ResearchOnline@JCU

This file is part of the following reference:

Aiwa, James Drehore (2013) *The education of children and young people with vision impairment in Papua New Guinea.* **Professional Doctorate (Research) thesis, James Cook University.**

Access to this file is available from:

http://researchonline.jcu.edu.au/31798/

JAMES COOK UNIVERSITY
AUSTRALIA

The Education of Children and Young People with Vision Impairment

in Papua New Guinea

Thesis submitted by James Drekore Aiwa in February 2013

for the degree of Doctor of Education in the School of Education

James Cook University

Statement of access

I, the undersigned, author of this work, understand that James Cook University will make this thesis available for use within the University Library and, via the Australian Digital Theses network, for use elsewhere.

I understand that, as an unpublished work, a thesis has significant protection under the Copyright Act and;

I do not wish to place any further restriction on access to this work.

_____   _____

James Drekore Aiwa   Date

Statement of sources

I declare that this portfolio thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education.

Information derived from the published or unpublished work of others has been acknowledged in the text and a list of reference is given.

_____   _____

James Drekore Aiwa   Date

Statement on the contribution of others

Nature of Assistance	Contribution	Names, Titles and Affiliations of Co-Contributors
Intellectual support	Editorial assistance	• Associate Professor Paul Pagliano – Principal Supervisor • Professor Angela Hill – Co Supervisor • Dr. Sue Kuhl – JCU School of Education • Ms. Kellie Johns – JCU Centre for Learning • Dr. Fiona Navin – JCU Centre for Learning
Financial support	Field research	• AusAID • PNG National Training Council • James Cook University
	Stipend	• AusAID • University of Goroka
	Write-up Grant	• James Cook University
Data Collection	Research assistance	• Teachers from Special Education Resource Centres in PNG • Students with vision impairment
	Interview transcription	• Suzanne Aiwa – University of Papua New Guinea
	Field trip drivers	• Arnold Koima – PNG National Department of Education • Paul Valuka – Callan Rabaul Special Education Resource Centre • John Hagoia – University of Goroka
Conferences/Publications	Airfares Accommodation Conference registration	• James Cook University

_____   _____

James Drekore Aiwa   Date

Declaration on ethics

The research presented and reported in this thesis was conducted within the guidelines for research ethics outlined in the *National Statement on Ethical Conduct in Human Research* (2007), The *Joint NHMRC/AVCC Statement and Guidelines Practice* (1997), the *James Cook University Policy on Experimentation Ethics. Standard Practices and Guidelines* (2001), and the *James Cook University Statement and Guidelines on Research Practice* (2001).

The proposed research methodology received clearance from the James Cook University Experimentation Ethics Review Committee (approval number H 3846).

_____ _____

James Drekore Aiwa Date

Acknowledgements

I sincerely express my thanks to: The University of Goroka (UoG) for financial support and giving me the opportunity to pursue this doctoral study; The Australian Aid International Development (AusAID) for awarding me this prestigious Australian Development Assistance (ADS) scholarship that covered tuition fees, health cover, living expenses for me and my family and travel for data collection. I would like to make special mention of Alex Salvador AusAID Liaison Officer for continuous support throughout my four years at James Cook University (JCU). Thanks also to the National Training Council (NTC) of PNG and James Cook University (JCU) through the Graduate Research Scheme (GRS) for financial assistance for research trips back to PNG and to attend international conferences to present my research findings. The above assistance greatly contributed to the success of my doctoral journey.

I acknowledge with gratitude my Principal Supervisor Associate Professor Paul Pagliano of School of Education. I am indebted to him for his inspiring encouragement and expert scholarly advice as well as showing keen interest towards my study. Words cannot be expressed enough to thank him as he was always there to meet me during my appointed times despite his very busy schedule. My sincere appreciation also goes to my co supervisor Professor Angela Hill for her time reading thoroughly through my many messy drafts with constructive criticisms with positive encouragement and feedback. I would not have completed this journey without their invaluable support. *Tenk yu tru lo Paul na Angela.*

With the School of Education, I thank the Head of School Professor Linsay Parry, my gratitude to Dr. Josephine Balati for assisting and guiding me with *ED5290 – Introduction to Educational Research.* I also wish to extend my thanks to Shane Mackay for ensuring that my laptop

and desk top computes were always working and Dr. Sue Kuhl for her time to edit and proof read many untidy drafts.

I also wish to thank Lyn Russell for assisting me in filling out the many forms regarding GRS funding matters and keeping me on my toes with regards to the confirmation seminar, pre-completion seminar and theses submission dates.

This study would not have been possible without the goodwill of the participants. I would like to acknowledge the support I received from the PNG National Department of Education in allowing me to visit the Special Education Resource Centres (SERC) to conduct my interviews. I also wish to thank the teachers in the SERCs throughout PNG who took part in the survey for making such a valuable contribution towards the study. I extend a special thank you to the five former students with vision impairment (VI) who were willing to participate in the one-to-one interview. I was encouraged by their enthusiasm which inspired me to continue this journey.

In Port Moresby, I sincerely acknowledge the support from the Superintendent of Special Education, Ms. Jennifer Tamarua for providing me with up-to-date information on the development of special education in PNG. I also thank Inspector of Special Education, Mr. Arnold Koima for assisting me with data on students with VI and driving me around Port Moresby. In Goroka, thank you to Ms. Cecelia Bagore and Mr. Justin Wagame, the leaders of Mt. Sion SERC for providing such friendly hospitality. I also want to thank, Mr. John Hagoia (*Tari lidaman*) for all the updates with emails and allowing me to use his car to deliver the questionnaires. Over in Rabaul, I depended so much on Mr. Paul Valuka with his driving skills. Thank you for driving me safely to the village for the interview. In Madang, I sincerely appreciate Mase's assistance in organizing accommodation and

Abstract

This Doctor of Education dissertation consists of a portfolio of reports on four research projects organised around a research focus on the education of children and young people with vision impairment (VI) in Papua New Guinea (PNG), plus a linking paper.

The first study was an auto-ethnographic investigation into the researcher's educational journey from Indigenous Yuri child living in the highlands of PNG to Doctor of Education candidate at James Cook University in Australia. The researcher reflects on his lived personal experiences of being a teacher of children with VI and gaining a western education. Data relating to the researcher's personal stories, memory, self-observation, self-reflective information plus external information gained through interviews with the researcher's Mother and Yuri elders, were collected, interpreted and analysed using triangulation. The analysis helps the reader gain a deeper insight into Yuri cultural understanding and Yuri relationships between self and others of similarity, others of difference and others of opposition. This research not only demonstrates that it is possible for an individual from a 'so called' disadvantaged background to achieve within the western academy, it also details how such development takes place. The study therefore provides a valuable model to inform the design and provision of education services in PNG, particularly for children and young people with VI.

The second study involves a survey of the literature on the education of children with VI in PNG. To better understand the current state of education provision of children with VI, the country context is discussed, followed by a general overview of education in PNG. The education for children and young people with special educational needs was recognised in 1993 by the National Executive Council (NEC) and adopted as special education policy. Despite there being a well-established PNG National Department of Education (NDoE) policy to support the inclusion of children with VI the reality is only a small percentage of the projected eligible children actually receive specialist services. The WHO definition highlights the point that children with VI comprise two groups: those with low

vision (visual acuity <6/18) and those who are legally blind (visual acuity <3/60), whereas the educational definition focuses on the impact of vision impairment on learning and educational needs. Coupling the WHO definition with the educational definition enabled the researcher to make the conjecture that the small number of children who receive support services in PNG are Braille using and functionally blind. This means that large numbers of children with VI are not being identified, particularly those with low vision. Given the International Council for Education of People with Visual Impairment (ICEVI) has recently identified PNG as a focus country for their global campaign on education for all children with VI, this research is both timely and necessary to drive policy forward, to stimulate action and to monitor progress.

The purpose of the third study was to use a qualitative research methodology to investigate what gaining an education in PNG was like for five former students with vision impairment who received specialist educational services during their schooling. Participants came from each of the four geographical regions where Special Education Resource Centres (SERCs) are located (Mt. Sion SERC Goroka in the Highlands, Callan SERC Rabaul in Island, Callan SERC Wewak in Momase, and St John SERC in Southern). Participants were interviewed in their natural setting using semi-structured interviews and were conducted in a language suitable to each participant. Therefore, a mixture of English and *Tok Pisin* was used. In particular the study examined the former students' social and educational experiences, to find out about what kinds of accommodations and modifications were made for them and whether these were inclusive and offered an appropriate education. Results indicate that there was a difference in quality of service for the four students who were functionally blind compared to that provided for the one student with low vision. The four functionally blind students had to leave their families to attend school whereas the student with low vision continued to live in his local community. The students who were functionally blind were provided with alternative media such as Braille however no specialist provisions were made available for the student with low vision. All five students reported a lack of service provision that focused on

developing independence such as Orientation and Mobility and only one student who was functionally blind, the recipient of sponsorship by an Australian, felt he was able to reach his highest potential.

The fourth study used a quantitative research methodology. A survey questionnaire consisting of 16 questions plus a section for written comments was forwarded to 124 Special Education Resource Centre (SERC) teachers. There was a response rate of 83% (n=103). Respondents rated questions using a five point Likert scale from strongly disagree (1) to strongly agree (5). Results indicate the majority of the 366 students with vision impairment who received specialist services in 2009 are Braille using and legally blind, with students with low vision seriously neglected. Teachers in the survey identified problems as: negative attitudes of parents and regular teachers, an over focus on disability rather than student ability, the need for specialist pre-service and in-service training and a lack of resources to support student transition to secondary and tertiary education.

Table of Contents

Chapter 1. Research Proposal

Chapter 2. An auto-ethnographical account of my journey from Yuri villager in PNG to Doctoral candidate

Chapter 3. The education of students with vision impairment in Papua New Guinea:

Review of the literature

Chapter 4. The educational experiences of five former students with vision impairment

participating in education in Papua New Guinea: A qualitative study

Chapter 5. Equity and access for students with vision impairment: A quantitative study

Chapter 6. Linking paper: My research experiences of my Doctoral journey

List of Tables and Figures

Abbreviations

ACM - Advisory Committee Members

ADS - Australian Development Scholarship

ANC - African National Congress

AusAID - Australian Aid International Development

BAR- Bougainville Autonomous Region

BEAPA - Bureau of East Asian and Pacific Affairs

BJVI - British Journal of Visual Impairment

BoG - Board of Governors,

CB - Christian Brothers

CBM- Christofel-Blinden Mission

CBR - Community Based Rehabilitation

Cert - Certificate

CIA - Central Intelligence Agency

EFA - Education For All

ERT - Education Research and Teaching

4WD - Four Wheel Drive

GSI - Goroka Sport Institute

HTTC- Holy Trinity Teachers' College

HoA - House of Assembly

ICEVI- International Council for Educators of People with Visual Impairment

IEA- International Education Agency

IE - Inclusive Education

JCUHRC- James Cook University Human Research Committee

JCU - James Cook University

LV - Low Vision

NBPD - National Board for the Persons with Disabilities

NCD - National Capital District

NGO - Non-Government Organizations

NDoE - National Department of Education

NEC - National Executive Council

NTC - National Training Council

OM - Orientation and Mobility

PM- Prime Minister

PNG - Papua New Guinea

PREB - Prevention, Rehabilitation and Education for the Blind

PTC - Primary Teachers' College

SDA - Seventh Day Adventist

SCM - Supervisory Committee Members

SE - Special Education

SEO - Special Education Office

SEP- Special Education Policy

SERC- Special Education Resource Centres

SRC - Student Representative Council

TPNG - Territory of Papua and New Guinea

UBE - Universal Basic Education

UNESCO - United Nations Educational, Scientific and Cultural Organization

UNICEF - United Nation International Children Emergency Fund

UN - United Nation

UoG - University of Goroka

USA - United States of America

UK - United Kingdom

VI - Vision Impairment

Vis Cat - Visual Category

VNDoE - Vanuatu National Department of Education

WBU - World Blind Union

WHO -World Health Organization

<center>**Chapter 1**</center>

<center>**Research Proposal**</center>

At James Cook University a requirement of candidature is that a student presents a confirmation seminar six months of after his/her enrolment. I successfully passed my confirmation seminar on the 27th April 2010 and this is the confirmation seminar paper I presented. It presents a plan of my research studies.

