nothing linking them ... then where are we heading? And if the staff members are doing this and the university is doing this and where is the lifelong learning? Is it the staff members to worry about lifelong learning or is it the university who should own it or is it the staff that should remember that the lecturer who is always teaching should own it or is it the university that should own it ... if this is what the university wants then the university should take ownership and make sure that I as a lecturer, I am delivering it and there are measures that should be in place to see whether we have achieved our objectives or not because at the end of the year we don't even look back and say whether we are achieving or whether we are not achieving ... where did we go wrong or where we should change. PAUSMI15

Learning-to-learn skills refer to where a teacher helps students to develop metacognitive learning skills in the learning process, particularly in relation to developing their passion for learning (Cornford, 1999; Cornford, 2000). For learners to develop metacognitive learning skills, the learner must be in a position to apply what he or she has learnt in a new context or apply it in a new situation. It is vital for lecturers to acknowledge that in developing metacognitive learning skills in students, it enables students to plan, theorize, hypothesize and generate new ideas in different contexts. When lecturers teach learning-to-learn skills in the courses they teach, they are required to plan thought-oriented activities that should challenge students. Learning-to-learn skills are vital to develop effective learning to occur in students. Without the establishment of such learning-to-learn skills, learning may not occur as effectively. Or learning will occur with more effort and less effective than if learners have a good range of the most effective learning-to-learn skills and make use of them in different contexts (Cornford, 2000; Krathwohl, 2002; Mezirow, 2012; Biggs, 2014).

Item 5 examined the lecturers' perceptions on whether lecturers teach students how to access information in the library. Sixty-three (63, 61%) respondents indicated that they taught students skills in how to access information in the library. Fifteen (15, 15%) respondents were undecided and twenty five (25, 24%) respondents disagreed, see Figure 5.9 on page 166.

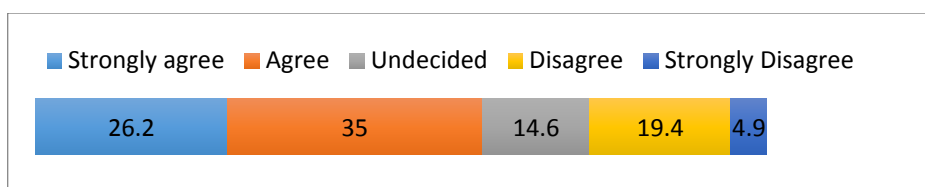


Figure 5.9 Lecturers' perceptions on whether lecturers teach students how to access information in the library

In analysing the qualitative data, out of the 103 respondents, seventy-nine (79, 77%) respondents commented and twenty-four (24, 23%) respondents did not. Out of the 79 (77%) who commented, fifty-five (55, 54%) respondents expressed the view that lecturers encouraged students to use the library to search for information. Both the overall survey responses (63 out of 103 respondents) as well as the qualitative comments (55 out of 79 respondents) supported the notion that lecturers encouraged students to use the library to search for information. The majority of the lecturers (55 out of 79) were of the view that they do not teach students skills in how to access information in the library but they only encourage students to access the library when working on assignments. This is what two of the lecturers had to say:

I don't teach how but I encourage them to make use of the library by seeking assistance from the librarians to access information. UPNGSHSS4

The students are given a tour of the library by the librarians who show them how to access information. I give website addresses to check for information on the topics discussed. UPNGSMHS20

In contrast, twenty-four (24 out of 79) lecturers were of the opinion that it was not the lecturers' job to teach students how to access information in the library but the responsibility should be left to the students to seek assistance from the librarians when and if they have to access information. This is what one lecturer had to say:

Although assessments require library research, we don't dwell too much on teaching students how to access information from the library. The onus is on the students to ask for help if they need it. UPNGSHSS16

Lecturers' perceptions of whether students were taught how to access information in the library was compared with the perceptions of postgraduate students (n=22), fifteen (15, 68%) respondents agreed while one (1, 5%) was undecided and six (6, 27%) disagreed, see Figure 5.10 on page 167.

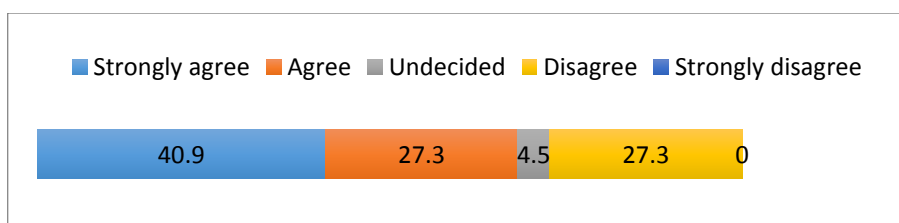


Figure 5.10 Postgraduate students' perceptions on whether lecturers teach students how to access information in the library

Out of the 22 respondents, eighteen (18, 82%) respondents commented whereas only four (4, 18%) respondents did not. Out of the 18 respondents who commented, twelve (12, 55%) respondents thought that lecturers taught students how to access information in the library whereas six (6, 27%) respondents did not agree. The view of the 12 postgraduate students was that it was an ongoing service that is provided by the university librarians during the new students' orientation week. It was not the lecturers' job to teach students how to access information in the library or to even inform students of what other library services were available. This is what two of the respondents had to say:

Yes, in our orientation week we are taught how to find books on library shelves and also how to access database. PAUPG4

Off-course we were taken on a tour of the library by the librarians, telling and showing us different sections of the library. UPNGPG9

In contrast, the six postgraduate students (6 out of 18) who disagreed argued that they were never taught how to access information in the library by lecturers. This is what one of the postgraduate students had to say:

While studying in this university for the last five years, I have never been taught how to access information at the library. UPNGPG10

When lecturers were asked during the interviews (n=20) to identify ways in which universities could foster lifelong learning in students, the view that library resources and services especially textbooks, journals and database software should be upgraded and made available to enhance teaching and learning. Having these library resources and services available also encourage lecturers and students to search for updated information. By upgrading library resources and services, intellectual curiosity

is developed, promoting research to enhance subject content knowledge. This is what one lecturer had to say:

The knowledge that exists in the world is virtually infinite to assume that you can never reach a point where that is mastered ... beyond academic qualifications, beyond degrees, there is a need for continued reading, studying, exploring new ideas and this is certainly the case in an environment of rapid change ... the world seem to have reach that stage well and truly that if you cease to be revising your knowledge base and you are quickly out of date. PAUSM14

When lecturers were asked to identify measures universities should take, nine (9 out of 20) lecturers were of the view that staff development training programs should be developed to train lecturers how to teach lifelong learning skills to students. Courses in curriculum design and assessment practices should be aligned with graduate attributes developing lifelong learning skills in students (Biggs, 2003). If lecturers are to continue teaching using conventional methods, the outcomes as expected in attaining the graduate attributes to foster lifelong learning would not be achieved. There needs to be a change in lecturers' attitudes towards students and in how students should approach their own learning (Gibbs, 1992; Gibbs, 1999).

The majority of the lecturers (18 out of 20) were of the view that a policy on lifelong learning should be developed in universities that should have clear guidelines whereby lecturers could be provided training in how to develop lifelong learning skills in students. Students should be taught to acquire and practice the required basic generic and transferable skills, learning-to-learn skills to enhance their learning in later stages of their studies and in their lives in general. This is what one of the lecturers had to say:

I guess research will be better one for all universities to have because if students are able to do research they will be able to create learning skills and knowledge ... the other thing that we have to instil in students is their ability to use that database and to love learning because the world is not staying as it is, it is moving on. PAUSM13

The universities' strategic plans and academic policies should be reviewed whereby the vision and mission statements are internalized and translated into

outcomes aimed at developing and enhancing knowledge, skills and attitudes that should reflect lifelong learning. This is what one of the lecturers had to say:

Yeah well that's what I think because right now the strategic plan is this way and the academic plan is this way and there's nothing linking them ... raises the question, where are we heading? And if the staff are doing this and the university is doing that and where is the lifelong learning heading? Is it the staff members to worry about lifelong learning or is it the university who should own it or is it the staff that should remember that? The lecturer who is always teaching who should own it or is it the university that should own it? If this is what the university wants then the university should take ownership and make sure me as a lecturer ... I am delivering it and there are measures that should be in place to see whether we have achieved our objectives or not? Because at the end of the year, we don't even look back and say whether we are achieving or whether we are not achieving. .where did we go wrong or whether we should change. PAUSM15

Studies conducted on how to develop cognitive and metacognitive learning strategies in students (Weinstein and Meyer, 1991; Cornford, 1999; Cornford, 2002; Krathwohl, 2002; Moseley et al., 2005) identify that there are a number of different types of knowledge and skills involved in developing more effective cognitive and metacognitive learning strategies by an individual learner. These knowledge and skills include the learner's knowledge about him/herself as a learner; the learner's knowledge about course content and learning tasks; and the learner's knowledge about what learning strategies to select and use. These sets of knowledge and cognitive skills are developed over certain phases in the lifetime of a learner, particularly in the puberty period. In the process of learning, a learner can develop the ability to use these skills in more difficult and intellectual situations (Schraw, 1998; Krathwohl, 2002; Moseley et al., 2005). A learner can also develop the ability to be impartial and deal with self-regulation as well as self-discipline. Through self-learning, the learner over time then develops the knowledge of favoured styles of learning and best times for study based on personal judgements (Zimmerman, 1989).

It is therefore paramount that effective lecturers at the universities should help students to manage their learning situations by encouraging them to consider their own personal learning strengths and weaknesses, using reflection. Through self-reflection, students could learn what works for them from their own personal learning experiences. In this process, reflection is needed as a part of learning from others through mentoring

and similar socially based strategies that could effectively facilitate learning and changes in behaviour and make learning-about-self effective (Cornford, 2002; Butler, 1996; Mezirow, 1997; Biggs, 2014; Roberts, 2015). In summary, students as learners could develop effective learning-to-learn skills if a lecturer explains to them how to learn strategies openly in the classrooms. Lecturers teaching students how to access information in the library is an example of how lecturers could assist in the development of effective learning-to-learn skills as part of the learning and teaching processes in the universities.

Item 6 examined the lecturers' perceptions on whether lecturers use guest lecturers and real world experiences (field trips, practicums, internships, cooperative education programs) as part of the courses they taught. Seventy-three (73, 71%) respondents indicated that lecturers do use guest lecturers and real world experiences in the courses they teach. Fourteen (14, 14%) respondents were undecided and sixteen (16, 15%) respondents disagreed, see Figure 5.11 below.

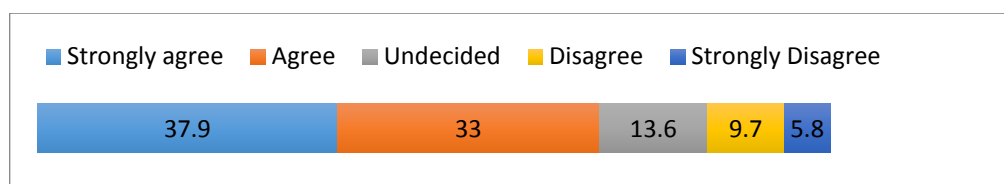


Figure 5.11 Lecturers' perceptions on whether lecturers make use of guest lecturers and real world experiences (field trips, practicums, internships, cooperative education programs) as part of the courses they teach

In analysing the qualitative data, out of the 103 respondents, seventy-eight (78, 76%) respondents commented whereas twenty-five (25, 24%) respondents did not make any comment. Out of the 78 lecturers who commented, fifty-seven (57, 73%) respondents were of the opinion that lecturers use guest lecturers and real world experiences (field trips, practicums, internships, cooperative education programs) as part of the courses they taught. Both the overall survey responses (73 out of 103 respondents) as well as the qualitative comments (57 out of 78 respondents) support the notion that lecturers used guest lecturers and real world experiences (field trips, practicums, internships, cooperative education programs) as part of the courses they taught.

Fifty-seven (57 out of 78) lecturers were of the view that the courses lecturers designed were planned to include participation of guest lecturers and use of real world experiences. The involvement of subject specialists who are already working in the field and are having the first-hand experiences are called upon to share their experiences and field work experiences with the students at the universities. A key argument is that the use of guest lecturers and real world experiences are used as learning activities to reinforce key learning theories based on current good work practices and experiences in the work front. Industrial visits as part of real-world experiences compensate the limited resources available on campus to enhance theoretical content taught in the classrooms. Students when out on real-world experiences are also given opportunities to interact with potential employers and experienced officers who are already in the workforce. This is what three lecturers had to say:

I organize for guest lecturers to come and speak to the students especially field practitioners to share field experiences of topics covered. UPNGSHSS9

Because seeing and learning situations or concepts last longer in the mind than not seeing. UPNGSMHS23

Students' horizon will not only be widen but they actually put into practice what they learn in class. PAUAH1

In contrast, twenty-one (21 out of 78) lecturers who disagreed argued that lack of financial support received from the universities, coupled with teaching of large numbers of students hindered their efforts to include guest lecturers and use of real world experiences in the courses they taught. Arranging transportation for large numbers of students going on excursions or field trips was chaotic and time-consuming. These lecturers thought that the nature of the courses they taught also did not allow them to organise and arrange such learning activities for students to participate in. Eight lecturers out of the twenty-one admitted that they have not had the time or have not considered the use of guest lecturers and arranging real world experiences in the courses they taught. This is what three lecturers had to say:

I've not used guest lecturers, real world experiences or field trips. I teach many students and it is hard to find transport from the university. UPNGSHSS10

I have tried this method before and its results was very poor.
UPNGSNPS6

The courses are not oriented towards practical aspects of theory learned.
UPNGSBA7

Lecturers' perceptions of the use of guest lecturers and real world experiences was compared with the perceptions of postgraduate students (n=22), eleven (11, 50%) respondents agreed while four (4, 18%) was undecided and seven (7, 32%) disagreed, see Figure 5.12 below.

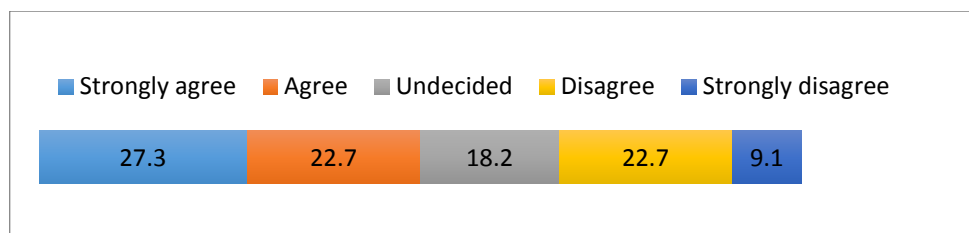


Figure 5.12 Postgraduate students' perceptions on whether lecturers make use of guest lecturers and real world experiences (field trips, practicums, internships, cooperative education programs) as part of the courses they teach

Out of the 22 postgraduate students, sixteen (16, 73%) respondents commented whereas six (6, 27%) respondents did not. Out of the 16 postgraduate students who commented, six (6, 27%) respondents revealed that lecturers made use of guest lecturers and real world experiences as part of the courses they taught whereas three (3, 14%) respondents indicated it was done occasionally and seven (7, 32%) respondents disagreed. These results indicate that having guest lecturers and going out on real world experiences was considered as an essential strategy to enhance students' understanding of the subject matter taught by lecturers. However, students have not been given the opportunities to such learning activities in reality. Courses designed and presented by lecturers were mainly aimed at presenting the subject content knowledge based on the lecturers' own personal field and/or practical work experiences. The minority of lecturers were of the view that lecturers know better is evident in the design and presentation of the teaching and learning activities of courses. Providing students with exposure to guest lecturers who are more familiar with the subject content knowledge and who have the experiences of current good work practices becomes irrelevant in the teaching and learning processes. Furthermore, gaining real world experiences through going on field trips, practicums, internships and other cooperative education programs becomes a tedious task and an expensive practice to be organised or to be arranged by

lecturers. It is seen as time-consuming and a hindrance to the smooth progression in the delivery of the subject content knowledge by the lecturers. This is what three of the postgraduate students had to say:

I never see this, pen and book in a lecture room and end of story.
PAUPG10

I have never been engaged in a real world experience through field trips and practicums. UPNGPG10

As I reflect I don't even remember that lecturers use real world experiences. PAUPG4

These views expressed by the postgraduate students raise the question of what learning activities best serves the interest of students, especially in relation to the curriculum taught at the universities. The question of how best to facilitate, enhance and guide students' learning and promote self-directed learning becomes an area of concern as well. Such results also raise questions in how the lecturers' attitudes, behaviour and beliefs promote or foster lifelong learning skills in students.

When lecturers (n=20) were asked during the interviews to identify outcomes universities should aim for in developing lifelong learning skills, the view that lecturers should be more creative, imaginative and industrious in their attitudes, beliefs and behaviour to foster lifelong learning was highlighted. According to the lecturers (n=20), to produce competent, knowledgeable and skilful graduates, work-integrated learning must be integrated in the curriculum taught at the universities (Boud et al., 2001; Cooper et al., 2010; Garnett, 2012). Lecturers must provide students with real-world work experiences to develop good work ethics and values (Boud et al., 2001; Cooper et al., 2010; Garnett, 2012). Gaining real world experiences, provide students with opportunities for self-development, self-regulation and self-discipline (Boud et al., 2001; Cooper et al., 2010; Garnet, 2012). Lecturers have to encourage students for continuous learning in their lives. The lecturers were of the view that if students need to be exposed to continuous learning through further studies. Having internship or practicum programs will enable students to upskill themselves with good work ethics and values associated with current good workplace practices. Students are also given opportunities to assess theory they learn at the universities with the current workplace

practices to foster lifelong learning skills vital to their productiveness or success later in life (Boud et al., 2001; Cooper et al., 2010; Garnett, 2012).

The argument that lecturers should embrace the view that universities must produce good quality graduates for the industry and for the professions (Boud et al., 2001; Cooper et al., 2010; Garnett, 2012). The emphasis placed on instilling in students, the importance of encouraging Christian values and beliefs was evident in one of the universities. Students were taught to face life challenges based on Christian ethics and values. The importance of executing such practices should not be underestimated or overestimated. Christian beliefs such as faith and dogma are in some respects not helpful in lifelong learning, which involves developing knowledge based on the person's education and experiences, whereas religious beliefs are pre-determined by the particular religion's scriptures. When students are exposed to avenues such as real world experiences, they become more resourceful, innovative and creative to face real life experiences either at home, at the workplace or at the university (Boud et al., 2001; Cooper et al., 2010; Garnett, 2012). The view of one of the lecturers summarizes the real gist of the arguments presented above:

The knowledge that exists in the world is virtually infinite to assume that you can never reach a point whether that is mastered ... beyond academic qualifications, beyond degrees, there is a need for continued reading, studying, exploring new ideas and this is certainly the case in an environment of rapid change ... the world seem to have reach that stage well and truly that if you cease to be revising your knowledge base and you are quickly out of date. PAUSM14

The literature on the concept of learning asserts that learning must be viewed as coming to understanding things and developing increased capabilities to do what one wants or needs to do (Schoenfield, 1999). This emphasis supports the notion that describes learning as acquisition, and stresses the importance of learning as a product. Learning becomes a process where the right products of learning are acquired through active participation (Sfard, 1998). In other words, learning can be understood as a construction of self. Since the appropriation of a personal kind clearly implies something stronger, the construction of the environment brings forward change in a person's behaviour towards self and the environment than mere replication (Hagar, 2004). This construction description of learning fits well with lifelong learning

whereby if a person's behaviour changes due to the construction of self and the construction of the environment, it can be argued that the person has learned something through his or her personal experiences. Learning has occurred as a person interacts with the environment. What a learner experiences through either his or her interactions with a guest lecturer or with the real world experiences are paramount in the development of lifelong learning skills through an emphasis on self-directed learning (Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012).

The following section presents results of questionnaire items that assessed the levels of teaching and learning of generic skills. Generic skills are essential in lifelong learning. Some of the generic skills assessed in this study will be discussed separately and others will be grouped together representing a theme. When writing about the use of small group in a class, different authors over time have used different terms: learning groups (Bouton & Garth, 1983), collaborative learning (Hamilton, 1997; Bruffee, 1999), cooperative learning (Slavin, 1983; Johnson, Johnston & Smith, 1991; Millis & Cottell, 1998) and team-based learning (Michaelsen, 1983; Michaelsen & Black, 1994; Michaelsen, Black, and Dee Fink, 1996). All these authors, despite the use of the varying terminology, have referred to the same general idea that for the purpose of promoting more active and more effective learning, individual students in a class are put into small groups (Michaelsen, Knight & Fink, 2004). In the context of this argument, the results for questionnaire items 7, 9 and 21, (collaborative learning, cooperative learning and teamwork) are grouped and discussed together. The statistical results based on the questionnaires for each of these items will be presented first followed by a general discussion on the execution of these items in context to the two universities as well as in the PNG higher education context. It is aimed to determine whether the use of small groups promote more active and more effective learning with the use of collaborative learning, cooperative learning and teamwork in the courses the lecturers taught.

Collaboration encompasses inter-related skills such as cooperation and teamwork. Collaboration refers to how an individual learns to interact with others in life showing responsibility for one's own actions including learning and respecting the abilities and contributions of other individuals in a group setting (Panitz, 1999). These types of learning strategies have advantages and disadvantages when used in a class.

The advantage of using collaboration, cooperation or teamwork gives the possibility of an individual student to interact with others in a group setting where they could share ideas, split tasks assigned to get the job done thus decreasing the time and effort required to accomplish the task successfully. The disadvantage of using collaboration, cooperation or teamwork is that an individual student within the group setting may not successfully handle the part of the process assigned to him or her thereby failing the whole group in accomplishing the task. Furthermore, in a group setting, an individual student's initiative may not be fully acknowledged in the process of trying to accomplish the task.

Item 7 examined the lecturers' perceptions on whether lecturers encourage collaborative learning in the courses they teach. Eighty-six (86, 83%) respondents indicated that lecturers encourage collaborative learning in the courses they taught. Eleven (11, 11%) respondents were undecided and six (6, 6%) respondents disagreed, see Figure 5.13 below.

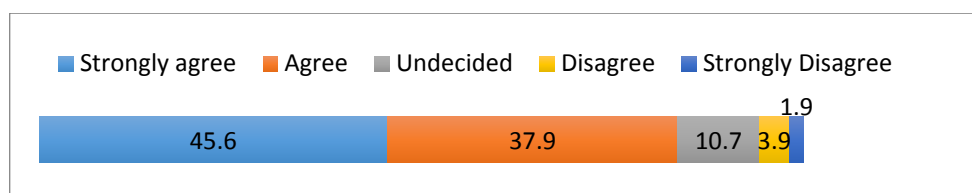


Figure 5.13 Lecturers' perceptions on whether lecturers encourage collaborative learning

In analysing the qualitative data, out of the 103 respondents, sixty-nine (69, 67%) respondents commented whereas thirty-four (34, 33%) respondents did not. Out of the sixty-nine (69, 67%) respondents who commented, sixty-two (62, 60%) respondents stated that lecturers encouraged collaborative learning in the courses they taught. Seven (7, 7%) respondents were unsure of what was meant by collaborative learning. Both the overall survey responses (86 out of 103 respondents) as well as the qualitative comments (62 out of 69 respondents) support the notion that lecturers encouraged collaborative learning in the courses they taught.

The view of the majority of those lecturers (60 out of 62) strongly argued that the main aim in creating, developing and or encouraging learning among groups of individual students in a class was to promote collegiality, teamwork, cooperation and collaboration. Such student-to-student learning strategies if executed well enhances

learning with students working in groups doing group projects, group discussions and other group oriented activities planned by the lecturers.

To promote active participation of group members, it is vital that lecturers ensure that specific roles are assigned to each individual student making up the group. It is important also that gender equity, equal contribution, sense of belonging and togetherness are promoted in the process of learning together in a group situation. In courses where students are coming from different disciplines or different schools, such group activities performed collaboratively should enhance proper linkages of programs and enable student-centred learning to take effect (Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012). Each student coming from different disciplines or schools should bring with them what they know and help each other to understand content from different perspective in the subject matter under investigation. This is what one of the lecturers had to say:

Students are given exercises which they have to do in groups and they are expected to collaborate ideas from each other. UPNGSHSS2

However, the majority of the lecturers (5 out of 7) who disagreed reveal that they were not aware of what was meant by collaborative learning. Two out of seven lecturers indicated that they have never used collaborative learning due to not knowing how to design collaborative tasks for students to perform in groups in the courses they were teaching. This is what two of the lecturers had to say:

Not sure what collaborative learning is. PAUHSC5
I have never done this. UPNGSOL2

Lecturers' perceptions of whether collaborative learning was encouraged in students was compared with the perceptions of postgraduate students (n=22), sixteen (16, 73%) respondents agreed whereas five (5, 23%) was undecided and one (1, 5%) disagreed, see Figure 5.14 below.

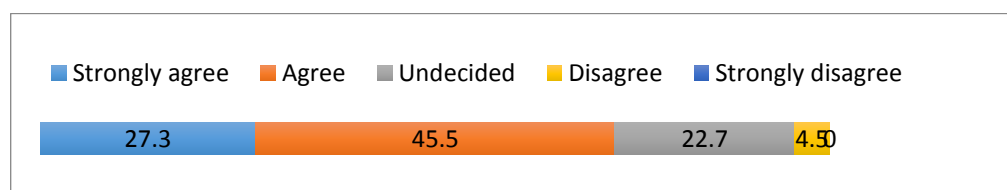


Figure 5.14 Postgraduate students' perceptions on whether lecturers encourage collaborative learning

Out of the 22 respondents, fifteen (15, 68%) respondents commented while seven (7, 32%) respondents did not. Out of the fifteen postgraduate students who commented, eight (8, 36%) respondents indicated that lecturers encourage students to learn collaboratively whereas five (5, 23%) respondents disagreed and two (2, 9%) respondents were undecided. These results indicate that there is not a significant difference between those students who agreed or disagreed. For the eight students who agreed, they were of the view that lecturers encouraged students to work and discuss in groups and help each other in understanding the subject matter under investigation. This is what one of the postgraduate students had to say:

We do collaborative learning as well as peer assessment to help each other. When we get stuck we sometimes ask each other for help.
PAUPG9

In contrast, for those students who disagreed, the view was that in most classes, students were encouraged to work individually on assigned learning tasks set by lecturers. Working individually made these students feel that learning was more competitive than collaborative. This is what one of the postgraduate students had to say:

We are encouraged to do the assignments on our own ... rarely encouraged to learn in a collaborative manner with each other. PAUPG4

Various writers, (Gibbs, 1992; Michealsen et al., 2004; Duch et al., 2001; Fink, 2004; Richlin, 2006), argue that cooperative learning is highly engaging where students are put into groups to work together in co-operative action. Cooperative learning involves peer feedback, small group seminars, shared laboratory experiments, group project work or learning teams based on problem-based learning and interdisciplinary work. Item 9 examined the lecturers' perceptions on whether lecturers encourage cooperative learning in the courses they teach. Eighty-nine (89, 86%) respondents indicated that lecturers encourage cooperative learning in the courses they taught. Eleven (11, 11%) respondents were undecided and three (3, 3%) respondents disagreed, see Figure 5.15 on page 179.

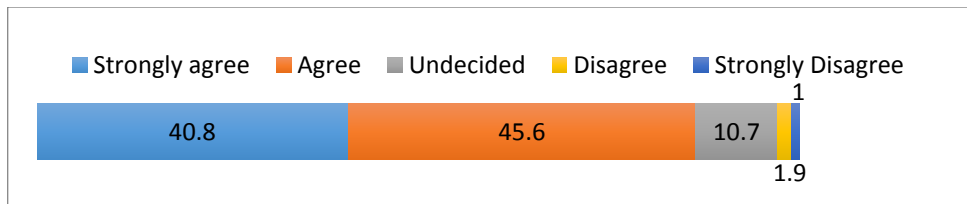


Figure 5.15 Lecturers' perceptions on whether lecturers encourage cooperative learning

In analysing the qualitative data, out of the 103 respondents, sixty-six (66, 64%) respondents commented whereas thirty-seven (37, 36%) respondents did not. Out of the sixty-six (66, 64%) of respondents who commented, fifty-seven (57, 55%) respondents stated that lecturers encourage cooperative learning in the courses they taught. Both the overall survey responses (89 out of 103 respondents) as well as the qualitative comments (57 out of 66 respondents) support the notion that lecturers encouraged cooperative learning in the courses they taught.

Those lecturers (89 out of 103) who agreed thought that cooperative learning develops teamwork, group dynamics, and a sense of belonging among students when working in groups. Cooperative learning also promotes student-to-student interaction whereby students learn from each other. Lecturers from the schools in the two universities where the teaching and learning is based on problem-based learning identified themselves using cooperative learning. This is what one of the lecturers had to say:

Stimulations are done with my trainees to see how each member contributes to the case scenario before them. It always involves the group coming together and discussing and distributing work and tasks amongst each other. UPNGSMHS20.

In contrast, nine lecturers (9 out of 66) argued that the use of cooperative learning has its negative impacts on student learning especially when students are grouped to work together. These lecturers asserted that cooperative learning promotes laziness in students and that these lazy students depend on the more capable students to contribute more than they could in a group setting. Two out of these nine lecturers added that the nature of courses they taught did not allow them to use cooperative learning in their classes. This is what one of the respondents had to say:

Cooperative learning has some negative impacts like copying each other's work, some students will contribute more towards the group work than others. UPNGSNPS5

Lecturers' perceptions of cooperative learning was compared with the perceptions of postgraduate students (n=22), sixteen (16, 73%) respondents agreed whereas two (2, 9%) were undecided and four (4, 18%) disagreed, see Figure 5.16 below.

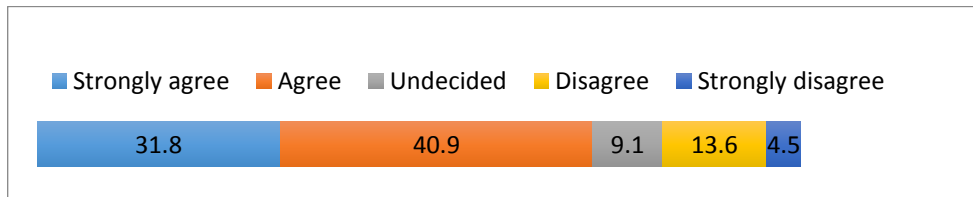


Figure 5.16 Postgraduate students' perceptions on whether lecturers encourage cooperative learning

Out of the 22 respondents, fifteen (15, 68%) respondents commented while seven (7, 32%) respondents did not. Out of the fifteen postgraduate students who commented, six (6, 27%) respondents indicated that students were encouraged to learn in a cooperative manner with other students in the courses lecturers taught. These six students were of the view that cooperative learning in a group setting created a positive learning environment when students worked and learn together. Learning, therefore was more cooperative than competitive as students worked together in groups and learned from each other. This is what one of the postgraduate students had to say:

We share ideas and debate points to help each other grasp the principles of our courses. PAUPG9

In contrast, nine (9 out of 15) respondents disagreed or indicated their uncertainty. This result indicates that a majority of the postgraduate students were of the view that cooperative learning was not encouraged or emphasized by most lecturers in the two universities. A common sentiment expressed by the postgraduate students who indicated uncertainty (5 out of 9) is summarized below:

It was more myself, doing my own school work. UPNGPG9

In the earlier ratings in the overall survey responses by postgraduate students to the questionnaire item, 16 out of 22 were in agreement and 6 out of 22 indicated

uncertainty or in disagreement. In comparison, the number of postgraduate students who indicated their uncertainty in the comments section of the questionnaires, the results show 9 out of 15 disagreed and 6 out of 15 agreed. These results indicate a contradiction in ratings therefore raises questions of validity and reliability of the ratings. What the majority of postgraduate students indicated earlier in the overall ratings does not equate what they stated in the comments section of the questionnaires.

According to Gibbs (1992) and Michaelsen et al. (2004), students in learning teams could be encouraged to tackle more complex, more extensive and more open-ended projects to develop students' teamwork skills. The learning teams manages itself and supervises its members. The general idea of putting individual students in a class into learning teams is aimed to promote more active and more effective learning among individual students in a group setting.

Item 21 examined the lecturers' perceptions on whether lecturers used teaching approaches to develop students' teamwork skills in the courses they taught. Ninety (90, 87%) respondents indicated that lecturers developed students' teamwork skills in the courses they taught. Nine (9, 9%) respondents were undecided and four (4, 4%) respondents disagreed, see Figure 5.17 below.

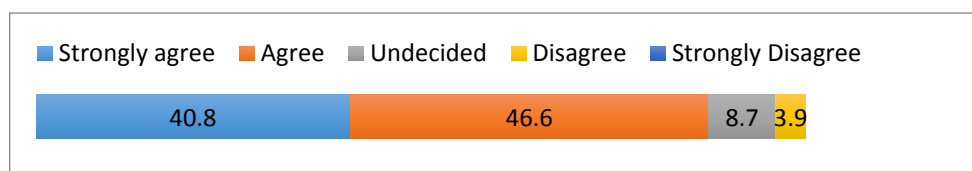


Figure 5.17 Lecturers' perceptions on whether lecturers use teaching approaches to develop teamwork skills

In analysing the qualitative data, out of the 103 respondents, sixty-three (63, 61%) respondents commented whereas forty (40, 39%) respondents did not. Out of the sixty-three (63, 61%) respondents who commented, fifty (50, 48%) respondents claimed that lecturers used teaching approaches to develop students' teamwork skills in the courses they taught. Both the overall survey responses (90 out of 103 respondents) as well as the qualitative comments (50 out of 63 respondents) support the notion that lecturers used teaching approaches to develop students' teamwork skills in the courses they taught. Developing students' teamwork skills is a key component of the problem-based learning approach used in the School of Medicine and Health

Sciences of the UPNG. Lecturers could use group projects, group assignments, debates and open discussions to develop teamwork skills in students. The use of these learning strategies aims to develop collegiality among students when they share ideas and learn from each other in small groups. The use of these learning strategies also encourages student-to-student interaction in the learning processes and promotes teamwork in the classrooms. The views of the following lecturers summarizes the general sentiment felt by the majority of lecturers (50 out of 63) who commented:

We have debates and group papers, which are meant to develop teamwork skills. UPNGSHSS2

In the PBL curriculum, there are 10-12 students in each tutorial group. The learning process leading to final diagnosis after two and a half sessions (total of 6 to 8 hours) of brain storming and discussion is an excellent example of teamwork. UPNGSMHS9

I don't teach them teamwork but foster an environment of teamwork by allowing students to do their assignments using teamwork. UPNGSBA5

However, thirteen (13 out of 63) lecturers revealed that they did not use teaching approaches to develop students' teamwork skills in the courses they taught. The common view among the thirteen lecturers is that students work in teams occasionally. Some of these lecturers indicated that due to the large numbers of students enrolled in their courses, they rarely allow students to work in teams when setting learning activities. Even when setting assessment tasks for students to do they argued that students do those assessable tasks individually rather than in teams. This is what two of the lecturers had to say:

Not so, with almost 200 students its lecture style to a big class, no team work encouraged at this stage. UPNGSOL1

I don't encourage teamwork for the purpose of assessments but do encourage teamwork for the purpose of teaching. UPNGSOL2

Lecturers' perceptions of developing teamwork skills in students was compared with the perceptions of postgraduate students (n=22), fourteen (14, 64%) respondents agreed whereas four (4, 18%) were undecided and four (4, 18%) disagreed, see Figure 5.18 on page 183.