1.1 Brief background of Papua New Guinea

Located in the eastern part of the island of New Guinea as well as encompassing an additional 600 other islands, the nation of Papua New Guinea (PNG) is one of the world's most diverse countries on the planet - geographically, biologically, linguistically and culturally. PNG occupies 462, 840 square kilometres of land and has a population of approximately 6.3 million people. Much of the country is wilderness, rugged and mountainous and subject to regular earthquakes, volcanic eruptions and tsunami (Bureau of East Asian Pacific Affairs [BEAPA], 2009). The large cities like Port Moresby have serious crime problems, corruption is rife and there is little infrastructure in place, which make travel and communication expensive and difficult (BEAPA, 2009). That said:

> PNG's biggest problem is neither its crime nor its corruption but a dysfunctional political system. The Australian-inherited Westminster system cannot cope with a bewildering political paradigm where MPs represent 820 languages and have no allegiance to the political party. The 109 members are essentially free agents who regularly cross the floor to vote with the opposition, resulting in 109 cross-purposes. As a consequence, until the most recent election in 2007, no prime minister in the 34 years of independence (since 1975) had served a full five year term without being brought down in a no-confidence vote – survival, not policy tends to be the focus of PNG politics. (p.12, McKinnon, Carillet & Starnes, 2008)

1.2 Introduction to the study

Prior to 1993 all education services for students with disabilities including those with vision impairment (VI) were provided by philanthropic organizations. A limited number of students with VI attended segregated non-government specialist facilities for their primary and secondary education. This meant they had to leave their community, their language and culture in order to receive an education, one that often resulted in ongoing displacement.

Since 1993 the number of students with VI attending elementary (grades 1 and 2) and primary school (grades 3 to 8) has increased (see Table 1.1, p. 9) but numbers are still much lower than they should be (see prevalence figures, p. 8). There are many reasons to account for this situation. These particularly relate to the contextual and logistical problems alluded to in the background. By far the biggest problem is getting the child with VI to attend school. Many parents with children with VI still keep their children at home, or if the children do go to school, their VI is not officially acknowledged nor is it formally catered for.

A further serious problem is getting those who do go to school to stay there. Even though PNG has about 4, 000 elementary schools (grades 1 and 2) and 3, 300 primary schools (grades 3 to 8) scattered across the country, there are only 170 lower secondary schools (grades 9 and 10) located in major centres and 45 upper secondary schools (grades 11 and 12) (Philemon, 2009). This means the only way a student with VI could attend secondary school is if the student's family lives near the school and if the family has the resources and will to make it happen. This however is unlikely given over one third of the population earn less than US$1.25 a day (Human Development Indices, 2006), live in isolated rural areas and the median age of the population is 19.7 years (Papua New Guinea National Statistics Office, 2000).

Another hindrance is the need for primary students to pass an entrance exam, one where few allowances are made for students with disabilities. Other obstacles to children with VI receiving an education relate to the attitudes of key stakeholders towards disability and the availability of resources be they: financial, human (in the form of specialist qualification and know how of the teaching staff), and materials (in the form of specialist equipment for example low vision aids and alternative media such as audio format and braille).

The focus of this research is to investigate circumstances that surround the education of children and young people with vision impairment in PNG. I hope that this information will be used to help inform the development of new approaches aimed at increasing the numbers of students with VI participating in education and finding ways to improve the quality of their education.

The study is part of a professional Doctorate of Education. The research, the first of its kind in PNG, will consist of a portfolio dissertation that in total does not exceed 50, 000 words. The portfolio dissertation will include a survey of the literature plus three discrete research activities each targeting the professional goal of how to improve educational services and opportunities for children with VI in PNG. Each research activity will use different methodology, data collection tools and forms of analysis. One study will be taken to journal publishing level, while a second will be published in an international peer-refereed journal. Finally a 3-5, 000 word overview will link the dissertation to the professional practice of the candidate, to various aspects and products of the research tasks and to the work of others in the field.

Study 1 will be an auto-ethnographical study, which tells the story of my own personal experience of gaining an education in PNG and describes my professional life working in special

education. This story will provide valuable insights into the logistical and socio-cultural problems associated with children accessing an education in PNG.

Study 2 will use a qualitative methodology and research methods to investigate the educational experiences of five past students with VI. Participants will be interviewed using semi-structured interviews and the data will be analysed using narrative approaches. This study will provide rich particular information regarding the inclusion of students with VI in education in PNG.

Study 3 will use a quantitative research methodology and research methods consisting of a survey questionnaire that will be sent to all teachers who work in Special Education Resource Centres (SERCs) in PNG. This study will be valuable because it will provide comprehensive, up-to-date data regarding educational services for students with disabilities and students with VI in particular.

1.3 Key terms

For this research six key terms need further explanation. These are: vision impairment, primary education, secondary education, Special Education Resource Centres, disability and special needs.

There are two different ways of defining VI, one based on standard visual acuity and one based on vision for learning. According to Keeffe, Konyama and Taylor (2002, p. 605):

The WHO has encouraged the use of standard visual acuity criteria to be used in surveys to estimate the prevalence and incidence of vision impairment. The level of categorisation as low vision is visual acuity <6/18 and blindness <3/60.

Alternatively Pagliano (2005, p. 322) argues from an educational perspective that vision impairment:

… exists on a continuum of severity from mild (common) to profound (rare). In education, definitions focus on how sense [and in particular vision] impairment affects student learning. The term "impairment" indicates that the student's difficulty with learning is sufficiently significant to require support additional to that usually provided by the class teacher.

The major categories of (vision) impairment are:

Low vision – some functional vision is available for learning

Educationally blind - a total lack of functional vision for learning.

Primary School: As documented in the National Plan for Education (NDoE, 2001) primary education in PNG refers to education, which begins at grade 3 and finishes at grade 8 and caters for the 9 to 14 year age group (see Figure 1). Lower primary comprises grades 3 to 5 and upper primary, grades 6 to 8. Prior to grade 3 children attend three years at elementary school (Elementary Prep, Elementary 1 and Elementary 2). Elementary schools and primary schools are found in most communities.

At 6 years of age all children begin their basic education in elementary schools in a language that they speak. For the next three years they develop the basis for sound literacy and numeracy skills, family community values including discipline; personal health care and respect for others. At 9 years of age children continue their basic education in a primary school. After six years of primary education that begins with a bilingual program, children have skills to understand basic social, scientific, technological, and personal concepts and values for learning after grade 8. (National Department of Education [NDoE], 2004, p.20)

Even though the NDoE use the word "all children" the reality is, according to "The State of Education in Papua New Guinea" (2003, p. 30) in 2001 approximately 90% of eligible students ("131, 877" out of a total of "146, 015") enrolled in grade 1 and about half of these continue their education to grade 6. At grade 8 a student is then able to continue into high school providing he or she passes a compulsory national examination in basic literacy, mathematics, science, social science and general subjects including commerce, health and community living. Students who pass may go to high school while those who do not, either enrol at vocational centres or return to village life.

Secondary School: The secondary education extends from grades 9 to 12, with lower grades from 9 to 10 and upper grades from 11 and 12 (National Education Plan [NEP], 2004). According to statistics given in "The State of Education in Papua New Guinea" (2003, p. 33) "23, 000" (just under 16%) make it to grade 10. A student in grade 10 is then able to continue into grade 11 after passing the national grade 10 examinations in four subjects: mathematics, science, social science and English. Grade 11 enrolment in 2001 was estimated to be "4, 888" (p. 34) which is less than 4% of eligible students.

Special Education Resource Centres: Prior to the implementation of the NDoE policy (1993) all SERCs in PNG were dependent on the whim of both government and non-government organisations for funding. This placed the services between a rock and a hard place. The NDoE did not accept responsibility for SERCs therefore teachers and other staff were not paid or even recognised by the department. Almost all centres experienced severe financial difficulties at one time or another and were even being faced with the possibility of closing. Also it was very difficult to extend services where existing services were underfunded. In regard to international non-government organisations funding agencies, funding is readily given for one–off capital development projects. However, overseas funding agencies generally do not want to be involved in supporting on going salary for positions within SERCs.

With the implementation of NDoE policy in 1993 SERCs continued to be owned and operated by different interest groups and organisations, but the government gradually increased its recognition and level of support. Most centres are now operated by Callan Services for Disabled Persons (CSFDP). This service is administrated by Christian Brothers Incorporated in association with the local PNG Diocese of the Catholic Church in each province. The centre's principal responsibility is to provide support to students with special needs both at centre-based programs and in mainstream inclusive schools. Other duties include training and in-service of mainstream teachers including working with parents of children with disabilities in their homes and villages. Staff members are also involved in rehabilitation programs for youth and adults with disabilities in their villages.

There are a number of professionals and para-professionals working in the SERCs. They hold different specialist qualifications such as teachers of students with sensory impairment, nurses with training in physiotherapy, speech therapy and rehabilitation officers. Although, many have various backgrounds and possess different qualifications, most are now salaried by the NDoE. Those who do not meet NDoE entry qualifications (Diploma in Teaching and or related qualifications acceptable to the Secretary of Education) are paid by the agency. The NDoE supports the SERCs through annual grants, leave fares for staff and staff development programs. The SERCs also receive annual grants from the National Board for Persons with Disabilities. To qualify for this grant centres must affiliate with the board and acquit for the grants received.

Figure 1. 1   PNG Government Funded Education Structure
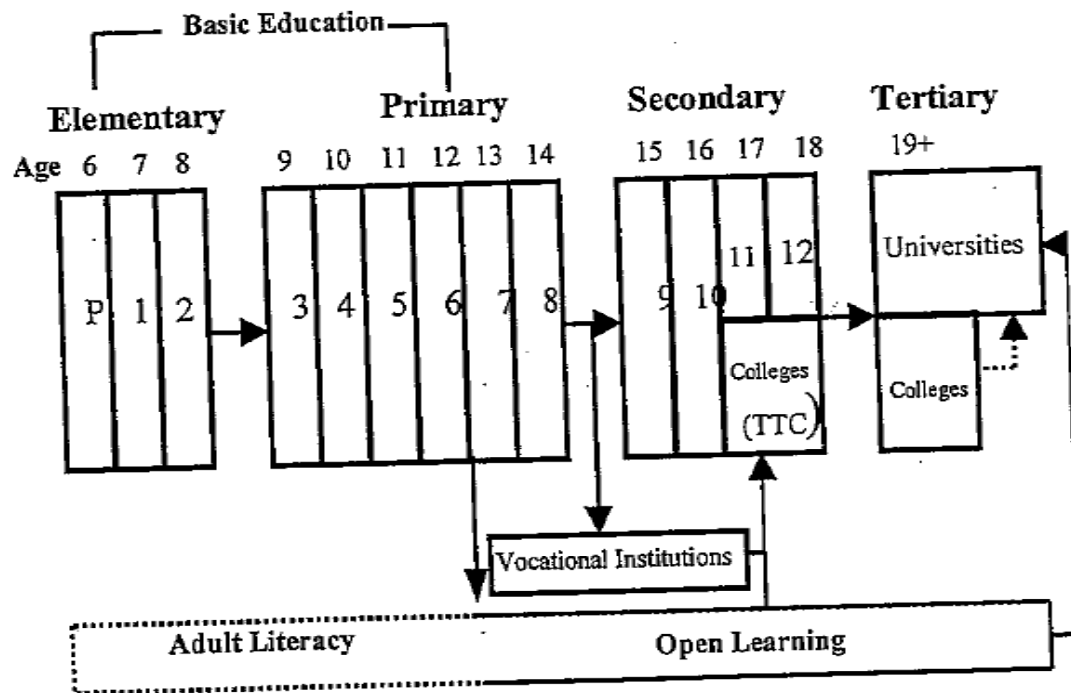
(From: NDoE, The state of education in PNG, 2001, p. 26)

Prevalence: Globally up to 30% of school-age children have some VI with the majority of these conditions being easily corrected with glasses. However given the lack of facilities available in PNG these children are rarely prescribed glasses. In PNG a very rough estimate is that about four children in every 1, 000 have a vision problem that even after correction necessitate special educational adaptations (Dethlefs, 1982; Etya'ale, Kocur, Pararajasegaram; Pascolini & Resnikoff 2004; Farmer, 2000; Keeffe, Konyama & Taylor, 2002). Furthermore one in 1, 000 children and young people are thought to be functionally blind, that is they have a total lack of vision for learning. Using NDoE (2003) figures this means about 584 children in each year level have low vision and approximately 146 are functionally blind. The total population of children and adolescents with VI from 0 -18 years of age is therefore estimated to be between 10 and 11 thousand. [Note: These were the prevalence figures I used in my confirmation seminar. They have subsequently been revised in light of the Keeffe (2012) estimates of blind 0.07% low vision 0.14 – 0.21%].

Gilbert (2003) argues that at least 50% of vision impairment amongst children and young adults in the poorest countries is avoidable if improvements can be made in basic nutrition, water quality and intervention facilities in health and education. Also the mortality rate for children with VI is higher than the general population. Gilbert (2003) therefore concludes: "the prevalence … markedly underestimates the burden" (p. 760). This indicates that the nature of the burden is covert and the ownership of the burden is left with the poorest members of the population.

Current NDoE statistics (see Table 1.1) report that 856 students with vision impairment are receiving services. Even if we use the Keeffe (2012) 0.7% prevalence figure this means that of the estimated 1.5 million school aged children and young people, more than 10 thousand may be missing out on specialist education support.

Table 1.1 Current Statistics: Students with VI attending schools in PNG in 2009

Program	Age	Male	Female	Total
Centre based	0 - 5	25	23	48
Elementary	6 - 8	23	33	56
Primary	9 -14	78	62	140
Secondary	15 -18	75	47	122
Post secondary	19+	282	208	490
Total		**483**	**373**	**856**

NDoE, Special Education Inspection Report (2009

1.4 Research portfolio

As previously stated the research portfolio will consist of four studies: a survey of the literature plus three discrete research projects: auto-ethnography, qualitative research project, and quantitative research project. The portfolio will also include a final linking paper.

Research aim

The overarching aim of the research portfolio is to investigate the circumstances that surround the education of children and young people with vision impairment in Papua New Guinea.

Research questions

The following research questions will be employed:

How can I better understand my own education journey from indigenous Yuri child in PNG through to Doctor of Education candidate?

What is the current situation regarding the education of children and young people with vision impairment in PNG?

What were the social and educational experiences of five former students with vision impairment in gaining an education in PNG?

1.5 Study 1: Auto-ethnography

Auto-ethnography is used in a variety of disciplines including anthropology, sociology, and education. Bochner and Ellis (2000, p. 739) describe auto-ethnography as:

… an autobiographical genre of writing and research that displays multiple layers of consciousness, connecting the personal to the cultural. Back and forth ethnographers gaze, first through an ethnographic wide-angle lens, focusing outward on social and cultural aspects of their personal experience; then they look inward exposing a vulnerable self that is moved by and may move through, refract, and resist cultural interpretations. As they zoom backward and forward, inward and outward, distinctions between the personal and cultural become blurred, sometimes beyond distinct recognition.

The purpose of this study is for me to use auto-ethnography to better understand my lived experience in gaining an education in PNG and to share this understanding with others. This story will give my life a structure by providing a narrative, which outlines my journey from a child of subsistence farmers in an isolated highland village in PNG, with its own language and culture and no history of any educational facilities, to Doctor of Education candidate at a university in Australia (see Table 1.2). The research project links in with the overarching aim because the story will provide valuable insights into the logistical and socio-cultural problems associated with children accessing an education in PNG.

Table 1.2 Auto-ethnography summary of plan

Research focus	Data collection	Data analysis
My own personal narrative where I connect the personal to the cultural	• Own personal experiences and reflection	• Privilege story over analysis
	• Self as object of the research	• Iterative process
		• Systematic sociological introspection
	• My Mother Monica	

| | • Elders from Minigauma | • Biographical method |
| | | • Personal experiences method |

My story

In the following paragraphs I provide a brief introduction to my life story so far. This preliminary information will be used to inform my auto-ethnographic study (see Chapter 2).

Background

I was born on the 2nd of December 1964 at Oldale village, which is located in the highland of PNG in Simbu province. I was the third in the family of 3 brothers and 4 sisters. My parents were subsistence farmers, mainly growing sweet potatoes (commonly known as kaukau) and raising domestic animals. My parents had no formal education as there had never been a school in the area. Unfortunately, my father passed away on the 5th December 1982 shortly after my 18th birthday. My mother is still living in Oldale village. She now has 7 children, 21 grandchildren and 20 great grandchildren.

My Culture

My cultural group is called Kumaikane. This group is made up of four sub-clans namely: Minigauma (the sub-clan which includes my village), Sinegrai, Balkopi and Korikepa. The population of my clan is approximately 1,000 + and we all speak the Yuri dialect. Yuri is one of the big tribal groups in the geographical region of Gumine and there are over 10 sub-clans that speak Yuri.

12

My sub-clan members are very close and our relationships are based on a clan belief system. We share in work, pleasures, conflict resolution, and participate in village ceremonies such as marriages, tribal fighting and negotiating peace from enemy tribes. In the past the kinship system was very strong, however today the kinship system and the traditional social structures are being challenged by today's new values, ideas and the influence of Christian beliefs. Today 75% of my clan members are Christian. Most of the young people of our clan today leave the village to attend school and find work in different parts of PNG. Their perception of the world is now far beyond village members of the clan. Economic pressures also result in less time being spent in the village activities and more time being spent in other non-tribal activities.

Starting primary school

The first primary school in my area (Omdara) was opened in 1972 and I enrolled as a foundation student. The school was about 90 minutes walk away from my village. With little prior exposure to the neighbouring villages and its inhabitants I was in a class with children from different sub-clans. Though we understand and could communicate with each other very well in our own language, all lessons were taught in English. The teachers did not come from our village. They came from different parts of PNG so they had little understanding of our language and culture. At first speaking in English was very difficult but I gradually learned to speak and write. When I was in grade 6 I had to pass a national examination in order to be able to progress to grade 7, which in those days was the start of high school.

High School away from home

I was selected to attend grade 7 at Gumine High School in 1978, which is a day's walk from my village. The high school was newly opened in 1977 and was still in the early stages of its construction and development. Initially I was excited about my first trip out from my little village but as days got

closer to departure I became worried that I would not see my family for a long time. I would also miss my other village friends and activities such as hunting, village games and gardening. I enjoyed these activities very much. My other main worry was where to live and attend classes at high school. The high school did not have boarding facilities. This was also a great concern for my parents as well. We arrived a few days before school started and my parents negotiated with a family close to the school so that I could stay with them. This arrangement went well and during my four years at high school I lived with them. They become like a family for me. At school I met students coming from all over Gumine, from different tribes speaking different languages, cultures and background. Half of the teachers were expatriates mainly from Australia, England, America and a few from Canada. All lessons were in English. To continue to grade 10 I had to pass the internal grade 8 examinations. I then had to pass a final grade 10 national examination in order to go on to tertiary study. I passed these examinations and at the end of grade 10 I won a government scholarship to do two years primary teachers' training at Holy Trinity Teachers' College located in Mt. Hagen, Western Highland Province.

Training to become a primary school teacher

The first big trip out from my own comfort zone began when I travelled to the college. The college was almost 8 hours journey by bus from my village. I was excited that I will be seeing new places but I was very nervous about how to locate the college, as I had never been there before. At Teachers' College I received training to teach children in primary school. We were never taught how to support children with special needs in the classroom. My training included both theory and practical. All lessons were in English and half the lecturers were Catholic nuns and brothers. I made a few friends and quickly established myself. In the first year I was elected deputy president-student representative council and in the final year I was elected president. I was also involved in an organisation called "mercy mission society" whose principal aim was to go to the remotest school in PNG and work with

its population. I successfully completed the teacher-training program and graduated with a certificate in teaching on the 4th December 1983.

My one-year teaching

After graduating from the college and to uphold the objective of the organisation (mercy mission society), I applied to teach in the most remote school in the Eastern Highland Province (a province next to my own province, Simbu). It is a day's travel by bus from my village to the main town (Goroka) and another day's travel to the school. My first appointment was to teach a grade 3 class of 24 children. I found this class interesting. I had to teach using an activity book for children for English and Mathematics, which was provided by the school. After class and on weekends as community work, I found time to work with people with disabilities in the village. I enjoyed working with these people so at the end of my first year teaching I resigned my job as a teacher with the NDoE to continue working with people with disabilities.

Volunteer work

In 1985 I joined Mt. Sion SERC (Mt Sion is owned and operated by the Christian Brothers and located in Goroka). I was given a room in the Brother's house with three meals a day. Though I was not paid I enjoyed the work very much. I worked with students with VI attending the local primary school. My main job was to teach them braille. However I also helped with recreational activities such as sports, gardening, swimming, dance and music.

Mt Sion Special Education Resource Centre

A year later in 1986, the Christian Brothers were able to secure funding from Christofell Blinden Mission in Germany and I was employed as full time paid teacher. I taught at Mt. Sion until 1992

when I left to take up a promotional position as head teacher at Morobe SERC, which is located on the mainland in Lae. During my teaching time at Mt. Sion I was given the opportunity to do a six month course on education of students with VI at Ramakrishna College of Education (a city) in South India. This trip was sponsored by Christofell Blinden Mission. In 1991, I got another scholarship from Sight Savers in England to study for a Diploma in Special Education at the University of Birmingham in England.

Inspector

When the NDoE was implementing the new special education policy (1993) I applied and won a position as inspector/curriculum officer. I moved to Port Moresby from Lae in 1994. I was responsible for developing special education curriculum materials and courses for lecturers to use in colleges. I was also writing personal reports for teachers' registration and promotion. In 1997 I won a joint scholarship from the NDoE and AUSAid to study for a Masters in Special Education at the University of Sydney in Australia. When I returned in 1998 I continued as an inspector until the end of 2003 when I left to take up a teaching position in Special Education at the University of Goroka.

University of Goroka

In 2004 I moved to the University of Goroka to help develop courses in special education and to teach both pre-service and in-service trainee teachers how to help students with diverse needs in their classrooms. I found teaching at the university very challenging because both pre-service and in-service students were not aware that there was a policy which supports students with special needs or disabilities to attend regular mainstream schools in PNG. By the end of 2008 I left the university to take up doctoral studies at James Cook University (JCU).

1.6 Study 2: Qualitative

According to Leininger (1985, p. 5) qualitative research focuses "on identifying, documenting, and knowing (by interpretation) the world views, values, meanings, beliefs, thoughts and general characteristics of life events, situations, ceremonies and specific phenomena under investigation". Burns (2000, p. 388) argues that:

> Qualitative researchers believe that since humans are conscious of their own behaviour, the thoughts, feelings and perceptions of their informants are vital. How people attach meaning and what meanings they attach are based on their behaviour. Only qualitative methods, such as participant observation and unstructured interview, permit access to individual meaning in the context of ongoing daily life.