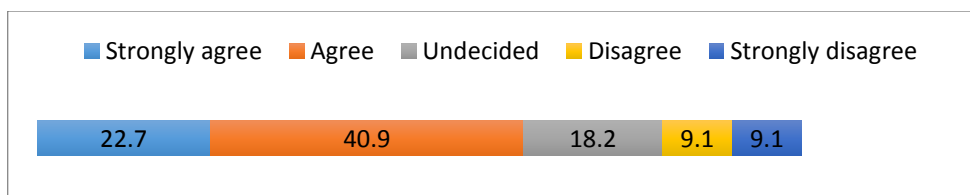


Figure 5.18 Postgraduate students' perceptions on whether lecturers use teaching approaches to develop teamwork skills

Out of the 22 postgraduate students, fourteen (14, 64%) respondents commented whereas eight (8, 36%) respondents did not. Out of the fourteen postgraduate students who commented, six (6, 27%) respondents indicated that teamwork skills are taught in the courses lecturers taught. However, eight postgraduate students (8, 37%) out of the fourteen who commented; disagreed. This result indicates a slight significant difference and a contradiction in ratings by postgraduate students.

For those postgraduate students who agreed (6 out of 14), the common view was that teamwork skills in students are developed when lecturers give group projects for students to do in teams. Allowing students to work in team projects is aimed at developing collegiality among students. Collegiality is developed when students are encouraged to share their ideas and help each other by working together in learning teams. This is what one of the postgraduate students had to say:

I find myself with groups, organisations and individuals that require me to work together as a team to come up with the best possible solutions.
PAUPG9

For those postgraduate students (8 out of 14) who disagree, argued that lecturers occasionally or rarely allow students to work in teams. Most lecturers were perceived to encourage students to work individually rather than in teams. This is what one of the postgraduate students had to say:

This rarely happens. We are always taught to do work by ourselves.
Rarely work together as a team. PAUPG4

From the interviews (n=20), when lecturers were asked to identify ways in which universities can foster lifelong learning, most lecturers (16 out of 20) were of the opinion that university lecturers should create a conducive study and work environment for students by modelling good work ethics and values. If students witness lecturers

working in collaboration or cooperate with each other in a team in the courses they teach, this attitude is likely to rub across to students to work in learning teams as well. These strategies should aim to develop collegiality among lecturers and students. Lecturers and students learn from each other as well as work in harmony with each therefore developing learning communities within the universities. More active and participatory learning encouraged if students are provided opportunities to learn from each other in small group settings within and outside of the universities.

When using collaboration, cooperation and teamwork as teaching strategies in small group learning, lecturers aim to promote in students, the skills of self-reflection, self-consciousness, and deciding for self - values of good and bad (Feather & Fry, 1999; Leamson, 1999; Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012). Self-directed learning is encouraged when students are trained to make decisions through self-reflection or self-regulation or self-monitoring. When students engage in their own learning, they develop skills to learn by doing, seeing and hearing. They learn to balance theory with practice and blend intellectual learning with the spiritual, physical and social aspects of their own personal growth and development.

The practice of sharing experiences through collaboration, cooperation and teamwork in small group settings also influence students to critically assess examples of good practices that other group members have had experienced in their lifetime. Such practices enhance one's ability to be innovative, industrious, resourceful, creative, and flexible in behaviour and attitude towards learning (Feather & Fry, 1999; Leamson, 1999; Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012). Such change in mindsets stimulates a constructive, productive and conducive learning environment where competitive learning is minimized. Learners become more culturally sensitive and learn to accept differences in opinion or views of others.

One of the universities used problem-based learning (PBL) as the main teaching approach. The views of lecturers using this teaching approach supported the notion that the process of learning in PBL is incremental. PBL promotes self-directed learning with minimal supervision from the lecturers whose behaviour, attitudes, and beliefs change to become facilitators of the learning process in the classrooms. Students in return learn through self-reflection or self-regulation to improve their own learning

performances (Feather & Fry, 1999; Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012). The use of PBL allows students to find solutions initially on their own and later in groups by searching for information in the library through the use of textbooks or online database materials. This is what one of the lecturers had to say:

We as lecturers need to emphasize in students the concept that continuous search for information is important to perfect all processes ... not to settle for what they are doing but must always find a way to make that process or product better, more efficient, more refined. You just keep on perfecting because you will always find better ways of doing things.
UPNGSMI7

Another lecturer had this to say:

The mindset is that if we have done something in the past we must keep doing that. There is no sense of wanting to change and improve that mindset and that's got to do with culture as well. We have to keep it as it was in the past. PAUSMI6

It is assumed in the PNG workplace context that more and more organisations and/or companies are placing more emphasis on developing 'teamwork' and 'team-building' and are looking for people that are comfortable working in a team. This point raises an issue of what PNG universities or higher educational institutions should be teaching students besides the obvious content knowledge and technical skills taught in the courses. Graduates should be taught skills to work in collaboration, cooperation and teamwork to develop social and interpersonal skills and learn how to become a team player.

The training of lifelong learning skills occurs informally in most instances throughout one's lifetime (Tuijnman and Bostrom, 2002). Lecturers need to shift the emphasis and focus on learning towards the individual where the individual is challenged to take ownership and responsibility. The development of these social and interpersonal skills of collaboration, cooperation and teamwork becomes essential when a student is learning at any level of education. If an individual is serious about lifelong learning, he or she must understand that lifelong learning is undertaken in collaboration, cooperation and in one's interactions with other individuals in a group setting. Lifelong learning can be undertaken by individuals for personal development

and self-fulfilment aimed to enrich one's quality of life (Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012).

Learning in small group settings through collaboration, cooperation and teamwork are part of the metacognitive learning skills essential for one's development. Developing metacognitive learning skills must focus on what the learner does in new contexts especially in relation to how one interacts with other individuals in a group setting. Cornford (1999) and Biggs (2003) argued that if these metacognitive learning skills are effectively developed in students, these skills will help them to plan, theorize, hypothesize and would lead to generating new ideas in different contexts. Learning-to-learn skills are also essential for effective learning to occur. Without the development of these skills, learning may not require more effort.

Cognitive learning strategies and metacognitive strategies such as collaboration, cooperation and teamwork involve skills development, will and self-regulation by the individual if they are to be effectively executed over a long period of time (Weinstein & Meyer, 1994; Cornford, 2000). Lecturers must encourage students to learn in small groups. Working in collaboration, or in cooperation with others in a team allows an individual to gain an overall understanding of the steps and parts of a skill they are trying to learn. The learning of these skills through practice and feedback from others assists the learner to assess their standard of performance. Through self-regulation, the students monitor and correct their own performance against a standard (Fitts, 1968). As part of this learning process, the student develops problem solving skills together with higher cognitive thinking skills (e.g. analysis, synthesis and evaluation) and the ability to correct their own performances (Cornford, 2002).

In the PNG higher education context, lecturers' attitudes, beliefs and behaviour towards teaching students cognitive and metacognitive learning skills becomes a necessity. For learning of these skills to occur in one's lifetime, the individual learner must actualize these basic learning strategies and skills as part of their own learning experiences. The learning of these basic skills must be goal-directed, intentionally implored and effortful in their application in a conducive learning environment. An individual requires a number of different types of knowledge and skills in order to develop more effective cognitive and metacognitive learning skills. These knowledge

and skills, according to Weinstein and Meyer (1991) and Krathwohl (2002) include the learner’s knowledge about self as a learner; the learner’s knowledge about course content and learning tasks; and the learner’s knowledge about what learning strategies to select and use as they learn through their lifetime, either at home, at school or at the workplace. The next item assessed whether the lecturers encourage work experience in the courses they taught.

Item 8 examined the lecturers’ perceptions on whether lecturers encourage work experience in the courses they taught. Sixty-nine (69, 67%) respondents indicated that lecturers encourage work experience in the courses they taught. Seventeen (17, 16.5%) respondents were undecided and seventeen (17, 16.5%) respondents disagreed, see Figure 5.19 below.

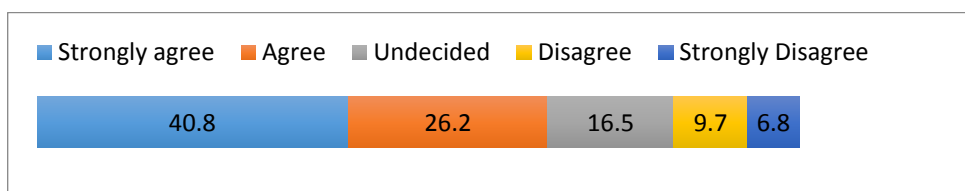


Figure 5.19 Lecturers’ perceptions on whether lecturers encourage work experience

In analysing the qualitative data, out of the 103 respondents, seventy-four (74, 72%) respondents commented whereas twenty-nine (29, 28%) respondents did not. Out of the seventy-four (74, 72%) respondents who commented, thirty-eight (38, 37%) respondents revealed that lecturers encourage work experience in the courses they taught. Both the overall survey responses (69 out of 103 respondents) as well as the qualitative comments (38 out of 74 respondents) support the notion that lecturers encouraged work experience in the courses they taught. The view of those lecturers who agreed (38 out of 74) was that engaging students at the workplace provide students with opportunities to gain hands-on experience applying theory (what they learn in class) to practice (what they do at the workplace).

Students on work placements receive specific on-the-job training and may develop an understanding and appreciate the difference between university and work. Workplace experiences provide opportunities for students to develop their social skills and work skills. Social skills such as communication skills, listening skills, and negotiating skills develop in real-life situations (Weimer, 2002; Muldoon, 2009;

Cooper et al., 2010; Garnett, 2012). In terms of work skills, gaining work experiences helps students to develop their ability to work in a team and understand roles and responsibilities working in a team environment (Cooper et al., 2010; Garnett, 2012). Other work skills that students learn include learning how the organisation works thereby developing their own organisational skills, time management skills, punctuality, the need for accuracy and attention to detail and learning to think fast and make quick rational decisions (Weimer, 2002; Muldoon, 2009). In addition to gaining social and work skills, students are also given the chance to develop their personal attributes such as demonstrating responsibility, commitment, reliability, discipline, motivation and life skills (Weimer, 2002; Muldoon, 2009; Cooper et al., 2010; Garnett, 2012). This is what two of the lecturers had to say:

During the course students do share their experiences to complement their new learning. We encourage reflections in which the work experiences of students are being expressed through write-ups.
UPNGSMHS22

During practicums, this is ideal so that students may have real experiences to help them identify areas of strengths and weaknesses to be improved. PAUAH1

Out of the seventy-four (74, 72%) lecturers who commented, twenty-two (22, 21%) respondents stated that work experience was not a necessary component of their course requirements. The main argument is that the nature of the course does not allow students to gain work experience while they are at the university. Half of the respondents (11 out of 22) argue that it was not necessary or applicable for the course they were teaching. This raises the issue of gaps in lecturers' knowledge about the value of work experience in terms of developing graduate attributes and the worth of student development through extra-curricular activity. This is what two of the lecturers had to say:

In practice, students do not get opportunities to gain work experience whilst they are still in school. UPNGSMHS25

Not possible in all subjects. PAUBUS2

Lecturers' perceptions of whether students were engaged in work experience was compared with the perceptions of postgraduate students (n=22), seventeen (17,

77%) respondents agreed while nine (9, 9%) were undecided and three (3, 14%) disagreed, see Figure 5.20 below.

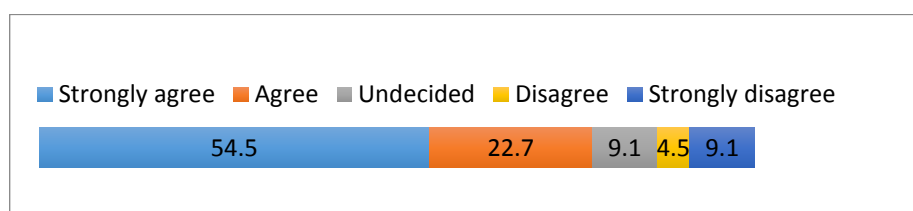


Figure 5.20 Postgraduate students' perceptions on whether lecturers encourage work experience

Out of the 22 respondents, fifteen (15, 68%) respondents commented while seven (7, 32%) respondents did not. Out of the fifteen postgraduate students who commented, seven (7, 32%) respondents indicated that they are encouraged to develop their skills by taking part in work experience as part of the courses lecturers teach whereas eight (8, 36%) respondents disagreed. The results indicate no significant difference in the views of postgraduate students; however, there is evidence of contradiction in the results as more postgraduate students (8 out of 15) expressed that students were not given the opportunities to gain work experiences while at the universities. Policy documents obtained from the universities indicated that one university had a policy for students to gain work experience as part of their services to the community to foster good work ethics and develop workplace skills. This is what one postgraduate student had to say:

We have work line department purposely to help students to develop skills as well as attitudes to work to help others as they leave the university. PAUPG4

On the other hand, two postgraduate students had this to say:

I was not engaged to take part in work experience. UPNGPG9

This never existed in my days, which is 2005 upwards to present. UPNGPG

These quotations reinforces the notion of a gap in the university system as well as in the lecturers' knowledge about the value of work experience in terms of developing graduate attributes and the worth of student development through extra-curricular activity (Cooper et al., 2010; Garnett, 2012). It also re-affirms that the two universities studied had differences in their approach to establishing policies on

students attaining graduate attributes as outlined in their respective university prospectuses. Institutional commitment to attaining graduate attributes is paramount to the development of lifelong learning skills whether it be social or work skills or the development of personal attributes of individual students (Cooper et al., 2010; Garnett, 2012).

In the interviews conducted with lecturers (n= 20), when asked what outcomes universities should aim for students, apart from gaining knowledge and technical proficiency, all the lecturers interviewed expressed their commitment to the attainment of the graduate attributes such as the development of social and work skills as paramount. One of the lecturers in the interview stated that since there were no clear curriculum guidelines or policies established at the university, it was the lecturer's responsibility to decide whether work experience should be integrated into the curriculum.

When asked about approaches universities could use to foster lifelong learning in students, the majority of lecturers (19 out of 20) expressed their commitment to the attainment of graduate attributes. Graduate attributes can be attained and achieved through students gaining work experience. To reinforce theory learnt in the classroom with practice gained from work experience was important in preparing graduates. This is what two of the lecturers had to say:

We need to provide opportunities for students to gain exposure outside of the university to sensitize students to other areas that are outside their field of study and to appreciate life in general. PAUSMI9

We find that when students come back from doing this practical experience they are more confident ... they completely change their way of communication ... speak with precision ... they really know what they are talking about. PAUSMI2

Lecturers were asked to identify ways universities could change the curriculum to incorporate graduate attributes as the major drivers or focus in the curriculum. Some of the lecturers (12 out of 20) suggested that courses should be more practical with an emphasis placed on graduates to be more creative, innovative, analytical and critical. This is aimed to instil a sense of professionalism in students' attitudes to work and life in general. This is what one of the lecturers had to say:

PNG needs graduates who are creative, innovative, analytical, critical not just graduates who are looking for a job. We need to create a conducive learning environment to nurture students to grow intellectually and encourage our graduates to invent and develop inventions and export to other countries. UPNGSMI7

Universities worldwide have graduate attribute policies that list skills and attributes as well as categories of capabilities and qualities such as cognitive and metacognitive skills that graduates of the universities can attain after completing a university degree program (Fallows & Steven, 2000; Gardner & Martin, 2003; Muldoon, 2009). These policies emerged as a result of the influence of employers who expressed dissatisfaction with the demonstration of skills, attributes in discipline knowledge and related expertise required of these graduates (Candy et al., 1994; Crisp, 2003; King & Nunan, 2003; Barrie & Posser, 2004; Garnett, 2012; Chalmers & Partridge, 2012).

Graduate attributes are closely associated with the teaching and development of students' cognitive and metacognitive skills. In developing lifelong learning practices through such extra-curricular activity as work experience more careful planning of curricula is required to assist the development of these skills at the universities. Allowing students to gain work experience for practice and critical examination of self and learning in the curriculum inevitably means that less subject content knowledge is covered for every subject at every level (Cornford, 1999; Harpe & Radloff, 2000). Research evidence has shown that self-monitoring and self-regulating students learn far more effectively than those that do not (Chi et al., 1989; Bielaczyc et al., 1995; Schraw, 1998; Cornford, 1999; Harpe & Radloff, 2000). Work experience, if included in the university curriculum as an extra-curricular activity, will enable students to apply skills in authentic situations and would potentially enhance the demonstration of graduate attributes more effectively.

Research evidence shows that not all universities are adopting a reacting proactive approach to recognize the potential of extra-curricular activity such as work experience for student development (Ward, 1998; Jackson et al., 2000). It is recognized that workplace provides valuable informal learning experience for students (McGivney, 1999; Conrad, 2008; Sawchuk, 2008). However, in the PNG context, the value of

institutional recognition of work experience on the attainment of graduate attributes is unknown. The results of this study raise an issue in how best graduate attributes could be aligned across the university curriculum. Work experience could be an effective means by which most graduate attributes and desirable attitudes and personal qualities are enhanced to increase employability of graduates (Scott, 2005; Muldoon 2010; Chalmers & Partridge, 2012). It is, therefore, important for university lecturers to assess the situation in their own universities and seek ways to explicitly encourage the teaching and learning of the graduate skills and attributes through exposing students to gain work experience as part of their studies at the universities.

The higher education literature on teaching and learning (e.g. Duch at al., 2001; Weimer, 2002; Saroyan et al., 2004; Blumberg, 2004; Michaelsen et al., 2004; Whitefield & Kloot, 2006; Richlin, 2006; Hunt & Chalmers, 2012 Blumberg, 2012) uses several terms to describe the teaching approach that focuses on the learner or student. Learner-centred teaching places the emphasis on the person who is doing the learning (the student) (Weimer, 2002; Michaelsen et al., 2004; Hunt & Chalmers, 2012; Blumberg, 2012) and the important interrelationships between the teachers and learners (Blumberg, 2004). Student-centred learning focuses on the process of learning (Weimer, 2002; Saroyan et al., 2004; Michaelsen et al., 2004; Hunt & Chalmers, 2012; Blumberg, 2012). Student centred learning takes the lecturer out of the traditional critical role and encourages students to be more empowered in the learning process. Research evidence supports the notion that student engagement through learner-centred approaches leads to desirable student learning outcomes (Sternberg, 1998; Cornford, 1999; Weimer, 2002; Cornford, 2002; Saroyan et al., 2004; Michaelsen et al., 2004; Hunt & Chalmers, 2012; Blumberg, 2012). The benefits include increased motivation for learning where students show greater satisfaction with their learning. These outcomes lead to greater academic achievement (Slavin, 1990; McCombs, 1991; Johnson, 1991; Maxwell, 1998 Sternberg, 1998; Cornford, 1999; Weimer, 2002; Cornford, 2002; Blumberg, 2012).

Five questionnaire items (items 10, 11, 12, 20 and 23) are grouped together as the items are linked to the theme of how lecturers use learner-centred teaching strategies. Most or all of these questionnaire items are closely associated with the teaching of the problem-based learning (PBL) curriculum, however, it must be pointed

out that the use of the following learner-centred teaching strategies is not restricted to the teaching of the PBL program. Other programs could use these learner-centred teaching strategies to facilitate the learning of students in those programs. The main aim of using these learner-centred teaching strategies is to engage students in their own learning and motivate them to claim ownership and demonstrate responsibility towards their own learning (Eck, 2000; Chapman, 2000; Duch et al., 2001; Brodie, 2012).

The use of learner-centred teaching strategies such as PBL are aimed to present students with complex, real-world problems as a group project or case study to solve. Students are tasked to identify and research the concepts and principles they need to know to work through those problems or issues under investigation. Students are also encouraged to work in small learning teams, bringing together collective skills at acquiring, communicating, and integrating information (Duch et al., 2001; Brodie, 2012). During the learning process, students are challenged to think critically and be able to analyse and solve complex, real-world problems or issues; find, evaluate and use appropriate learning resources; work cooperatively in teams and small groups; demonstrate versatile and effective communication skills, both verbal and written; and use content knowledge and intellectual skills acquired at the university to become continual learners (Duch et al., 2001; Brodie, 2012).

The role of lecturers as facilitators of student learning requires an incremental change process from teacher-centred teaching to learner-centred teaching. This gradual transformation of instruction with an emphasis on learner-centred learning requires the use of learner-centred teaching techniques in the learning process (Blumberg, 2012; Brodie, 2012; Hunt & Chalmers, 2012). Scott (2005) argues that for university lecturers to establish a conducive learning environment, there must be emphasis placed on establishing social connectedness that forms a part of inclusive teaching practice. The argument that students need to be engaged in their learning or studies at the university with each other is an understatement (Wilson, 2009; Broughan & Hunt, 2012). Wilson (2009), Blumberg (2012), and Hunt & Chalmers (2012) argued that building student engagement in their learning should be an on-going process through using teaching strategies that are interactive and that introduces students to each other (Hogan 2007; Michaelsen et al., 2004; Saroyan et al., 2004). However, it is important to point out that there is no one teaching approach that will meet the needs of all students all of the

time. The different learning needs of students must be considered when deciding on the most appropriate teaching approach to use in the teaching and learning processes; to be inclusive in their teaching practice and for students to be interactive in their learning with each other (Michaelsen et al., 2004; Saroyan et al., 2004; Broughan & Hunt, 2012). The next item assesses whether lecturers encourage the use of project work in the courses they taught,

Item 10 examined the lecturers' perceptions on whether lecturers encourage project work in the courses they teach. Gibbs (1992) argued that students can learn to cooperate on assignments and projects, laboratory work, fieldwork, seminar presentations and even reading assignments in small group. The encouragement of such strategies influences the ways in which students study independently. Lecturers use projects to give students scope to study a topic in depth. Projects provide students experience of research, analysis and recording as well as practice in writing reports (Beaty, 1999). Ninety-one (91, 88%) respondents indicated that lecturers encourage project work in the courses they taught. Four (4, 4%) respondents were undecided and eight (8, 8%) respondents disagreed, see Figure 5.21 below.

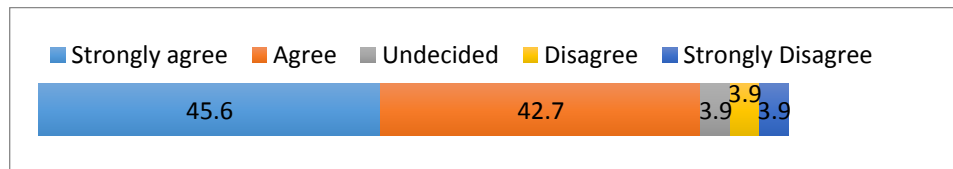


Figure 5.21 Lecturers' perceptions on whether lecturers encourage project work

In analysing the qualitative data, out of the 103 respondents, seventy-one (71, 69%) respondents commented whereas thirty-two (32, 31%) of respondents did not. Out of the seventy-one (71, 69%) respondents who commented, fifty-nine (59, 57%) respondents asserted that lecturers encourage project work in the courses they taught. Both the overall survey responses (91 out of 103 respondents) as well as the qualitative comments (59 out of 71 respondents) support the notion that lecturers encouraged project work in the courses they taught. The use of project work is viewed as an effective means of research training and of encouraging a discovery approach to learning and is closely associated with the aim to promote student-centred learning (Henry, 1994; Stone, 1994; Thorley & Gregory, 1994; Race & Brown, 1998; Marshall, 1999; Beaty, 1999; Leamson, 1999). Using project work as part of the delivery of the

courses enhances students' creativity as small groups of students in are encouraged to develop other related cognitive and metacognitive skills such as teamwork to accomplish an assigned learning task (Johnson et al., 1991; Stone, 1994; Thorley & Gregory, 1994; Marshall, 1999). Projects are also seen as an effective means to promote transferable skills and skills of employability. Giving students projects as part of their assessment empowers and motivates them as learners to take responsibility for their own learning (Henry, 1994; Stone, 1994; Thorley & Gregory, 1994; Marshall, 1999; Beaty, 1999). This is what one of the lecturers had to say:

Students through project work not only learn to apply skills taught in class but also learn other skills such as teamwork, leadership skills as well as coordination skills. PAUAH1

In contrast, twelve (12 out of 71) lecturers thought that project work was not encouraged in the courses due to their belief that assessing individual performance was far better than assessing group performance. The lecturers suggested that some members of the group do not contribute their share of the assigned tasks and depend on more active group members to do the tasks for them. This may result in some group members being allocated marks that they do not deserve. This is what one of the lecturers had to say:

I don't like students working on group projects because I prefer assessing students on their individual merits ... I also want to prevent the likelihood of lazy students not participating in the assigned project work to a group of students. UPNGSOL2

The above quotation provides a misleading view of what projects offer as a teaching and learning strategy. There is a misconception in the role a lecturer performs when executing this teaching and learning strategy. The role of a lecturer is that of a facilitator which requires project management skills. The onus of learning is passed onto the student after they are taught project management skills. To maximize the learning potential of projects, the lecturer and the students must establish and come to an agreement the appropriate working relationship expected of both parties (Henry, 1994; Stone, 1994; Thorley & Gregory, 1994; Day et al., 1998; Marshall, 1999; Beaty, 1999). One way of establishing a conducive working relationship is that of learning contract, which itemizes the range of responsibilities to which parties must agree. Furthermore, with the increase in the number of students' enrolling in programs or

courses in higher education, peer support via teamwork has increasingly been viewed as a learning strategy that should be promoted within the curriculum (Thorley & Gregory, 1994; Marshall, 1999; Beaty, 1999). Working in project teams can provide students with moral support as well as promote teamwork skills. A group has a greater range of total experience and skills than any one individual (Henry, 1994; Stone, 1994; Thorley & Gregory, 1994; Day et al., 1998; Marshall, 1999; Beaty, 1999).

Lecturers' perceptions of projects was compared to the perceptions of postgraduate students (n=22), fifteen (15, 68%) respondents agreed whereas four (4, 18%) were undecided and three (3, 14%) disagreed, see Figure 5.22 below.

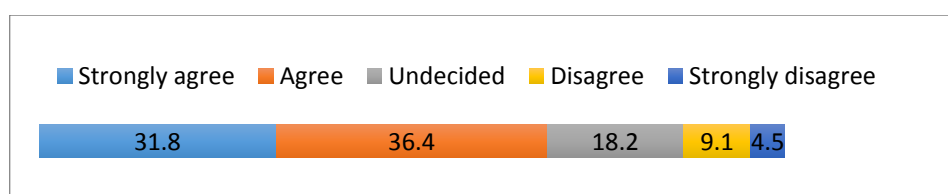


Figure 5.22 Postgraduate students' perceptions on whether lecturers encourage project

Out of the 22 respondents, sixteen (16, 73%) respondents commented while seven (6, 27%) did not. Out of the sixteen postgraduate students who commented, nine (9, 41%) respondents indicated that they are encouraged to learn in a collaborative manner with other students in the courses lecturers teach whereas seven (7, 32%) respondents disagreed. For those postgraduate students who commented that lecturers do encourage project work in their courses (9 out of 16), their arguments were similar to what the lecturers indicated in their comments. Project work is seen as an avenue for students to work in teams in collaboration or in cooperation with each other to accomplish an assigned task provided by the lecturers. In doing project work, students are encourage to develop their creativity and enhances the development of higher cognitive thinking skills such as analysis, synthesis and evaluation (Henry, 1994; Stone, 1994; Thorley & Gregory, 1994; Marshall, 1999). This is what one postgraduate student had to say:

Project work develops skills, creativity and help students work out ways to solve problems and challenges if they have come across in their projects. PAUPG4.

For those postgraduate students who indicated that lecturers do not encourage project work in their courses (7 out of 16), the argument was that most or all lecturers do not encourage projects work and encourage students to work on their own on assessable tasks that will contribute to the overall grade a student will be awarded at the end of the semester. This is what one postgraduate student had to say:

Lecturers are used to giving more self-work or study in their courses.
UPNGPG1

Group projects can be assigned as case studies. The next item assesses whether lecturers used case studies in the courses they taught. Case studies are complex examples, which can be real or imaginary, which provides an insight into the context of the example as well as illustrates the main point (Beaty, 1999; Weimer, 2002; Ramsden, 2003). If case studies are based on reality, source material may come from newspapers, journals or non-published reports where permission will need to be granted for use within the course. Imaginary cases may take careful preparation on the part of the lecturer. The main aim is to build up a picture of an issue or problem through a case study and provide the students' exercises and tasks to complete in relation to the case (Beaty, 1999; Weimer, 2002; Ramsden, 2003). In using case studies, the case material in effect becomes a trigger to assist students to analyse and synthesize the information they gather and apply concepts and principles in a course to solve the problem presented and make decisions and in general to identify and examine broader implications of the content in theory and in practice (Grasha, 1996; Beaty, 1999; Weimer, 2002; Ramsden, 2003; Richlin, 2006). Case studies lend themselves to teamwork where multiple perspectives on a case can support critical appraisal and broader understanding (Beaty, 1999; Weimer, 2002; Ramsden, 2003). Item 11 examined the lecturers' perceptions on whether lecturers encourage case studies in the courses they teach. Eighty-two (82, 79%) respondents indicated that lecturers encourage case studies in the courses they taught. Fourteen (14, 14%) respondents were undecided and seven (7, 7%) respondents disagreed, see Figure 5.23 below.

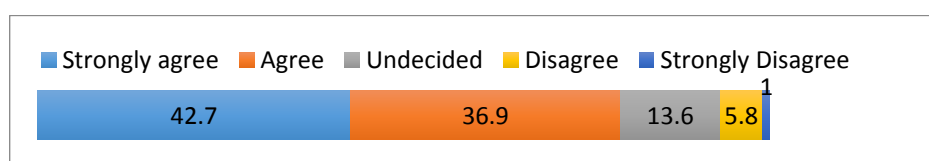


Figure 5.23 Lecturers' perceptions on whether lecturers encourage case studies

In analysing the qualitative data, out of the 103 respondents, seventy-five (75, 73%) respondents commented whereas twenty-eight (28, 27%) respondents did not. Out of the seventy-five (75, 73%) respondents who commented, fifty-seven (57, 55%) respondents asserted that lecturers encourage case studies in the courses they taught. Both the overall survey responses (82 out of 103 respondents) as well as the qualitative comments (57 out of 75 respondents) support the notion that lecturers encouraged case studies in the courses they taught. For the majority of lecturers who use case studies in their courses (57 out of 75), they stated that the use of case studies developed higher cognitive thinking skills (analysis, synthesis and evaluation) in students (Beaty, 1999; Weimer, 2002; Ramsden, 2003). Studying ‘cases’ or ‘examples’, when used effectively also helps promote teamwork, collaboration and cooperation when students work in groups and learn from each other (Beaty, 1999; Weimer, 2002; Ramsden, 2003). The use of case studies also helps students to apply theory to practice in their search for information when dealing with real-world cases or problems. Problem-based learning (PBL) as a teaching strategy uses learning teams to work on a series of case studies as the primary focus of learning where concepts and theories from discipline areas are studied as they arise through the cases (Gibbs, 1992; Beaty, 1999; Feather & Fry, 1999; Duch et al., 2001; Weimer, 2002; Ramsden, 2003). Lecturers teaching the PBL curriculum found students to be more analytical, logical and critical in their thinking, adding meaning and value to student learning (Beaty, 1999; Feather & Fry, 1999; Weimer, 2002; Ramsden, 2003). This is what one of the lecturers had to say:

Stimulated case studies is very good method of teaching and learning ... helping students to prepare for real situations later in life when they are at the workplace. PAUHSC1

In contrast, eighteen (18 out of 75) lecturers who claimed that project work was not encouraged in the courses lecturers taught. These lecturers main argument was that preparing case studies was time-consuming and they did not have the time to create cases for students to solve in their courses. This is what one lecturer had to say:

I have not found time within the course to encourage that learning skill.
UPNGSHSS4

The quotation above clearly describes the lecturer’s attitude, behaviour and belief towards the use of case studies in the course they taught. If lecturers are required to be more creative and innovative in their approach to teaching and learning, time should not be used as an excuse to avoid preparing good case studies to challenge students’ learning of the subject matter.

Lecturers’ perceptions of whether case studies were used in courses they taught was compared with the perceptions of postgraduate students (n=22), fourteen (14, 64%) respondents agreed whereas two (2, 9%) was undecided and six (6, 27%) disagreed, see Figure 5.24 below.