In this qualitative study I am planning to investigate the education of five former students with vision impairment (VI) who received specialist services during their schooling in PNG. In particular the study will examine the educational and social experiences of five former students to identify whether appropriate accommodation and modifications were made for them during their schooling and to inquire whether they believe they received an inclusive and an appropriate education.

The participants will be purposively chosen to provide the widest possible range of information. For example there will be both male and female participants, participants with low vision and those who are functionally blind, and representatives from different geographical regions of PNG. Participants will be given a face-to-face semi-structured interview of approximately 60 to 90 minutes. The interview will take place in the participant's own natural environment and in the participant's preferred language (e.g., English or *tok pisin* (talk pidgin). *Tok pisin* will then be translated into English for analysis. The data will be reported as narrative containing direct quotes from interview statements and field notes. "This illustrative data provides a sense of reality, describing exactly what the informant feels, perceives and how they behave" (Burns, 1997, p.329)

17

Data analysis will involve an inductive analytic approach (see Table 1.3). A particular feature of the analysis will involve coding, i.e., organising materials into themes, categories, topics, and concepts. Huberman (1984, p. 63) states "Coding is not something one does to get data ready for analysis, but something that drives ongoing data collection. They are, in short, a form of continuing analysis". The coding will not be done overnight. The notes will be read again and again until the researcher begins to grasp the major themes. Some of the coding will begin while the data are in the process of being collected. These early coding assists the interviewer to focus on essential features of the study as they develop. "This is part and parcel of the analytic induction method where the general statement about the topic is constantly refined, expanded and modified as further data are obtained" (Burns, 1997, p. 339).

Table 1.3 Qualitative research – Introductory planning for semi-structured interviews with past students with vision impairment

Case study	Data collection	Data analysis
* Interview 5 past students with VI * What are their perceptions of the attitudes, beliefs and practices of parents, teachers and school administrators towards these past students with VI?	* Background (parents, ethic, religion, parents' educational history/employment/medical) * School history: documents from schools including progressive report cards, academic records, teachers' reports. * Extra curricular activities: Braille, orientation & mobility, sports, typing, * Interview	*Themes Discourse analysis (Narrative) * Family: Ethnic/cultural, medical, educational, employment, religion * Location: School, town, province, SERC

* Observations	* School:
* Discussions	Teachers, resources, funding

1.7 Study 3: Quantitative

Quantitative research is based on the assumption "that phenomena should be studied objectively with the goal of obtaining a single true reality … The researcher takes a neutral role, one that does not influence what is observed or recorded" (McMillan, 2004, p. 4).

Information is collected through numerical data, often by questionnaires given to a large number of subjects and then statistically analysed. I have therefore prepared a questionnaire based on my understanding of the factors surrounding the research questions. This understanding has been gained through studying the research literature and from personal experience obtained from working in PNG for 24 years. Particular emphasis has been given to preparing questions that are neutral and unambiguous. I have been careful to try to remove my personal bias.

The main source of data collection for this study will be survey questionnaires. These questions will be developed and informed by my survey of the literature, my extensive personal experience working in the field in PNG and from an initial pilot study conducted with PNG colleagues at JCU in Townsville. The participants for this study will be drawn from teachers working in the 21 SERCs across PNG. Participants will rate each question using a five point Likert scale (Burns, 2000, p. 559) (1-strongly disagree), (2-disagree), (3-neither disagree nor agree), (4-agree), (5-strongly agree). The Likert scale is chosen because it provides more advantages including "is based on empirical data regarding subject's response rather than subjective opinions of judges; and produces more

homogeneous scale and increase the probability that a unitary attitude is being measured, and therefore that validity (construct and concurrent) and reliability are reasonably high" (p. 560, Burns, 2000). Other advantages include, it takes less time for participants to fill in the questionnaire.

Table 1.4 Quantitative: Introductory planning for survey questionnaires

Research questions	Data collection	Data analysis
1. What government policies and funding are available for students with VI?	Survey questionnaires to: -Teachers in SERCs	Descriptive summary on each theme (curriculum,
2. What are the provisions for appropriate curriculum, specialist materials/equipment and training of teachers for students with VI in primary and secondary schools	-Inclusive primary school principals - NDoE personnel	materials, equipment, training)

1.8 Rationale and significance of the study

In the final portfolio each study will have its own rationale and significance. This section therefore provides an overall introductory rationale and statement of significance, which will be revisited in the final linking paper. The ideology and principles associated with education for students with VI is a relatively new phenomenon in PNG. Many teachers, school administrators and stake holders are now challenged with the concept of educating students with VI in an ordinary mainstream school. By far the majority of nations all over the world have now formally recognised the need for education of students with VI and have made appropriate disability-specific arrangements for this education to occur. In PNG the NDoE (1993) policy and guidelines on special education created an opportunity for

students with VI to attend mainstream primary and secondary schools. The NDoE (1993, p. 28) policy on inclusion clearly stated that:

> The great majority of children with disabilities will be included into ordinary schools with necessary adaptations of teaching and learning approaches being made to accommodate the special needs of the children in the learning environment. Teachers' College pre-service programs will prepare class teachers for including children with disabilities and teachers in the field may be supported by staff from the special education units linked to the Teachers' College and by SERC staff.

The adoption of the NDoE (1993) special education policy has created additional responsibilities for teachers in mainstream schools to adapt their teaching instructions to cater for the needs of students with VI. Teachers need to be critically aware of how to optimise and synchronise learning situations in the classroom with inclusive curriculum for all students so that students with VI can progress academically. As Gargiulo (2006, p. 9) simply states "a special education is a customised instructional program designed to meet the unique needs of an individual learner. It may necessitate the use of specialist materials, equipment, services and or teaching strategies".

The study seeks to:

1. Establish positive perceptions on school administrators, teachers and parents' attitudes towards students with VI and increase enrolment of children with VI in primary and secondary schools. According to Foreman (2001), the legacy of inappropriate attitudes and practice gives meaning to the range of undesirable outcomes that people with disability or a learning problem have experienced. To redress this situation, several principles have developed in the recent decades to guide service provision. These principles are based on social justice.

2. Influence the NDoE to make objective decisions for future directions on education of students with VI in PNG. Foreman (2001) emphasised that philosophical principles have influenced the development of social policies to ensure that the rights of people with disabilities are maintained and in particular, the students with special needs have access to appropriate educational services. Many countries in the world depend on legislation to ensure that these rights are maintained.

3. Establish that a Professional Doctorate may be viewed as an opportunity to enhance the collaborative relationship that exists between Universities, Teachers' Colleges and SERCs. This may potentially motivate lecturers and teachers to take up further studies in special education at bachelors and masters level. According to Bayrakci (2009, p.10)

> Professional development deals with occupational role development, enhancing skills and knowledge, in order to enable the teacher to teach more effectively. However, the conventional view of professional development for teachers needs to shift from technical training to specific skills to the provision of opportunities for intellectual growth.

1.9 Ethics approval

At James Cook University it is a requirement that a candidate must have his or her research proposal approved by the JCU Human Research Ethics Committee before conducting the research in the field. As my research was to be conducted in Papua New Guinea it was also necessary for me to obtain approval from the PNG National Department of Education. My Ethics application was approved:

1. Ethics approval was obtained from JCU Human Research Committee (H3846, 24.8.2010).

2. Permission to conduct interviews was obtained from PNG NDoE (FRI-1-2, 12.7.2010).

1.10 References

Bayrakci, M. (2009). In-service teacher training in Japan and Turkey: A comparative analysis of institutions and practices. *Australian Journal of Teacher Education, 34,* 10-25.

Bochner, A. P. & Ellis, C. (2000). Auto-ethnography, personal narrative, reflexivity: researcher as subject. In N. K. Denzin & Y. S. Lincoln (Eds.*) Handbook of qualitative research*, 2nd, 733-768. London: Sage publications.

Bureau of East Asia and Pacific Affairs (BEAPF) (2009). *Back ground note: Papua New Guinea*. Retrieved January 30 2010, from http://www.state.gov/r/pa/ei/bgn/2797.htm.

Burns, R. (2000). *Introduction to research methods* (4th ed.). South Melbourne: Longman.

Burns, R. (1997). *Introduction to research methods* (3rd ed.). South Melbourne: Longman.

Dethlefs, R. (1982). The trachoma status and blindness rates of selected areas of Papua New Guinea in 1979-80. *Australian Journal of Ophthalmology, 10,* 13-18.

Farmer, J. (2000). Developing eye care in Papua New Guinea. *Community Eye Health, 13,* 34, 2000.

Foreman, P. (2001). *Integration and inclusion in action* (2nd ed.). Harcout: Australia.

Gargiulo, R. (2006). *Special education in contemporary society* (2nd ed). Thomason Higher Education. Belmont: USA.

Gibbs, P. (2003). *Attitudes and practice towards persons with disabilities.* A survey in the Woresa area of the East Sepik Province. Melanesian Institute. Goroka: Papua New Guinea.

Gilbert, C. (2003). Blindness in children. Half of it is avoidable, and suitable cost effective interventions are available. *BMJ 2003, 327: 760-1.*

Huberman, A. (1984). *Qualitative data analysis: a sourcebook of new methods*. Beverly Hills, CA: Sage Publications.

Human Development Indices. (2008). Port Moresby: Papua New Guinea.

Keeffe, J. E. (2012). Success factors, issues and challenges. Paper presented at the *WBU-ICEVI General Assemblies: Achieving our vision through empowerment and partnerships.* Bangkok, Thailand: The Imperial Queen's Park Hotel. 17.11.2012.

Keeffe, J. E., Konyama, K. & Taylor, H. R. (2001). Vision impairment in the pacific region. *British Journal of Ophthalmology, 2002, 86,* 605 -610

Leininger, M. (Ed.). (1985). *Qualitative research methods in nursing.* New York: NY: Grune & Stratton.

McKinnon, R., Carillet, J., & Starnes, D. (2008). *Papua New Guinea and Solomon Islands.* Victoria, Australia: Lonely Planet Publishers.

McMillan, J. H. (2004). *Educational research* (4th ed.). Richmond, VI: Virginia Commonwealth University.

National Department of Education, (1993). *The national plan, policy and guidelines for special education.* Port Moresby, Papua New Guinea.

National Department of Education, (2001). *The state of education in Papua New Guinea.* Port Moresby, Papua New Guinea.

National Department of Education, (2003). *The state of education in Papua New Guinea.* Port Moresby, Papua New Guinea.

National Department of Education, (2004). *Achieving a better future: A national plan for education 2005 -2014.* Port Moresby, Papua New Guinea.

National Department of Education, (2009). *Special education inspection report*. Port Moresby, Papua New Guinea.

Pagliano, J. P. (1990). Visual impairment. In A. Ashman & J. Elkins (eds.), *Educating students with special needs* (pp. 338-275). Sydney: Prentice Hall.

Pagliano, J. P. (2005). Using the senses. In A. Ashman & J. Elkins (Eds). *Educating children with diverse abilities, 2nd ed* (pp. 319-360). Frenchs Forest, NSW, Australia: Pearson Prentice Hall.

Papua New Guinea National Statistics Office (2000). Port Moresby, Papua New Guinea.

Philemon, B. (2009). *Post Courier.* 9th October 2009. Port Moresby, Papua New Guinea.

Resnikoff, S., Pascolini, D., Etya'ale, D., Kocur, I., Pararajasegaram, R., Pokharel, Gopal., & Mariotti, S. (2004). *Policy and practice: global data on visual impairment in the year 2002.* Bulletin of the World Health Organization.