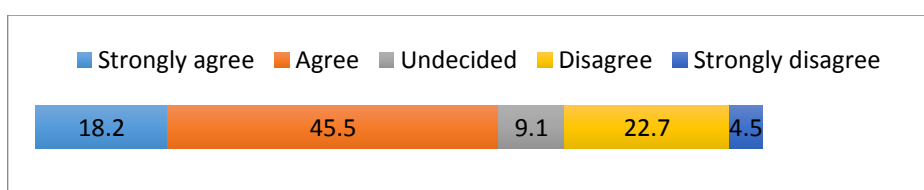


Figure 5.24 Postgraduate students’ perceptions on whether lecturers encourage case studies

Out of the 22 postgraduate students, sixteen (16, 73%) respondents commented whereas six (6, 27%) respondents did not. Out of the sixteen postgraduate students who commented, eight (8, 36%) respondents indicated that lecturers do use case studies in the courses they taught, arguing that the use of case studies in courses is a way of developing learning-to-learn skills in the students. However, the other eight (8, 36%) respondents disagreed, arguing that the skill was never taught or encouraged by lecturers. This result does not show a significant difference in opinion to validate the overall responses of postgraduate students in the survey questionnaire. This is what one of the postgraduate student had to say:

I don’t remember this, so maybe no. I was not given any case studies to solve ... I don’t recall. UPNGPG5

By using PBL as a teaching and learning strategy, lecturers challenge students to foster the ability to identify the information needed for a particular application to an assigned case. Lecturers also encourage students to learn cooperatively and decide for themselves where and how to seek the information required to find possible solutions to the case. Students are also challenged to decide for themselves, how to organise that information in a meaningful conceptual framework, and communicate that information

to others (Gibbs, 1992; Feather & Fry, 1999; Duch et al., 2001; Weimer, 2002; Ramsden, 2003). Studies have found that when students work together in cooperative learning groups it enhances student achievement (Gibbs, 1992; Johnson, Johnston & Smith, 1991; Weimer, 2002; Ramsden, 2003). Working in cooperative learning groups also help students to learn concepts in the context in which they will be used and applied appropriately (Gibbs, 1992; Albanese & Mitchell, 1993). The use of problem-based instruction highlights interconnections between disciplines and the integration of concepts as required to understand the case (Gibbs, 1992; Beaty, 1999; Duch et al., 2001; Weimer, 2002; Ramsden, 2003).

Item 12 examined the lecturers' perceptions on whether lecturers encourage problem-based learning in the courses they teach. Eighty-seven (87, 84%) respondents indicated that lecturers encourage the use of problem-based learning in the courses they teach. Twelve (12, 12%) respondents were undecided and four (4, 4%) respondents disagreed, see Figure 5.25 below.

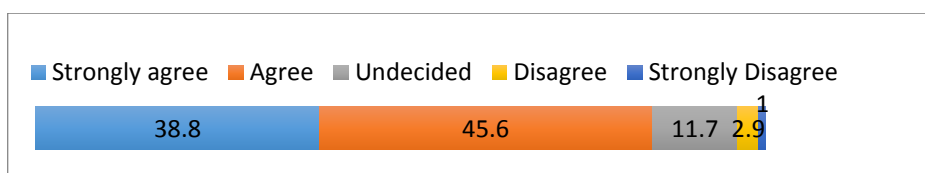


Figure 5.25 Lecturers' perceptions on whether lecturers encourage problem-based learning

In analysing the qualitative data, out of the 103 respondents, sixty-eight (68, 66%) respondents commented whereas thirty-five (35, 34%) respondents did not. Out of the sixty-eight (68, 66%) of respondents who commented, fifty-one (51, 49.5%) respondents revealed that lecturers encourage problem-based learning in the courses they taught whereas seventeen (17, 16.5%) disagreed. Both the overall survey responses (87 out of 103 respondents) as well as the qualitative comments (51 out of 68 respondents) support the notion that lecturers encouraged problem-based learning in the courses they taught. In encouraging problem-based learning, students are presented with real cases to solve and come up with solutions. Students are challenged to search for the information and participate in discussions organised by them (Feather & Fry, 1999; Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012). Such interactive learning processes enhance the development of a sense of collegiality and teamwork. Problem-based learning is also used to develop creativity and flexibility in

deciding on possible solutions to the cases presented in collaborative or cooperative learning teams (Feather & Fry, 1999; Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012). Problem-based learning was evident in the curriculum of one of the schools at one of the universities. Lecturers in that particular school found that when using problem-based learning, higher cognitive thinking skills such as critical and analytical thinking skills were developed in the process of learning. This is what two lecturers had to say:

Questions are given to students where they identify a problem given to them, analyse that problem, draw reasons and develop strategies to solve the problem in an amicable manner as a team. UPNGSBA7

I use it all the time, it's a student centred learning. Students develop and learn thinking strategies and become more knowledgeable about the issue or problem or case presented to them. PAYHSC8

In contrast, seventeen (17 out of 68) lecturers argued that problem-based learning was not encouraged in the courses they taught. Another barrier stated by these lecturers in the use of problem-based learning was that setting case studies for students to solve in classes was taking up most of their preparation time. As a result, these lecturers focused on presenting lectures to teach the content knowledge without challenging students to critically think about what they were learning. This is what two of the lecturers had to say:

Not all the time, would sometimes. I do that when there is a problem at hand, but the problem is that students are passive learners and expect me to deliver the answers to the problems presented. PAUSTE1

I try to apply this skill at my senior levels but students are not used to it in earlier years so I get nothing out from students. UPNGSNPS9

The views expressed above raise questions in how lecturers design learning activities to achieve learning outcomes (Otter, 1992; Walker, 1994; D'Andrea, 1999; Nicholls, 2002 Ramsden, 2003; Brodie, 2012; Hunt et al., 2012). In these scenarios expressed above, it appears that lecturers have given less time to their preparation of teaching and learning activities due to pressures of time available in a semester. There appears to be little consideration given to the attainment of learning outcomes set in course outlines and in evaluating the teaching and learning process. Lecturers need to

know that if teaching involves helping students to know knowledge that is unknown it constitutes a process of change. Therefore, conscious planning of teaching and learning outcomes are required to make these outcomes explicit for students to understand what they will achieve out of the teaching and learning process (Otter, 1992; Walker, 1994; D'Andrea, 1999; Nicholls, 2002; Ramsden, 2003; Brodie, 2012; Hunt et al., 2012). Lecturers are required to make conscious decisions about a wide range of teaching and learning considerations that define learning outcomes. This learning process determines what students will be able to do at the end of the program of study (Otter, 1992; Walker, 1994; D'Andrea, 1999; Nicholls, 2002).

Lecturers' perceptions of problem-based learning was compared to the perceptions of postgraduate students (n=22), sixteen (16, 73%) respondents agreed while five (5, 23%) were undecided and one (1, 5%) disagreed, see Figure 5.26 below.

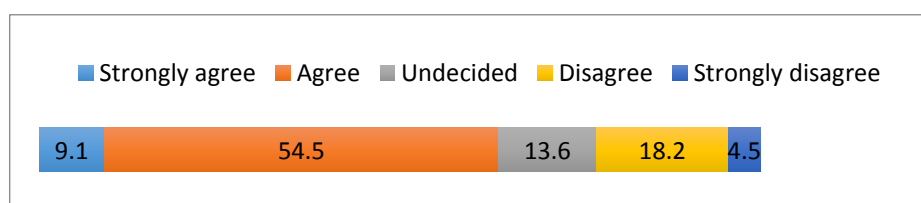


Figure 5.26 Postgraduate students' perceptions on whether lecturers encourage problem based learning

Out of the 22 respondents, fourteen (14, 64%) respondents commented while only eight (8, 36%) respondents did not. Out of the fourteen postgraduate students who commented, five (5, 23%) respondents indicated that they are encouraged to do problem-based learning in the courses lecturers teach whereas nine (9, 41%) respondents disagreed. The views of the majority of postgraduate students (9 out of 14) revealed that decisions related to what knowledge, skills and attitudes that needed to be taught was decided by the lecturers teaching the course. Hence, most lecturers opted to present lectures rather than designing teaching and learning activities to challenge students. This is what one of the postgraduate students had to say:

This is very rarely done. It depends on the lecturer presenting the course, what skills he wants the students to learn and develop in that course. PAUPG4

Problem-based learning develops problem-solving thinking skills in students where problems are provided for students in learning teams or groups to tackle (Gibbs

& Jenkins, 1992; Feather & Fry, 1999; Duch et al., 2001; Michaelsen et al., 2004; Saroyan et al., 2004; Brodie, 2012). The purpose of problem-based learning in most instances is clearer to the learners even if the learning outcomes are not yet obvious. It is natural for people to find the process used to tackle problems, both engaging and challenging. In problem-based learning, students are challenged to develop their abilities to making informed judgements by effectively defining specific problems in complex, real world settings. When students are challenged with problems, it provides them the opportunities to gather and evaluate information related to those problems and develop workable solutions (Feather & Fry, 1999; Duch, Groh & Allen, 2001; Michaelsen et al., 2004, Saroyan et al., 2004; Brodie, 2012).

Item 20 examined the lecturers' perceptions on whether lecturers always use teaching approaches to develop students' problem-solving thinking skills in the courses they teach. Ninety-four (94, 91%) respondents indicated that lecturers always use teaching approaches to develop students' problem-solving thinking skills in the courses they taught. Eight (8, 8%) respondents were undecided and one (1, 1%) disagreed, see Figure 5.27 below.

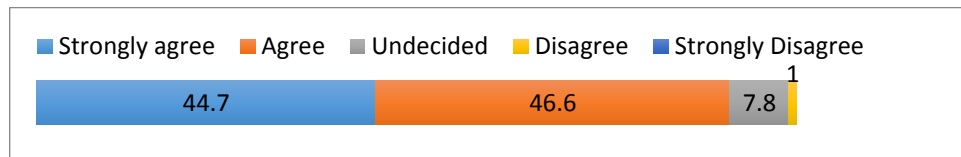


Figure 5.27 Lecturers' perceptions on whether lecturers use teaching approaches to develop problem-solving thinking skills

In analysing the qualitative data, out of the 103 respondents, sixty (60, 58%) respondents commented whereas forty-three (43, 42%) respondents did not. Out of the sixty (60, 58%) respondents who commented, forty-three (43, 42%) respondents asserted that lecturers used teaching approaches to develop students' problem-solving thinking skills in the courses they taught. Both the overall survey responses (94 out of 103 respondents) as well as the qualitative comments (43 out of 60 respondents) support the notion that lecturers used teaching approaches to develop students' problem-solving thinking skills in the courses they taught. Most of the lecturers (43 out of 60) revealed that they plan learning activities where students are encouraged to compare and contrast between two or more ideas to develop problem-solving skills. Through critical reflection, students are encouraged to be creative, innovative and flexible in their

approach to solving problems (Feather & Fry, 1999; Eck, 2000; Chapman, 2000; Duch, Groh, & Allen, 2001; Brodie, 2012). This is what one of the lecturers had to say:

By asking students to be critical of their own work especially in practicals when reporting an experiment. UPNGSMHS5

In contrast, seventeen (17 out of 60) respondents argued that lecturers did not use teaching approaches to develop students' problem-solving thinking skills in the courses they taught. These lecturers were of the view that problem-solving skills is encouraged but not taught as lecturers need to develop the teaching strategies required to best teach these skills to students. This is what two lecturers had to say:

Haven't done enough of this in practice. UPNGSNPS2

A trained teacher will honestly judge his teaching against this criteria. I admit I lack in this area but I am doing my best. PAUTHE3

Lecturers' perceptions of teaching problem-solving thinking skills was compared with the perceptions of postgraduate students (n=22), fourteen (14, 64%) respondents agreed while four (4, 18%) were undecided and four (4, 18%) disagreed, see Figure 5.28 below.

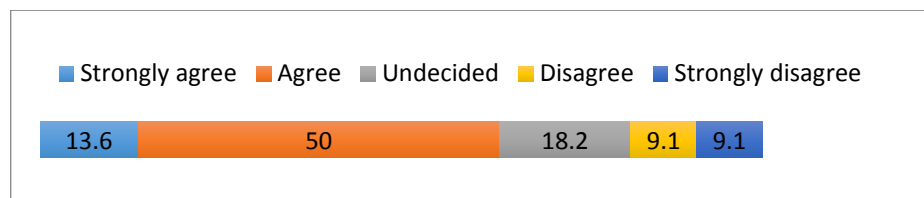


Figure 5.28 Postgraduate students' perceptions on whether lecturers use teaching approaches to develop problem-solving thinking skills

Out of the 22 respondents, eleven (11, 50%) respondents commented while eleven (11, 50%) respondents did not. Out of the eleven postgraduate students, four (4, 18%) respondents indicated that they are taught to develop their problem-solving skills in the courses lecturers taught whereas seven (7, 32%) respondents disagreed. This result contradicts the overall ratings in the survey questionnaire where the majority of postgraduate students (14 out of 22) and the majority of lecturers (94 out of 103) agreed that lecturers did teach problem-solving skills in the courses they taught.

Another issue that the researcher encountered in the analysis was that the views expressed in the comments section were too vague. It was difficult to establish what the concerns of students were in relation to the teaching and learning of problem-solving skills. For example, the majority of postgraduate students (6 out of 7) who disagreed just stated “not always” in the comment section without providing reasons as to why lecturers did not use teaching approaches to develop problem-solving skills. In contrast, the four postgraduate students (4 out of 11) who agreed were of the view that lecturers used teaching strategies to develop problem-solving skills. They argued that students were encouraged by lecturers to engage in problem-solving learning activities. This is what one of the postgraduate students had to say:

This course creates the opportunity to come up with structural arguments to defend a research problem. PAUPG9

The purpose of lecturers developing appropriate on-going classroom assessment is to improve the quality of learning process (Angelo and Cross, 1993; Race, 1995; Knight, 1995; Brown et al., 1995; Brown et al., 1997; Richlin, 2006; Flint & Johnson, 2011; Brown & Race, 2012; Nguyen & Walker, 2016). The use of classroom assessment techniques (CATS) is an effective way to gauge student learning and providing feedback to the lecturer and students on how the course is going. The results of CATS can be used by students to change their study habits and or develop students’ cognitive and metacognitive skills including problem-solving abilities and analytical skills (Angelo and Cross, 1993; Race, 1995; Knight, 1995; Brown et al., 1995; Brown et al., 1997; Richlin, 2006; Flint & Johnson, 2011; Brown & Race, 2012).

Item 23 examined the lecturers’ perceptions on whether the types of assessment lecturers’ set develop students’ problem-solving abilities and analytical skills in the courses they taught. Ninety-six (96, 93%) respondents indicated that the types of assessment lecturers’ set develop students’ problem-solving abilities and analytical skills in the courses they taught. Six (6, 6%) respondents were undecided and one (1, 1%) respondent disagreed, see Figure 5.29 on page 206.

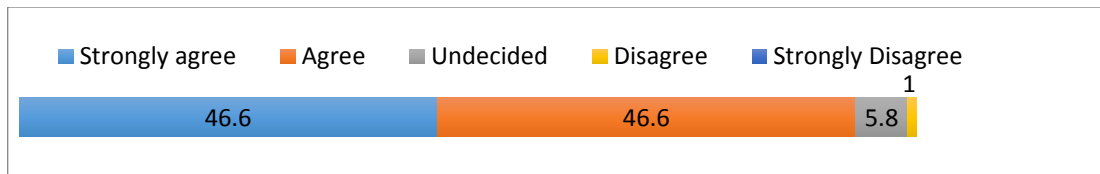


Figure 5.29 Lecturers' perceptions on whether types of assessment set develop students' problem-solving abilities and analytical skills

In analysing the qualitative data, out of the 103 respondents, sixty-two (62, 60%) respondents commented whereas forty-one (41, 40%) respondents did not. Out of the sixty-two (62, 60%) respondents who commented, fifty-five (55, 53%) respondents stated that the types of assessment lecturers' set develop students' problem-solving abilities and analytical skills in the courses they taught. Both the overall survey responses (96 out of 103 respondents) as well as the qualitative comments (55 out of 62 respondents) support the notion that the types of assessment lecturers' set develop students' problem-solving abilities and analytical thinking skills in the courses they taught. The major argument presented in the data is that most assessment set by lecturers are aimed to develop higher order cognitive skills through the use of projects, case studies and or stimulated cases as individual or group assignments, application questions in the form of multiple choice questions, and through the use of short answer or essay questions in tests and examinations. Students are challenged to use their problem-solving and analytical thinking skills in answering these assessable pieces given to them by lecturers in most or all of the courses. This is what one of the lecturers had to say:

There are a variety of questions or methods given in exams or tests or assignments so the students use their problem-solving abilities and analytical skills to find answers to those assessable tasks given by lecturers. PAUSHC8

However, seven (7, 7%) respondents revealed that the types of assessment lecturers' set do not develop students' problem-solving abilities and analytical skills. The main argument coming from those who answered no is that most of the assessable tasks given to students are assessing simple recall of knowledge or the content learnt in class, and the tasks do not develop problem-solving thinking skills or analytical thinking skills in students. This is what one lecturer had to say:

I'd like to think they do and I hope they do ... some questions are directly from handout given to students. UPNGSBA7

Lecturers' perceptions of developing students' problem-solving abilities and analytical skills was compared to the perceptions of postgraduate students (n=22), sixteen (16, 73%) respondents agreed whereas four (4, 18%) was undecided and two (2, 9%) disagreed, see Figure 5.30 below.

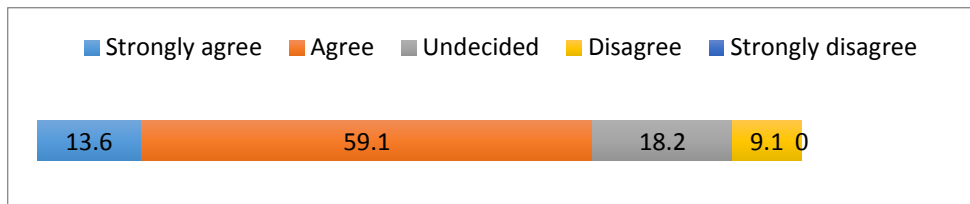


Figure 5.30 Postgraduate students' perceptions on whether types of assessment set develop students' problem-solving abilities and analytical skills

Out of the 22 respondents, thirteen (13, 59%) respondents commented while nine (9, 41%) respondents did not. Out of the thirteen postgraduate students who commented, four (4, 18%) respondents indicated that the types of assessment (assignments, tests, exams) the lecturers' set encouraged students to develop their problem-solving abilities and analytical skills while nine (9, 41%) respondents disagreed. This result contradicts the results in the overall survey for this questionnaire item as although the majority (16 out of 22) agreed that the types of assessments set by lecturers develop problem-solving and analytical thinking skills in students, the comments expressed says otherwise. The key argument is that not all lecturers do that and for those who do, the assessment tasks set either assesses simple recall of knowledge content taught in class. This is what two of the postgraduate students had to say:

Most assignments are based on what you learn, rarely in developing problem-solving skills in students. PAUPG4

Not too happy with the multiple-choice questions. Should be in short answers so that we as students analyse what we have learnt in classes. UPNGPG9

From the interviews, when lecturers (n=20) were asked in what ways universities can foster lifelong learning in students, the majority of lecturers (16 out of 20) responded that they would like to see the development of critical and analytical

thinking skills in students from the courses they are taught so that they are in a position to question and discuss critically what they hear, see and read in the courses they are taught. This is to support the argument to develop intellectual curiosity in the minds of students to become more independent learners rather was raised in the interviews. Lecturers are challenged to change their teaching approaches to challenge students more and instilling in students that learning does not end once they receive a university degree but learning is continuous.

When lecturers were asked if the course they taught was a good example of lifelong learning, the majority of lecturers (15 out of 20) pointed out that student-centred learning activities should be set to develop problem solving and analytical thinking skills in students. The use of case studies is a good example of stimulating and developing higher order cognitive thinking skills in students. Case studies challenge students to work in teams to synthesize the information presented to solve the case study problem and propose possible solutions.

When lecturers were asked in what ways they could enhance lifelong learning through changes to curriculum design and development, the majority of lecturers (16 out of 20) argued that emphasis in learning should be based on encouraging deep learning approaches that focus on developing understanding and meaning making. This is what one of the lecturers had to say:

You know that critical thinking is lacking ... to be able to think critically in looking at things and understanding a question and be able to ask the right question ... students are struggling with that ... so the analytical thinking skills, critical thinking skills, the creative thinking skills are sometimes questioned ... we need to do more. PAUSMI9

From the interviews, the notion that developing intellectual thinking skills in the mindsets of students become evident for effective learning to take place in students (Biggs, 1988; Schraw, 1998; Kearn et al., 1999; Duch & Groh, 2001; Cornford, 2002; Michaelsen et al., 2004; Homayounzadeh, 2015; Nguyen & Walker, 2016). The development and reconceptualization of the teaching of cognitive and metacognitive skills is essential for effective learning to take place (Weinstein & Meyers, 1991, Weinstein & Meyers, 1994; Hattie et al., 1996; Schraw, 1998; Cornford, 2002; Harpe

& Radloff, 2000; Biggs, 2003; Donald, 2004; Homayounzadeh, 2015). The significance of these skills need to be understood by lecturers. These skills need to be taught through training programs to develop the lecturers' abilities or competencies to teach them to students (Harpe & Radloff, 2000; Cornford, 2002; Michaelsen et al., 2004). Lecturers need to develop higher-order cognitive thinking skills such as critical thinking skills, communication skills, research skills and other lifelong learning skills in students. Students should then be assessed on how well they demonstrate these learning outcomes to comply with graduate attributes required of them (Harpe & Radloff, 2000; Duch & Groh, 2001; Donald, 2004; Nguyen & Walker, 2016). The development of higher order cognitive thinking skills in students is a complicated multidimensional challenge for a lecturer to deal with alone. The higher education teaching and learning environment has to be conducive with all required support services available to both lecturers and students.

Active learning involves students doing things (hands-on experience) and thinking about the things they are doing (reflection). When students are involved in active learning, they do not just listen but are involved in the learning process. Students are actively engaged in learning activities such as reading, discussion, and writing. Engaging in active learning, develops higher-order cognitive thinking skills (analysis, synthesis and evaluation) and allows students to explore their own attitudes and values (through experience either doing or observing) towards learning (Bonwell & Eison, 1991; Harpe & Radloff 2000; Dee Fink, 2003; Michaelsen et al., 2004; Richlin, 2006; Blumberg, 2012; Homayounzadeh, 2015). Through learning experiences and reflection (on what one is learning and how one is learning, either alone or with others), learners are expected to add meaning to what they are learning (Richlin, 2006). One way of adding meaning to what one is learning is through team-based learning. Team-based learning is essential in courses that emphasize the development of students' thinking skills. According to Michaelsen et al. (2004), thinking is an intellectual activity whether it is critical thinking (judging the value of something), practical thinking (problem solving and decision making), or creative thinking (imagining and creating new ideas or objects), learning how to incorporate the ideas and perspectives of several people and learning how to work through differences. The interaction between different people if structured properly is likely to enhance the ability of a student to think effectively through that the exchange of ideas, practising higher-order cognitive

thinking processes, thereby getting feedback on the quality of their use of their own thinking processes.

The following questionnaire items (Item 13 to Item 19) surveyed perceptions of both lecturers and postgraduate students to establish how active learning is encouraged in the courses taught by lecturers. The development of lifelong learning skills are important in preparing students to function successfully in life (Boyer, 1998; Harpe & Radloff, 2000; Duch & Groh & Allen, 2001). The following items assessed whether lecturers' use appropriate teaching strategies to foster lifelong learning. The aim was to assess how the curriculum was aligned with appropriate teaching strategies to achieve learning outcomes (Saroyan et al., 2004; Donald, 2004). Furthermore to assess whether both the lecturers and students viewed teaching as a stimulating and creative design processes with many decision points (Harpe & Radloff, 2000; Cornford, 2000; Saroyan et al., 2004; Amundsen et al., 2004; Donald, 2004; Homayounzadeh, 2015).

Item 13 examined the lecturers' perceptions on whether lecturers encourage reflective practice in the courses they taught. Seventy-five (75, 73%) respondents indicated that lecturers encourage reflective practice in the courses they taught. Twenty-seven (27, 26%) respondents were undecided and one (1, 1%) respondent disagreed, see Figure 5.31 below.

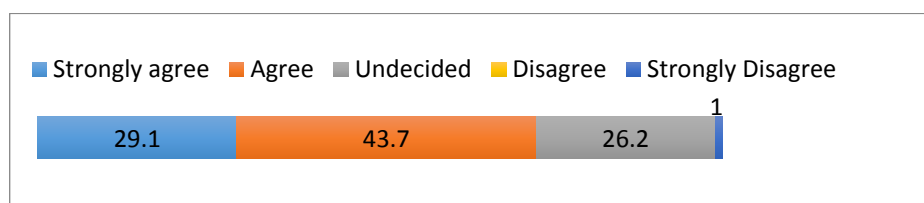


Figure 5.31 Lecturers' perceptions on whether lecturers encourage reflective practice

In analysing the qualitative data, out of the 103 respondents, fifty-nine (59, 57%) of respondents commented whereas forty-four (44, 43%) respondents did not. Out of the fifty-nine (59, 57%) respondents who commented, forty-three (43, 42%) respondents revealed that lecturers encourage reflective practice in the courses they taught. Both the overall survey responses (75 out of 103 respondents) as well as the qualitative comments (43 out of 59 respondents) support the notion that lecturers encouraged reflective practice in the courses they taught. The use of reflective practice

is to encourage students to develop their higher-order cognitive thinking skills (analysis, synthesis and evaluation) when applying current situations to new situations to improve learning performances (Bonwell & Eison, 1991; Fink, 2003; Richlin, 2006; Blumberg, 2012; Nguyen & Walker, 2016). When students reflect, they are encouraged to apply theory to practice in order to establish gaps through the identification of strengths and weaknesses in the learning process. Reflection is a student-centred learning activity encouraged in either collaborative and cooperative learning teams or groups. Through the use of reflection, a learner when sharing their reflection in a team learning situation could enhance the sense of belonging in a learning team and develops or builds collegiality among the learners. This is what one of the lecturers had to say:

Because when they (students) reflect on some experiences they have had (either positive or negative), it makes them learn and may want to take a different approach to learning. UPNGSNPS4

Out of the 103 respondents, sixteen (16, 16%) respondents thought that reflective practice was not encouraged in the courses lecturers taught. Interestingly, ten out of the sixteen respondents who said no pointed out that they were not aware of what reflective practice was and did not know how to encourage reflective practice in the courses they taught. Six out of the sixteen lecturers; who indicated no, stated that they occasionally encourage the use of reflective practice depending on the content of the course taught. The quotation below illustrates the misconception some lecturers have in understanding the concept of 'reflective practice'. This is what one of the lecturers had to say:

I usually reflect for the students since their participation is so weak and due to time factor I usually spend a few minutes before going onto a new topic to reflect on the previous topic especially if it's a long topic and there was a bit of gap between lectures. UPNGSNPS2

There is obviously a misunderstanding between the concepts of reflection and revision and or reviewing of what was done and or taught earlier in order to make a link between the previous topic and the new topic that is to be introduced. The process of reflection (peer critique and or self-critique) is a learning activity where students are required to think about what they are doing in terms of reflecting on the subject-content knowledge (knowledge), their conceptions or beliefs about learning in general

(perspectives) and the evaluation of their own learning (actions) (Schon, 1983; Schon, 1987; Nguyen & Walker, 2016). When students are encouraged to question about why a specific action is taken or why a particular perspective is held, that action of questioning provides opportunities for the student(s) to practice linking knowledge with action. Schon (1987) used the terms, ‘reflection in action’ (simultaneously) and ‘reflection on action’ (retrospectively) and argues that through the use of reflection either simultaneously or retrospectively, a learner is able to understand and think of other possible and effective ways to improve one’s own practice in any professional practice (Saroyan et al., 2004; Nguyen & Walker, 2016).

According to Saroyan et al. (2004), reflection depicts as a learning process that influences or is influenced by actions that mediates change in thinking. If lecturers use reflective practice effectively, the use of reflection can play an important role in helping students to understand and improve their actions either in their learning or to life in general. These reflective actions by lecturers either simultaneously or retrospectively could foster the development of lifelong learning skills in the students. Saroyan et al. (2004) believed strongly that a highly developed capacity to reflect is likely to help a learner whether it is a lecturer or a student to evaluate the impact of their own actions and modify them, often on the spot if changes are required to improve or enhance one’s own learning capacity. As lecturers or students gain expertise in developing their own teaching and learning practices or experiences, they are likely to take charge of their own learning whether it is in teaching or in learning of the subject-content knowledge as well as their perspectives towards teaching and learning (Fox, 1983; Schon, 1987; Shulman, 1987; Ramsden, 1992; Nguyen & Walker, 2016).

Lecturers’ perceptions of the use of reflective practice by students was compared with the perceptions of postgraduate students (n=22), fourteen (14, 63%) respondents agreed while three (3, 14%) was undecided and five (5, 23%) disagreed, see Figure 5.32 below.

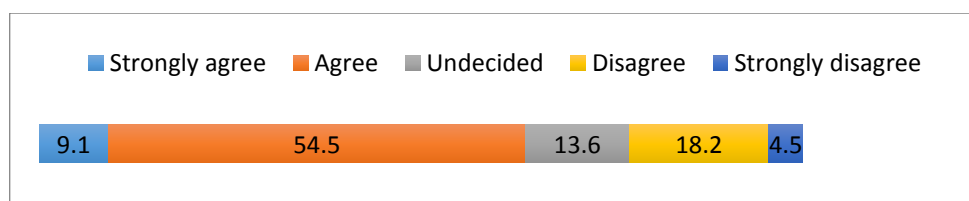


Figure 5.32 Postgraduate students’ perceptions on whether lecturers encourage reflective practice

Out of the 22 respondents, fourteen (14, 64%) respondents commented while eight (8, 36%) respondents did not. Out of the fourteen postgraduate students who commented, five (5, 23%) respondents indicated that they are encouraged to reflect on practice in the courses lecturers teach whereas nine (9, 41%) respondents disagreed. For the minority of those postgraduate students who said yes (5, 23%), the key argument is that when students are encouraged to do reflective practice (peer critique and or self-critique, the strategy itself helps students to develop higher cognitive thinking skills such as analysis, synthesis and evaluation and this is in line with what other studies have concluded (Bonwell & Eison, 1991; Fink, 2003; Richlin, 2006; Blumberg, 2012). In addition, students use reflective practise when applying the knowledge they have gained, the perspectives that they have established over time and the actions that they are now taking to new situations to improve their own learning performance (Saroyan et al., 2004). This is what two of the postgraduate students had to say:

I reflect on what I know and what I have learnt throughout the course to help me advance as a result of encouragement and motivation from the lecturers and supervisors. PAUPG9

I reflect a lot in my work, what to do, how to do what I want to do. Most times, I manage to complete my work with flying colours. PAUP10

Both views support the conclusion of Saroyan et al. (2004) and other earlier studies by Schon (1987), and Sparks-Langer and Colton (1991) that reflection influences and is influenced by actions of the learner in the learning process. Through the learner's automatic and routine reflection, a learner is able to change their thinking of the subject-content knowledge and the perspectives of learning that they hold, thereby changing their general attitudes towards lifelong learning (Fox, 1983; Schon, 1987; Shulman, 1987; Ramsden, 1992; Saroyan et al., 2004; Nguyen & Walker, 2016).

Item 14 examined the lecturers' perceptions on whether lecturers always use teaching approaches to develop students' communication skills in the courses they taught. Eight-seven (87, 84%) of respondents indicated that lecturers always use teaching approaches to develop students' communication skills. Fifteen (15, 15%) of

respondents were undecided and one (1, 1%) respondent disagreed, see Figure 5.33 below.

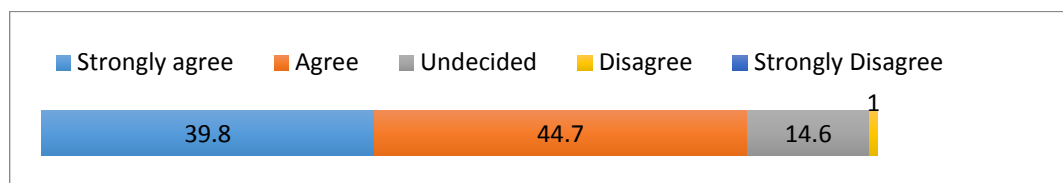


Figure 5.33 Lecturers' perceptions on whether lecturers use teaching approaches to develop communication skills

In analysing the qualitative data, out of the 103 respondents, sixty-seven (67, 65%) of respondents commented whereas thirty-six (36, 35%) respondents did not. Out of the sixty-seven (67, 65%) respondents who commented, forty-seven (47, 46%) respondents suggested that lecturers used teaching approaches to develop students' communication skills in the courses they taught. Both the overall survey responses (87 out of 103 respondents) as well as the qualitative comments (47 out of 67 respondents) support the notion that, lecturers used teaching approaches to develop students' communication skills in the courses they taught. The demonstration of effective and versatile communication skills by students, both verbal and written is very important in any course of study at the universities (Duch et al., 2001). The majority of lecturers (40 out of the 47 respondents who commented) pointed out that in encouraging lifelong learning, they encourage students to do oral and written presentations using debates, discussions, journal writing, reviews, drama, role plays, case studies and projects to develop students' communication skills in their courses. This is what one of the lecturers had to say:

I use different styles to make learning exciting, for example, PowerPoint presentations, documentary viewings, open discussions, story-telling, just to mention a few. I involve my students a lot and not just me talking.
UPNGSHSS4

However, twenty (20, 20%) respondents argued that lecturers did not use teaching approaches to develop students' communication skills in the courses they taught. Interestingly, the data indicated that the majority of those who commented negatively, (15 out of 20) have not had any teacher training to know what they are required to do in their courses to encourage the development of communication skills in students. This is what one of the lecturers had to say:

I don't have formal teacher training and do not know what I am required to do to encourage students to actively participate in my courses. I do encourage and have some question/answer sessions but I find that most times the sessions are dominated by me talking. UPNGSMHS12

Lecturers' perceptions of whether communication skills were developed in students was compared with the perceptions of postgraduate students (n=22), fifteen (15, 68%) respondents agreed while two (2, 9%) were undecided and five (5, 23%) disagreed, see Figure 5.34 below.

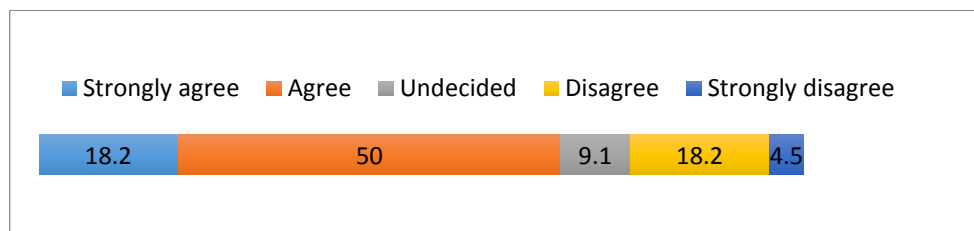


Figure 5.34 Postgraduate students' perceptions on whether lecturers use teaching approaches to develop communication skills

Out of the 22 respondents, thirteen (13, 59%) respondents commented while nine (9, 41%) respondents did not. Out of the thirteen postgraduate students who commented, seven (7, 32%) respondents indicated that they are taught to develop their communication skills in the courses lecturers teach whereas six (6, 27%) respondents disagreed. Like the lecturers, all the postgraduate students (7 out of 7) who agreed in their comments pointed out that lecturers encourage students to do oral and written presentations on projects, assignments, journal writing, reviews and reports as required in the courses taught. However, the majority of those (5 out of 6) who disagreed pointed out that lecturers encourage the development of communication skills occasionally as some of the lecturers are not trained and do not have the skills themselves to do that. This is what one of the postgraduate students had to say:

Not always taught as the lecturers do not have the skills to teach communication skills but we are encouraged to do that through written and oral communication. PAUPG3

The age of globalization as experienced today with its uncertainties and complexities (Branditt, 2007; Homayounzadeh, 2015; Volles, 2016) is challenging universities to reinvestigate its policies on teaching and learning to accommodate the many changes that globalization brings with it. There is a strong interest in education

and learning that demands the development of learning competencies to enhance one's current level of knowledge and skills (cognitive, metacognitive, sociocultural and affective) (Luftenegger et al, 2013; Klug et al, 2014; Deci & Ryan, 2000; Bandura, 1991; McCombs, 1991; Wigfield & Eccles, 2000) to become lifelong learners (Cornford, 2000; De La Harpe & Radloff, 2000; Edwards et al., 2001; Fisher, 2007; Johnstone, 2008; Brodie, 2012; Homayounzadeh, 2015; Nguyen & Walker, 2016).

Various scholars have raised concerns especially in relation to what is the most appropriate pedagogy one should use to develop lifelong learners. Despite the fact that many scholars have developed theories and conducted numerous empirical studies to advance this discussion, the question of how to motivate students to become lifelong learners still remains uncertain. (e.g. Luftenegger et al, 2013; Klug et al, 2014; Deci & Ryan, 2000; Wigfield & Eccles, 2000; Cornford, 2000; De La Harpe & Radloff, 2000; Edwards et al., 2001; Fisher, 2007; Johnstone, 2008; Brodie, 2012; Homayounzadeh, 2015). For lifelong learning to be actualized, learning activities must be student-centred where the lecturer performs the role as the facilitator of the learning process rather than the imparter of knowledge and skills.

Learning must be experienced by the learners as active and self-directed and fosters key skills of problem-solving, communicating, researching, acquiring knowledge and transferring knowledge to new situations either individually or in groups collaboratively, cooperatively or in learning teams (Cornford, 2000; De La Harpe & Radloff, 2000; Fisher, 2007; Johnstone, 2008; Brodie, 2012). The lecturer as facilitator of the learning process must pay close attention to the process of enabling students' autonomy and self-direction in their own learning. The instructional strategies executed must provide students with opportunities to develop skills in communication, collaboration, cooperation, self-direction as well as self-regulation thereby making informed decisions using either logical, lateral, analytical, creative, flexible and critical thinking processes (Luftenegger et al, 2013; Klug et al, 2014; Deci & Ryan, 2000; Bandura, 1991; McCombs, 1991; Wigfield & Eccles, 2000; Edwards et al., 2001; Fisher, 2007; Johnstone, 2008; Brodie, 2012; Homayounzadeh, 2015).

According to Raiyn and Tilchin (2015), logical or analytical thinking skills are similar in nature as both thinking skills allow the development of critical thinking and

help the learner to select the best alternative solution to a problem. Raign and Tilchin (2015) identify logical or analytical thinking skills as ordering, comparing, contrasting, evaluating, and selecting. In the survey questionnaires, logical thinking skills (use of sequential rational reasoning) and analytical thinking skills (use of logic and rational reasoning) were separated to establish whether both lecturers and postgraduate students will identify the two as similar or different. Item 15 examined the lecturers' perceptions on whether lecturers always use teaching approaches to develop students' logical thinking skills in the courses they taught. Ninety-six (96, 93%) respondents indicated that lecturers always use teaching approaches to develop students' logical thinking skills in the courses they taught. Seven (7, 7%) respondents were undecided and none disagreed, see Figure 5.35 below.

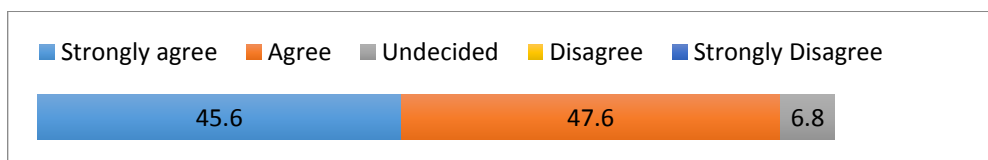


Figure 5.35 Lecturers' perceptions on whether lecturers use teaching approaches to develop logical thinking skills

In analysing the qualitative data, out of the 103 respondents, sixty (60, 58%) respondents commented whereas forty-three (43, 42%) respondents did not. Out of the sixty (60, 58%) respondents who commented, fifty-one (51, 49%) respondents revealed that lecturers used teaching approaches to develop students' communication skills in the courses they taught. Both the overall survey responses (96 out of 103 respondents) as well as the qualitative comments (51 out of 60 respondents) support the notion that lecturers encouraged work experience in the courses they taught. The majority of lecturers (30 out of the 51) indicated that the development of logical thinking skills is closely linked with the other thinking skills such as critical thinking, analytical thinking, and reflective thinking. The development of logical thinking skills especially when lecturers selected appropriate teaching strategies and learning activities is vital for students to develop logic reasoning skills. Without the development of logical thinking skills especially with the use of mind-mapping an issue under investigation, a learner is likely to make errors in judgement and in making sound rational decisions. This is what one of the lecturers had to say:

I can't disagree with this point. I always emphasize on this logical thinking process and always encourage my students to think logically when doing readings to analyse, critique and or review an issue under investigation. UPNGSNPS6

In comparison, out of the 60 respondents who commented, nine (9, 9%) respondents asserted that lecturers do not use teaching approaches to develop students' logical thinking skills in the courses they taught. The key argument for disagreeing is that it is assumed that telling students to use logic to think about what they are teaching is adequate enough for students to use logical thinking skills in the learning process. This means that they do not teach students how to think logically when investigating an issue in their classes. The assumption is that once the students are told to logically think through a learning activity, students are expected to just do that. This is what one of the lecturers had to say:

I do not do this actively largely because many of our students are often shy or are unsure of themselves so asking them to connect related concepts in a logical manner is sometimes limited by their shy behaviour. UPNGSNPS1

Lecturers' perceptions of whether they developed logical thinking skills in students was compared with the perceptions of postgraduate students (n=22), sixteen (16, 73%) respondents agreed whereas five (5, 23%) was undecided and one (1, 5%) disagreed, see Figure 5.36 below.

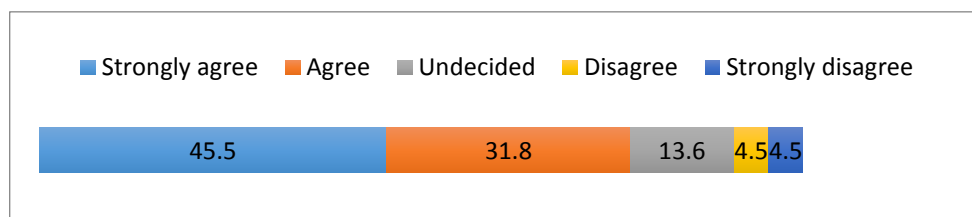


Figure 5.36 Postgraduate students' perceptions on whether lecturers use teaching approaches to develop logical thinking skills

Out of the 22 respondents, eleven (11, 50%) respondents commented whereas nine (11, 50%) respondents did not. Out of the eleven postgraduate students who commented, eight (8, 41%) respondents indicated that they are taught to develop their logical thinking skills in the courses lecturers teach whereas three (3, 9%) respondents disagreed. The results obtained through the survey with the postgraduate students is similar in argument with the lecturers as all of those postgraduate students (8 out of 8)

who agreed pointed out that logical thinking skills are developed when lecturers give them learning activities to do in classes whether it be a reading material, an assignment or even in doing discussions in class to analyse, critique or when doing reviews. This is what two of the postgraduate students had to say:

Writing essays reflect the development of one's logical thinking skills.
PAUPG4

Many times my work is edited and prompts me to link ideas. This enhances my logical thinking capabilities. PAUPG9

To expound on the results of the development of students' logical thinking skills, the next item discusses whether students' analytical thinking skills were also developed. Item 19 examined the lecturers' perceptions on whether lecturers always use teaching approaches to develop students' analytical thinking skills in the courses they taught. According to Raiyn and Tilchin (2015), analytical thinking skills allow the development of critical thinking and help the learner to select the best alternative solution to a problem. Ninety-five (95, 92%) respondents indicated that lecturers always use teaching approaches to develop students' analytical thinking skills in the courses they taught. Seven (7, 7%) respondents were undecided and one (1, 1%) respondent disagreed, see Figure 5.37 below.

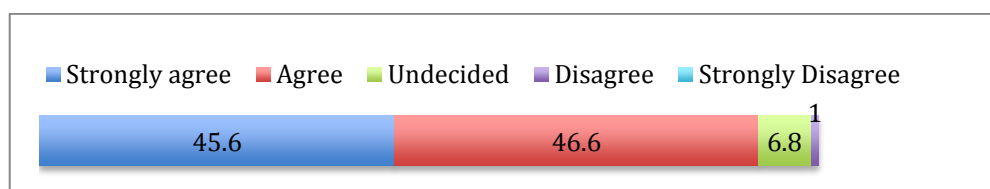


Figure 5.37 Lecturers' perceptions on whether lecturers use teaching approaches to develop analytical thinking skills

In analysing the qualitative data, out of the 103 respondents, sixty-two (62, 60%) respondents commented whereas forty-one (41, 40%) respondents did not. Out of the sixty-two (62, 60%) respondents who commented, fifty-two (52, 50%) respondents stated that lecturers used teaching approaches to develop students' analytical thinking skills in the courses they taught. Both the overall survey responses (95 out of 103 respondents) as well as the qualitative comments (52 out of 62 respondents) support the notion that lecturers used teaching approaches to develop students' analytical thinking skills in the courses they taught. Those lecturers who

agreed asserted that they use teaching strategies such as comparing and contrasting, analysing data to deduce answers or even engaging students in discussions to find solutions to case studies or role play problems challenged students to use their analytical thinking skills. To these lecturers, the encouragement they provide to students is to think out of the box and ensure that students make attempts to solve problems by considering all sides of the arguments and develop an amicable solution. This is what one of the lecturers had to say:

It's more like looking at ways you can best fulfil its cause or makes you think outside the box to see it from different angles. PAUHSC8

However, out of the 62 respondents who commented, ten (10, 10%) respondents revealed that lecturers did not use teaching approaches to develop students' analytical thinking skills in the courses they teach. This is what one of the lecturers had to say:

I sometimes teach students how to analyse a problem but I don't use specific teaching approaches to do that. PAUST1

This quotation raises the question of whether lecturers who disagreed have a misconception about what analytical thinking is, what it does, and how it is taught, becomes evident.

Lecturers' perceptions of whether analytical thinking skills were developed was compared with the perceptions of postgraduate students (n=22), twenty (20, 91%) respondents agreed whereas one (1, 5%) was undecided and one (1, 5%) disagreed, see Figure 5.38 below.

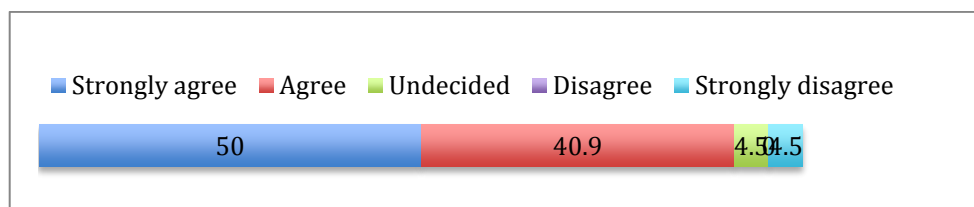


Figure 5.38 Postgraduate students' perceptions on whether lecturers use teaching approaches to develop analytical thinking skills

Out of the 22 respondents, twelve (12, 54.5%) respondents commented while ten (10, 45.5%) respondents did not. Out of the twelve postgraduate students who

commented, eight (8, 41%) respondents indicated that they are taught to develop their analytical thinking skills in the courses lecturers teach whereas four (4, 14%) respondents disagreed. Those postgraduate students who agree (8 out of 12) argued that they are challenged by lecturers to use higher order cognitive thinking skills. The students claimed that they are challenged to claim ownership of their own learning by showing responsibility towards their own learning. This is what one of the postgraduate students had to say:

I am not spoon-fed in the courses. My lecturers and supervisors point out to me areas of my own learning that I will need to work on to improve my own performances. PAUPG9

For those who postgraduate students who disagreed (4 out of the 12), the key argument is that lecturers occasionally encourage them to use their analytical thinking skills in some classes only but in others they are told what they need to know and not challenged to think for themselves.

Numerous studies have been conducted on the theories of critical thinking (Swanwick et al., 2014) or on the use of higher-order cognitive thinking in students in teaching various university courses or settings (Sanders, 2004; Boyce, 2004; Belski, 2005; Johnstone, 2006; Johnstone, 2008; Raign & Tilchin, 2015). These studies have pointed to the fact that critical thinking is often structured as a formal logic subject when taught in a university setting. Johnstone (2008) is of the view that although there is nothing wrong with teaching students logic, logic does not necessarily equate with the teaching of critical thinking and or lateral thinking. In the university settings, the assessment of these thinking skills is somewhat problematic and remains debatable to this stage.

According to Fisher (2007), the development and application of lateral thinking is vital as it enhances creativity and innovation (De Bono, 1990; Wright, 2002). Wright (2002) for example, taught health education via drama skills across a wide range of topics such as building relationships, discussing racial issues, and stress. Lateral thinking is important for stimulating the brain's creativity so a learner is prompted to break from routine thinking patterns. The process of lateral thinking helps develop in the minds of students, the habit of applying multidisciplinary knowledge to solve

problems (Dong, 2004). Item 16 examined the lecturers' perceptions on whether lecturers always use teaching approaches to develop students' lateral thinking skills in the courses they taught. Seventy-nine (79, 77%) respondents indicated that lecturers always use teaching approaches to develop students' lateral thinking skills in the courses they taught. Twenty-four (24, 23%) respondents were undecided and none disagreed, see Figure 5.39 below.

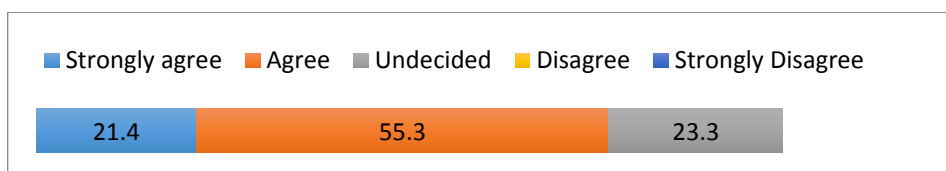


Figure 5.39 Lecturers' perceptions on whether lecturers use teaching approaches to develop lateral thinking skills

In analysing the qualitative data, out of the 103 respondents, fifty-five (55, 53%) respondents commented whereas forty-eight (48, 47%) respondents did not. Out of the fifty-five (55, 53%) respondents who commented, thirty-seven (37, 36%) respondents argued that lecturers used teaching approaches to develop students' lateral thinking skills in the courses they taught. Both the overall survey responses (79 out of 103 respondents) as well as the qualitative comments (37 out of 55 respondents) support the notion that lecturers used teaching approaches to develop students' lateral thinking skills in the courses they taught. By using experiential learning, lecturers develop lateral thinking skills in students by using the known knowledge (local or national experiences) to introduce or link with the unknown knowledge (local, national or abroad experiences) through the use of questioning. Students are also encouraged to think 'outside of the box' to develop creativity, innovation, and flexibility in their thought processes when investigating a problem. The use of mind-mapping or concept mapping is also used as a teaching strategy to assist students to enhance their understanding of themes or concepts under study in a course.

However, eighteen (18, 17%) respondents thought that lecturers did not use teaching approaches to develop students' lateral thinking skills in the courses they taught. For the majority of those lecturers (14 out of 18 respondents) who disagreed, the main argument was that they were not aware of what lateral thinking meant and had no idea how to teach the skill to students. This is what two of the lecturers had to say:

I don't know what this means, but I coach and test students to think laterally in the assignments I give to them. UPNGSBA5

I don't know what is meant by this teaching approach. I have not been taught teaching approaches in terms of teaching methodology because I came straight from the profession as a practitioner. UPNGSOL2

Some of these lecturers (4 out of the 18 respondents) who disagreed, also revealed that the students' previous learning orientation (rote learning) hinders the development of lateral thinking skills as students expect the lecturers to impart or 'spoon-feed' the subject content knowledge to them rather than being challenged by lecturers to use their higher-order cognitive thinking processes in their learning. This is what one of the lecturers had to say:

There are times when learners find it hard to think laterally because of their prior learning methods where answers were given straight away by the teachers when students are asked to respond to a series of questions. PAUHSC9

Lecturers' perceptions of teaching lateral thinking skills was compared to the perceptions of postgraduate students (n=22), thirteen (13, 59%) respondents agreed whereas six (6, 27%) was undecided and three (3, 14%) disagreed, see Figure 5.40 below.

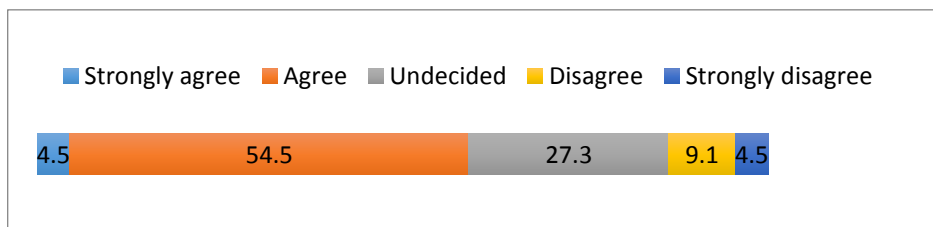


Figure 5.40 Postgraduate students' perceptions on whether lecturers use teaching approaches to develop lateral thinking skills

Out of the 22 respondents, eleven (11, 50%) respondents commented whereas the other eleven (11, 50%) respondents did not. Out of the eleven postgraduate students who commented, seven (7, 32%) respondents indicated that they are taught to develop their lateral thinking skills in the courses lecturers teach whereas four (4, 18%) respondents disagreed. The majority of the postgraduate students who agreed (7 out of 11) pointed out that they are encouraged by lecturers to think 'outside of the box' when

applying the knowledge they learnt previously to new situations. This is what two of the postgraduate students had to say:

Yes we are always encouraged to think outside of the box to find solutions to problems given to us to solve. UPNG PG4

Yes, we imagine, predict, reason and provide solutions to given tasks such as word problems. PAUPG11

However, the four postgraduate students who disagreed, pointed out that they were not sure or not aware of strategies to use when asked to use lateral thinking in the courses. They are told to do lateral thinking but not shown or taught how to go about using lateral thinking in the courses. This is what two postgraduate students had to say:

I do not really understand what lateral thinking means. PAUPG11

We are told to do it, not taught to do it. PAUPG2

When students are taught flexible thinking skills, they are required to produce a broad range of ideas that characterizes their flexible understanding of the issue under investigation (Hmelo & Cindy, 2004; Nettelbeck, 2005; Cottrell, 2011; Cottrell, 2013; Raiyn & Tilchin, 2015). Item 17 examined the lecturers' perceptions on whether lecturers always use teaching approaches to develop students' flexible thinking skills in the courses they taught. Eighty (80, 78%) respondents indicated that lecturers always use teaching approaches to develop students' flexible thinking skills in the courses they taught. Twenty-two (22, 21%) respondents were undecided and one (1, 1%) respondent disagreed, see Figure 5.41 below.

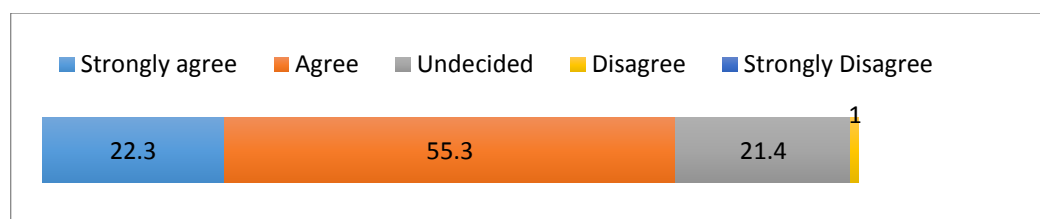


Figure 5.41 Lecturers' perceptions on whether lecturers use teaching approaches to develop flexible thinking skills

In analysing the qualitative data, out of the 103 respondents, fifty-four (54, 52%) respondents commented whereas forty-nine (49, 48%) respondents did not. Out of the fifty-four (54, 52%) respondents who commented, thirty-six (36, 35%) respondents claimed that lecturers used teaching approaches to develop students' flexible thinking

skills in the courses they taught. Both the overall survey responses (80 out of 103 respondents) as well as the qualitative comments (36 out of 54 respondents) support the notion that lecturers used teaching approaches to develop students' flexible thinking skills in the courses they taught. The majority of the lecturers (30 out of 36) who agreed, argued that students are encouraged to use creative thinking when challenged with new ideas to demonstrate their reflectivity in thinking. Critical reflection using own cultural knowledge and personal experiences teach students to think out of the box when challenged to change their own behaviour or beliefs and when making decisions in life. This is what one of the lecturers had to say:

I do emphasize to students to be open to new ideas and keep up to date with other fields that directly or indirectly affects their own field of practice. UPNGSMHS26

However, eighteen (18, 17%) respondents out of the 56 who disagreed thought that they were unaware of how to teach flexible thinking skills in the courses they teach. Others argued that due to lack of attending any teacher training or upskilling of teaching skills through attending staff development training, lecturers were unable to use teaching approaches to develop students' flexible thinking skills in their courses they taught. This is what two of the lecturers had to say:

I don't understand flexible thinking. Is it the same as respecting other people's beliefs? UPNGSNPS6

I am not sure about flexible thinking and what it means. UPNGOT1

Lecturers' perceptions of whether flexible thinking skills were taught was compared with the perceptions of postgraduate students (n=22), twelve (12, 55%) respondents agreed whereas six (6, 27%) were undecided and four (4, 18%) disagreed, see Figure 5.42 below.

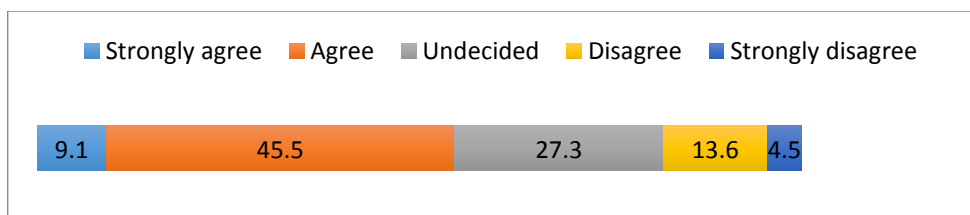


Figure 5.42 Postgraduate students' perceptions on whether lecturers use teaching approaches to develop flexible thinking skills

Out of the 22 respondents, eleven (11, 50%) respondents commented while the other eleven (11, 50%) respondents did not. Out of the eleven postgraduate students who commented, five (5, 23%) respondents indicated that they are taught to develop their flexible thinking skills in the courses lecturers teach whereas six (6, 27%) respondents disagreed. These results indicate that there is a misunderstanding among the postgraduate students about the meaning of the phrase flexible thinking.

According to Hmelo-Silver (2004), Cottrell (2011 & 2013), and Raiyn and Tilchin (2015), there are two distinct types of higher order cognitive thinking skills needed for problem solving: analytical and creative thinking skills. Creative thinking skills deal with problem finding (identifying a problem), efficiency (producing many ideas), flexibility (producing a broad range of ideas that characterize flexible understanding), originality (producing uncommon ideas) and elaboration (developing ideas) (Hmelo-Silver, 2004; Nettelbeck, 2005; Fisher, 2007, Jitgarum et al., 2008, Cottrell, 2011; Cottrell, 2013; Raiyn & Tilchin, 2015). Creative thinking skills are needed for problem solving. Item 18 examined the lecturers' perceptions on whether lecturers always use teaching approaches to develop students' creative thinking skills in the courses they taught. Eighty-seven (87, 84%) respondents indicated that lecturers always use teaching approaches to develop students' creative thinking skills in the courses they taught. Fourteen (14, 14%) respondents were undecided and two (2, 2%) respondents disagreed, see Figure 5.43 below.

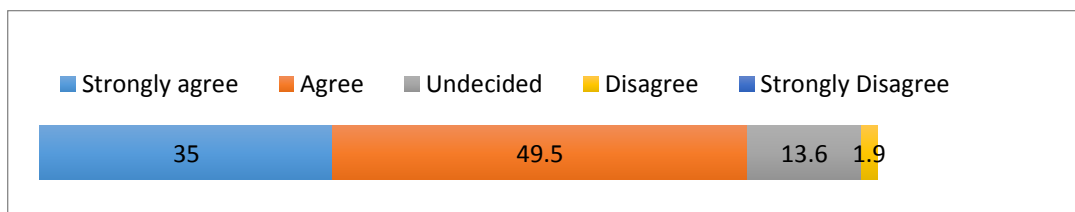


Figure 5.43 Lecturers' perceptions on whether lecturers use teaching approaches to develop creative thinking skills

In analysing the qualitative data, out of the 103 respondents, fifty-nine (59, 57%) respondents commented whereas forty-four (44, 43%) respondents did not. Out of the fifty-nine (59, 57%) respondents who commented, forty-eight (48, 47%) respondents asserted that lecturers used teaching approaches to develop students' creative thinking skills in the courses they taught. Both the overall survey responses

(87 out of 103 respondents) as well as the qualitative comments (48 out of 59 respondents) support the notion that, lecturers used teaching approaches to develop students' creative thinking skills in the courses they taught. The common argument among those lecturers who agreed (40 out of 48) pointed out that they encourage their students to think 'out of the box' when solving a problem presented to them. Students are encouraged to use their local knowledge and experiences to understand global issues and when there are limited resources available for use by students, they are encouraged to improvise by thinking up other creative ways to deal with the issues under investigation. In doing that, those lecturers argue that the use of higher order cognitive thinking skills are stimulated hence encourage the use of creative thinking skills in the process of learning. This is what two of the lecturers had to say:

Getting my students to present gives them the opportunity to reflect on what they are doing and discover for themselves why they are presenting it the way they are doing at that point in time. At the same time, I challenge them to think outside the box of what they present.
UPNGSMHS20

Students think of an idea and work through it to find a solution and do it in an unorthodox way or uncommon way. UPNGSNPS4

However, out of the 57, eleven (11, 11%) respondents revealed that lecturers did not develop students' creative thinking skills in teaching the courses they taught due to the fact that the nature of the course does not allow the use of creativity. This is what one of the lecturers had to say:

My course does not have room for creative thinking since we apply generally accepted principles. UPNGSBA6

This raises the question of whether lecturers have a misconception about what creating thinking skills is or does in the learning process. Hmelo-Silver (2004), Fisher (2007), Jitgarum et al. (2008), Frois & Niekamp, 2010 Cottrell (2011 & 2013), and Raiyn & Tilchin (2015), argued that the use of creative thinking skills deals with problem finding (identifying a problem), efficiency (producing many ideas), flexibility (producing a broad range of ideas that characterize flexible understanding), originality (producing uncommon ideas) and elaboration (developing ideas). For example, the study by Frois and Niekamp (2010) described how they fostered and strengthened the

creative abilities of their students by using deeper questioning in their teaching approach. Students were encouraged not to focus primarily on the end product but also to value the importance of the process of learning. Students were challenged to discern between major and minor issues, think broadly and laterally and critically assessed the notions of themselves, others and the world. When comparing the results of Frois and Niekamp’s study to the PNG higher education context and setting, the outcomes of the process of learning is not the same. This is due to the fact that PNG students do not have access to a range of rich and varied resources as mentioned in the Frois and Niekamp study. If these resources are readily accessible to students, creative thinking skills could be enhanced and fostered in the process of teaching and learning.

Lecturers’ perceptions of whether creative thinking skills were taught was compared to the perceptions of postgraduate students (n=22), seventeen (17, 77%) respondents agreed while four (4, 18%) was undecided and one (1, 5%) disagreed, see Figure 5.44 below.

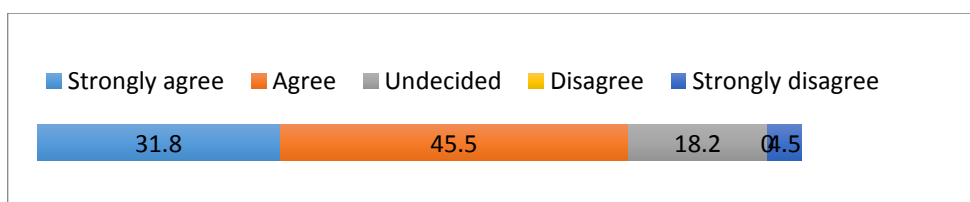


Figure 5.44 Postgraduate students’ perceptions on whether lecturers use teaching approaches to develop creative thinking skills

Out of the 22 respondents, twelve (12, 54.5%) respondents commented while ten (10, 45.5%) respondents did not. Out of the twelve postgraduate students who commented, eight (8, 41%) respondents indicated that they are taught to develop their creative thinking skills in the courses lecturers teach whereas four (4, 14%) respondents disagreed arguing that they had not been challenged to think out of the box as per se. For those postgraduate students who agreed, the argument is that lecturers do encourage them to think ‘out of the box’ when doing assignments. This is what one of the postgraduate students had to say:

I was given the opportunity to choose a research problem of which I believe in a sense that motivated me to think outside of the box and in a sense that is creativity to think outside the box. PAUPG9

The use of lateral thinking (De Bono, 1990; Fisher, 2007) alludes to the fact that anyone could be a creative and innovative thinker by being taught how to think and by using deliberate and systematic thinking techniques to stimulate the brain to be creative and generate new ideas on demand and not to follow its routine thinking patterns. The researcher is of the view that if lecturers are exposed to lateral thinking techniques such as the De Bono's Six Thinking Hats system (a creative thinking program), they would be in a better position to ensure that students are challenged to use parallel thinking (where students remain focus on and think about the same subject at the same time) to avoid the problems with personal and organisational resistance to new ideas and enhance problem solving in general.

Centra (1993) developed a teaching development model that argued that if teaching improvement is to take place, the process of improvement must result in some newly gained knowledge; the individual investing time in the process must perceive the improvements as having some value; support systems and appropriate mechanisms must be available to assist the individual in the process of improvement and change; and finally, sufficient intrinsic or extrinsic motivation (rewards, promotions, salary increments, and the like must be present (Saroyan et al., 2004). Items 22 and 27 addressed the areas stated above.

Item 22 examined the lecturers' perceptions on whether lecturers' teaching is regularly evaluated by the students in the courses they teach. Seventy-seven (77, 74%) respondents indicated that students regularly evaluated lecturers in the courses they taught. Eleven (11, 11%) respondents were undecided and fifteen (15, 15%) respondents disagreed, see Figure 5.45 below.

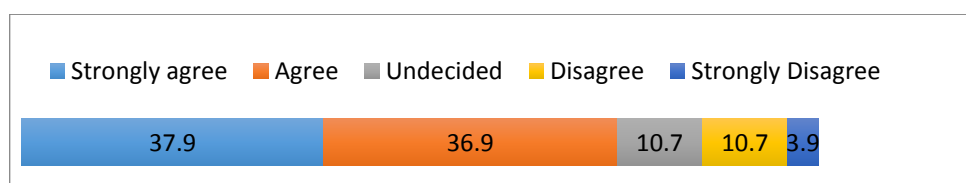


Figure 5.45 Lecturers' perceptions on whether lecturers' teaching is evaluated by the students

In analysing the qualitative data, out of the 103 respondents, seventy-two (72, 70%) respondents commented whereas thirty-two (32, 30%) respondents did not. Out of the seventy-two (72, 70%) respondents who commented, sixty-three (63, 61%)

respondents thought that students regularly evaluated lecturers in the courses they taught. Both the overall survey responses (77 out of 103 respondents) as well as the qualitative comments (63 out of 72 respondents) support the notion that lecturers' teaching were evaluated regularly by the students in the courses they taught. In the two universities, the researcher found that there were policies in place that allows the evaluation of teaching to occur. It is mandatory for teaching evaluations to be conducted to address applications for contract renewals, salary increments and for promotions. Promotions from one academic level to the next level is awarded to academics based on the academic and research experience of the applicant including the teaching evaluation results, the level of qualification attained and or the number of peer-reviewed publications one has produced over time. This is what two of the lecturers had to say:

Students have the opportunity to evaluate my teaching towards the end of the semester. It is a great way for me to improve from what I have been lacking or considering to be normal. It has helped me a lot. PAUBUS3

An evaluation is done upon request ... staff do this evaluation exercise to use towards contract renewal and application for promotion or salary increase. UPNGSNPS1

However, eight (8, 8%) out of the 72 respondents, argued that students have not regularly evaluated their teaching in the courses they taught due to the fact that they are in their first year of contract with the universities and have not been teaching for long enough for their teaching to be evaluated. They will only allow their teaching to be evaluated once the time for renewal of their contracts are up. This is what two of the lecturers had to say:

I haven't had the opportunity for students to evaluate my teaching. PAUHSC7

Only when seeking promotion, I ask for student evaluation, otherwise it is no. UPNGSMHS10

Lecturers' perceptions of whether lecturers' teaching were evaluated regularly by students was compared to the perceptions of postgraduate students (n=22), eleven (11, 50%) respondents agreed whereas four (4, 18%) was undecided and seven (7, 32%) disagreed, see Figure 5.46 on page 231.