Chapter 2

'It's not easy': An auto-ethnographical account of my journey

from Yuri villager in PNG to Doctoral candidate

2.1 Abstract

There are over 800 oral cultures in PNG, many of which are at odds or conflict with western literature based cultures. I occupy dual roles as an upholder and practiser of my Indigenous Yuri culture and being a western educated professional. The dissonance and paradox inherent in this dual role is presented throughout this auto-ethnographic study. It gave me great motivation to undertake this auto-ethnographic study with the view to share my lived experiences on the two very different cultures, which co-exist to shape my cultural and professional life. My formal auto-ethnographic study was conducted in my village at Oldale in 2010. The auto-ethnographic data were collected through a deliberate 'witnessing' of my lived personal stories and memory, and externally through interviews with my Mother and Yuri elders. The auto-ethnographic data were analysed and interpreted to gain the Yuri cultural understanding and relationship between self and others of similarity, others of difference and others of opposition. These co-exist with my Yuri culture. Realistically, I cannot and do not live in isolation from western based cultures. Historically, western cultures were deemed to be rejecting the Yuri traditional culture, however now the Yuri people accept both cultures. The study concludes that evocative auto-ethnographic study is a useful method of telling lived emotional experiences. In particular it provides personal insight, and meaning to those who share similar values, opinion and cultural experiences. The study demonstrates that an Indigenous person can still succeed in a mostly western dominated education system but 'it's not easy'.

2.2 My personal life

I start with my personal life. I pay attention to my physical feelings, thoughts, and emotions. I use what I call systematic sociological introspection and emotional recall to try to understand an experience I've lived through. Then I write my experience as a story (Reed-Danahay, 1997, p.737).

In my story I use an auto-ethnographic framework that fits Reed-Danahay's definition to analyse both my Papua New Guinean Indigenous Yuri cultural background and my western educational experiences. In this story it is my intention to link my personal self to my developing cultural self. Although, auto-ethnography has not been common within educational research, its value and the perception of its worth is changing (Dyson, 2007). In my story I use my own personal stories, songs, body voices and lived experiences as valid data, and analyse this data to help me better understand my own educational experience and development. This evocative form of auto-ethnography is both a process of self-investigation and a product that helps to provide an understanding of the structural changes I have experienced (Reed-Danahay, 1997).

2.3 Why Auto-ethnography?

My purpose for employing an auto-ethnographic method is for me to document and analyse my lived experiences of participating in education, in PNG as a clan member, a student, a regular teacher and teacher of children with disabilities particularly those with vision impairment (VI), special education inspector, and teacher educator in PNG, and internationally as a doctoral candidate**.** This story will provide a narrative, which outlines my journey from a child of subsistence farmers in an isolated highland village in PNG, with its own geography, culture, and language and no history of any formal educational facilities, to a doctoral candidate at a university in Australia.

Auto-ethnography is used in a variety of disciplines including anthropology, sociology, and education. Bochner and Ellis (2000) describe auto-ethnography as:

An autobiographical genre of writing and research that displays multiple layers of consciousness connecting the personal to the cultural. Back and forth ethnographers gaze, first through an ethnographic wide-angle lens, focusing outward on social and cultural aspects of their personal experience; then they look inward exposing a vulnerable self that is moved by and may move through, refract, and resist cultural interpretations. As they zoom backward and forward, inward and outward, distinctions between the personal and cultural become blurred, sometimes beyond distinct recognition (p.739).

Auto-ethnography is distinct from other qualitative methods in three ways.

1. It is self-focused and context-conscious, employing a systematic approach to data collection, analysis, and interpretation about self and social phenomena involving self (Bochner & Ellis, 2000; Chang, 2007; Denzin, 2006; Ellis, 2004).

2. Data provides the researcher with a window through which the external world may be understood. The relationship has become the source of criticism challenging the scientific credibility of the methodology (Anderson, 2006; Holt, 2003; Salzman, 2002; Sparkes, 2002). This method provides the opportunity for the researcher to access sensitive issues and innermost thoughts, making it a powerful and unique tool for individual and social understanding (Ellis, 2009).

3. The intention is to connect self with others, self with social, and self with context (Reed-Danahay, 1997; Wolcott, 2004). Self in this context does not necessarily mean 'self in a vacuum'. A

variety of 'others' with similar values, opinion and cultural experiences were present in my stories about self (Chang, 2008).

In auto-ethnographic research a range of different methods can be used (Bochner & Ellis, 2000) including personal life stories, documents, interviews, and photographs. Despite the identified advantages, Chang (2008) warns of possible pitfalls such as:

(1) … excessive focus on self in isolation from others

(2) … overemphasis on narration rather than analysis and cultural interpretation

(3) … exclusive reliance on personal memory and recalling as a data source

(4) … negligence of ethical standards regarding others in self-narratives

(5) … inappropriate application of the label auto-ethnography. (pp. 54)

2.4 Validity of my stories

Ellis (2004) describes validity in auto-ethnography in: "terms of what happens to readers as well as to research participants and researchers…our work seeks verisimilitude; it evokes in readers a feeling that the experience described is lifelike, believable, and possible" (p.751). She further argued that "you might judge validity by whether it helps readers communicate with others different from themselves, or offers a way to improve the lives of participants and readers or even your own" (p.751). Auto-ethnographic research seeks generalization not just from the respondents but also from the readers and intends to open up rather than close down conversation.

In addition to biography, auto-ethnography includes autobiographical history where my voice is the authoritative voice of self. As Denzin and Lincoln (1994) observed: "readability, dependability,

and trustworthiness are terms in qualitative research that replace positivist criteria of validity and reliability in quantitative research" (p. 256). However, Patton (1990) explains "intellectual rigor and integrity … [can] be demonstrated through thorough examination of the data for themes, explanations, and interpretations, and that such thoroughness goes beyond the routine application of scientific procedures" (p. 477).

My lived experiences are my own and the data presented are credible from my personal standpoint. I am the principal author and storyteller, for which I am a valid authority. However, we must also perform a reliability check because other people are involved. For instance when I did the first draft of the story I went back to the village to give my Mother and village Elders a chance to comment, add additional information and offer other interpretations or even to make changes. It was the process of going back to my Yuri community that led me to more clearly understand how very different our ways are to those of the modern western world.

Gysbers, Heppner, and Johnston (2003) identify five tenets of western civilization, what they refer to as the European-American perspective. These five tenets are:

1. Individualism and autonomy.
2. Affluence.
3. Structure of opportunity open to all.
4. The centrality of work in people's lives.
5. The linearity, progressiveness, and rationality of the career development process.

My early Yuri experiences however were not based on these assumptions at all. Yuri life was completely different. Instead of an assumption of individualism and autonomy Yuri emphasis was on the collective and our inter-dependence, there was a sharing of resources with a lack of personal

ownership, individual opportunity was rare and exceptional, career was a completely foreign concept and totally outside one's personal experience, and therefore progress inevitably led to disruption and confusion.

2.5 "She loves you"

I was born in 1964 at Oldale (pronounced 'ol-daa-le') a remote Yuri village in the south of Simbu Province in PNG highlands. At that time PNG was an Australian Territory. Oldale is named after a strong, pleasant smelling local plant. My birth was a normal traditional delivery, assisted by the village mothers. Both my parents had no formal schooling and spoke the Yuri language dialects of their home clans. Even though my family was very different to the typical western nuclear family of the 1960s, my earliest memories are of being born into a loving family and community, one that was totally unaware of 60's Beatle-mania sweeping the western world or their hit song *She loves you.*

When I was three months old my mother discovered a lump on her right breast. No one in my Minigauma sub-clan or my mother's clan Berigale, sub-clan Borikipa, had any knowledge of what caused the lump. Whenever problems arose it was Yuri cultural practice for the village chief to try to sort it out, so he called together relatives from both sides of our family. Traditional beliefs concentrate on supernatural explanations that involve a transfer of the responsibility from human to invisible spirits and deceased ancestors (Frost, 2002). These practices point to witchcraft (*sanguma*) and sorcery as the main cause of illness, and involve the notion of a real human being becoming a supernatural or spiritual entity that harms or kills another person by inflicting sickness or disease. These beliefs were held strongly within the minds and hearts of all Yuri peoples.

The village chief's explanations focused mainly on my mother's failure to follow prescribed dietary practice; my parents not respecting or making offerings to ancestors; breaking local taboo and

upsetting the spirit of the land; that a spirit is not happy because of certain actions by my parents; and relatives from my mother's side being upset with the family. Despite following the village chief's directions, my mother's condition continued to deteriorate. Eventually the village chief, maternal relatives and my father decided it was time to take my mother and me to the nearest health care centre at Gumine, a day's walk from Oldale.

According to my mother, the people at that time did not have names for the days of the week, and so she cannot remember how long we were at Gumine. The Yuri idea of time was based on the seasons and play of nature in their immediate environment. But, because she was not improving, the Gumine officer-in-charge there decided to transfer her to Kundiawa Hospital. My mother was not sure whether there was a road connection between Gumine and Kundiawa at that time because we made the trip by a small single-engine aeroplane. That was the first time she had travelled by plane or indeed been exposed to the outside world. Our trip took us to Minj in Jiwaka Province, before we landed at Kundiawa. She recalled that while in the plane, she closed her eyes for the entire journey and held tightly onto the handle of the string bag in which I was sleeping. The noise of the plane was deafening making it impossible for her to hear what others were saying.

At Kundiawa hospital my mother faced many challenges including having no carer to look after me, and no language to communicate. She could not speak either *Tok Pisin* (Talk Pidgin), English or the local Kuman dialect mostly spoken around Kundiawa area. Most importantly, my father was not there yet to discuss the medical problem and to comfort her. Fortunately, one of my distant uncles from Berigale, the late chief Kape Amos, was working at the hospital so he offered some assistance. We were there for a long time but her condition continued to deteriorate.

According to my mother, late one night she felt itchy on her sore breast. Early the next morning around 9 am she lined up to be checked by the doctor. She told the doctor that she felt different and that her breast was heavy. That was unusual, she recalled. When the doctor took off the bandage, my mother's breast came off. That was the day my mother lost one of her breasts. She cried and cried – no one could console her.

The first House of Assembly of the Territory of PNG opened in Port Moresby on the 8th June 1964. This provided an important system of local government. This year was also a period of great change for my village. Christianity had only recently been introduced with the erection of a Catholic Church in Dirima, half a day's walk away. Christianity offered another way of thinking about my mother's health problem and it helped my parents to construct the world in a different way. Christians believe in the written word of God as creator. They believe in miracles, and mystical powers, and observe spiritual healings.

When my mother was sick, my father's worst fear was if she died how he would cope with me being so young and my two older sisters. He couldn't do anything to help so he began to hope for Christian intervention. Even though I didn't know it at the time, I was born into two worlds: the well-established local world of my oral-based Yuri language and culture and an emerging outside world of literacy-based Christianity. My mother's medical problem had forced them both to recognise that the world beyond our village was quite unlike our Yuri world. It was a world that held other ways of communicating, thinking and being.

2.6 The Yuri life

Nowadays in PNG even the most remote region is accessible either by road, boat, air or mobile phone but this development is relatively recent. Western penetration into the interior highlands only began in

the 1930s. It then took many years for isolated villages such as Oldale to make contact and a much longer time period for the Yuri traditional way of life to be substantially influenced. Nevertheless looking back on my early childhood I can identify some western influences such as the game of marbles even though at the time I was not aware it was from foreign parts.