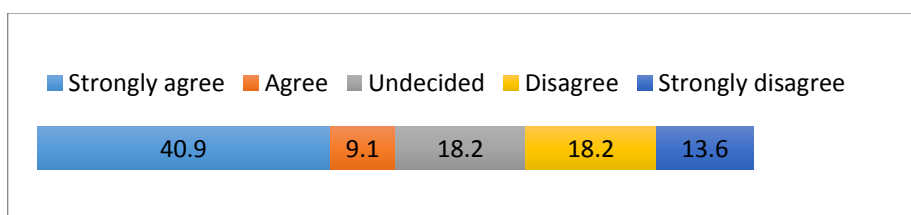


Figure 5.46 Postgraduate students' perceptions on whether lecturers' teaching is evaluated by the students

Out of the 22 respondents, fourteen (14, 64%) respondents commented whereas eight (8, 36%) respondents did not. Out of the fourteen postgraduate students who commented, six (6, 27%) respondents indicated that they regularly evaluated their lecturers to assess the teaching and learning taking place in the courses lecturers teach whereas eight (8, 36%) respondents disagreed. There is a disconnection between what the lecturers claim that they are doing from what they are actually doing in real practice as indicated by students' responses. This result also indicates that evaluation of teaching is not a normal routine expected in the universities as a measure to ensure lecturers are doing what they are required to do and at the standards expected by the universities. There is a mixture of reactions towards the value of teaching evaluation as a measure to ensure teaching standards and quality of teaching and learning are maintained at the universities. This result also indicates that the policy of teaching evaluation is not considered as mandatory but left to the lecturer to decide as to when to get these evaluations conducted mainly for applications for contract renewals, promotions and for salary increments. This result does not support the notion of the purpose of conducting teaching evaluations as per Centra's model (1993). Lecturers in this study did not use their teaching evaluations to gain new knowledge to improve and enhance their teaching performances.

As part of Centra's teaching development model (1993), appropriate mechanisms must be available to assist the individual lecturer in the process of improvement and change in relation to one's teaching and the manner in which one designs curriculum and delivers that curriculum to students (Saroyan et al., 2004). Item 27 examined the lecturers' perceptions on whether lecturers always involve the university's support services in the design and delivery of the courses they taught. Fifty-nine (59, 57%) respondents indicated that lecturers always involve the university's support services in the design and delivery of the courses taught. Twenty

(20, 20%) respondents were undecided and twenty four (24, 23%) respondents disagreed, see Figure 5.47 below.

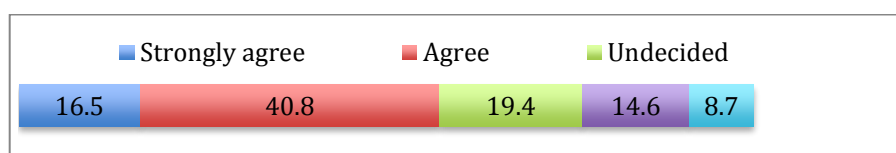


Figure 5.47 Lecturers' perceptions on whether lecturers involve the university's support services in the design and delivery of the courses

In analysing the qualitative data, out of the 103 respondents, fifty-nine (59, 57%) respondents commented whereas forty-four (44, 43%) respondents did not. Out of the fifty-nine (57%) respondents who commented, thirty-three (33, 32%) respondents argued that lecturers always involved the university's support services in the design and delivery of the courses they taught. However, twenty-six (26, 25%) respondents revealed that lecturers did not always involve the university's support services in the design and delivery of the courses they taught.

Lecturers' perceptions of whether support services were involved in the design and delivery of courses was compared with the perceptions of postgraduate students (n=22), six (6, 27%) respondents agreed whereas nine (9, 41%) was undecided and seven (7, 32%) disagreed, see Figure 5.48 below.

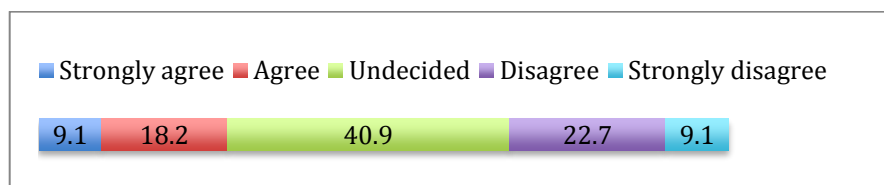


Figure 5.48 Postgraduate students' perceptions on whether lecturers involve the university's support services in the design and delivery of the courses

Out of the 22 respondents, fourteen (14, 64%) respondents commented whereas eight (8, 36%) respondents did not. Out of the fourteen postgraduate students who commented, one (1, 9%) respondent indicated that lecturers always involve the university's support services in the design and delivery of the courses they teach whereas twelve (12, 55%) respondents disagreed. The results of the survey questionnaires for both lecturers and postgraduate students quantitatively does not indicate a clear picture of what is actually taking place in terms of the involvement of the university's support services in the design and delivery of the courses lecturers teach

in the universities. The qualitative comments from both questionnaires indicated the reality of the matter in this regard. This is what three of the lecturers had to say:

I have not used the support services because since the time I joined, there was no induction program to point out to me the relevant support services available to assist me in my teaching. Sorry but true. UPNGSOL2

University support services are not adequate and sometimes does not work effectively. So I use my own resources to design and deliver courses. UPNGSBA3

There needs to be a major improvement to the support given to the delivery of courses I teach. At the moment, hardly any support from these support services. UPNGSMHS6

These results obtained from the postgraduate students were contradictory to what they indicated in the survey quantitatively. Out of the 22 postgraduate students who participated, 19 (86%) thought that the university support services were involved in the design and delivery of the courses taught by lecturers. However, in the qualitative data obtained from the same students, out of the 14 students who commented, only one (1) of the students indicated that they did involve the university support services. In contrast, thirteen (13) indicated that they did not have any idea whether support services were involved in the design and delivery of the courses taught by lecturers. There is a disconnection between what the lecturers' claim that they are doing from what they are actually doing in real practice as indicated by students' responses. This is what two of the postgraduate students had to say:

I cannot decide on this because I don't have any knowledge whether they are involved or not. PAUPG4

I don't know how the courses are designed. UPNGPG4

In recent years there has been a shift in emphasis in the higher education sector that places assessment as an integral part of the process of learning rather than a measurement of the outcomes of learning (Brown and Race, 2012; Nguyen & Walker, 2016). Race (2010) argues that university teachers still assess too much and this behaviour has caused students to strategize in their approach to learning and concentrate more on those things (assessment) that will count towards their attaining a degree (Brown & Race, 2012; Nguyen & Walker, 2016). The question that remains to be

answered is: how best can lecturers at the universities redesign assessment to make it fit-for-purpose by taking into consideration the context, level, learning environment, students' background, individual differences and learning content? Questionnaire items 24 to 26 measured the assessment practices lecturers used and determined whether the practices used enhanced or improved student learning-to-learn skills in their courses they taught.

Item 24 examined the lecturers' perceptions on whether lecturers always engage students to have an input into the assessment measures they set in the courses they teach. Forty-seven (47, 46%) respondents indicated that lecturers always engage students to have an input into the assessment measures they set in the courses they taught. Twenty-two (22, 23%) respondents were undecided and thirty-two (32, 31%) respondents disagreed, see Figure 5.49 below.

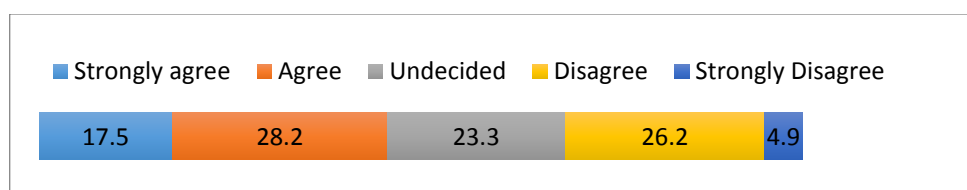


Figure 5.49 Lecturers' perceptions on whether lecturers engage students to have an input into the assessment measures set

In analysing the qualitative data, out of the 103 respondents, sixty (60, 58%) respondents commented whereas forty-three (43, 42%) respondents did not. Out of the sixty (60, 58%) respondents who commented, twenty-one (21, 20%) respondents argued that lecturers always engaged students to have an input in the assessment measures they set in the courses they taught. Both the overall survey responses (47 out of 103 respondents) as well as the qualitative comments (21 out of 60 respondents) supported the notion that lecturers did engage students to have an input in the assessment measures they set in their courses. In contrast, thirty nine (39 out of 60) lecturers revealed that they did not engage students to have an input in the assessment measures they set because it was not the normal practice at the universities to engage students in deciding what assessment measures lecturers should set in their courses. All assessment decisions were left for the lecturers to decide. This result indicates that as per the normal practice in PNG institutions, students were not engaged in deciding what

assessment measures lecturers should set in courses lecturers taught. This is what two of the lecturers had to say:

Not really because most of my assessment measures are done by myself on a subject outline for each of my subjects. Students are asked to follow what is stipulated in the course outlines. PAUHSC1

Assessment is based on material covered so students are expected to know as opposed to what they want. UPNGSNPS3

Lecturers' perceptions of whether students were engaged to have an input into the assessment measures was compared to the perceptions of postgraduate students (n=22), six (6, 27%) respondents agreed whereas seven (7, 32%) was undecided and nine (9, 41%) disagreed, see Figure 5.50 below.

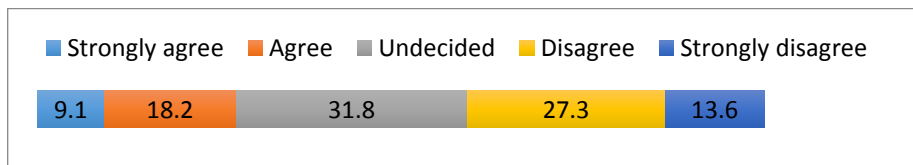


Figure 5.50 Postgraduate students' perceptions on whether lecturers engage students to have an input into the assessment measures set

Out of the 22 respondents, ten (10, 45.5%) respondents commented whereas twelve (12, 54.5%) respondents did not. Out of the ten postgraduate students who commented, all ten respondents disagreed that lecturers did engage students to have an input in the assessment measures they set in the courses they taught. The results indicate a disconnection between what the lecturers claim that they are doing from what they are actually doing in real practice as indicated by students' responses. This is what two of the postgraduate students had to say:

It has never happened. They just tell us that the tests/exams will include topic 1-10 for example. UPNGPG9

No they haven't engaged students. They come up with assessment and dictate students to do it. PAUPG4

Item 25 examined the lecturers' perceptions on whether lecturers gave students detailed assessment feedback in the courses they taught. Ninety-one (91, 88%) respondents indicated that lecturers gave students detailed assessment feedback in the

courses they taught. Seven (7, 7%) respondents were undecided and five (5, 5%) respondents disagreed, see Figure 5.51 below.

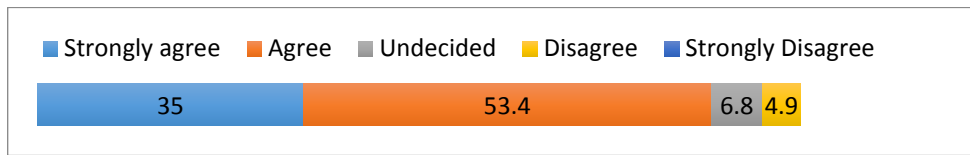


Figure 5.51 Lecturers' perceptions on whether lecturers give detail assessment feedback to students

In analysing the qualitative data, out of the 103 respondents, sixty-seven (67, 65%) respondents commented whereas thirty-six (36, 35%) respondents did not. Out of the sixty-seven (67, 65%) respondents who commented, fifty-seven (57, 55%) respondents argued that lecturers gave students detailed assessment feedback in the courses they taught. Both the overall survey responses (91 out of 103 respondents) as well as the qualitative comments (57 out of 67 respondents) support the notion that lecturers gave students detailed assessment feedback in the courses they taught. A minority of lecturers, ten (10, 10%) in total stated that lecturers did not always give students detailed assessment feedback. These are examples of similar and related sentiments expressed by a majority of lecturers (57 out of 67):

Students are given assessment tasks together with marking criteria at the beginning of the semester and thorough feedback is returned together with each assessment task. PAUAH1

Yes I would mark papers and make remarks about how and why they wrote responses and provide comments on what should have been included (in detail and the lack of it) in their discussions. UPNGSBA9

Lecturers' perceptions of whether detailed assessment feedback were given to students was compared to the perceptions of postgraduate students (n=22), seven (7, 32%) respondents agreed while eight (8, 36%) was undecided and seven (7, 32%) disagreed, see Figure 5.52 below.

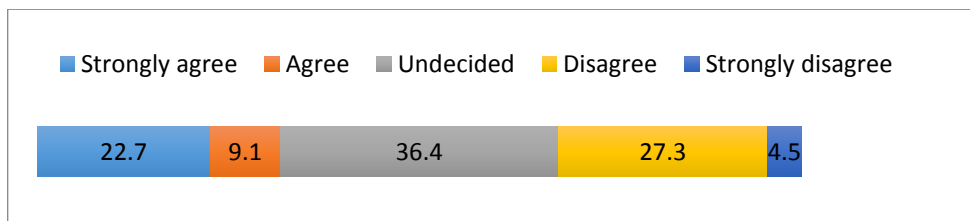


Figure 5.52 Postgraduate students' perceptions on whether lecturers give detail assessment feedback to students

Out of the 22 respondents, fourteen (14, 64%) postgraduate students commented whereas eight (8, 36%) did not. Out of the fourteen postgraduate students who commented, four (4, 23%) respondents indicated that lecturers always gave students detailed assessment feedback in the courses they taught. Whereas, ten lecturers (10, 41%) disagreed that they always provided students detailed feedbacks. The results indicate that the majority of postgraduate students (10 out of 14) who commented disagreed that lecturers gave students detailed assessment feedbacks. This result contradicts what the majority of lecturers (91 out of 103) indicated in the survey questionnaire. There is a disconnection between what the lecturers claim that they are doing from what they are actually doing in real practice as indicated by students' responses. These are examples of some of the comments from the postgraduate students who disagreed:

Yet to see them doing it. UPNGPG4

One or two did but almost all never did. UPNGPG5

Hardly have I seen detailed feedback. PAUPG6

Not in a timely manner. Most assignment feedback are returned to students at the end of the semester. PAUPG4

Numerous studies have been conducted on using effective assessment to promote learning (Sadler, 1989; Race, 2010; Boud & Associates, 2010; Gibbs, 2010; Brown & Race, 2012; Nguyen & Walker, 2016). These studies conclude providing students detailed assessment feedback could assist students to improve their learning. These studies also point out that assessment feedback given to students should focus on their performance rather than on student themselves or their characteristics. The assessment feedback given should be timely and students should be encouraged to use the feedback towards enhancing their further learning by acting on the feedback to change their future learning and performance (Sadler, 1989; Gibbs, 2010; Race, 2010).

Item 26 examined the lecturers' perceptions on whether lecturers always assess students' transferable and generic skills in the courses they taught. Sixty-two (62, 60%) respondents indicated that lecturers always assess students' transferable and generic

skills in the courses they taught. Thirty-six (36, 35%) respondents were undecided and five (5, 5%) respondents disagreed, see Figure 5.53 below.

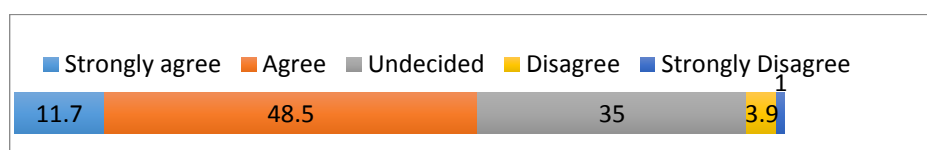


Figure 5.53 Lecturers' perceptions on whether lecturers assess transferable and generic skills

In analysing the qualitative data, out of the 103 respondents, fifty-four (54, 52%) respondents commented whereas forty-nine (49, 48%) respondents did not. Out of the fifty-four (54, 52%) respondents who commented, twenty-nine (29, 28%) respondents extolled that lecturers always assess students' transferable and generic skills in the courses they taught. Both the overall survey responses (62 out of 103) as well as the qualitative comments (29 out of 54) support the notion that lecturers did assess students' transferable and generic skills in the courses they taught. In contrast, twenty-five (25, 24%) lecturers argued that lecturers did not always assess generic skills in the assessment lecturers set. When comparing the overall results gathered from the survey questionnaire completed by the lecturers (n=103) with the results of the qualitative data gathered with the 54 respondents, there is not a significant difference in the number of lecturers who agreed (29 out of 54) in comparison to the number of lecturers who disagreed (25 out of 54). This result raised the question of whether lecturers understood what was meant by the assessment of transferable and generic skills. This misunderstanding was expressed in some of the comments gathered in the comment section of the questionnaires administered to lecturers. This is what one of the lecturers had to say:

I don't know much about this because many students take my course and I don't know much about the individual background of each student.
PAUHSC1

Even one lecturer demonstrated doubt by saying:

If I am correct, I am critical in assessing students on how they are able to apply basic concepts to any given scenario. UPNGSOL1

Lecturers' perceptions of whether transferable and generic skills were assessed was compared to the perceptions of postgraduate students (n=22), seven (7, 32%)

respondents agreed whereas twelve (12, 55%) was undecided and three (3, 14%) disagreed, see Figure 5.54 below.

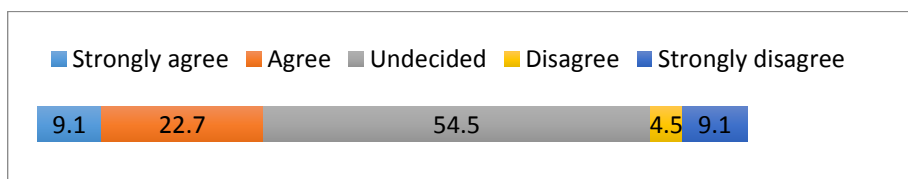


Figure 5.54 Postgraduate students' perceptions on whether lecturers assess transferable and generic skills

Out of the 22 postgraduate students, eleven (11, 50%) respondents commented whereas eleven (11, 50%) respondents did not. Out of the eleven postgraduate students who commented, four (4, 18%) respondents indicated that lecturers did assess students' transferable and generic skills in the courses they taught. In contrast, seven (9, 32%) respondents disagreed. The majority of postgraduate students (9 out of 11) were of the opinion that they were not sure or were yet to see lecturers assessing students' transferable or generic skills. Again, there is a disconnection between what the lecturers claim that they are doing from what they are actually doing in real practice as indicated by students' responses. This is what two of the postgraduate students had to say:

I would not really know or say for sure. PAUPG3

Yet to be done. It must be done. UPNGPG4

The results of the last five items of the survey questionnaires of both the lecturers and postgraduate students indicate that what the lecturers say that they do does not often happen in reality as perceived by the postgraduate students. The issue of whether both lecturers and postgraduate students who participated in this study completely understood the terms used in relation to lifelong learning skills is evident when comparing both quantitative data and the qualitative data gathered in the two questionnaires. The explicit teaching and fostering of these required lifelong learning skills in the courses remains uncertain and the results do not illustrate a clear picture whether they occur in reality or not.

5.5 Findings of the Study in Relation to Research Questions

5.5.1 Research Question 1 – Do government and university policies inform lifelong learning in PNG universities?

The government documents (Vision 2050, the National Higher and Technical Education Plan 2015-2024, and the National Education Plan 2015-2019), implicitly suggested lifelong learning but there are no plans in place to do anything about it. Strategies in how to actualize lifelong learning as an ideology within the education system are yet to be developed. Such strategies if developed have the potential to enhance the quality of education particularly in terms of the standards of teaching and learning in PNG. In analysing the focus areas identified by NDOE (2015) and DHERST (2015) as well as the *Vision 2050* (2009), it is assumed that the higher education institutions articulate some of these focus areas particularly concerning them in their Strategic Plans to articulate and actualize lifelong learning.

The analysis of policy documents from the two universities (UPNG and PAU), showed that both universities had clauses in their ‘prospectus’ that identified lifelong learning to enhance teaching and learning in those universities. However, the documents like the PNG government policy documents, plans to actualize it are yet to be developed.

In PNG, the challenges to effect lifelong learning is basically structured around reorganizing learning, teaching, and education in general in the higher education institutions for the information age aimed to change mindsets of all students (learners). The results of this study confirms that lifelong learning includes and involves learners of all ages in acquiring and applying knowledge and skills in the context of real, self-directed learning situations (Butler, 1996; Fisher, 2001; Cornford, 2002; Collins, 2009; Mezirow, 2012; Volles, 2016). The study also confirms that by combining, working and learning using the traits and skills identified with lifelong learners (Collins, 2009), a Papua New Guinean, irrespective of age and gender can learn within the context of his or her work and learning experiences on real-world problems faced in this information age.

Since the policies on lifelong learning are yet to be developed by all key stakeholders involved in the education system in PNG, there is an observed tendency in PNG for lecturers to load students with all the information they will need for life. This practice is impractical due to rapid changes in information and technology. The study shows evidence that teaching and learning strategies to enhance the deep approach to learning and teaching need to be encouraged in both universities. Providing appropriate academic staff development programs and adequate student academic support programs to both lecturers and students could be looked into as an intervention measure.

5.5.2 Research Question 2 – What are the lecturers’ knowledge, attitudes, beliefs and behaviour concerning lifelong learning?

The results show that not all lecturers fully understood the concept of lifelong learning, its definition and underpinning key principles of active learning through learning-to-learn skills thus promoting self-directed learning. A key finding identified is that not all lecturers are willing to change their teaching and learning orientations and up-skill in terms of the scholarship of teaching and learning to be on par with what is happening in other higher educational institutions abroad. If staff development activities are not encouraged in these higher institutions, it is likely that the majority of lecturers will function as lecturers in the manner that they themselves experienced in their undergraduate as well as their postgraduate studies.

The necessity of lifelong learning is claimed to be based on the phenomenon of change whether it is social, economic, cultural, scientific, technological and informational (Stonier, 1979; Cropley, 1979; Green, 2002; Jarvis, 1999; Jarvis, 2010; Volles, 2016). Lifelong learning’s significance as a reaction to change is evident in a sense that continuous change requires continuous learning (McClucky, 1974; Duyff, 1999; Evison, 2006; West, 2006; Bamber, 2006; Volles, 2016). For this matter, lecturers in the study require continuous learning in order to master the underpinning key principles and the traits and skills required of lifelong learners to realize lifelong learning’s significance and appreciate its actualization in the teaching and learning processes. However, it requires lecturers to appreciate the fact that they have to also

change themselves to up-skill teaching and learning practices currently practised. This action supports the notion that continuous change requires continuous learning (McClucky, 1974; Duyff, 1999; Evison, 2006; West, 2006; Bamber, 2006; Hunt & Chalmers, 2012; Volles, 2016).

With the rapid pace of globalization that is experienced, lifelong learning requires continuous change and learning by all nations, institutions, professions and individuals to grow up-skill and remain competitive in the 21st Century (Butler, 1996; Duyff, 1999; Jarvis, 1999; Jarvis, 2010; Coolahan, 2002; Hunt & Chalmers, 2012; Hunt et al., 2012; Roberts, 2015; Volles, 2016). PNG as a nation, including all its educational institutions, professions and citizens are experiencing the impacts of globalisation. If changes in knowledge, attitude, beliefs and behaviour are essential for the successful transitions of social, economic, cultural, scientific, technological and informational changes due to globalisation, then all individuals have to continuously change their attitudes, beliefs and behaviour in order to move forward and advance and be at par with the rest of the world.

5.5.3 Research Question 3 – How do lecturers perceive lifelong learning?

The results indicate that the majority of lecturers in this study had some understanding of lifelong learning which was evident in the responses obtained in the survey questionnaires and interviews administered in this study. However, it must be pointed out that the participants' understanding of lifelong learning might have been enhanced by engaging in the completion of the questionnaire on lifelong learning issued to them earlier prior to their participation in this study.

The definition of lifelong learning provided by most lecturers who participated were similar to the definition of lifelong learning provided by OECD and UNESCO (1996). The perceptions held by most lecturers is that lifelong learning lasts the whole life of each individual, from the first breathe to the last breathe. Lifelong learning is a systematic acquisition, renewal, upgrading or completion of knowledge, skills and attitudes of the individuals involved, responding to an individual's needs to cope with the demands of life in general (Volles, 2016). Lifelong learning fosters and depends

for its existence on one's increasing ability and motivation to engage in learning. Lifelong learning also depends upon the contribution of all available educational influences, encouraging learning from a variety of sources (Volles, 2016).

Although lecturers have this understanding of lifelong learning, the problem found in this study related to their knowledge and skills of teaching strategies required to developing lifelong learning skills. Their knowledge of both cognitive and metacognitive skills and the know-how in how to develop and foster these skills need developing. It is recommended that lecturers continuously up-skill themselves with the current good practices to enhance and promote lifelong learning skills.

5.5.4 Research Question 4 – Why do lecturers perceive lifelong learning as they do?

The results indicated that the majority of lecturers in this study had some understanding of lifelong learning, however, their understanding of lifelong learning might have been enhanced due to their participation in this study. It is initially observed by the researcher through informal meetings that the concept of lifelong learning was new to a majority of lecturers. It was not until the concept was explained by the researcher in presentations given at international conferences held in Port Moresby, PNG prior to data collection. These presentations triggered and stimulated interest in the concept in both universities where presentations were made.

The researcher is aware that not all lecturers are trained teachers to understand the significance of lifelong learning, its traits and skills required to effectively implement and actualize its place in the education system. Strategies in how to teach lifelong learning skills are required in staff development training as part of up-skilling programs at both universities (Butler, 1996; Stewart, 2012; Hunt & Chalmers, 2012; Hunt et al., 2012).

However, the researcher also witnessed some resistance to change especially in relation to good practices in this study. Resistance to change could be avoided if lecturers are provided basic teacher training through programs such as the Graduate Certificate in Tertiary Education. Up-skilling and re-training could eliminate resistance

to change that is experienced in the universities (Butler, 1996; Coolahan, 2002; Hunt & Chalmers, 2012; Chalmers & Partridge, 2012; Trigwell, 2012; Biggs, 2014; Roberts, 2015).

5.6 Major Findings of the Study

The government documents (Vision 2050, the National Higher and Technical Education Plan 2015-2024, and the National Education Plan 2015-2019) implicitly suggested lifelong learning but there were no known plans in place to do anything about it. In these documents, strategies in how to actualize lifelong learning as an ideology within the education system have not been developed. Developing lifelong learning strategies have the potential to enhance the quality of education in PNG educational institutions. From the analysis of the government documents, the responsibility to articulate some of the focus areas identified in these government documents are left to the educational institutions to develop in their strategic plans to foster and promote lifelong learning.

In the two universities (UPNG and PAU), the document analysis showed that both universities had clauses in their 'prospectus' that identified lifelong learning, however, like the government documents, no plans are in place to actualize it. The lack of clarity in how to foster and nurture lifelong learning skills in the students is evident despite what some lecturers and postgraduate students claimed in the study.

This study found that the development of a formal government policy on lifelong learning is yet to be developed by all key stakeholders involved in the education system in PNG. Such a scenario depicts the assumption held by the researcher that the teaching and learning situation in PNG is commonly based on rote teaching and learning. This assumption requires further research to assert whether it has any true or not. Like earlier studies conducted in Australia and the United States of America (e.g. Moely et al., 1992; Candy et al., 1994; Schraw, 1998; Kearns et al., 1999; Hamman et al., 2000; Candy, 2000) have indicated that rote teaching and learning situations encourage students to become more dependent learners than independent learners in their behaviour and attitude towards teaching and learning. The attitude and behaviour of lecturers to load students with all the information they

will need for life is impossible. It is evident from the results that in most cases in both UPNG and PAU, teaching and learning strategies based on active learning need to be encouraged. Through effective administration of appropriate academic staff development programs coupled with the provision of adequate student academic support programs, lecturers and students in both universities could promote and engage in more deep approaches to teaching and learning. Thereby developing lifelong learning skills in the process.

The review of literature illustrates that for the past two decades, due to the changing demands of the work environment globally, the higher education sector has been challenged to produce versatile and adaptable graduates (Kemp & Seagraves, 1995; Leckey & McGuigan, 1997; Badcock, et al., 2010; Volles, 2016). Research studies (Harvey et al., 1997; NBEET, 1992; Hesketh, 2000; Holmes, 2001; Crebert et al., 2004; Volles, 2016) assert that many employers now expects graduates from universities globally to value and demonstrate various higher-order cognitive thinking skills as well as social skills at the workplace. Generic skills and graduate attributes that are widely cited include critical thinking, problem solving, interpersonal skills, a capacity for logical and independent thought, communication and information management skills, intellectual curiosity and rigor, creativity, ethical awareness and practice, integrity and tolerance (Bath et al., 2004). Most employers expect graduates to be able to initiate and respond to change when the use of these generic skills and graduate attributes are required at the world of work and or life in general. Most employers are now placing increasing pressure on the universities to equip their graduates with these required 'generic' skills that can be applied across different contexts and beyond disciplinary content knowledge and proficiencies (Drummond et al., 1998; Barrie, 2006; Volles, 2016).

However, for both UPNG and PAU, complex issues associated with the teaching of generic skills and their acquisition as part of the learning process by students remains uncertain. The first issue is of definition of the key lifelong learning generic skills. There are widespread differences in terms of how these skills are defined and how a particular skills' significance is interpreted in context (Bennet et al. 1999; Bowden et al. 2000; Whitefield & Kloot, 2000; Badcock et al., 2010).

The second issue is the questions raised both theoretically and empirically of the separability of generic and discipline-based skills. In both universities, although generic skills are developed in conjunction with the development of knowledge and skills within a discipline area, however, when dealing with assessment of generic skills in tasks assigned as part of the assessment, apart from reporting the attainment levels of the discipline content knowledge, the attainment levels of particular generic skills are rarely reported (Drummond et al., 1998; Nusche 2008; Barrie et al. 2009; Badcock et al., 2010).

The third issue is in relation to the challenges university lecturers face with the teaching of generic skills within university curricula. Although many university lecturers consider generic skills such as writing skills and critical thinking as central to learning in their disciplines, they are faced with the challenge of balancing and integrating the teaching of discipline-specific knowledge and skills with the development of more transferrable skills in the courses they teach (Barrie et al., 2009; Badcock et al., 2010). Lifelong learning skills refers to how successful graduates continue to acquire the information they learn after their formal education had ended (Dong, 2004). Lifelong learning skills include but not limited to thinking and learning skills such as self-directed learning skills; the ability to seek out and assess information; critical thinking skills; lateral thinking skills; communication skills; interpersonal sensitivity; problem-solving skills; the ability to do project planning; the ability to evaluate alternatives; and the ability to work in teams. To foster these skills at the university require reconsideration and changes to traditional approaches to the practice of teaching and learning. Thus, the practice of teaching and learning should aim to develop students' lifelong learning skills.

For a lecturer at the university setting to facilitate lifelong learning, it is imperative that a lecturer provides students with opportunities to think for themselves and to nurture that ability. Literature on learner-centred teaching (Cornford, 1999; Cornford, 2002; Whitefield & Kloot, 2006; Doyle, 2011; Blumberg, 2012; Hunt & Chalmers, 2012; Weimer, 2013; Blumberg, 2013) places emphasize on the development of effective teaching of cognitive and metacognitive skills for lifelong learning to occur. University lecturers in PNG university settings have to engage themselves in the teaching process to develop in the students the ability to apply the

higher cognitive thinking skills and processes in their approaches to teaching. University lecturers need to conceptualize higher cognitive thinking skills specifically as learning skills and adapting curriculum to suit the implementation of such skills in the curriculum taught to students.

The results of this study using the survey questionnaires for both lecturers and postgraduate students related to the development of cognitive and metacognitive skills in students reaffirms the notion that for lifelong learning to occur in students, university lecturers have to engage themselves in the teaching process to demonstrate and develop these cognitive and metacognitive skills to students in their classes. However, the results indicate that the efforts of lecturers to facilitate the learning of cognitive and metacognitive skills in their teaching are lacking in reality or remains uncertain due to the lack of understanding and appreciation of the key concepts of lifelong learning skills development. In some cases, the postgraduate students who participated in this study (n=22) did not support the claims expressed by lecturers (n=103) that they do teach or nurture students with cognitive and metacognitive skills in their learning.

Like earlier studies in Australia and the United States of America (e.g. Moely et al., 1992; Candy et al., 1994; Schraw, 1998; Kearns et al., 1999; Hamman et al., 2000; Candy, 2000), this study found that although lecturers claim that they do teach cognitive and metacognitive skills to students, there is evidence to doubt this claim in practice, that does not happen as claimed. There is a disconnection between what the lecturers claim that they are doing from what they are actually doing in real practice.

5.7 Chapter Summary

This chapter analysed and combined the quantitative and qualitative data gathered through the two survey questionnaires, the 20 interviews conducted in the two universities and the use of the data gathered through analysis of key PNG government and institutional documents. In relation to the development of policies on lifelong learning, the analysis of policy documents by the two universities and even with both the DHERST and the NDOE implied lifelong learning as a significant learning approach that should be fostered and nurtured in the universities. This result confirms that although the GoPNG and its educational institutions value the significance of

lifelong learning, its traits and skills. However, strategies towards its implementation and actualization are yet to be developed by all key stakeholders involved in the education system in PNG.

Not all lecturers are trained teachers and therefore may not understand the significance of lifelong learning, its traits and skills required for effective implementation and the actualization of developing lifelong learners. Strategies in teaching towards promoting and enhancing lifelong learning skills are required in staff development training programs such as the Graduate Certificate in Tertiary Education (a teacher training program that will be offered by UPNG). These staff development programs should aim to up-skill lecturers with teaching strategies associated with developing lifelong learning skills to teach effectively in the teaching and learning processes at the universities. Lecturers after up-skilling and re-training could enhance learning of students in these universities.

The final chapter will present the implications, recommendations and the conclusions of the study.

Chapter 6: Implications, Recommendations and Conclusions

6.1 Introduction

It is intended in this chapter to provide an overview of the thesis including the background, the purpose, the problem, the theoretical and conceptual frameworks and the methodology adopted to find answers to the four key research questions. The methodology is then reviewed in some detail, outlining the peculiarities of data collection in the research sites. The weaknesses and the strengths of the methodology are identified. The major findings of the study are reiterated to show their importance and significant in contributing to new knowledge in relation to lifelong learning in PNG. The value of the thesis is outlined in terms of the implications for theory and the implications for practice. The concept of lifelong learning is again briefly re-examined in the context of PNG. Recommendations emerging from this study, together with the implications for further research are presented and discussed to point the way forward. This chapter presents the final stage – Stage 4 of the Research Plan (See Figure 4.3 on page 112).

6.2 Overview of the Research

This study on lifelong learning in PNG acknowledges lifelong learning as a concept that embraces all learning that takes place from infancy throughout adult life, in families, schools, vocational training institutions, universities, the work place, and in the community at large. The significance of the concept of lifelong learning lies in the challenge it brings to using institutional and age criteria as controlling factors in educational policy.