My Yuri cultural clan group is called Kumaikane which consists of four sub-clans: Minigauma (which includes my village), Sinegrai, Balkopi and Korikepa. The total Minigauma population is about 2,500 people and we all speak the same Yuri dialect. In 1964 Oldale had about 1,000 inhabitants. It was extremely isolated with virtually no contact with the outside world. My mother's trip with me to hospital when I was three months old was a one-off occurrence and one I cannot remember. My early childhood was spent in the village. As far as I knew Oldale was my only world.

I spent my early childhood doing children's activities: helping my parents with gardening, going hunting for birds in the bushes with bows and arrows, and village games. In 1970, I did not hear news about Paul McCartney leaving the Beatles, but it was the very first time I got to listen to the radio. The radio was given to my father by my elder sister. It was given to her by one of her friends who came from town. At night mothers and children from the village would come to listen to local songs played by the provincial radio station-Radio Simbu *Krai Blo Mambu* (Radio Simbu-Voice of Bamboo). Voice of Bamboo refers to the bamboo flute, a popular musical instrument in Simbu culture. Each clan has a distinctive set of rhythms and songs that are associated with the cultural and emotional life of the group: love, happiness, celebration, sadness and mourning. At times I would invite other children to come and listen to the radio. Our preferred programme was of a local string band because the songs were in local dialect and easy to understand.

My favourite sport, and indeed the most popular one at that time, was playing marbles. Apparently a travelling salesman would bring them and trade them for local artefacts. Entry into the game depended upon having marbles of your own and the way one obtained these was by doing odd jobs for the older boys such as fetching drinking water or collecting dry firewood. A marble would then be our reward. In 2012 the new marble in PNG is the rugby ball, but in those days we didn't know about rugby.

During full moon the men would organise hunting trips to the thick bush up in the mountains and often they would take the older boys with them. I never took part in the hunting trip because the youngest boys were told a legend that a dead spirit lived in the bush. This frightened us and kept us from trying to join in the expedition. Before they left the men would prepare hunting gear and food for the journey. They hunted for several days and nights and lived in bush huts. They triumphantly returned carrying smoked meats: cuscus (possum), bird and wild pig meat. When there was plenty of food we would share it among the extended family. These days of abundance were my happiest memories.

2.7 Learning the Yuri way

One of the most important skills we had to learn in the Yuri culture was respect, kindness and love for all people. Respect comes with certain actions. When older people are talking, we were told to be quiet, not allowed to ask questions even if we did not agree and not to look directly at their faces. This was regarded as being disrespectful and disobedient. In contrast, *Article 13 of the United Nation (UN) Convention on the Rights of the Child* (1989) promotes the right of a child to freedom of expression, which includes freedom to seek, receive and impart information. If we were found to be breaking any of the Yuri cultural rules then the whole community had a role in disciplining us. They used corporal punishment as a method of discipline. This was considered acceptable by Yuri communities and was a norm for misbehaviour. In western societies though corporal punishment was in the process of becoming prohibited with *Article 37 of the UN Convention on the Rights of the Child* (1989) stating

35

that no child shall be subjected to torture or other cruel, inhuman or degrading treatment or punishment.

Yuri elders passed on knowledge orally through stories, dances, drama and demonstrations (modelling). The elders would repeat these practices and observed us until they were satisfied that we had mastered the skills. As a patrilineal culture, the village chief and elders valued boys more than girls because in Yuri traditions, family property and importantly land can be inherited by the first-born son or given to all the sons equally. The Yuri people regard land as a vital asset because it not only provides food and sustenance it is the context by which we understand our clan's cultural heritage. While people in western cultures look at land for its economic value, the Yuri people look at land as social security.

The land is the one thing that has kept Yuri people and other PNG peoples together for more than 50,000 years (Koian, 2008). Battiste (2012) describes this inheriting of land as handing down of information through generation without change. Relationship with every member of my Minigauma sub-clan is vital. In the Yuri social environment, during the time of need, all members of my sub-clan and Kumaikane come together to support each other. This has taught me to appreciate, respect, and most importantly, to value every member of my clan. My Yuri culture continues to provide a significant anchor for my life.

My first learning took place vicariously through observation, copying and practice. This learning happened in all the village spaces I occupied: helping my parents in the garden, on the playing field, talking with other children, listening to stories from the elders, and singing and dancing. My parents did not live together in their own home. In Yuri culture boys after they reach the age of

four moved from sleeping in the *haus meri* (house for mothers and girls) to the *haus man* (house for men and boys). The whole village was our family.

Both *haus man* and *haus meri* had strict rules that were enforced by the elders. Each person had unique roles and responsibilities within the community. In western society children's work tasks tend to be less demanding whereas in Yuri culture they can be quite arduous. In today's terms they may be thought of as child labour but the tasks made us feel like we were necessary and valued members of the village and they engendered feelings of self-respect and imbued us with an understanding of accountability. Boys from a young age were required to look after the animals, collect dried firewood, fetch drinking water and do odd jobs while the girls assumed household duties, looking after younger brothers and sisters and carrying out agricultural work. It was a customary obligation that each one of us would be given tools to mark our pathway towards maturity. As I grew up I was given an axe and a bush knife whereas my sisters were given a spade, bush knife and string bag.

At nights in the *haus man* the older men would talk to the boys about our roles, such as building houses and being good and respectful to others in the community. The older woman would do the same for the girls. My Yuri language and culture helped mould my attitudes and character to be useful, purposeful and productive. In contrast it seems to me that the children from western cultures who do not have to do such hard work have their attitudes hijacked by an over-emphasis on materialism and consumption.

There were two things I liked best about being in the *haus man*. First there was always plenty of food. When women prepared dinner it was an expectation that they send food to the *haus man* to be shared among the men and the boys. This was to show appreciation for paying the 'bride price' and it

reflected the male standing in the village. Second, the men would tell many stories at night. They were for me, my first library. Regularly one of the elders Paul Pora told us the legend about how our Kumaikane clan came to be:

Long long time ago there was a man called Alaibia. He was a great warrior, handsome and very wealthy with many wives from different parts of Simbu. One day he set a journey to the neighbouring Jiwaka Province. He prepared his war gear and plenty of food. Early the next day he set off. When he reached the border he was very tired and decided to take a short rest and have some food before he continued with the final leg of the journey. He sat under a bread-fruit tree and ate. On the top of the tree there was a woman picking fruit. She was too scared to come down. However, Alaibia already knew she was there. She waited until it was about to get dark. Eventually she made a little noise to get the attention of the warrior. Alaibia being a chief offered words of comfort to the woman and let her down. The woman who was a widow invited Alaibia to spend the night in her village. When Alaibia arrived at the haus man he saw a little boy who was the son of the widow. He gave some food to the little boy and some salt to the mother. Alaibia spent the night with the widow and her small boy. The next day when Alaibia was about to return to his people he invited the woman and her son to come with him. When they arrived home he gave the name Kumaikane to the little boy because the people from the border of Simbu and Jiwaka Province are generally known as Kumai. Kumaikane grew up got married and had many children. That is how my Kumaikane clan came to exist. Today this legend is remembered by every member of the Kumaikane clan and is retold at all important occasions.

When the story ended we were usually fast asleep on the wooden bed with no blankets or pillows. Being in the highlands it was often cold so the older men would build up the fire in the *haus*

man to keep us warm. The warmth of the fire and the story allowed us to sleep comfortably until morning, rest assured we were Kumaikane, part of one big Yuri Alaiku family.

2.8 Primary school: a great leap

One evening in 1972 as we were playing *mapuuu* (hide) and *pooor* (seek) my uncle Councillor Irai sent out a verbal message that there was to be a meeting the next day. Nowadays the message would be spread by printed leaflet or by mobile phone but back in 1972 the communication was all by mouth. If the Councillor the most respected and powerful person in the clan called a meeting then it was mandatory for everyone to attend. We therefore all gathered at the village meeting place located adjacent to the *haus man*. This is the place where all tribal and clan matters are dealt with in the authentic Melanesian way. At the meeting the Councillor announced a school was to be built at Iri, which was a one and a half-hour walk from Oldale. In those days children did not have shoes and they certainly did not walk such long distances unaccompanied so this was a new experience for us all.

No one really knew what a school was or how it would impact on our lives, but many were sceptical. Although education was offered as a panacea to overcome a multitude of disadvantages, many of the villagers were reluctant to send their children to school. They feared that when their children were educated they would move away, and the parents would lose them forever. Others just wanted their children to stay at home and do their usual chores. Parents were apprehensive that education would interfere with their daughters getting married and bringing a bride price, an important extra income for the family. These fears resonate with the literature. As Kincaid (1995) wrote: "anybody who accomplishes anything leaves home" (p.123). Reed-Danahay (1997) similarly observed that the process of becoming educated leads inevitably to a departure from one's rural roots. There was also a concern for the community's ability to maintain its cultural heritage. The Yuri people had an oral culture, the older people were, by a western definition 'illiterate' and there were no

Yuri role models with a western education. No one from our Yuri cultural group had ever had a higher educational qualification nor held high office in the public service.

I cannot recall sighting any election posters in 1972, the year PNG went into the election that resulted in the formation of the ministry headed by Chief Minister Michael Somare. He then led the country into self-government in 1973 and to full independence from Australia on 16th September 1975 when he became the first prime minister. Then on October 10th 1975 PNG was admitted into the United Nations.

At the world level 1972 was the longest leap year in history with two seconds added to the Gregorian calendar. For the people of Oldale, 1972 also represented a giant leap into the unknown. Looking back it was remarkable my parents decided I should go to school. I was eight years old and enrolled as a foundation student. Perhaps an earlier experience when I was seven may have influenced their decision. I remember one of my uncles, Michael from our village, who attended a Catholic facility at Dirima visited our village one weekend. Michael was about 22 years old. When he returned to his school (which was really a boarding house that taught catechism and vocational skills such as carpentry), I steadfastly insisted on following him. I was very curious to find out more about his school and neither Michael nor my parents could stop me. I followed him all the way back to Dirima. There I was with only my shorts on with no shirt and bare feet visiting school for the very first time. I stayed with him in the dormitory for a week. During this week Michael took me to the movies shown by the missionaries, the sisters gave me biscuits and I even saw a small missionary plane bring in cargoes from Goroka. I found this visit tremendously exciting and when I returned to the village I had so many extraordinary stories to share with my friends.

My parent's decision to send me to school though, forced me to leave my village life behind in pursuit of an education. It also helps to explain why I never went on hunting trips into the mountains. Education effectively ended my Yuri life, as I previously knew it.

Each day I would walk barefoot approximately 15 km to school and 15 km home again. I had to climb mountains, and cross two large rivers with wooden plank bridges. Sometimes these rivers were flooded and adults from the village would have to come and accompany me across the river. Before I started school I had little exposure to children from neighbouring villages. Now I was with them in the same class.

My first day at school was thoroughly miserable. I could only speak my Yuri dialect. This helped me communicate with the other children but I could not understand the teacher at all because all lessons were delivered in English – a completely new language for me. However language was the least of my problems. The school culture was also distinctly strange, with many of the demands the antipathy to what I had been taught in my village. The teachers' lack of response to our cultural needs resulted in a serious lack of rapport, which caused many students to fail both academically and socially (Anning, 2003). My teachers demonstrated an inability to use culturally appropriate and meaningful methods to facilitate a smooth transition from the familiar informal leaning environments of the village to mainstream formal schooling (Harris, 2000; Staton 1994). There was a situation where teachers would ask the children to look directly at the teacher's face when answering questions. Yet, in Yuri culture you are not allowed to look directly at an elder, like the teacher. This would be regarded as being disrespectful. Put simply the teacher failed to design an inclusive, appropriate, culturally relevant curriculum (Craven, Tucker, Munns, Hinkley, Marsh, & Simpson, 2005; Nichol & Robinson, 1998) and I was powerless to do anything about it. The textbooks used were by westerners with western contexts. They offered little that was relevant to my experiences. Our teachers tried their best to improvise by bringing newspapers from town with many stories about PNG, but even these too

41

were completely foreign concepts to me. It took some time before I even began to understand what newspapers were.