With this understanding, it is important that lifelong learning activities could be achieved through the formal, non-formal and informal types of learning irrespective whether these learning activities are publicly or privately organised, funded or supported. However, whatever learning activities take place is also determined on the characters of the learners themselves, based on their social and economic backgrounds such as initial educational attainment, age, sex, ethnicity, income situation, motivational orientations and leisure versus career orientation. Lifelong learning is

undertaken not only for job and career related reasons but also for personal development, self-fulfilment and to enrich the quality of life for that individual.

The Chapter 2 (Vision 2050 & the PNG Education System) and Chapter 3 (Review of Related Literature) of this thesis has identified the similarities in nature of the aspirations that are projected in the *Vision 2050* and the principles of lifelong learning. Both are seen to encourage the enhancement of social inclusion, active citizenship, personal development and the encouragement of competitiveness and employability through continuous learning. Therefore if the *Vision 2050* policy document is to be realized in PNG, drastic policy changes are required such as: changes in policy by government and universities, changes in funding arrangements, changes in access, changes in teaching and learning methods and changes in counselling and study skills provision to mention but some. In PNG some institutions of higher education are already significantly involved in attempts to make the changes to adopt the *Vision 2050* policies and are in the process of re-aligning their vision and mission statements of their institutions to comply with the pillars of the *Vision 2050*.

6.3 Purpose and the Research Problem

The purpose of this study was threefold: first to investigate and analyse the *Vision 2050* policy and the University policies as to whether they inform lifelong learning; second to investigate and analyse lecturers' knowledge, attitudes, beliefs and behaviour to establish whether they foster a climate of lifelong learning; and third to determine whether the GoPNG needs to formulate a formal government policy on lifelong learning.

Consistent with the purpose of the study, the research problem was presented in the form of questions:

1. Do government and university policies inform lifelong learning in PNG universities?
2. What are the lecturers' knowledge, attitudes, beliefs and behaviour concerning lifelong learning?

3. How do lecturers perceive lifelong learning?
4. Why do lecturers perceive lifelong learning as they do?

6.4 The Theoretical and Conceptual Frameworks of the Study

The theoretical framework illustrated that the integration in lifelong learning for an individual can occur on two distinct axes as one participates in learning throughout life. Learning, as illustrated either occurs vertically throughout life in sequential levels or in chronological stages of lifelong education, or horizontally across the different phases of a person's life as he or she relates with different groups of people in different situations, which is life-wide (Candy & Crebert, 1991).

Candy (2000) in providing a framework for examining university systems and structures in the context of lifelong learning argues that there are three dimensions rather than two in which lifelong learning can occur and he identifies them as vertical linkages (vertical integration), sideways linkages (horizontal integration) and forward linkages (vertical integration). Candy's argument is based on the notion that universities have three main ways of relating to other learning contexts. In the vertical linkages, he asserts that universities have to establish relationships with the school sector, adult and community education by developing various bridging courses that should provide other learning pathways for a student to get into higher education. The sideways linkages will allow universities to establish relationships with out-of-school learning contexts such as the home, the workplace or the community where some of the students' learning occurs. The forward linkages allow universities to encourage the establishment of postgraduate study or training through the provision of continuing education programmes, public lecture series and various forms of community outreach. Candy (2000), however, asserts that both the vertical integration (lifelong education) and horizontal integration (life-wide education) are embedded in lifelong learning as illustrated in the theoretical framework.

The conceptual framework devised for this study illustrated that if educational institutions in PNG place greater emphasis on the development of learning-to-learn skills together with emphasis placed on the application of design thinking skills

(Anderson, 2013; Anderson, et al. 2014), they could foster and create a climate of lifelong learning. A shift in this educative direction could promote lifelong learners, who could become self-directed learners with innovative minds to enhance economic growth, competitiveness and open up their opportunities for employability within the PNG employment market or the global employment market. Such a shift in emphasis could also promote social inclusiveness and the graduates of the education system could become more active citizens of the country.

The concept of design thinking is a recent development in supporting creative thinking through a suite of strategies with emphasis on the need to develop innovation through these learning strategies targeting creative problem solving. Universities in PNG could utilize this approach as a way forward to stimulate the minds of students to be more innovative in disciplines such as education, engineering, business, architecture, design schools and medicine (Anderson, 2013). This leads to the attainment of the aspirations of the PNG Vision 2050 especially in relation to the transformation in mindsets from a scarcity mentality to an abundance mentality.

Both the theoretical and conceptual frameworks devised out of the review of literature supports the notion of lifelong education. The frameworks illustrated that the values of lifelong education are recognised in the three basic terms: life, lifelong and education, upon which the meaning of the concept lifelong education is based. Lifelong education is a lifetime process and does not end at the completion of formal schooling, which is vertical integration based on the theoretical framework. Lifelong education is also not restricted to adult education but it includes and merges all phases of education – pre-primary (in PNG the terms pre-schooling or elementary schooling are used), primary, secondary and post-secondary (technical and tertiary education including universities).

As illustrated in the conceptual framework in Chapter 4 (Methodology), the concept of lifelong learning views education in its entirety including formal education, non-formal education and informal education, which is horizontal integration based on the theoretical framework. Lifelong education seeks continuity and delivery along “its vertical or longitudinal dimension (vertical articulation). It also seeks integration at its horizontal and depth dimensions at every stage in life (horizontal integration)” (Dave,

1976, p. 51). It can then be argued that lifelong education occurs vertically through its formal learning pathways as well as horizontally through its informal and non-formal learning pathways in a person's lifetime. Lifelong education's basic goal is to maintain and improve people's quality of life through a flexible and varied content, learning tools and techniques and time of learning. This goal supports the notion that education should be made available even after an individual has gone through the formal education system as well the non-formal and the informal education systems.

This description of the conceptual framework is well supported by Coombs and Ahmed (1974), who view education also in terms of an individual's lifetime, from his or her earliest upbringing as an infant to adulthood. Coombs and Ahmed further assert that education must be acknowledged as learning that includes all phases of education and training whether it is formal, non-formal or informal. Learning can occur within an organised and structured context and may lead to a formal recognition; or it could occur with the acquisition of skills such as vocational skills and could happen at the workplace or elsewhere; or learning could also occur as a result of a person's daily life activities and interactions with his or her family, work or leisure (Coombs & Ahmed, 1974).

The three types of learning could take place at all ages and phases of an individual's lifetime irrespective of where it occurs and who organizes it. This view of Coombs and Ahmed (1974) supports the notion that education is lifelong learning, which occurs throughout a person's lifetime. If the three types of education are combined and strong associations developed between them to complement each other, lifelong education within an education system of a country could be achieved.

In PNG, lifelong learning is not a new concept; however, there are no clearly defined or pronounced government policies towards lifelong learning in the PNG education system. The current education system allows vertical linkages, sideways linkages and forward linkages. Vertical linkages refer to the breaking down of barriers between levels of formal education. Sideways linkages refer to establishing closer links between tertiary institutions and industry as well as with business, professional and community organisations engaged in providing non-formal education. Forward linkages refer to the development of skills of lifelong learning for graduates to take with them into the workplace and the provision of continuing learning opportunities for

graduates. Universities and other institutions of higher education have multiple ways in which they can, if they choose, promote the goal of lifelong learning.

6.5 Methodology Revisited

The methodologies used in the course of this study did present some challenges. For example, there were some limitations experienced in relation to the convenience sampling approach. Despite the willingness and cooperation of some of the participants (both lecturers and postgraduate students) to participate in the study, the researcher also faced some obstacles in encouraging the involvement of some lecturers and postgraduate students who were reluctant to participate. The study sought to investigate the attitudes, beliefs and behaviours of lecturers and others regarding a particular approach to education, and some lecturers may have perceived that they themselves would be assessed or judged as part of the research process.

In relation to the UPNG, the willingness of people to participate in the research may have been influenced by the timing of the granting of approval to conduct research in that university. Namely, surveys and interviews were necessarily conducted in the early part of the first semester, when many lecturers and post graduate students were busy with other activities. Despite assurances of confidentiality in relation to all data collected, the researcher experienced two cases of potential participants demonstrating hesitancy in cooperating fully with the study at PAU. This was due mainly to participants' own uncertainty and fear of the repercussions the study might have had on their opportunities for promotions and contract renewal.

Another potential reason that some potential participants may have been reluctant to participate, is that they did not want to be seen to expose the weaknesses of their institution or the senior administration of the institution in the course of the research, in case they were to experience some detrimental effects if the senior administration were to be informed about the individual's responses to the research questions.

Some potential participants may have had concerns about being seen as exposing the weaknesses of the senior administration of the institutions in such a study

as this. The study sought information on attitudes, beliefs and behaviour of senior administrators of the universities in fostering lifelong learning. To minimize the impact of participants' concerns on the participation levels and quality of the research conducted, the researcher ensured that all potential participants were made aware of the ethical considerations of the right to confidentiality, privacy and anonymity. Participants then signed a consent form after a thorough explanation of the study was given to each potential participant.

As mentioned earlier, this study incorporated the use of survey questionnaires. It has been well documented that survey questionnaires can have limitations in terms of the accuracy of the data reported, for many reasons. For example, in the context of this study, some questionnaires that were returned to the researcher had ratings of 'strongly agree' against all 27 questions, which should indicate strong support for, and implementation of, lifelong learning techniques. However, as the researcher familiarized himself with the learning and teaching environment of the institutions under study, it became clear through conversations and observations that lifelong learning was either not understood, not supported or not in fact implemented in those institutions.

This disparity between questionnaire answers and observed practices can be understood as a consequence of assessing very sensitive issues such as the subjects' attitude, beliefs and behaviours towards an issue under investigation in a research study such as this. Some participants may have felt that it is their obligation to provide in their questionnaire answers a good image of the institution. Critical and negative assessments may therefore have been avoided by participants who may have been reluctant to create a bad impression of their institution. To minimize these problems, the researcher reiterated the ethical considerations of this study to all participants during the course of the data collection period. Assurances of confidentiality, privacy and anonymity were stressed to all participants to avoid the problems of embarrassment, hurt, fear and uncertainty of being implicated in any negative forms.

6.5.1 Identified Problems

The problems associated with the methodology chosen affected some of the research outcomes such as the majority of lecturers indicating their engagement in the teaching processes to demonstrate and develop cognitive and metacognitive skills in students in their classes. However, some of the results obtained from the lecturers and postgraduate students indicated that many lecturers did not in fact make efforts to facilitate the learning of these skills or did not appreciate the key concepts of lifelong learning skills development. There is a disconnect between what the lecturers claimed that they did to foster lifelong learning, and what they are actually doing or are doing in practice in terms enhancing lifelong learning skills in students. To minimize the impact of the problems, the researcher used triangulation and used multiple sources of data collection techniques. The researcher used in-depth interviews and document analysis to counter the results of the surveys conducted with both lecturers and postgraduate students.

6.5.2 Identified Strengths

The major strengths of the chosen methodology is the way the site visits and in-depth interviews enabled the researcher to become informed about the research sites, and provided opportunities to become acquainted with, and gain appreciation of, the participants' roles and responsibilities as lecturers and postgraduate students in the research sites. The unstructured interviews were particularly valuable because the data provided the researcher with real insights into how lifelong learning was fostered in the institutions by senior administrators, lecturers and students.

6.6 Major Findings of the Study

The PNG government documents (Vision 2050, the National Higher and Technical Education Plan 2015-2024, and the National Education Plan 2015-2019) implicitly support the development of lifelong learning skills. However, strategies to actualize lifelong learning as an ideology within the education system have not been developed. Such strategies have the potential to enhance the quality of education particularly in terms of the standards of teaching and learning in PNG educational

institutions. The focus areas identified by NDOE (2015) and DHERST (2015) as well as the *Vision 2050* (2009) implicitly alludes to the need for lifelong learning, however, it is not explicitly highlighted in these documents. From the documents, it is assumed that the higher education institutions will articulate some of the focus areas particularly concerning them in their Strategic Plans to articulate and actualize lifelong learning. The document analysis of the two universities (UPNG and PAU), showed that both universities have clauses in their 'prospectus' that identify lifelong learning as a tool to enhance teaching and learning in those universities. However, the documents do not explicitly outlined how lifelong learning will be actualized. The lack of clarity in terms of ways to foster and nurture lifelong learning skills in the students within these universities is evident despite what some of the lecturers and postgraduate students indicated in the survey questionnaires. Rote teaching and learning is predominant compared to the use of teaching and learning for deeper understanding and adding meaning and value to what is being learnt in both UPNG and PAU.

This study found that the development of policies on lifelong learning is explicitly required to achieve the goals set out in the existing GoPNG and institutional documents. Strategies towards its actualization are yet to be developed explicitly by all key stakeholders involved in educating students in both UPNG and PAU and assumingly in the national education system in PNG. Such a scenario as described above depicts the teaching and learning situation in PNG. If higher education institutions aim to create opportunities to broaden learning on a wide range of learning contexts (e.g. personal, professional and academic contexts) whereby recognising the variety of ways learners 'come to know' (Clemens, 2015) and 'come to do' (Delors, 1996; Delors, 2013), a shift in such strategies associated with the transformative learning theory as outlined by Mezirow on teaching and learning could enable the learners to claim ownership of and responsibility towards their own learning orientations at all levels of the education system (Mezirow, 2003; Mezirow, 2006). Such teaching and learning situations could encourage students to become more dependent learners than independent learners in their behaviour and attitude towards teaching and learning (Biggs, 2003; Hunt & Chalmers, 2012). The tendency of lecturers to try to load students with all the information they will need for life is impossible due to rapid changes in information and technology due to globalization. From the interviews conducted for this study, it was also evident that teaching and

learning strategies required to enhance and deepen approaches to learning and teaching need to be encouraged. Through effective administration of appropriate academic staff development programs as well as provision of adequate student academic support programs, both lecturers and students could engage more in deep approaches to teaching and learning.

The review of literature illustrates that for the past two decades, due to the changing demands of the work environment globally (Kemp & Seagraves, 1995; Leckey & McGuigan, 1997; Badcock, et al., 2010; Volles, 2016) and in PNG in particular, the higher education sector has been challenged to produce versatile and adaptable graduates. Research studies (Harvey et al., 1997; NBEET, 1992; Hesketh, 2000; Holmes, 2001; Crebert et al., 2004; Volles, 2016) assert that many employers now expect graduates from universities globally to value and demonstrate various higher-order cognitive thinking skills as well as social skills in the workplace. The widely-cited generic skills and graduate attributes include critical thinking, problem solving, interpersonal skills, a capacity for logical and independent thought, communication and information management skills, intellectual curiosity and rigor, creativity, ethical awareness and practice, integrity and tolerance (Bath et al., 2004). Many employers expect graduates to be able to initiate and respond to change when the use of these generic skills and graduate attributes are required in the world of work and in life in general. Many employers have placed increasing pressure on the universities to equip their graduates with these required 'generic' skills or broad skills or attributes that can be applied across different contexts and beyond disciplinary content knowledge and proficiencies (Drummond et al., 1998; Barrie, 2006).

For a lecturer in a PNG university setting to facilitate lifelong learning, it is imperative that the lecturer provides students with opportunities to think for themselves and to nurture that ability. Literature on learner-centred teaching (Cornford, 1999; Cornford, 2002; Whitefield & Kloot, 2006; Doyle, 2011; Blumberg, 2012; Hunt & Chalmers, 2012; Weimer, 2013; Blumberg, 2013) places emphasis on the development of effective teaching of cognitive and metacognitive skills for lifelong learning to occur. University lecturers in both UPNG and PAU have to engage themselves in the teaching process to develop in the students the ability to apply higher cognitive thinking skills and processes. University lecturers need to conceptualize higher cognitive thinking

skills specifically as learning skills and adapt the curriculum to suit the implementation of such skills.

The results of this study reaffirms the notion that for lifelong learning to occur in students, university lecturers have to use teaching and learning strategies in the teaching and learning processes. In applying these teaching and learning strategies, lecturers are to demonstrate to students and develop in students cognitive and metacognitive skills in their classes. However, the results indicate that many lecturers do not in fact make efforts to facilitate the learning of cognitive and metacognitive skills, or do appreciate the key concepts of lifelong learning skills development. In some cases, the postgraduate students who participated in this study (n=22) did not support the claims expressed by lecturers (n=103) that they do teach or nurture cognitive and metacognitive skills.

As found in other earlier studies in Australia and the United States of America (e.g. Moely et al., 1992; Candy et al., 1994; Schraw, 1998; Kearns et al., 1999; Hamman et al., 2000; Candy, 2000), this study finds that although lecturers claim that they do teach cognitive and metacognitive skills to students, in practice little teaching and fostering of these specific learning skills occur. There is a disconnect between what the lecturers claim that they are doing to teach cognitive and metacognitive and in terms of their application of effective teaching strategies to enhance those skills for effective lifelong learning of generic and transferrable skills. This study, like other studies elsewhere, indicates that there are only a very few lecturers who employ teaching strategies which are aligned with the development of lifelong learning skills in practice. Most lecturers need upskilling in effective teaching strategies to enhance lifelong learning skills in students.

6.7 Implications for Theory

This study attempts to redress the scarcity of research in PNG into attitudes, beliefs and behaviour of lifelong learning of university lecturers by investigating and analysing the *Vision 2050* policy and the university policies as to whether they inform lifelong learning. As well, the study seeks to investigate and analyse lecturers' knowledge, attitudes, beliefs and behaviour to establish whether they foster a climate

of lifelong learning, and finally, to determine whether the PNG government needs an education policy change towards lifelong learning as an ideology. In this way it is contributing to theory by articulating a policy standpoint around lifelong learning in PNG. The current literature on lifelong learning (Clemens, 2015; Volles, 2016; Smith & Meaney, 2016; Babacan & Babacan, 2018) articulates the significance of lifelong learning due to rapid changes introduced by the impact of globalisation (Jarvis, 1999). As in Australia, PNG does not formally have a lifelong learning policy, however, the two universities in which this study was conducted, had the concept of lifelong learning appearing in its university mission and advertising documents. This study adds to the knowledge gap that exist in PNG on the concept of lifelong learning as a potential policy goal.

Lifelong learning's importance in a knowledge economy has driven governments to challenge educational institutions in all levels to shift from teacher-centred, passive and content-based approaches to a more student-centred approaches with emphasis on the development of lifelong learning skills and capabilities (Clemens, 2015; Smith & Meaney, 2016). Lifelong learning skills such as problem-solving, communication, critical thinking, collaboration and information, self-management and technology literacy through teaching and learning and assessment practices (Candy et al., 1994; Heinrich et al., 2007; Harpe & Radloff, 2008; Babacan & Babacan, 2018). Higher education institutions are challenged to adapt to the rapidly changing world. There is an increased demand for more highly educated and learned workforce (Jarvis, 1999; Clemens, 2015; Volles, 2016; Smith & Meaney, 2016; Babacan & Babacan, 2018).

Lifelong learning is not a new concept in PNG; however, there are no clearly defined or pronounced government policies towards lifelong learning in the PNG education system. Despite that the universities in PNG have multiple ways in which they can, if they choose, promote the goal of lifelong learning (Coolahan, 2002; Garnett, 2012; Butler, 2012; Krause, 2012; Angelo, 2012; Chalmers & Partridge, 2012; Volles, 2016), policies need to be made to define and pronounce the concept in order to realize its importance. The current PNG education system allows vertical linkages, sideways linkages and forward linkages in its formal education pathway. It now requires effective policy directives and guidelines to increase access to these pathways and

enhance the quality of education in PNG education system. Such a shift in this educative direction could promote lifelong learners, who could become self-directed learners with innovative minds to enhance economic growth, competitiveness and open up their opportunities for employability within the PNG employment market or the global employment market (Coolahan, 2002; Turner et al., 2008; Angelo, 2012; Brown & Race, 2012; Broughan & Hunt; 2012; Butler, 2012; Chalmers & Partridge, 2012; Hunt & Chalmers, 2012; Volles, 2016). As a result, such as shift in this direction could also promote social inclusiveness and the graduates of the education system could become more active and productive citizens (Avoseh, 2001; Clemens, 2015; Babacan & Babacan, 2018).

6.8 Implications for Practice

As stated earlier, the rapid pace of political, social, economic, educational, legal, information and technological changes experienced globally due to the impact of globalisation has influenced the government and systems of government of which education is a part of, to make strategic policy changes (Jarvis, 1999; Avoseh, 2001; Clemens, 2015; Babacan & Babacan, 2018; Wichramasinghe, 2018). Such policy changes have placed numerous implications on educational institutions including universities to deal with changes. The formulation of lifelong learning policies is aimed to increase the general levels of learning and skills due to global economic changes (Jarvis, 1999; Coolahan, 2002; Jarvis, 2010; Hunt & Chalmers, 2012; Krause, 2012; Garnett, 2012; Biggs, 2014; Roberts, 2015; Volles, 2016; Babacan & Babacan, 2018; Wichramasinghe, 2018). All educational institutions of all levels are challenged to help learners develop and nurture an adaptive mindset toward continuous education (Smith & Meaney, 2016). The underlying principles of lifelong learning embraces the continuously evolving nature of the lifelong learning skills required for one to succeed in life, either in the formal and the non-formal settings (Clemens, 2015; Smith & Meaney, 2016).

The roles played by universities in PNG and elsewhere have been challenged in more ways than one (Clemens, 2015; Babacan & Babacan, 2018). All higher education institutions in PNG have been challenged by the GoPNG through the *Vision 2050* policy document to revise its overall systems, funding arrangements need to change to

accommodate the increase in access to university education, changes in teaching and learning methods (teaching approaches and assessment strategies) and in how to foster a climate of intellectual inquiry. Changes need to be made to the provision of student support services including changes in counselling and study skills. The structure and content of the curriculum need to be revised and realigned to accommodate the transfer of generic skills demanded by many employers.

6.9 Implications for Policy

As stated earlier in Chapter 1, the PNG government's approach to education policy reform is different to the more neoliberal inspired policies that guide policy elsewhere (O'Neill, 2011; Higham, 2014; Elwick, 2018; Gerrard, Savage & O'Connor, 2017; Walton, 2018). Elsewhere, for example in Australia, state funding to schools are withdrawn, non-government especially the private sector are encouraged to provide services; schools are pressured to generate their own local income, and governments encourage educational choice for parents and students (Walton, 2018).

Although the GoPNG's policy documents (*Vision 2050*, *NEP 2015-2019* and the *NHTEP 2015-2024*), do not explicitly articulate the concept of lifelong learning, the following strategies have implications for lifelong learning in terms of theory and practice. Driven by rapid social, political, economic, technological and information changes related to humanistic ideals and aspirations; the significance of lifelong learning as a policy goal becomes inevitable (Volles, 2016; Smith & Meaney, 2016; Babacan & Babacan, 2018). Therefore, the development of social inclusiveness, active citizenship, personal development and the encouragement of economic competitiveness and employability that are underpinned in the principles of lifelong learning are encouraged and embraced in educational policy decision-making processes. These policy changes need to be conducted in the context of PNG's history as a developing country with currently rated as showing poor educational outcomes (Walton, 2018).

How can the GoPNG through the NDOE and DHERST including the PNG universities unpack the key principles of lifelong learning and develop strategies towards adopt lifelong learning in its policies? Smidt and Surcock (2011) proposed three developmental stages that one could take to adopt a lifelong learning strategy:

1. Adaptation stage: The commencement of an ad hoc strategy that is not integrated in any way with other strategies;
2. Organised stage: universities or systems to create specific strategies for lifelong learning that is incorporated into other strategies; and
3. Cultural stage: universities or systems to adopt a major cultural change and consider themselves lifelong learning universities or systems.

(Smidt and Surcock, 2011 cited in Babacan & Babacan, 2018, p. 126)

Such unpacking strategies require the active participation and engagement of all stakeholders in the decision-making processes including the policy formulation and implementation stages of the process.

6.10 Identified Problems, Suggested Actions and Foreseeable Benefits

A number of problems have been identified in this study, the resolution of which will be central to the successful implementation of lifelong learning in PNG. The data identifies the need to explicitly place emphasis on the significance of lifelong learning as an ideology in GoPNG policy documents for both NDOE and DHERST education plans. In this way, appropriate and relevant curriculum and teaching and learning strategies based on the 'graduate profiles' could be developed. This, in turn, could enhance the quality of graduates as well as the programs offered in the educational institutions in PNG.

The data also identifies the need for lecturers to undertake qualifications and staff development programs such as the Graduate Certificate in Tertiary Education (a teacher training program that will be offered by UPNG). For example such programs could assist to prepare lecturers for their teaching roles in the higher education institutions. Such programs could place emphasis on developing appropriate teaching and learning strategies required for the effective implementation of lifelong learning in the PNG context. This would include the promotion of learning-to-learn skills (both cognitive and metacognitive skills) and self-directed learning in the attitudes, beliefs and behaviour of lecturers and students alike.

The implications for practice are that action needs to be taken in order to attempt to overcome the problems. Table 6.1 on page 265 summarises some possible actions and resultant benefits

Identified Problems	Suggested Actions	Foreseeable Benefits
<p>Lack of significant emphasis placed on the ideology of lifelong learning in GoPNG education policy documents and the lack of unpacking of this and strategies to achieve lifelong learning in the PNG educational context.</p>	<p>NDOE, DHERST and the educational institutions both lower and higher to re-examine their policy documents to incorporate and highlight the significance of lifelong learning as a learning strategy and embedded in all its related curriculum and assessment policies as well as strategic plans are closely aligned with the graduate qualities expected to be attained and demonstrated by graduates.</p> <p>Universities to support curriculum, and teaching and learning changes by providing time and resources for learning about teaching and by valuing teaching through formal rewards and recognition</p> <p>Policy changes towards lifelong learning will enhance academics' and students' perceptions, knowledge and beliefs, attitudes and behaviour towards educational change</p>	<p>Aligning the education system with the current changing societal needs to promote lifelong learning.</p> <p>Aligning universities' expectations about teaching to be aligned with the current changing societal needs addressing a particular discipline, students and specified learning purposes or outcomes so that lifelong learning is actualized.</p> <p>To enhance quality assurance of academic programs and courses closely aligned to expect universities' graduate attributes so that all learners need to embrace the continuously evolving nature of knowledge, skills and attitudes required to succeed in both formal and non-formal settings.</p> <p>To ensure that appropriate 'graduate attributes' are developed in each educational institutions to use as benchmarks to assess quality of graduates, curriculum, assessment practices, appropriate student support services are provided</p> <p>Increased employability of graduates with graduate qualities that are aligned with what employers want</p>
<p>Inadequate preparation and training of intending or practicing lecturers and the limited staff development opportunities on site or elsewhere in PNG</p>	<p>Teaching qualifications are offered as a preparation of lecturers with knowledge, skills, abilities, values and attitudes required to promote lifelong learning in Staff Development Training programs to enhance the performance of lecturers</p> <p>Discipline-based teaching to be focused on students' graduate attributes and students to demonstrate that they have acquired the university's specified graduate qualities.</p> <p>Improve student support services to enhance the design and delivery of academic programs and courses based on lifelong learning</p>	<p>Better understanding of the roles expected of lecturers to perform especially in relation to incorporating 'graduate attributes' in the design and delivery of appropriate and relevant curriculum, assessment practices and student support services</p> <p>Greater readiness to accept educational change as they come about through proactively participating in educational professional development activities to transform academics' understandings and approaches to teaching</p> <p>Increased productivity and effective working attitudes and relationships among lecturers, students and administrators</p> <p>Increased employability of graduates</p>

Table 6.1 Identified Problems, Suggested Actions and Foreseeable Benefits

6.11 Implications for Further Research

In gathering data for this study, it became evident that research into lifelong learning has been largely neglected in PNG. There is a need to conduct further research in regards to the other levels of the education system on this intriguing and important area. This could improve understanding of the demands of lifelong learning in the contemporary PNG education system with the impacts of globalisation that are prevalent in the global economic market as well.

Four universities out of the six universities in PNG were not studied in this case study. It is suggested that further case studies could be conducted in the other four universities especially located in the other three regions of the country, DWU and UniTech in the Momase region, UOG in the Highlands region and UNRE in the New Guinea Islands region. It would be valuable to find out whether similar results would be replicated.

Smaller in-depth research studies could also be conducted in PNG on the different aspects of lifelong learning identified in this study. These smaller in-depth studies will aim to identify possible obstacles likely to hinder the application and implementation of lifelong learning in PNG educational institutions. Preventive measures and models of interventions or strategies could be identified from these smaller research studies to address the pitfalls so that the benefits of applying and implementing lifelong learning could become a reality in the PNG context in the years to come.

6.12 Conclusion

This study attempted to address the scarcity of research in PNG into attitudes, beliefs and behaviour of lifelong learning of university lecturers by investigating and analysing the *Vision 2050* policy and the university policies as to whether they inform lifelong learning. As well, to investigate and analyse lecturers' knowledge, attitudes, beliefs and behaviour to establish whether they foster a climate of lifelong learning, and lastly, to determine whether the PNG government needs adopt the ideals of lifelong learning to formally possess a lifelong learning policy.

This study contributed to the theory of lifelong learning by articulating a policy standpoint around lifelong learning in the context of PNG. The current literature on lifelong learning (Clemens, 2015; Volles, 2016; Smith & Meaney, 2016; Babacan & Babacan, 2018) articulates the significance of lifelong learning due to rapid changes introduced by the impact of globalisation (Jarvis, 1999). Currently, PNG does not formally have a lifelong learning policy, however, the two universities in which this study was conducted, had the concept of lifelong learning appearing in its university mission and advertising documents. The significance of this study added to the knowledge gap on the concept of lifelong learning and argued the relevance of lifelong learning as a potential policy goal in PNG.

Lifelong learning's importance in a knowledge economy has driven governments worldwide particularly in the EU countries, USA, Britain and Australia to challenge educational institutions in all levels of the education systems to those countries to shift teaching and learning orientations from teacher-centred, passive and content-based approaches to a more student-centred approaches with emphasis on the development of lifelong learning skills and capabilities (Clemens, 2015; Smith & Meaney, 2016). Lifelong learning skills such as problem-solving, communication, critical thinking, collaboration and information, self-management and technology literacy through teaching and learning and assessment practices (Candy et al., 1994; Heinrich et al., 2007; Harpe & Radloff, 2008; Babacan & Babacan, 2018). Higher education institutions are challenged to adapt to the rapidly changing world by helping learners to develop and nurture an adaptive mindset towards continuous education. With the impact of globalisation worldwide, there is an increased demand for more highly educated and learned workforce (Jarvis, 1999; Clemens, 2015; Volles, 2016; Smith & Meaney, 2016; Babacan & Babacan, 2018).

Lifelong learning is not a new concept in PNG; however, there are no clearly defined or pronounced government policies towards lifelong learning in the PNG education system. As stated earlier, PNG does not formally have a lifelong learning policy, despite that the universities in PNG have in their mission and advertising documents mention lifelong learning. All universities worldwide have multiple ways in which they can, if they choose, promote the goal of lifelong learning (Coolahan,

2002; Garnett, 2012; Butler, 2012; Krause, 2012; Angelo, 2012; Chalmers & Partridge, 2012; Volles, 2016). However policies need to be formulated to define and strategize the actualisation of the concept in order to realize its importance in the policy document. Despite that the current PNG education system allows vertical linkages, sideways linkages and forward linkages in its formal education pathway. It still requires effective policy directives and guidelines to increase access to these pathways and enhance the quality of education in PNG education system is maintained. Such a shift in this educative direction could promote lifelong learners, who could become self-directed learners with innovative minds to enhance economic growth, competitiveness and open up their opportunities for employability within the PNG or global employment market (Coolahan, 2002; Turner et al., 2008; Angelo, 2012; Brown & Race, 2012; Broughan & Hunt, 2012; Butler, 2012; Chalmers & Partridge, 2012; Hunt & Chalmers, 2012; Volles, 2016). As a result, such as shift in this direction could also promote social inclusiveness and the graduates of the education system could become more active and productive citizens (Avoseh, 2001; Clemens, 2015; Babacan & Babacan, 2018).

The driving force of lifelong learning is driven by the rapid social, political, economic, and technological and information changes based on humanistic ideals and aspirations. The PNG *Vision 2050* alludes to these humanistic ideals and aspirations as well. Therefore, this study argued the significance of lifelong learning as a policy goal if the GoPNG wants Papua New Guineans to transform their mindsets by encouraging all educational institutions in all levels to adopt the lifelong learning practices and provide all learners in PNG with the requisite skills necessary for a knowledge economy (Luzekyj, 2006; Volles, 2016; Smith & Meaney, 2016; Babacan & Babacan, 2018).

How can the GoPNG through the NDOE and DHERST including the PNG universities unpack the key principles of lifelong learning and develop strategies towards adopt lifelong learning in its policies? Smidt and Surcock (2011) proposed three developmental stages that one could take to adopt a lifelong learning strategy. Such unpacking strategies require the active participation and engagement of all stakeholders in the decision-making processes including the policy formulation and implementation stages of the process.

I am of the firm view that as a way forward into the contemporary PNG, education policy changes need to be made in the PNG education system to encourage the use of lifelong learning as an ideology and as a policy goal in education to change mindsets of people to meet the technological, informational, social, political and economic challenges that it is facing due to globalization. To foster lifelong learning skills in the minds of students at the universities in PNG, the researcher is of a firm view that lecturers' attitudes, beliefs and behaviour towards lifelong learning is paramount to actualizing lifelong learning in PNG universities and the formal, informal and non-formal education settings in PNG in general.

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APPENDICES

**APPENDIX A:
LETTERS**

ETHICAL CLEARANCE APPROVAL

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APPENDIX B: INFORMATION SHEETS

APPENDIX B1: Information Sheet for Lecturers

PROJECT TITLE: Attitudes, beliefs and behaviour of lecturers – do they foster a climate of lifelong learning? A case of Papua New Guinea universities

You are invited to take part in a research project about lifelong learning aimed to investigate whether the knowledge, attitudes, beliefs and behaviour of lecturers do foster a climate of lifelong learning in this university. The study is being conducted by **Boe Lahui-Ako** and will contribute to the **degree project in Doctor of Philosophy in Education** at James Cook University.

If you agree to be involved in the study, you will be invited to be interviewed. The interview, with your consent, will be audio-taped, and should only take approximately 1 hour of your time. The interview will be conducted at a venue at the University of Papua New Guinea or the Pacific Adventist University, or a venue of your choice. There is also a questionnaire that you may complete, which asks you about your knowledge, attitudes, beliefs and behaviour towards lifelong learning practices. The questionnaire should take about 20-30 minutes to complete.