The fall of Saigon took place on the 30th April 1975 when I was in grade 5, my second last year of primary school. The Vietnam War though did not register on my consciousness. It was our local tribal war that dominated my attention and threatened my educational future. This was because, unlike the Australian school system where every child automatically moves from primary to secondary school, in PNG students must pass a national examination. When I was in grade 6 there was a tribal war between the Kumaikane and the Elakane clans and our school was located in Elakane territory. Kumaikane children therefore felt particularly vulnerable. There were 10 Kumaikane children in grade six and nine stayed in their villages for fear of being attacked. Fortunately I was able to stay with my cousin who lived close to the school and prepare for the final examination.

When the day of the examination finally arrived I was extremely nervous. I knew the protracted warfare had compromised my preparation and I was terrified the school would be attacked during the actual exam. First, we did English, followed by Mathematics, Science and finally Social Science. After the examinations we had to wait to the end of the year to find out the results. When these were published I was the only one from our clan who passed. I was the first ever from my clan to be accepted into secondary school. There were 25 of us in grade six (23 boys and 2 girls) and only 6 progressed to high school (1 girl and 5 boys). The other 4 students were from different tribal sub-clans to my own.

2.9 "All shook up"

As the world mourned the death of rock and roll legend Elvis Presley in Graceland, America in 1977, on the other side of the globe a new high school was being built in Gumine, the very first high school

for the entire region. Once again by fortuitous circumstance I was to be a foundation student. It was in the same year (1977) that the Organic Law on Provincial Government divided education responsibilities between the PNG national government and provincial government. Even though Elvis had been an international sensation I had not heard of him, nor had I heard his song *All shook up*. Still the experience of going to high school and leaving my village made me feel *all shook up*. The process of becoming 'educated' continued to challenge my understanding of my own identity.

The excitement of me going to high school was shared by everyone in my village. Still there were logistical hurdles. My parents and maternal relatives did not have the money for obligatory school fees and other basic school items such as stationary. This was despite the high school only charging a minimal yearly fee of K50 (A$25). Hither-to-this my parents had not been part of the cash economy and they had no way of raising the fees. It was an enormous problem for them, one that concerned the whole village. My father therefore asked for help. In Melanesian Pidgin the act of asking for help is referred to as '*wantok'*, which literally means *'one talk'* or the idea that people from the one language group help each other. It is an extension of the notion of brother. The *wantok* system is based on mutual obligation and support, values that have parallels in Melanesian cultures. Although it was tough for everyone, my parents raised the K50. Knowing how difficult it was for them and for my clan gave me great motivation to work hard, but I still had to find clothes and shoes. However I felt this was my responsibility. I found my first shoes in a rubbish bin in Gumine.

Initially I was excited about my first trip out from my little village but when the time came to depart I became anxious that I would not see my family for a long time. I felt like the unopened shaken Pepsi bottle Elvis was singing about. I would also miss my friends and village activities. My main concern though was where would I live? Gumine high school did not have boarding facilities. Finding somewhere for me to live was also a great concern for my parents. We arrived a few days

before classes resumed and my parents successfully negotiated with a family from the area for me to stay with them.

Interestingly, in western cultures one must make extensive prior appointments by letter, email or phone for such an arrangement. But for us it just seemed to happen. This arrangement worked well and during my four years at high school I lived with this family. They become like a second family to me. At school I met students from different parts of Gumine, from different tribes speaking different dialects with diverse cultures and background. Half of the teachers were expatriates, mainly from Australia, England, America, and a few from Canada. Again they had very limited understanding of our diverse cultures so my learning was in their culture and their language.

There were 50 students in grade seven (46 boys and 4 girls). In December of that year, I asked the headmaster if I could stay back at the school over the Christmas holidays as a security guard in exchange for the school fee for grade eight. He accepted my proposal and offered me the job. That was my first paid job. I was so excited to be able to pay my own school fees.

Despite missing my parents and other village friends whom I did not see for the entire year, I thought it was the best decision both for my parents and me. The school fee problem for grade 8 was solved. For grade 9, I worked on a coffee plantation as a clerk in Talu - Jiwaka Province. I was paid K32 ($15) per fortnight. I raised enough money for school fees, clothes and stationary. For grade 10, I got a job as a shop assistant in a merchandise shops in Mt. Hagen, PNG's third largest city, earning K85 ($42) a fortnight. Again I raised enough money for school fees and even sent some money home to my parents. I took on the responsibility of school fees for two reasons: I felt so much empathy for my parents and I realised that for me to gain a western style education it was up to me to make it happen. Looking back I'm pleased I did even though it was tough.

2.10 "9 to 5"

In 1981 the US launched its first space shuttle "Columbia" into space. It completed 36 orbits of the earth, something I wasn't aware of at that time. Still late that year, I had my own launch winning a government scholarship to study at Holy Trinity Teachers' College, eight hours bus journey from Oldale. I would be the first person from my village to become a teacher, a public servant, to have a stable income.

Another event I wasn't aware of was Dolly Parton's song *9 to 5* the worldwide hit highlighting gender inequity in the work place. At Teachers' College only 10% of students were female. All lessons were in English and half the lecturers were Catholic brothers or nuns. In the first year I was elected deputy president of the Student Representative Council (SRC) and in the final year I was elected president. The two years went swiftly and I successfully completed the teacher-training program and graduated with a certificate in primary teaching on 4th December 1983, then returned to Oldale for the Christmas holidays. While there I heard of a workshop in Goroka on rehabilitation for people with disabilities so I gave up my holidays to attend the six-week Christofel Blinden Mission (CBM) sponsored course. This was my introduction to disability and it completely transformed my life and career.

I began the 1984 school year as a grade three teacher at Haga Primary School, a day's travel by 4WD from Goroka. I taught a grade three class of 24 students (3 girls and 21 boys). Clearly Dolly Parton had not changed Haga. Nevertheless my focus was on disability. I worked as a weekend volunteer in the surrounding villages: promoting disability awareness, conducting vision screening, then submitting monthly reports to Community Based Rehabilitation officer at Mt. Sion SERC. This work so inspired me that at a time when Space Shuttle Challenger Astronauts Bruce McCandless II and Robert L Stewart made their first untethered space walk I too took the enormously risky step of

resigning from my tenured position to fully concentrate on my volunteer work with people with disability.

2.11 Specialist teacher - 'Was it my call?'

During the 1984 Christmas holidays I returned to Goroka for a follow up six-week workshop. There the late Br. John Adams invited me to become a volunteer at Mt. Sion Blind School, the only residential special school in PNG. This marked the beginning of my career in special education. In that same year, Paias Wingti succeeded Somare as Prime Minister through a vote of no confidence. This change of leadership resonated with a popular PNG saying: 'expect the unexpected'.

My early involvement working with children with vision impairment (VI) was one of the most rewarding and, at times most frustrating experiences of my life so far. My biggest challenge with my new duty was learning to read and write Braille. Brother Adams started me off but I quickly found myself reading, writing and correcting children's school-work, so my skills rapidly improved. This led me to teach Braille, helping with recreational activities including playing sports, gardening, swimming, dance and music. During those times I was what Warren and Hytten (2004) refer to as a missionary worker. Even though I had not taken any vows I was given a room in the Brothers' house with three meals a day and I assumed the title 'Brother James', a compliment I enjoyed. I felt inspired to provide learning authentic opportunities for children with VI so they could participate equally in the mainstream classes. As a consequence of our efforts some students progressed to the mainstream high school.

Apart from working with children with VI, as a young man I was also searching for a girl friend to start a relationship and possibly marriage. To observe Yuri culture, I had to understand the context of my marriage which includes the relationship between my clan and my intermarrying clan,

their history of food exchange, the locality of my marriage partner and the status of my girlfriend's family. Although I had some girl friends from other areas at high school and college, my parents and clan members refused to accept them, as they did not meet the Yuri cultural expectations.

Lipuma (1983) describes this as: "for the purpose of all practical benefits, friendship and solidarity one required from living in a certain culture" (p.772). On the contrary, in the western culture the parents of both the girl and the boy have less say or even no say at all in choosing their partners. I met my wife Julie during a term break in 1984 and started courtship immediately. On January 1st 1985 we got married in both a traditional and a church wedding. Ever since then Julie has been a steadfast supporter of both my Yuri heritage and my venture into academia.

In 1987, the Director of Mt Sion Brother Adams organized a six-month sponsorship from CBM for me to attend training and experience on 'integration' at Ramakrishna College of Education, Combatore, South India. Although, I made my first overseas trip to Australia in 1985 to attend the week-long Pan Pacific games for children with VI in Sydney, it was very brief compared to the time I spent in India. One of my teachers at Ramakrishna College is the current General Secretary of the International Council for Educators of People with Visual Impairment (ICEVI) Dr. Mani, M.N.G. My experiences in India helped to shape my skills and broadened my understanding of working with children and young adults with VI. All my assignments were hand written. The environment and situation in India was similar in many ways to my own PNG context, although the food was different and I spent much of the visit with an upset stomach.

Upon my return to PNG I continued working at Mt. Sion until 1991, when I was given the opportunity by Sight Savers to complete a one year Diploma programme in VI at the University of Birmingham in the UK. My Braille lecturer was Dr. Steve McCall, an Editor of the British Journal of

Visual Impairment. As I had no computer skills all assignments were hand written. The highlight of my trip was an invitation by Her Majesty Queen Elizabeth II to attend a garden party at Buckingham Palace. Going back to 1972 when I started my primary school, the teacher taught us the Australian National Anthem 'God save the Queen' and we were told that the Queen Elizabeth II lived in Buckingham Palace in England. We were also taught the song 'London Bridge is falling down' but I had no idea about the London Bridge. Two decades later I was able to see Buckingham Palace, meet Her Majesty Queen Elizabeth II, and see the London Bridge. This time I was aware Nelson Mandela had been made President of the African National Congress (ANC) in preparation for democratic election in South Africa. My world was changing.

In 1993 the PNG National Department of Education implemented their Special Education Plan, Policy and Guidelines. I subsequently applied for and won a newly created position of inspector of special education, and moved to Port Moresby in time to observe former PM Sir Julius Chan, again succeed Paias Wingti as Prime Minister through a vote of no confidence. In my new role I prepared special education curriculum and course materials for special education courses in the Primary Teachers' College as well as prepared reports for teachers' promotion, inspection for registration or deregistration.

For the first time since independence, in 1997, PNG witnessed foreign mercenaries (Sandline International) hired by Sir Julius Chan's government to crush the revolt on Bouganville Island. In the same year I won a joint scholarship from the NDoE and Australian Aid International Development (AusAID) to study for a Master in Special Education at the University of Sydney. This time I purchased a laptop and joined the computer age. Upon my return to PNG in 1998 I continued to work as an inspector until the end of 2003, then taking up a new position as teacher educator in special education at the University of Goroka (UoG). A highlight for me was in 2007 when the UoG became

the first university in PNG to enrol a student who was blind. By the end of 2008, I left the university to take up further studies at James Cook University in Australia.

2.12 Racial identity

Before I came to know about the outside world, my racial identity was grounded in my Minigauma clan, which for me rarely extended beyond my Oldale village. Atkinson, Morren, and Sue's (1989) five stages of racial identity development provide a useful tool to reflect on the kinds of changes I have gone through. These five stages are:

1. Conformity

2. Dissonance

3. Resistance and immersion

4. Introspection

5. Synergistic articulation and awareness.

I started life immersed in Yuri culture so my conformity stage involved a strict adherence to the Yuri culture's value system including its perception of racial and ethnic Yuri identity. All cultural traditions were orally passed to me through demonstrations, drama, music and dance. When I enrolled in school I was required to learn in a different language and culture. Significant events such as me being required to look at the teacher when I spoke served as catalysts that propelled me into the dissonance stage. Over time I found myself withdrawing from my own Yuri culture and immersing myself in the world of education.