Taking part in this study is completely voluntary and you can stop taking part in the study at any time without explanation or prejudice.

If you know of others that might be interested in this study, can you please pass on this information sheet to them so they may contact me to volunteer for the study.)

Your responses and contact details will be strictly confidential. The data from the study will be used in research publications and reports **if required by the Government of Papua New Guinea and the two universities participation in this case study**. You will not be identified in any way in these publications.

If you have any questions about the study, please contact **me, Boe Lahui-Ako on mobile**
or Professor Neil Anderson at the James Cook University,
Cairns Institute on +61 742321189.

Principal Investigator:
Boe Lahui-Ako
School of Education (JCU)/School of Humanities & Social Sciences (UPNG)
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Phone: 0742322137 (Cairns Institute)
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Email: boe.lahuiako@my.jcu.edu.au;

Supervisor:
Name: Professor Neil Anderson
Cairns Institute
James Cook University
Phone: 0742321189
Mobile:
Email: neil.anderson@jcu.edu.au

If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)

APPENDIX B2: Information Sheet for Postgraduate Students

PROJECT TITLE: Attitudes, beliefs and behaviour of lecturers – do they foster a climate of lifelong learning? A case of Papua New Guinea universities

You are invited to take part in a research project about lifelong learning aimed to investigate whether the knowledge, attitudes, beliefs and behaviour of lecturers do foster a climate of lifelong learning in this university. The study is being conducted by **Boe Lahui-Ako** and will contribute to the **degree project in Doctor of Philosophy in Education** at James Cook University.

If you agree to be involved in the study, you will be invited to be interviewed. The interview, with your consent, will be audio-taped, and should only take approximately 1 hour of your time. The interview will be conducted at a venue at the University of Papua New Guinea or the Pacific Adventist University, or a venue of your choice. There is also a questionnaire that you may complete, which asks you about your knowledge, attitudes, beliefs and behaviour towards lifelong learning practices. The questionnaire should take about 20-30 minutes to complete.

Taking part in this study is completely voluntary and you can stop taking part in the study at any time without explanation or prejudice.

If you know of others that might be interested in this study, can you please pass on this information sheet to them so they may contact me to volunteer for the study.)

Your responses and contact details will be strictly confidential. The data from the study will be used in research publications and reports **if required by the Government of Papua New Guinea and the two universities participation in this case study**. You will not be identified in any way in these publications.

If you have any questions about the study, please contact **me, Boe Lahui-Ako** on **Cairns Institute on +61 742321189**, **or Professor Neil Anderson at the James Cook University,**

Principal Investigator:
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*If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
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APPENDIX C: CONSENT FORMS

APPENDIX C1: Informed Consent Form (Lecturers)

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APPENDIX C2: Informed Consent Form (Postgraduate Students)

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APPENDIX D: SURVEY QUESTIONNAIRES

Appendix D1: Survey Questionnaire for Lecturers

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QUESTIONNAIRE FOR LECTURERS

LIFELONG LEARNING QUESTIONNAIRE

The purpose of this survey questionnaire is to find out from you what do you know about lifelong learning and for you to judge yourself in relation to your own attitudes, beliefs and behavior towards lifelong learning.

I would very much appreciate your help by filling out this survey questionnaire. It will take you about 20-30 minutes to complete it. The survey questionnaire is anonymous. I will publish the results of the survey in a thesis, as a requirement towards the award of a PhD degree with the James Cook University, Australia.

SECTION 1

Could you please give me some of your background details to help me in analysing the results of the survey?

Please indicate your gender.

- Male
 Female

What is your official designation?

- Professor
 Associate Professor
 Senior Lecturer
 Lecturer
 Tutor

What is your age group?

- 20 – 30
 31 – 40
 41 - 50
 51 - 60
 61+

What is the primary discipline area you teach in?

- Law
 Natural and Physical Sciences
 Medicine & Health Sciences
 Business Administration
 Humanities and Social Sciences
 Others: please indicate: _____

What educational qualifications do you have?

- Diploma in _____
 First Degree in _____
 Honours Degree in _____
 Masters Degree in _____
 Masters with Honours Degree in _____
 PhD Degree in _____
 Others: please indicate: _____

How long have you been an academic staff at this University?

- Less than 4 years
- More than 5 years
- More than 10 years
- More than 15 years
- More than 20 years

What program(s) are you teaching in?

SECTION 2

In this section, I would like you to respond to 27 items to answer the questions: **What do you do to encourage lifelong learning in the students you teach and how do you go about doing that?**

Please indicate your response by putting a tick (☑) or a cross (☒) in one of the scales that reflects your experiences towards lifelong learning over the years of your teaching.

1. The course(s) I teach is/are structured in a way that I teach students to become lifelong learners

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

2. The course(s) I teach is/are structured in a way that the students move from being dependent learners to independent learners

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

3. The amount of content in the curriculum I teach my students is balanced theoretically and practically

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

4. I teach my students learning-to-learn skills throughout the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

5. I teach my students how to access information in the library

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

6. I make use of guest lecturers, real world experience through field trips, practicums, internships, cooperative education programs as part of the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

7. I always encourage collaborative learning in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

8. I always encourage work experience in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

9. I always encourage cooperative learning in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

10. I always encourage project work in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

11. I always encourage case studies in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

12. I always encourage problem-based learning in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

13. I always encourage reflective practice in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

14. I always use teaching approaches to develop my students' communication skills in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

15. I always use teaching approaches to develop my students' logical thinking in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

16. I always use teaching approaches to develop my students' lateral thinking in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

17. I always use teaching approaches to develop my students' flexible thinking in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

18. I always use teaching approaches to develop my students' creative thinking in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

19. I always use teaching approaches to develop my students' analytical thinking skills in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

20. I always use teaching approaches to develop my students' problem-solving thinking skills in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

21. I always use teaching approaches to develop my students' teamwork skills in the course(s) I teach

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

22. My teaching is regularly evaluated by my students

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

23. The type(s) of assessment (assignments, tests, exams) I set encourages students to develop their problem-solving abilities and analytical skills

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

24. I always engage my students to have an input into the assessment measures I set for them

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

25. I always give detail assessment feedback to my students

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

26. I always assess my students' transferable or generic skills

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

27. I always involve the university's support services in the design and delivery of my course (e.g. the academic staff development unit, library, student services)

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

THANK YOU FOR YOUR TIME AND EFFORT

QUESTIONNAIRE FOR POSTGRADUATE STUDENTS

LIFELONG LEARNING QUESTIONNAIRE



The purpose of this survey questionnaire is find out from you whether your lecturers in this university based on your experiences at this university to have either guided you through the teaching and learning activities, the curriculum that they have imparted you and the student support services that you have been provided with over the years to equip you with the generic ability to guide your own learning throughout your life and in a wide variety of situations that you will encounter after leaving university.

I would very much appreciate your help by filling out this survey questionnaire. It will take you about 10-15 minutes to complete it. The survey questionnaire is anonymous. I will publish the results of the survey in a research report, as a requirement towards the award of a PhD degree with the James Cook University, Australia.

SECTION 1

Could you please give me some of your background details to help me in analysing the results of the survey?

Please indicate your gender.

- Male
- Female

What is your age group?

- 20 – 30
- 31 – 40
- 41 - 50
- 51+

What is the primary discipline area you are studying in?

- Law
- Natural and Physical Sciences
- Medicine & Health Sciences
- Business Administration
- Humanities and Social Sciences

Others: please indicate: _____

What educational qualifications do you have?

- Diploma in _____ (University: _____)
- First Degree in _____ (University: _____)
- Honours Degree in _____ (University: _____)
- Masters Degree in _____ (University: _____)
- Others: please indicate: _____ (University: _____)

How long have you been a student with this University?

Less than 4 years

More than 5 years

What postgraduate program are you enrolled in now? _____

SECTION 2

In this section, I would like you to respond to 27 items to answer the question: **Based on your experiences as a student, do you think your lecturers encourage you to be a lifelong learner in the manner they teach the curriculum and organize learning?**

Please indicate your response by putting a tick (☑) or a cross (☒) in one of the scales that reflects your experiences towards learning over the years of your studies.

1. The courses that you took are structured in a way that you are taught to become a lifelong learner

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

2. The courses that you took are structured in a way that you move from being a dependent learner to an independent learner

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

3. The amount of content taught in the curriculum of a programme is balanced theoretically and practically

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

4. You are taught learning-to-learn skills throughout the courses that you have taken

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

5. You are taught how to access information in the library

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

6. The lecturers have used guest lecturers, real world experience through field trips, practicums, internships, cooperative education programs as part of the courses that they have taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

7. You are always encouraged to learn in a collaborative manner with other students in the courses that you have been taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

8. You are always encouraged to develop your skills by taking part in work experience as part of the courses that you have been taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

9. You are always encouraged to learn in a cooperative manner with other students in the courses that you have been taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

10. You are always encouraged to do project work in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

11. You are always encouraged to do case studies in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

12. You are always encouraged to do problem-based learning in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

13. You are always encouraged to reflect on practice in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

14. You are always taught to develop your communication skills in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

15. You are always taught to develop your logical thinking skills in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

16. You are always taught to develop your lateral thinking skills in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

17. You are always taught to develop your flexible thinking skills in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

18. You are always taught to develop your creative thinking skills in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

19. You are always taught to develop your analytical thinking skills in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

20. You are always taught to develop your problem solving skills in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

21. You are always taught to develop your teamwork skills in the courses that you were taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

22. Have you regularly evaluated your lecturers to assess the teaching and learning taking place in a year over the years that you have been here as a student

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

23. Are the types of assessment (assignments, tests, exams) the lecturers' set encourage you as a student to develop your problem-solving abilities and analytical skills

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

24. The lecturers always engaged you as a student to have an input into the assessment measures that they set for you

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

25. The lecturers always gave back detailed assessment feedback to you for all your assessable assignments that you submitted for them to assess

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

26. The lecturers always assessed your transferable or generic skills in the courses that you have been taught

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

27. Do you think the lecturers have always involved the university's support services (e.g. the academic staff development unit, library, student services) in the design and delivery of their courses

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Explain your answer:

THANK YOU FOR YOUR TIME AND EFFORT

APPENDIX E: SEMI-STRUCTURED INTERVIEW GUIDE FOR SELECTED LECTURERS ONLY



Interview Guidelines

Schedule of Questions to be used during the semi-structured interviews with lecturers: Lifelong learning

1. Can you outline your own understanding of lifelong learning?
2. Apart from knowledge and technical proficiency, what outcomes do you feel universities should be aiming for?
3. What are some of the ways in which universities can foster lifelong learning in their students?
4. What scope is there for staff to engage in lifelong learning?
5. Why do you think your course is such a good example of lifelong learning in practice? Can you give some examples?
6. What advice would you offer to colleagues wanting to give greater emphasis to lifelong learning in their curricula, or to introduce innovative practices? What are some of the pitfalls you would warn them about and what are some of the benefits to be gained?
7. What kind of learner are you hoping will graduate from your course? Can you describe your 'ideal' graduate?
8. What kind of qualities do you feel employers are looking for in new graduates?
9. To what extent do you involve the professions/employers/industry in developing your curriculum?
10. What do you do to promote continuing education to your students?
11. As far as you know, do the profession associations for which you are preparing graduates have any policies on lifelong learning? If so, do these influence accreditation practices?

Institutional commitment to lifelong learning

12. Do you think your university in general is committed to the idea of lifelong learning? Can you elaborate on this?
13. Have you been made aware of your university's attitude towards lifelong learning? (e.g., mission statement, public rhetoric, policies, academic staff development unit, etc.)
14. Can you give me any examples where the university has supported particular initiatives you have taken to introduce lifelong learning into your course?
15. Is there anything at your university that works against putting more emphasis on lifelong learning in the curriculum that you teach?
16. Would you like to change any aspect of the curriculum so that there is a greater emphasis on lifelong learning? If so, what would you like to change?
17. How would you go about doing this?
18. What are your views on a common foundation year program?

Conclusion

19. In your view, what measures does your university need to take to ensure lifelong learning is incorporated into university curriculum taught to university students?
20. What would a greater focus on lifelong learning mean for the higher education system generally?
21. What would it mean for your graduates in terms of their employment prospects and their careers?
22. Is there anything you would like to add?

APPENDIX F:

SAMPLE INTERVIEW TRANSCRIPTS

Semi-Structured Interview 7 Transcription

Interviewee: (UNIVERSITY IDENTIFIED) **SMI7**

Designation: (DESIGNATION IDENTIFIED)

Researcher: Right Good Afternoon ...

Participant: Good Afternoon.

Researcher: All right the first question I would like to ask you is that: can you outline your own understanding of lifelong learning?

Participant: Um ... my take on lifelong learning ... um ... I'm coming from a (BACKGROUND IDENTIFIED) so I will lean more towards ... um ... I didn't know much about lifelong learning as an undergraduate ... but ... ah ... but certainly as a postgraduate student, lifelong learning as a skill to learn was emphasized by my supervisors and mentors ... um ... and I eventually got to know that in medicine ... certainly I need lifelong learning skills, continue to learn and continue how to search for information, up skill myself even without a formal course or training I should be able to teach myself things from first principles but the challenge encountered then was if the skills were not taught as let's say in a structured way and this is how you do it and so it is like a nuts and bolts of things ... yes we were taught the usual way in how to learn but how to attain those skills were never taught to me as an undergrad and postgrad student and so I kind of by trial and error picked up bits and pieces from reading, from other postgraduate students, from international visitors and I was fortunate enough to spend sometime in (COUNTRY IDENTIFIED) ... ah ... which ... sorry enhanced my skills there while working under different supervisors ... um ... and after that when I came back I felt a bit more confident that I can work on my own and teach myself things and search for information and up skill without attending a formal structured course in anyway so that's my experience on it.

Researcher: OK so how did that experience have helped you to be a better teacher now?

Participant: Um ... I'm teaching undergraduate not postgraduate and certainly with a problem-based curriculum that we are using at (CAMPUS IDENTIFIED) ... um ... the curriculum was ... when it was first introduced was ... it was said that it was suppose to teach undergraduate students life learning skills and structured in a way ... certainly from my experience that was the goal I am approaching or the strategy I am approaching with my students. I do less talking ... um ... I do more emphasis on a way to look for information, how to look for that information ah and reference that information if they are talking to me. Ah ... that's the strategy I am approaching my undergraduate students and I am emphasizing that and that's the system that they have to develop now because when they are working they are going to use that guide themselves as they are working.

Researcher: All right so we've been talking about knowledge and technical proficiency so far ... (yes) ... in terms of lifelong learning, what outcomes do you feel universities should be aiming for in educating students?

Participant: Ah that's a tough one ... (laughs) ... ah ...

Researcher: Besides knowledge and technical proficiency, what do you think universities should be aiming for?

Participant: I think just life in general I suppose because I do not know, maybe I ... maybe like ... ah ... again I am thinking from my experience, medicine is technically more oriented, skills and expertise ... ah ... and other skills such as ... yumi tok lon short skills ah ... like communication, teamwork ah you know how to coach someone properly, how to mentor people you know undergraduate postgraduate properly in a way that is productive and in a way that you like them to turn out, those things maybe are neglected I think those things are lifelong

skills ... ah I picked up again from working in the private industry where those things are only emphasized and I have incorporated those things into my classes ... ah ...

Researcher: So what have you picked up from your private ... ah ... ah ... practice experience or private industry experience?

Participant: I think that communication is the key thing that I picked up ... communicate a clear ... delivering a clear message and if they are talking back at you ... if clients are talking back at you make sure that you are understanding what they are trying to tell you and both of you are on same wave length so to speak and ah ... sometimes it can be interpreted differently and I also learn communication is a cultural setting ah if I was talking to an expatriate from Australia I will communicate in a different way, use different words whereas communicate with a Papua New Guinean will be different or so talking with different people from different cultures have a different cultural context in communicating.

Researcher: Ok so far as a (PROFESSION IDENTIFIED) you have been using the knowledge and technical proficiency that you have acquired through the formal training, is there anything else that a doctor needs to really do in order to be a total package you know a very, very good doctor, is there anything else?

Participant: Ah ... that is again another tough one ... skills and knowledge yes offcourse to be technical good I think they have to be a people person. I think they are always with the people all the time so they have to be people person ... ah ... have the attitude that clients wants to see that they feel free to talk to them and that they can trust them ... ah ... with information that they can give particularly that can lead to legal implications and so I think that when they are talking ... and so I think it comes to skills and they need to develop that ... as for me that did not come naturally ... I had to learn it while working and talking to people out there and learn and read around and search for information myself to find out how to be good.

Researcher: So you are saying that attitudes and values are very important?

Participant: Definitely values because I will values right up there because I think that values dictating attitudes. if somebody's core values and systems ah tend to guide their attitude maybe how they talk, communicate and I think in general anything that they approach I think ... yeah.

Researcher: OK we are now moving to the next question, what are some of the ways in which universities can foster lifelong learning in their students?

Participant: You are asking me tough questions ... (laughs) ... can you rephrase or paraphrase that question?

Researcher: OK, is there any other ways that universities could ah ... ah ... use to foster lifelong learning in their students?

Participant: I think one is create an environment that is conducive for that skill to develop ... ah ... an environment I don't know whether the environment is the right environment but from my experience having students free to interact among themselves, among visitors from other universities, other cultures and countries ... ah among our own regions, within ourselves because we are so diverse we need to interact and talk freely ... ah without feeling that we are offending someone or that we would be offended and ... and let us clear that ecosystem where that would develop as an undergraduate ... I think that is the key ... that environment could be an activity or a gathering or a structured delivery in a classroom or whatever for that to happen.

Researcher: So do you think (UNIVERSITY IDENTIFIED) so far has done that to foster lifelong learning?

Participant: Um ...maybe I am just starting medicine so I don't know whether that is happening in other schools within the university but certainly I have not seen any notices out or any memos or things that states that this is the way out or the direction we are taking you know that the next vision is going to do but for us at the medical school it is emphasized that the

undergraduate school must be structured within the curriculum and not outside the curriculum you know...

Researcher: So through the curriculum itself like the (ACADEMIC PROGRAM IDENTIFIED) curriculum itself, what is that's doing wonders for students in adopting lifelong learning skills?

Participant: I think it is directing them to search for information on their own one and two is to create an interactive environment within the tutorial groups and the communication skills and those that are a bit shy are given a chance to talk so that they can gain confidence talking so I think that is happening in the tutorials the smaller tutorial groups.

Researcher: Do you follow up with any clinical supervision work that your students are doing at the hospital?

Participant: The only one that I follow up is what we call the clinical ... it is a (CLINIC IDENTIFIED) that I do every Thursday so I do that. I see them as second year students and then when they are fourth year that is the only clinical direction that I interact with.

Researcher: And how have you found your students?

Participant: I must say that I am a bit disappointed ... ah ...

Researcher: Can you explain that?

Participant: Um ... I think I ... when I see them as second years I expect them to ah research more ah go search for information more ah and be confident in talking to me and their senior students but for fourth year students I expect them that as they were second year students but for fourth year students ... the current batch of students and last year students I did not get that and so I ...

Researcher: Do you know what has happened or what has gone wrong?

Participant: I don't know ... I don't know. I can't put my finger at what is happening.

Researcher: OK so what scope is there for staff to engage in lifelong learning at the (SCHOOL IDENTIFIED) or the university as a whole?

Participant: What do you mean?

Researcher: What scope or ... is there anything for staff ... is there anything that staff engage in that helps them to engage in lifelong learning activities?

Participant: None I think ... in the (SCHOOL IDENTIFIED) none ... we just turn up for work, do what we ... delivery what we, prepare the lessons, delivery the lessons to students, do the clinics, help at the hospital but as ... but ah ... and again I am going to talk as a postgraduate student now the only ... we have this CME activities ... continuing medical education activities where we are assessed again on skills ah and knowledge base where we are expected to read and do a weekly seminar and so that is our main activity that our supervisors try to instil in us, how to learn as adults.

Researcher: What about the staff professional development, is there anything happening that you know off?

Participant: ... None ... Medical School for me none at all.

Researcher: What about the entire university as a whole in terms of staff training?

Participant: Um ... I haven't received any information and so no.

Researcher: What about the opportunities for further studies or you know for example you now doing your PhD? Is there any information coming out from the university on that?

Participant: One from the Erasmus, the European Union that ah ... staff exchange and staff development for undergraduate and postgraduate ... and that I sort of got the information and I think it is good ... I think that particular program ... I got some information last year.

Researcher: Is the University playing a role in that to help you achieve your dreams?

Participant: Um ... one thing that I would say is that if I ... um ... I did not get it as a University information dissemination, I got it through ... ah friends and websites and later I had to find out where to contact person at the university in which I eventually got into contact with and then they supplied the information.

Researcher: And so what you are saying is that the university is not coming clear on opportunities that are out there and disseminate information to staff and let them know that this are there so that we could plan our own development by looking at those opportunities. So do you think that is important?

Participant: Oh yeah certainly. And for me at the medical school we are finding it very difficult to retain ... retain good people, good qualified people ah and remuneration packages has been a sticky issue for long and this like opportunities for staff development are non financial incentives that could attract and keep good you know qualified ah staff at the university.

Researcher: OK. Why do you think that your course that is in pathology; am I right, (yes) is such a good example of lifelong learning in practice? Can you give some examples of what you do in (PROFESSION IDENTIFIED)

Participant: All right ... um ... maybe I just finished a tutorial so I give an example of what I just completed and I came down (laughs) ... OK now an example is a child ... a three month old child who goes to a clinic and has seen several other (PROFESSION IDENTIFIED) already with fever and they have not identified the cause so ... that's the problem presented to the students and now students have to start thinking how to find out that cause of that fever and ah there was a structured way of approaching a problem so they go through that and then they get stuck so my role to instil lifelong learning skill as a way of searching for information is I sort of ask them questions so they start thinking what's happening and if they ask a question and nobody knows the answer then so we need to find that out and so everybody writes it down as a learning issue and the process of reiterating it keeps on going until we exhaust every avenue and then we end the session and the next session they come and each one tells the group what they have found out and sort of we go on from there.

Researcher: From your observation of the training of doctors that you have trained so far, what is their work performance like when they are out especially in the acquisition of lifelong learning skills?

Participant: Um ... I have observed a few while working at a district hospital and I can gather information and from discussions with other peers and students or colleagues ah ... one good thing that came out was that they talk more, they are quite articulate when they are talking ah ... ah ... that sort of improve when I was a undergraduate student we couldn't talk in front of a group we were so shy and nervous and couldn't talk but this group of students who have come across as very good communicators in delivering whatever they can do. The ... the downside is that there is gaps in knowledge as they go but the hope ... we ... our ... we are hoping is that as they are working those gaps will be filled by the skill that we have instil hopefully to them ... that they will need to search for information to fill those gaps on their own. Those gaps are clearly demonstrated by ah ... lack of understanding of you know basic sciences, information gaps that they do not know, seen that doctors feel that these are the things that they should know while working but they are gaps by the time that they have graduated but as teachers we think that that's OK as long as they think that they know how to fill the gap while they are working through observation, through reading on their own, through attending to other seminars or

courses structured in a way that information sources are up skilled and fill the skills and knowledge gaps on their own.

Researcher: So have you introduced any innovative practices in teaching pathology at any time since you came back from (COUNTRY IDENTIFIED)?

Participant: Well I've done one thing which I think is working ... I have stopped giving out handout notes so I've created a website where I put all my seminar notes um ... and because students nowadays are so into android phones and have a good understanding of disease process ah has good understanding of interpreting clinical signs and symptoms and has good understanding of ah how to find out a cause of disease and has good understanding of basic ... how to treat it and if they get stuck ah they know how to refer or ask for help and they should be able to know where their limitations are and then they can ask for help and then who to ask for and where to get that help.

Researcher: So what kind of qualities do you feel employers for example the (DEPARTMENT IDENTIFIED) who employ most of your (PROFESSION IDENTIFIED) are looking for in new graduates? So what kind of qualities do you think they are looking for in graduates?

Participant: Two things came out clearly when we had a recent feedback on performance at the hospital the labs ... two things came out clearly one good work ethics and two good attitude. Good work ethics meaning students are turning up for work on time and finishing it off and leaving a note if they are going somewhere and leaving things ... not leaving things for somebody else to do before you leave, these kind of things and a sense of responsibility of what they are doing I think those are the kind of things that came out clear from the feedback session that we just had. Ah not so much of you know the technical expertise, the knowledge, but those were kind of secondary but the primary was more towards work ethics and good attitude and good sense of responsibility.

Researcher: All right ... so it is more or less like people whom ... who are responding positively to other people at the workplace?

Participant: Yeah something like that ... yeah. And teamwork, as a good team player certainly requires a team and so someone who is a team player and who is sensitive towards others and be able to manage other people too ... ah ... in that setting.

Researcher: So to what extent do you involve the ah the (PROFESSION IDENTIFIED) or the employer the (DEPARTMENT IDENTIFIED) ah or the industry in developing the pathology curriculum? To what extent do you involve them? Do you involve them at all?

Participant: Um ... since ... I hope they did ... for myself I haven't involved anyone here. I think the only engagement I have in developing my own teaching material and getting some feedback on whether what I am doing is correct or towards a benchmark that is correct to work towards is ah ... we have visitors from the (UNIVERSITY IDENTIFIED) who came last year and this year so that is the only thing that I was able to bounce back off things I am doing but with the (DEPARTMENT IDENTIFIED) ah ... not directly ... I probably think at the higher level they are doing it but certainly not, not at my level.

Researcher: What about the medical board?

Participant: (PROFESSIONAL BODY IDENTIFIED) ... definite ... again we ... as far as I know they are not involved in direct teaching ... I know that they are involve in setting standards and monitoring standards in terms of ah ... updating registration ... making sure that (PROFESSION IDENTIFIED) are not ... there are no rouge doctors out there practising in a illegal way but certainly we have not involved them in the undergraduate or postgraduate level ... may be how should I put it ... they have not come around and we have not approach them to engage them.

Researcher: What do you do to promote continuing education to your students after graduating from the university?

Participant: Ah ... I think I always tell my students to ask questions all the time and if they don't know anything they must ask and ah don't leave blank spots and that will only give them confidence to practice in their field and if they are not confident then they won't and I think based on my own experience having confidence comes with filling in gaps and having knowledge based and having technical expertise.

Researcher: So what is life after completing a first degree, is there a life for a pathology person?

Participant: Um ... are you asking me or asking a general question?

Researcher: Asking a general question, is there a life after completing a pathology degree to promote continuing education?

Participant: (laughs) ... I think there is ... there is scope for teaching and developing this profession in PNG is very, very small ah ... I think there is a huge potential for development in this area, setting standards, curriculum development and I think all those other things we've talked about has ... there is still scope for that, not really practising in a hospital but out of hospital in a manager/mentor kind of way.

Researcher: OK as far as you know, does the medical board ... oh yeah the medical board have any policies on lifelong learning?

Participant: No, I haven't ... I haven't seen any documents ... ah ... none.

Researcher: So how are your (PROFESSION IDENTIFIED) who graduate, accredited?

Participant: Ah ... only through the university ... through the (POSTGRAD PROGRAM IDENTIFIED), once they graduate as a continuing ... ah ... kind of quality assurance way that they are up to date with best practice and global trends but there is no system in place to check that after they graduate.

Researcher: So at the moment there is no such system?

Participant: None. Once they graduate, that's it ah ... there is no like a year or two after they graduate, there is a body that goes around and assess their competency, that they are, have maintained continuing learning and that they are at par with what's happening and they are not ... you know.

Researcher: Do you think that kind of body is important in Papua New Guinea?

Participant: Off-course, certainly, definitely

Researcher: Why do you say that?

Participant: Certainly because that is trend globally... that is trend globally.

Researcher: So what is happening globally?

Participant: Ah ... I take my example from Australia ... and I can also give you as ... ah ... they have a specialist college of (PROFESSION IDENTIFIED) and every year they are given ah ... topics or cases or issues relevant to their field of expertise so they are required to read up and then submit feedbacks or they are given cases to do as a quality control way by the ... the ... information or answers are already known by the experts from the body but they are send out to the practising (PROFESSION IDENTIFIED) and then they send in their feedback and they score them and give them credit points and they must reach a certain level of credit points at the end of the year to maintain their qualifications as pathologists otherwise they would be deregistered and asked to fill the credits that they require. It's global and its for Australia I am talking about ... it is required every year to maintain their registration otherwise they would be deregistered.

Researcher: So in Papua New Guinea I don't have it?

Participant: We don't. We don't. They are just left and that's it.

Researcher: OK ... and so we are moving into the institutional commitment to lifelong learning, do you think that (UNIVERSITY IDENTIFIED) in general is committed to the idea of lifelong learning?

Participant: I don't know.

Researcher: Why do you say that?

Participant: I think ... I haven't seen any ... any information or anything that's out there disseminate by university ah telling us this is happening and this is to instil lifelong learning skills in the students or staff so I think maybe it is on my part that I have not looked for it ... I'm not sure but certainly I don't know.

Researcher: So do you know the mission statement of the university?

Participant: No. (laughs) ...

Researcher: So you are telling me that you have not attended any induction training at all?

Participant: That was long time ago, I have forgotten ... I have forgotten (laughs) ... I think the only mission statement that I see is that the medical school one is written on the wall of the admin building so I kind of read it every morning. (laughs) ...

Researcher: What about the university administrators here do they publicly make comments on lifelong learning? Have you heard of any of them doing that?

Participant: I have read in the newspapers about it ... only through the media and you know published advertisements and things like that I read the direction and the vision of the institution where we should be going and what we should aim towards ... ah ... but ... um ... I think that is the only way in accessing information.

Researcher: Can you give me any examples where the university has supported any particular initiatives you have taken to promote lifelong learning in the courses that you teach at the (SCHOOL IDENTIFIED)?

Participant: I think IT support ... I think IT support is there so that is good because when I wanted to do this website thing ... um ... internet access and computer hardware were readily available so that was easy to attain and start straight away and if I had any problems I just ask the IT guys especially having the internet access, that's a big bonus.

Researcher: What about laboratories?

Participant: Um ... I have to admit ... none ... ah ... its ... I find it difficult to set up my own lab or at least develop the pathology lab infrastructure ah ... ah ... I don't get it ... ah ... easy in accessing finances to improve infrastructure ah and information on telling what finances are available to improve infrastructure and the process of acquiring those finances and improving ... if I want to improve ah ... infrastructure. For me it will be a lab.

Researcher: so how do you teach your lab ... lab sessions at the (SCHOOL IDENTIFIED)?

Participant: There are no lab sessions unfortunately ... or if there is anything the only lab sessions I teach is just demonstrating (DIVISION IDENTIFIED) specimens in mistuned pots that are stored at the labs since the 60's and 70's. I haven't acquired new laboratory materials ... ah ... to have lab sessions with students.

Researcher: Do you take students down to the hospital laboratories for any practical sessions?

Participant: Ah ... no. Not the medical students ... but the only session I have with them is through the clinics ... the Thursday clinics I have with them ... only the fourth year students but the second and third years not ...not at this stage.

Researcher: So it is very theoretical at the moment, not much practical sessions?

Participant: Correct.

Researcher: Is there anything at all that (UNIVERSITY IDENTIFIED) works against in putting emphasis on lifelong learning in the curriculum that you teach?

Participant: Sorry ask again.

Researcher: Is there anything at all that the university ah ... works against in putting more emphasis on lifelong learning in the curriculum that you teach? Is there anything at all? Does the university work against or stop you from doing anything?

Participant: No, I don't think there is anything stopping me. For me certainly ah ... accessing information but ah ... maybe they are not stopping but they are not also helping I think ...

Researcher: They are not helping, what do you mean?

Participant: Like for instance we just discussed the lab infrastructure, if I wanted to buy a new machine or put up a new thing, how do I go about improving that. I know that I want to buy it off and let's do it but accessing finance to improving the infrastructure, that information is not readily available.

Researcher: So would you change any aspects of the curriculum that you are teaching now in order to place greater emphasis on lifelong learning?

Participant: Um ... I wouldn't change ... I think that the only thing I would change the curriculum I would probably ... I would review ... what I call the learning issues that are in the curriculum ... learning issues revisit and review those and ah ... and two review the seminars ... seminar topics that are in line with the cases that are in the curriculum ... the reason being that disease patterns has changed and the global trends has changed and so this needs to change to reflect those changes. At the moment they are not ... to reflect the treatment protocols in PNG has changed and the policies for management has changed and all those changes have to be reflected in the seminars that I would like to give to them and in the learning issues that the students are taught ... so that has not been captured.

Researcher: So do you have any power to change that?

Participant: I do not have power to change those.

Researcher: Who has the power?

Participant: I don't know ... I don't know who has the power. Maybe there is a committee that sits on and checks it and gets approval before anything changes but certainly in my tutorial seminars I have incorporated those changes in my seminars and in my tutorial groups but ah ... as the document is kept in the curriculum office that hasn't changed ... we did a review last year but ah ... ah ... we were asked to see what needs changing and which needs to be changed and reviewed ah ... but I think others are doing that but I have not done that yet ah one mainly because I probably think that it is something that is bigger than me that someone more senior should do it and not me as a junior person who is still studying.

Researcher: OK so do you think there is anybody in your division that is in a position to do that?

Participant: No ... certainly not. They have all left so um ... the only senior person is our divisional chair otherwise the other three of us are all junior ... are considered junior.

Researcher: So do you think Papua New Guinea students are independent or dependent learners in general?

Participant: In general I think they are dependent learners ah ... a large majority ... I'll go back to primary and secondary schools ... I will see that from my own experience I've seen some different from students that are coming in from the public education through the normal primary and secondary high schools ah tend to be dependent learners and students coming through the IEA system of education currently in PNG and other private like the S curriculum they tend to be more independent learners so that I have seen a difference in those students that are coming through.

Researcher: So why do you think that those who are coming through the public system are so dependent? Is it cultural?

Participant: Um ... certainly ... culture has an influence ah ... I think it is culture. Number two ah ... the student teacher ration I think large number of students in a class or students unable to do everything that they would like to do so in a class compared to the other private run schools where the classes are smaller and they have teaching assistant maybe one or two teaching assistants who tend to focus on students and encourage students whereas in the public there is only one teacher with no teaching assistants, they are just on their own ah ... they just focus on what they need to delivery and forget the other part of teaching.

Researcher: How could we change that ... here at the (UNIVERSITY IDENTIFIED)?

Participant: Um ... I don't know ... um if I would change that ah ... I don't know whether it is possible to add an extra year to that degree program that we are delivering ... that is only four years so whether one year would make a difference to change that to have give the time to lecturers to teach those skills to students or ... um ... make the lifelong learning skills a compulsory course for all courses offered at the university so that students do take that course for them to continue to pass on to the next year um ... ah ... it is kind of a tough question maybe depending on budget and all these other issues.

Researcher: Ok so what is your view on a common foundation year programme, for example, the Science Foundation Year programme that we have here where you get your students from? What is your view on that?

Participant: I heard that it has changed ah ... um ... maybe I would be bias but I prefer the way I came through when I was a Science Foundation Year student ah because that gave us I will I say ah foundation to do any Science course whether it is into medicine or natural science or you could go to Unitech and do engineering or even leave the two universities and do other technical courses so it gave us a strong foundation so I feel strongly and even now I feel strongly ah from what I hear and from discussions it has changed some courses are left out and students at the end of first semester they tend to stream into ... into the preferred course, whatever course that they want to do and I think first year is too early for students to decide on what they want to do and I think second year streaming is better ... by that time they would have a good feel of what course and what they like and they don't like and when they are streaming early then they would end up ah doing something they would like then but down the line they don't really want to do that course or you have late bloomers who don't sort of don't get the required GPAs and like they are the first timers and because they are going into the university life and once they get to a lifestyle and ... in the second year they would pick up and they are better than those ones in the first years so you are missing out those late bloomers who have potentials to be ... you know ... I think this early streaming should be stopped or that's what I think. There should be one foundation for all with all the required basic courses and let them stream at the end of the year.

Researcher: So we are now moving into the final stage, you are going very well ..., so in your view, what measures does UPNG need to take ensure lifelong learning is incorporated into all university curriculum taught to all university students?

Participant: Ah ... I think to incorporate into all first year courses or if it is a four year course make it a spiral curriculum where they will revisit concepts ah until ... they start at simple concept and work towards a more complex concept by the time they graduate so that they learn from that throughout their undergraduate course and not just one off and then they forget about everything and forget what they have done.

Researcher: So what you are talking about is that they develop the cognitive thinking skills as students? Do you understand the Bloom's taxonomy?

Participant: No ... no.

Researcher: Like starting from knowledge understanding comprehension moving onto to comprehension?

Participant: Sorry I do not know about those ... (laughs) I am not a trained teacher so I do not know those things.

Researcher: But do you think university should be taking measures like that or not?

Participant: I certainly think so ... I think they should.

Researcher: So for example, you are not a trained teacher but you are coming here to teach university students should the university feel obliged to ...?

Participant: Certainly up skilling to some ... I have to admit that lately I have considered taking the education course because I know the technical expertise and I know the technical content and knowledge but delivery is something that I always struggle thinking what is the most effective way of delivering this and getting the outcome that I want.

Researcher: So in order to emphasis on lifelong learning, you need learning-to-learn skills, is that right?

Participant: Yes.

Researcher: Do you understand the phrase, learning-to-learn skills?

Participant: Like paraphrase that one?

Researcher: Do you understand the term, learning-to-learn skills, which means developing the cognitive skills of the student as well as the metacognitive skills of the student?

Participant: Cognitive, I understand but what is the metacognitive skills?

Researcher: Metacognitive skills are the passion for learning?

Participant: Oh ... yes definitely ... definitely.

Researcher: And if you are putting yourself as a student and going back again, would you think we should have placed more emphasis on the metacognitive skills?

Participant: I think we should ... for the Sciences I think we should. We have these very bright young people coming in and we are teaching them theoretical concepts in abstract and we should show the students more application in knowledge is actually seeing that hey this is good I want to do this and it's a self directed and they want to do it and learn not because we are forcing them to do it ah whether it could be an experiment or in a lab here or have a science

fair that or have competition going on that has the application of a theoretical concept or have an unsolved problem that is out in the global world and give it to students and say hey solve this and get a prize or some kind of incentives for students to think that I want to do this because it is exciting and it is fun ah not for them to pass a grade and get a degree but in order to acquire life skills by the time they finish they may get a degree but they could find that they could have done the experiment by themselves somewhere.

Researcher: So what would a greater focus on lifelong learning mean for higher education generally?

Participant: Ah that's another tough one.

Researcher: A greater focus on lifelong learning?

Participant: or from a perspective of higher education or?

Researcher: or university?

Participant: for university in general ... I think um ... I think from my own experience focusing on the staff ... maybe develop them to be able to teach students how to acquire lifelong learning skills or the concepts that you have described ... and number two certainly integrate it into our existing courses and ah make it in a interactive spiral visiting kind of way so that they do not forget by the time they graduate and it sort of instils and it becomes a kind of a natural thing for them to do when they can face the problems but they know about but they can know how to tackle it.

Researcher: So are you saying that we should be developing more thinking people?

Participant: Yeah ... I think so ... I think we should be developing more critical thinking and analytical people or graduates. Ah when we started off ... the university wanted to fill out employment gaps that's been taken care of, we should change that focus now and look at graduates on their own that should be critical thinkers with an analytical mind and solve problems because we have problems and we want people to solve those problems. Not to be another worker or employee out there in the industry and that is where creativity and transferability comes in ... creativity certainly for the Sciences or any other fields for that matter in order for one to be innovative. Innovative, critical and analytical thinkers.

Researcher: Do you think that the Vision 2050's policy on the transformation of mindsets do you think it is possible to achieve that in Papua New Guinea?

Participant: Mr. Lahui I must admit that I have not read the Vision 2050 so I don't know the content and how it captures ...

Researcher: Just look at the concept of transformation of mindsets, for example, Papua New Guineans are regarded as a dependent and so we are to develop a mindset of Papua New Guineans who are independent, do you think the Vision 2050's policy on that is attainable?

Participant: I think so ... I think if the policy is out there ... the institution to employ that policy ah they have to capture that policy ah and make it real at the ground level like in the classroom or in a lab or in a group discussion session or whatever the activities that we have just talked about ... been a critical, analytical thinkers and that should be captured in that policy and for (UNIVERSITY IDENTIFIED) to do so.

Researcher: Do you know if (UNIVERSITY IDENTIFIED) has aligned its policies towards those Vision 2050 policies as yet ... do you know?

Participant: I don't know ... Have we?

Researcher: Have you heard anything from your Executive Dean if the University is taking such steps?

Participant: None ... I can say for the record very clearly ... none.

Researcher: Is there anything you would like to add?

Participant: These days ... one thing I would like to see the university and the science develop in PNG is exactly the last thing we talked about have students that are creative, that are innovative, that are analytical, that are critical and not to be graduating or looking for a job ... sure job is important but they should also feel that on their own they could do something from whatever they have around them, from all the opportunities that are available to them in PNG and to create and especially for science been able to innovate or been able to patent products, to be able to solve problems through the skills they have acquired in undergraduate or postgraduate and transform that into a economic activity or whether it is for them or whether it is for a large commercial scale. I think that should be the focus rather than when the university first started that they wanted to produce public servants I think that should shift now ... and if we want to compete with the rest of the globe that is how we should be doing it and have those labs and identify those bright people early on as they are coming through and have a pathway system for them to .. to ah nurture their passion for whatever they want to do whether they want to run an experiment to create something or conduct an experiment to make something new ... that we should create an environment in the university and that the nature that they should grow. Ah once out there they will be there to fend for themselves but if we can nurture them here and also for the university to interact with the existing industries to support these kinds of students coming through and have a partnership arrangement. I think that can also have industries to develop their R&D developments in their present developments rather than them importing already manufactured products and we are just an end consumer but we should turn it the other way around where we are developing things here and exporting out.

Researcher: Finally what have you learnt in (PLACE OF STUDY STATED)?

Participant: One thing is that we have a long way to go, that's is for so ... ah ... ah ... I was talking to my supervisor and he was asking me what's PNG like ... now that was in 2005 and after discussion he said that (PLACE OF STUDY IDENTIFIED) was like that 50 years ago ... ah ... so he said that you still have a long way to go ... so that was the main thing that I picked up. Ah offcourse in other terms they are way ahead but ... that's one. Number two that I picked up from my supervisor there was ... um ... what are the two things in life he asked me and he told me that ... OK I tell you my philosophy that must be your philosophy also, one you must be happy ... you must be happy and two you must progress. And I think that I sort of captured those two things in my own way of doing things now ah especially when teaching students ... the progress component of it ... I think been happy comes into the core value and belief systems of life I think, a more philosophical kind of thing whereas in terms of intellectual development and all that things we must always progress and the other ... in line with progress that I picked up is they have a concept called 'kaisem' and that is applied in business and education and even in everything. That concept in general means that continuous search to perfect all process ... that you don't settle for what you are doing you must always find a way to make that process or product better, more efficient, more refined and you just keep on perfecting because you will always find better way of doing things compared to the other person more efficient so those are the things I always tried. Don't settle for things for the first time but you must always trying to make things better, if things are not working well OK go back and revisit it and refine it do it better always progress further.

Researcher: And so have you brought that back to your students as well too ... do you show it in your teaching and learning activities towards students?

Participant: I certainly do in my tutorials ... I certainly do ... I always emphasize to them that ah ... if you find a way is not working for you, look for a way, look for that information out there that might have already been done ah and then ... refine the process if you are finding the process to be too cumbersome or too resource consuming for you find a better way of doing it,

be it attending to a patient or could be anything at home or something like that and certainly for medicine that process applies to all aspects.

Researcher: Thank you ... for your time.

Participant: Thank you for asking to come and talk.

Researcher: Thanks a lot.

Semi-Structured Interview Transcription

Interviewee: (UNIVERSITY IDENTIFIED) **SMI6**

Designation: (DESIGNATION IDENTIFIED)

Researcher: Good afternoon ... the first question I would like to ask you is that can you outline your own understanding of lifelong learning?

Participant: Well I think as a person we should all be on a journey for learning. I think that is just been part of a person and I've been on that journey for my whole life. I think that everything that I read, everything that I learn is to actually to improve my whole behaviour in life and therefore I want to transfer those skills to my students because a degree is just a part of a process of learning. It doesn't matter what you do it helps us with every aspect of our lives.

Researcher: So when you are saying that a degree is part of a process of our overall learning, what do you mean, can you elaborate on that?

Participant: Well when I got my doctorate that didn't mean that my learning had finished. It just means that I have one stage. I use the information I learnt in my doctorate to actually improve other aspects of my life. So it doesn't matter whether you've got a degree or a diploma or what it is that should be just a jumping off point to learn more skills to keep going in your life so we can make a better contribution to the world of living.

Researcher: OK apart from knowledge and technical proficiency in which lifelong learning is looked at, what outcomes do you feel universities should be aiming for in promoting it?

Participant: Well as a university we actually we emphasize on the academic skills especially this university and so we have to give our students the skills, the knowledge skills to actually cope in the workplace whatever that workplace is. So now we don't teach people how to make furniture we are ... we are not TVET people we are academics so they know how to write, they know how to research, they know how to ask questions, they know how to actually find the information for the questions they ask. So as a university we have to give our kids, our students critically learning skills necessary to actually ask questions, find solutions to the questions.

Researcher: So do you think that will enhance their livelihood?

Participant: Absolutely if you can't, if you are not, if you do not have the skills to find information then you become stuck in the right. You have to know how to find information, where to find information and that is the role of the university to give people those skills to do that.

Researcher: OK besides those knowledge and technical proficiencies that you are now talking about, are there any other outcomes you feel that (participant interjects) ...

Participant: Well as a (UNIVERSITY IDENTIFIED) university it's more than just knowledge, it's attitudes, it's behaviour, it's the way you treat people, the way you consider the environment, all of those things are part of lifelong learning. I mean who don't throw rubbish on the ground because that has a detrimental effect so it's not just academics, it's the whole way that we treat other people, treat each other, treat the environment, treat other religious groups whatever it's the way of showing respect to everybody and everything.

Researcher: So you are saying that (UNIVERSITY IDENTIFIED) as an example should be encouraging that?

Participant: Absolutely if we are not, we are no different from any other university so as a (UNIVERSITY IDENTIFIED) university I sometimes feel as though we have a greater responsibility. It's not just knowledge yes we have to present knowledge but it is also to present the wider aspect of respect to other people.

Researcher: So you have mentioned something about (UNIVERSITY IDENTIFIED) as a (UNIVERSITY IDENTIFIED) university, can you tell me in what context you referring to (UNIVERSITY IDENTIFIED) as a (UNIVERSITY IDENTIFIED) university?

Participant: OK in our university we have a lot of married students and so one of the spouses will be a student, the other spouse will be at home looking after children. They also should have the opportunity to get some skills or some knowledge and as an educator in this university I try to do my best to make sure that the spouses who are not involved in the university will get some extra skills to help them when their spouses graduate. So I run literacy programmes, I organise sewing classes maybe cooking classes, maybe we have some child management programmes and discipline things like that. So I think as a Christian university it's more than just looking after our academic students, it's looking after the extra people they are on the campus as well.

Researcher: So how have you found the experiences of having interactions with the spouses of students who are actually studying?

Participant: Well I found because I do a lot of work with the (SCHOOL IDENTIFIED) students because I have been in the (SCHOOL IDENTIFIED). I find that the spouses increase their knowledge, their skill base, they have more self esteem, they have more ability to make a living, they have more ability to know how to go to a bank for example, and how to do that but also enables their husbands or their spouses who are a student as well so both sets a partnership they have some more skills because they help support each other. And this is what I've been doing the whole time that I have been at (UNIVERSITY IDENTIFIED) for 13 years. It's not just working with the academic students but working with the spouses who are not academic students, they are not enrolled but they should have the right to get skills.

Researcher: So in what ways ... what are some of the ways in which you think (UNIVERSITY IDENTIFIED) could foster lifelong learning in its students?

Participant: Well I think lifelong learning is more than academic ... it is more than academic. It's more than skills, it involves the whole aspect of a life and therefore at (UNIVERSITY IDENTIFIED) we should be giving them skills of language for example, how to write, how to research, how to have ... how to be have ... to be confident o talk to other people of different nationalities. That's important not to be scared for somebody who has a different skin colour or a different cultural group so we have to give them the language skills, we have to give them the academic skills, we got to give them the spiritual skills because a lot of these people become leaders in their community. They are expected to be able to preach, they will be expected to be able to teach, even if they are not trained teachers and so I think it's our responsibility of a university to provide skills or help them outside their narrow field of their profession.

Researcher: So what scope is there for staff to engage in lifelong learning in this university?

Participant: There are many ... there's lot of scope depends on how often they take it. I mean I have been running for the last couple of years um training programmes at least once a month sometimes more than that, once a fortnight and everybody is invited to them that's staff, and spouses and students. Not everybody takes that opportunity but that's OK, that form free choice. Um for example just at this moment we've got sewing classes that are held regularly. We have sewing classes that are held during the day for those people who are not working and we also have sewing classes both in the evenings for those who are engaged in work. And that's not an academic programme, that's a ladies, or spouses and there are men in the class

who can learn to sew and to run industries and so depends on the opportunity if people take those opportunities not everybody can.

Researcher: You have been the (DESIGNATION IDENTIFIED), why do you think the work that you are doing is a good example of lifelong learning in practice?

Participant: Well you know I've been in a lot of positions deans and whatever, but this ... this job particularly is giving the students and anybody else that comes to the (WORKPLACE IDENTIFIED) skills in writing, in research, in language skills particularly and in maybe even in some literacy based skills and so help ... these skills are not just for the classroom, just for their assignments they learn skills that are often much when they go out into the employment agency and out into the environment.

Researcher: How have you found the response from the people who are attending your courses here, have they found them helpful?

Participant: Well I suppose I am a long term resident here I've been in the (COUNTRY IDENTIFIED) for (NUMBER OF YEARS IDENTIFIED) I understand their backgrounds I am not classified as a threat even though I am white I am not a threat to these people and because I speak many of the local languages people feel as though they can actually use go back and fro using English and Tok Pisin so there is a sense that I am one of them and students feel very relax to come and talk to me. Very relax and if they are struggling with any of their academic subjects because I have taught so many academic subjects within the university I am aware of most of them I can give them realistic skills to help them with their assignment. The knowledge they learn they can they can also transfer to other subjects and to lifelong learning.

Researcher: So what advice would you give to colleagues wanting to give greater emphasis to lifelong learning in their curricula or to introduce innovative practices? What advice can you give them?

Participant: Well I think all my colleagues should be continually improving their own skills. I know that there was once somebody said that there were academic lecturers they get their piece of paper their doctoral their masters and they don't do any more research. Well that shouldn't be right. If you have advanced degrees it is your responsibility to keep learning and that learning then should be passed onto others. Not just your family, not just the wantoks but everybody.

Researcher: Is there any pitfalls that you could advise them about?

Participant: Yeah I think because I am an outsider looking in on outsider being part of this. What I do have notice is that a lot of people tend to help their own wantok system rather than helping everybody. We've got to get beyond that. And as a Christian university we have to see beyond our cultural ... our cultural responsibilities and help other people and I think that's been a real block people want to help their own people and not help everybody you should get way beyond that and as Christians we should do that.

Researcher: And so what's the benefit of that?

Participant: Well it means that we are not just having cultural royalties, we are not just um supporting one group, we are actually supporting the whole university and everybody in it and everybody should learn from our experience, everyone should learn from our journey and then we transfers those skills to others.

Researcher: Right, the next question is, what kind of learner, are you hoping will graduate from (UNIVERSITY IDENTIFIED)?

Participant: What kind of learner ... I think the skills we give our students are not just skills for the degree but skills they can use in a situation. So if they change jobs and research has shown that people sometimes change their jobs at least 5 times in their career, those skills can be transferred, transformed and tweet to the new employment situation.

Researcher: Can you describe your ideal graduate? What is your ideal graduate?

Participant: Um my ideal graduate should have the academic knowledge, the academic skills necessary for their profession but it's more than that. It is the awareness they are expected to make a positive difference in any community that they may go into, maybe spiritually, maybe in any form but in every environment we are in we should be making a difference. And if our graduates go out and they can only think of themselves then I will feel as if I have failed as a lecturer in this institution.

Researcher: When you are talking about someone making a positive difference, what do you really mean?

Participant: Well it's not ... it's not just academic differences, I mean I hope that my students because I am an (SUBJECT IDENTIFIED) teacher I hope my students are aware of the language differences in the community. They are not judgemental if someone actually speaks an incorrect form of the language but they would now diplomatically show them how to do it properly. They have the written skills so they can produce wonderful documents that are not full of spelling mistakes and grammatical errors so I think that's important but I think it is also important that they have ... they have a respect for people wherever they come from. They have spiritual skills so they can guide people. They have counselling skills because so many other students come from disadvantaged homes, how do we guide these people? So an ideal graduate is a very holistic person.

Researcher: The next question is what kind of qualities do you feel employers are looking for in new graduates? That can be new graduates whether they would be (UNIVERSITY IDENTIFIED) or?

Participant: Well I think they tend to look at their qualifications because that's what graduates do and they look at the qualifications and they make assumptions that those diplomas and those degrees they get are supported by strong academic standards. You know students what plagiarism; they know what's right and wrong. I'm hoping that when employers look at any graduates from this university they know that our students are properly educated and have this breadth of education.

Researcher: OK to what extent do you often involve the staff or the students whom you teach in the development of the curriculum that you offer them?

Participant: Well it depends on what I am teaching them but when I was (POSITION OCCUPIED IDENTIFIED) and the (POSITION IDENTIFIED) I would try to have open conversations with students and then with faculty staff, sometimes together and sometimes separately to see what they perceived as aspects of the curriculum that need changing. But also I would go to former students graduated and gone they can then reflect back on their studies here and involve ... well this is what we address, this is what we didn't address so when I was looking at curriculum change I hopefully have involved a lot of stakeholders, a lot of the employees in the development of change. I don't have to do that now because I totally in a different job but even in my learning centre I continually ask students and faculty what are the areas we need strengthening so that we can improve providing services they need.

Researcher: I understand that you have an appraisal system that you conduct on staff at the end of each semester, do you deal with the analysis or?

Participant: When I was the (POSITION IDENTIFIED) I certainly did. When I was the (POSITION IDENTIFIED) yes I will get the results back. In the first case when it came out I would actually analyse the results, create a summary and then go and talk to the lecturers and then say these are the areas that you are really good at and these are areas that we need to work together to change.

Researcher: Sorry can you please explain to me the process that is followed here in terms of the appraisal system?

Participant: During the last week of a semester there is a form that is given to all the students in each class and the students fill out that, those questionnaires open questions and closed questions and then somebody is then assign to analyse that data. As I said when I was (POSITION IDENTIFIED) I did that but now I get somebody else to do that and then a summary of that is given to the Dean who is suppose to go and talk to the faculty member and so how can we move forward with this process.

Researcher: How is that appraisal link with (WORKPLACE IDENTIFIED)?

Participant: I don't know. I have no idea we are a brand new (WORKPLACE IDENTIFIED) just started this is our second year even though I am teaching I am what I call a floater I am not attach to any school but if they need a teacher and if I have taught that subject before I can come and teach that subject. Now even though my students submit an appraisal for my teaching for the last couple of years now no one has come to talk to me. I don't know. What I recommend next year that I don't teach any subjects at all because the (WORKPLACE IDENTIFIED) has become so busy I don't have time to teach but um for me I don't have a lot of impact in the curriculum development I don't have much impact on what happens in the classes because I'm not involved in the teaching.

Researcher: So at the moment you have very little impact?

Participant: Very little impact. I do know what's going on because students come to me but that is in a confidential way so I say nothing to the staff member because students feel as though they can come and tell me saying this is what the teacher is saying but I don't understand much and with my breathe of teaching I can fill in these little gaps.

Researcher: Is there some way to fill in this little gap that you are saying or?

Participant: Well I am trying to work out a way to do that diplomatically but I am also trying to work out a way that students' confidences in me and you know they feel as though they can come to me and I am not going to talk out or. I haven't worked out quite how I am going to do that. Not yet um yeah I'm still trying to work out how I am going to improve the teaching and learning but students still feel comfortable to come and talk to me.

Researcher: What do you do to promote continuing education to graduates of this university?

Participant: Well the learning in the academic support centre that is our focus is that students bring their assignments to us saying how can we start so we give them the writing skills, research skills, the editing skills, time management skills. All those skills that are necessary to do an assignment and can also be applied to lifelong learning.

Researcher: So your work is heavily involved with the students at the moment?

Participant: That's what I do best. Yes that's what I do.

Researcher: And very little with staff?

Participant: No, no, no. Most of my work is with students but I do have faculty members who come and work with me but usually to do with research. So they come and say look I want to do a research proposal, how do I research this, can you edit this stuff for me so I edit that stuff. I work with faculty members to do their research proposals, editing their research proposals and then editing their results and their work that they are writing.

Researcher: OK we are moving into the next section, which is the institutional commitment to lifelong learning, do you think (UNIVERSITY IDENTIFIED) in general is committed to the idea of lifelong learning?

Participant: Oh yes I am sure it is but I don't think it has been articulated very well.

Researcher: Well can you elaborate on that?

Participant: Well I think ... most of us as faculty member will realize that the skills we teach in class are just beyond the classroom um what we do in our worships, what we do with our students, with our cell groups because you know that is to help the students become, give them skills, give them confidence, give them absurdity that they are valued. That actually helps them with their ... their academic journey in their lives.

Researcher: Have you been made aware of the university's attitude towards lifelong learning?

Participant: Not really. I don't think that it has been articulated very well I think it's implied but I don't think it is articulated well in the documents.

Researcher: So there is no policy as such in this university that clearly states that?

Participant: No, not clearly stated in the documents.

Researcher: What about the mission statement itself?

Participant: The mission statement is a good mission statement and I used to have one on my wall but it has been taken off. Um I think its ... I think its there but I don't think its ... and I think people are aware of the mission statement but I don't know whether it actually transforms the way that people actually behaves

Researcher: So it has not been articulated very well enough?

Participant: No I think it used to be. When it first came out we had it everywhere it was put on every notice boards the little posters were put up in our ... in our classrooms but I think as time went on that has ... it is not well articulated as it used to be in the past.

Researcher: And would you think it would be good if it would be a good idea to revisit that and to see that could be probably articulated as it was in the past?

Participant: Yes I think so but there are some other issues that we have to address first but I agree with you it should be part of our ... our probably what we call our mission statement.

Researcher: When you are saying that there should be some other issues to be addressed first, what are you referring to?

Participant: I think sometimes a lot of our faculty members ... are not very profession and I think maybe getting our faculty to be professional in their teaching is one of our highest priorities and then as we develop our faculty members then they can actually start to articulate a much stronger statement leading towards lifelong learning.

Researcher: OK can you please give me some examples where the university (UNIVERSITY IDENTIFIED) has supported some particular initiatives that you have taken to introduce lifelong learning in the programmes that you are offering in the centre?

Participant: Well this centre in itself we never had one before. This thing in itself is an initiative of the university to say that ... that we need to provide skills to help our students yes with their assignments, with their academic journey but the skills they learn here will help them with their future academic life journey, future life decision making. And so this centre in itself shows that the university is behind lifelong learning and when I came up with this suggestion two years ago there was no negative thought about it they all thought it was a great idea.

Researcher: What about the additional courses or programmes that you run with the spouses, how is the university like, is it supportive in those programmes?

Participant: Well yes and no ... it has been but last year we had another Dean who said no it should be organised through a formal school and so they said we are going to take it off you

and give it to the school and so nothing happened so this year the training programme for the spouses I went to the new Dean and said what are your programmes for this year, are you going to still work with spouses and I will get back to you, nothing has happened so I a bit disappointed that the spouses are not getting any extra training this year um some of them still come to me on a one to one basis and get some skills training but it is not a formalized programme.

Researcher: So is there anything in this university that works against putting more emphasis on lifelong learning in the curriculum that is offered?

Participant: I don't think that is conscious. I think some faculty members feel as though they are so busy just coping with their own teaching that they don't have the time or the energy or the focus to actually look at other programmes to support people on the campus. Some people do some people don't. Now I know that we all got different skills so I know that some people particularly spend a lot of time on the spiritual aspects and that's important, other people who are much broader in their perspective so I think some people do things but its more narrow than what I would actually think my journey is.

Researcher: OK can I just put you in a scenario ... if you were the Dean of Education what aspect of the education curriculum would you change taking into consideration the learning and academic support work you are doing that would enhance or embrace or put greater emphasis on lifelong learning?

Participant: That's a very difficult question ... first of all I would like our lecturers to be a little bit more professional in their academic duties because I think some of our lecturers lack the skills necessary to actually teach some of the classes they have. If they can't teach the classes that they already have, how can they develop more skills on lifelong learning? So that's one of the things that I would change. Our teachers need more professional training. I think that whatever we do, whatever we teach in our class, it doesn't matter what class it is, those skills should be transferable in lifelong learning and if it is in practicum subjects, if it is in curriculum subjects, if it is in theoretical subjects, there are always aspects that could be applied to lifelong learning. And I don't care if it's the school of education, school of science or whatever, every subject we do; there should be aspects of lifelong learning that should be transferred.

Researcher: So what is your view on a common foundation year programme, if there was a common foundation year programme in (UNIVERSITY IDENTIFIED)?

Participant: Well we used to have one and we still unofficially still have one. The first year we had a foundation year, we didn't call it that because if we called it that, the government won't have supported, won't have given some of our students financial support but it was a foundation year ... for the simple reason that our courses are four year courses, in other parts of the Pacific, it is a three year course and so if people in say Samoa or Tonga or Fiji went to Year 13 they could come into the second year of our course and do a three year degree. The problem is it was a good idea but it hasn't ... it hasn't worked ... because people didn't want it to work.

Researcher: I understand that Science now have a foundation year programme running?

Participant: Yeah that's ... that's a different course see this is the word foundation that could be different. That foundation year course is for people to go off to do medivac so it could be called a transitional course to get the skills so I won't call that a foundation year course that's what they call it but I wouldn't call it that. It is a course that allows people to go to the faculty of medicine, arts or science.

Researcher: We are now moving into the conclusion now. In your view, what measures does (UNIVERSITY IDENTIFIED) need to take to ensure lifelong learning is incorporated into the curriculum (UNIVERSITY IDENTIFIED) offers to (UNIVERSITY IDENTIFIED) students? What measures do you think with your many years of experience in this university (UNIVERSITY IDENTIFIED) needs to take to ensure lifelong learning is incorporated into the curriculum?

Participant: Well I think we need to first of all make sure that our students have all the necessary skills and I don't think we have. I think sometimes we get to the fourth year students who are about to graduate and they still can't write a coherent sentence. They still do not know how to do research. They still do not know how to do a project. They still don't know how to do some of what I would call the basic skills. So I think the first step is to make sure that as a university our graduates have the basic academic skills that leads to lifelong learning. I think they have not done that. Two I think we need to ensure that our curriculum incorporates a stronger service attitude that yes we have practicums, yes we do a short course on literacy but focusing on some kind of service to the community and actually put in some of those lifelong skills in some service attitude and some service place I think helps them realize the importance of that. I know that when we are running literacy courses for our (SCHOOLS MENTIONED), it wasn't them to learn literacy but teaching them to transfer those skills to a group of people who didn't have that literacy and they use those skills whenever they went out teaching and in (SCHOOL MENTIONED) and I wish we have a stronger focus on service because when they got service you actually use those skills in other places not just work.

Researcher: So what would a greater focus on lifelong learning mean for the higher education system generally?

Participant: (Silence) ... I don't know.

Researcher: What would a greater focus on lifelong learning mean for the higher education system generally?

Participant: I think we have to get away from the idea that if someone pays for their qualifications they want to medically get that qualification. That's a cult dropping so we have to break down some of those cultural norms and I know that some people in the past who have passed and gone away for further study they've got their degree in this country, they've gone overseas but they come back and they're skills-base hasn't improved. They've got this attitude that if I had paid the money I don't have to work. We've got to get away from that. We've got to also improve ... we got to change the attitude that near enough is good enough. No near enough is not good enough. We've actually got to learn the skills and learn the skills competently and I don't think that we are doing that very well. I think we need to have a stronger focus on servant leadership. I have been ... I've been working in schools and institutions where someone will get higher qualifications, they will come back with those higher qualifications and they would say ... hey well I've got this qualification so I don't have to work this hard ... I'm sorry you've got extra qualifications therefore you must show more responsibility because your responsibility is to train the next generation. So I know that I should not be saying this but some of our cultural norms have to change if we want to promote lifelong learning, and that is a lesson that some of us don't want to learn.

Researcher: Do you think we are developing more dependent or independent learners?

Participant: Well I don't see a lot of independent learning. I feel as though sometimes we are going backwards that people are relying on ... ah that may not be the right way to say it ... maybe they are not taking their opportunities for granted and not actually fulfilling the potentials of those opportunities that are given to them.

Researcher: I understand that for example I have been working with the postgrad students now and sometimes they feel that they need the approval of somebody to get their work checked all their work all the time. What do you think about that even some postgrad students at this university are showing?

Participant: Well you have come to me at a very bad moment. I have been spending most of my time on editing a postgraduate thesis and I am embarrassed. If this is what a postgraduate student is producing, there is something very wrong because first of all he obviously has not been given the proper supervision needed to produce the paper. I think that I had to edit every sentence and now every reference is wrong. Where is our lifelong learning? They obviously did not get it in their undergraduate degree work because they haven't learnt the skills that are necessary. We should also somehow be cultivating the skill where they have the confidence

to move forward without keep getting this little sense of reinforcement all the time and somehow we have failed that and I don't know how to overcome that when so many of our students are not performing and postgraduate students are not performing as well as they should be even though they have been given a lot of opportunities and I don't know what the problem is.

Researcher: So what does that mean when you ... you ... in terms of their employment prospects and their careers?

Participant: Oh they will be educated and so everybody will get a good job. So the outsiders still think we are producing wonderful graduates but I am embarrassed with what some of our graduates are. I used to work in another teachers' college and people used to say that ... ah wow your graduates are wonderful and I would be saying ... thank you very much but behind the scenes I would say ... boy I'm not very happy with the graduates. So obviously my expectations are higher than maybe the people's expectations. I am very tough on myself. I want to be the best I can in whatever I do and I kind of hope that my students would be the best they can do not relying on others.

Researcher: And finally, is there anything you would like to add?

Participant: I love working in the (PLACE OF WORK IDENTIFIED) because I feel as though I am giving students the skills and the knowledge they need not just to improve each subject they're doing but given the skills they will be better people in the future. Whichever profession they go into hopefully I'm giving them skills that will improve their ability, their work ethic, everything so I am very privileged.

Researcher: Just one more question before I forget. You know the Vision 2050 is talking about the idea of transformation of mindsets. What is your view on that?

Participant: We have not been very good at changing mindsets you know. I've been in (PLACE IDENTIFIED) for (YEARS IDENTIFIED) and I was born here. The mindset is that if we have done something in the past we must keep doing that. There is no sense of wanting to change and improve that mindset and that's got to do with culture as well. People are saying ... look we've got to change some of our cultural expectations but to change culture we can't change. We have to keep as it was in the past. The only way to change our worldview is to change some of our cultural norms and everybody is prepared to change and people don't want to change.

Researcher: And so do you think the Vision 2050 outcome aiming for transformation of mindsets will ever be achieved?

Participant: Look I hope it is and I want to be optimistic but I can't see it changing. I can't ... I think it is ... the Vision 2050 statement is a wonderful statement of intent and whoever wrote it up should be congratulated on writing that statement but I can't see it happening because there is too many other issues that is stopping it from happening. There is too much corruption from all the way down. There's too much sense of we don't want to change, we've always done it that way and we can't change it and I after spending many years here I know how to make change and so I don't know how to change that.

Researcher: And so is there any way to overcome that?

Participant: I don't know ... I have (PLACE IDENTIFIED) children that I have adopted and hopefully I'm changing them but that's one on one. How it happens in the classroom, well I hope I can inspire my students and I know that I have but does it actually make a real difference to society I don't know and I feel a little bit discouraged because even though with all my effort in this country I am wondering if I had made that difference. I don't know.

Researcher: I don't want to leave the interview in that note, is there anyway, let's be more optimistic, do you think there is a chance of people transform in their mindsets?

Participant: Yeah there is an opportunity but we all got to be on that journey. Everybody, every academic has to be on that journey. Everybody has to take it on board and say what can we do better, not what can we do in the past but everyone's got to say how can we do this better and I can inspire the people I work with but we have to inspire everybody that is how can we do things better.

Researcher: Thank you for your time.