The fact that I had to leave home to go to secondary school and worked over the school holidays in order to pay for my school fees effectively forced my withdrawal from my cultural heritage. I worked hard to develop a new identity within in the world of education. The next stage introspection is illustrated by the way I adhered to Yuri cultural expectations in choosing my wife. I tried to integrate myself and redefine my identity as a married man within Yuri cultural expectations. Finally becoming a doctoral candidate and choosing to do this auto-ethnographic research provided me with the opportunity to find a balance where I could make a match between myself and my two cultures, Yuri and western. I realised that not everything in Yuri culture was negative and not everything in my adopted western culture was positive. I began to examine my Yuri cultural values and eliminate aspects, which I regard as inappropriate. I also have the same freedom with my adopted western culture.

I see myself as the fortunate Yuri son, who has been educated in a western education system and who has had a chance to live both inside and outside of my own culture. My experiences living in a range of different cultures in India, the United Kingdom and in Australia have given me the chance to be able to move in and out of these different cultures in ways that suit my needs and my personal wellbeing. In Australia, people live in a western culture where every individual or family is more focussed on the 'self' or 'family' whereas in Yuri culture we live in communities or extended family. However, as for me I see two different worlds with one lens.

All of my five children on the other hand have spent significant periods of time in one or more cultures apart from my own Yuri culture. They merged elements of those different cultures and their birth Yuri culture into a third culture. Useem (1993) described this third culture as "a shared, or interstitial way of life lived by those who had gone from one culture (the home of the first culture) to the host culture (the second) and had developed their own shared way of life with others also living outside their passport culture" (p.10). There were many advantages in bringing my children to

50

Australia: education, health, sports and learning to live in a multicultural society. However, when we return to PNG they often suffer a reverse culture shock and are often home sick for their adopted country. My two daughters experienced this when were in Sydney for two years (1997 to 1998) and returned to PNG.

2.13 "Have a talk with God"

When I was 12, a 26 year-old blind singer songwriter from the USA called Stevie Wonder wrote 'Have a talk with God'. Steven Hardaway Morris lost his sight due to retinopathy of prematurity, a direct result of being born six weeks premature. The song featured on his album 'Songs in the key of life', which debuted at number one in September 1976 and stayed there for 14 weeks. Stevie Wonder went on to be named 2008 Billboard Magazine's fifth most influential popular music artist, placing him up there with the Beatles, Elvis and Dolly Parton.

Even though I was not aware of his music when I was 12, nowadays his song deeply resonates with me. How could it not? The song is by a blind singer and my life's work has been in the area of teaching children and young people with vision impairment. It is by a black American who advocates for the rights of black people worldwide. And it has a religious theme.

The line: 'When you feel your life's too hard, just go have a talk with God' encapsulates my story, which I entitled 'It's not easy', but I could have just as easily used Wonder's words. Throughout my life Christianity has played a vital role in my development. Christianity has helped me cross the cultural divide from Indigenous Yuri to doctoral candidate. Christianity helped my parents cope with my mother's health problems and it led me into my work in special education. In many ways Jesus is my first mentor.

Mentoring is defined by Jonson (2008) as "the professional practice that provides support, assistance, and guidance to beginning teachers to promote their professional growth and success" (p.6). Mentoring however is not solely confined to beginning teachers, nor is it confined just to teaching or to education. A second definition of mentoring by Hansen (2003) links it to any career or area of human endeavour, and offers a more whole of life interpretation: "a mentor is one person who can guide you, help you, take you under his or her wing, and nurture your career quest" (p.166).

Mentoring can take place in all walks of life from education, to employment of any kind, sport, and even into counselling. As Parsloe and Leedham (2009) emphasise, the mentor provides only sufficient support and encouragement to enable the protégé to independently reach their own highest potential commensurate with whom they wish to become. In this way the mentor tries to do him or herself out of a job. A mentor therefore is someone who cares about you and your achievements, someone who helps you achieve your very best. Mentoring is particularly valuable when individuals are undergoing some form of radical transition – where they move from the safety and security of a known situation into the relative uncertainty of something new. Mentoring is therefore particularly relevant to my educational journey. By reflecting on my experiences with mentoring I hope to better understand what is involved in mentoring, how it helped me and to then be better able to use this understanding to become a mentor myself in my work with higher degree by research students when I resume work at the University of Goroka in PNG.

The term *mentor* dates back to the ninth century BCE, specifically to Homer's *Odyssey*. When the legendary Greek king Odysseus was preparing to go on a 10-year journey he decided to leave his son Telemachus behind to look after his kingdom. Odysseus therefore asked his trusted friend Mentor to guide and counsel Telemachus in his absence. While Odysseus was away, Mentor served as a sage advisor to the young man, and helped him grow intellectually, emotionally, and socially. From this ancient literary figure, *mentor* has come to refer to a wise and faithful counsellor

who helps guide his or her protégé through a developmental process where that person achieves a better self (Jonson, 2008).

During my educational journey as a student, primary school teacher, specialist teacher, inspector, teacher educator, and now doctoral student, I have been fortunate to have worked with many trusted mentors who have nurtured and supported my individual development and my western professional career. These mentors have employed a range of different mentoring styles and models of mentorship.

At a personal level I gravitate towards those individuals whom I admire and feel comfortable with. Some of the positive characteristics I have found in my mentors include: a sincere desire to be involved in my career, respect for me, empathy, good active listening skills, the ability to see solutions and opportunities, and the ability to be flexible and open. Many of my mentors have had a very significant and positive impact on my educational journey. They 'passed the torch' by helping me become a more effective person by offering advice, presenting challenges, initiating friendship, and/or just expressing an interest in both my professional and personal development. Sometimes it meant advocating for me to receive a specific training, recognition, and promotion at work, but often it was simply being a confidential advisor whom I could count on to have my best interest at heart. They invested themselves in me with time, money and materials. Some of these people earned college or university degrees and others did not even go to school. Though, not all invested the same level of time, energy and resources, they have all made a huge difference in my world. Their involvement has provided me with a set of tremendously important scaffolds that have helped me to more confidently face the challenges of studying for a doctorate in Australia.

Five particular mentors need special mention, they include my Father Yolyal and Mother Monica, my primary school teacher Anton Bal, special education teacher Brother John Adams and my doctoral study Principal Supervisor, Associate Professor Paul Pagliano.

Both my parents provided me with good counselling at the start of my educational journey. Sadly my father passed away shortly after my 18th birthday. After his death my mother became my chief mentor during the early stages of my adult life. Her mentorship was an especially important part of my educational journey. My mother was very supportive of my quest to gain an education. She provided support, approval, guidance and advice on how to deal appropriately with my Indigenous cultural beliefs, practices and responsibilities within our village while pursuing a western education. She enabled me to build confidence and to properly handle my cultural and professional roles and responsibilities. Culturally, racially, and ethnically, I identify myself as Indigenous Yuri, only exposed to western culture, which has equally shaped my personal and educational journey.

When I started my educational journey at primary school in 1972, I always admired my grade six teacher, Anton Bal. At all times he was neatly presented, smiling and I liked the manner in which he presented his lessons. He was ready to listen to every student in his class and he encouraged us to work hard, to do the best we could. He kindled my desire to become a teacher.

Years later when I started my employment as a special education teacher at Mount Sion I lacked special education training. I found working with children and young people with vision impairment highly complex, extremely demanding and very challenging. I struggled to cope with the workload and the stress of not knowing what to do. I desperately needed a skilled and experienced person to take an interest in me and to provide me with direction (Jonson, 2008). That is precisely

when Brother John Adams became my mentor. At the time I remember feeling that the support he provided was due to divine intervention. I felt that the work I was doing was part of God's will.

Brother John Adams guided me in most of my professional, religious and personal development over a period of nine years. He was such a natural mentor that I felt very comfortable with him, and I trusted him implicitly. In addition to teaching me how to work with children with vision impairment he provided me with opportunities to gain specialist training overseas and he introduced me to the international world of special education. Without him I would never have contemplated doing a doctorate. I greatly admired the example Brother John provided. He was enormously generous and dedicated man. Even when he became seriously ill and was in constant pain, he continued to selflessly work with children with VI. He was my inspiration.

It was a privilege to win the prestigious Australian Development Scholarship (ADS) to study for a doctorate at James Cook University (JCU) in Australia. I must admit I knew very little about the challenges involved in obtaining a doctorate. The best way for me to describe my feelings is to use the metaphor of a rainforest. My doctoral journey in some ways has been an incredible experience but for much of the time I felt like I was lost in the remote thick rainforest in the mountains of my village in Oldale. At the beginning of my doctoral journey, I thought I would be lost forever and I would never find my way out. During my doctoral journey, my Principal Supervisor, Associate Professor Paul Pagliano served as my mentor. The mentorship between my principal supervisor and myself happened spontaneously and has remained steadfast.

According to many studies, mentors have played an important role in the career development of many highly successful people (Jonson, 2008). In university studies, protégés of mentors learn communication skills and other specific skills that helped at doctoral studies (Bova & Philips, 1983;

Odell, 1990). The task of mentoring at doctoral level is multifaceted and requires the skills of a counsellor, critical friend, role model, guide, sponsor, and coach, and requires resources and time (Jonson, 2008). Other desirable qualities I have noticed with my principal supervisor include: wisdom, caring, humour, nurturing and commitment to my studies (Hardcastle, 1988; Kay, 1990; Odell, 1990). With the commitment and willingness of my principal supervisor and a mentor, I was able to complete my studies. The many new skills I learnt from him will assist me in my professional and personal endeavours.

2.14 Cross road between two different worlds

In Yuri cultural practice being the oldest son in the family of six children (3 boys and 3 girls) comes with the expectation and responsibility to preserve and uphold family welfare but most importantly my Indigenous Yuri culture. On the other hand, the expectation that comes as professional and highly educated elite from my Yuri tribe requires that I uphold a professional western standard. These two different expectations create a dilemma, between my own Indigenous Yuri culture and the newly introduced western culture. At times I feel I am a failure when I cannot meet the expectations of the two different but equally unique cultures. I was fortunate to be one of the sons of Kumaikane clan of Yuri tribe to be highly educated in both a western education system and an Indigenous Yuri culture. I believe that experience provided me the opportunity to see two different worlds through the same lens.

After my father's death, I encountered difficulty in learning and preserving my Indigenous Yuri culture. As a first son of the family and the only educated person from Minigauma sub-clan I was placed under extreme pressure to maintain both family and clan obligations. These disparate ways of anticipating the world highlight a fault line between two cultural tectonic plates. Despite it being illogical, when I cannot reconcile this incongruity, I feel a sense of failure.

Fortuitously my mother was very supportive by providing guidance and advice on how to deal appropriately with my Indigenous cultural beliefs, practices and responsibilities within our village. It was from here I built confidence and handled my cultural and professional roles appropriately.

Culturally, racially, and ethnically, I identify myself as Indigenous Yuri, only exposed to western culture, which has equally shaped my personal and educational life. For each of us, where and how we grew up plays an important role in our life. For me as a young child my culture and the way I was brought up was normal, but for outsiders it would seem totally foreign. My Indigenous Yuri culture influences my behaviour, my way of life and my beliefs.

The following excerpts from Helman (1994) summarise and redefine the definition of culture as it relates to this auto-ethnographic study. He suggests that: "man is a social animal organised into groups that regulate and perpetuate themselves and it is man's experience as member of a society which shapes his view of the world" (p.2-3). He further reviews other definitions provided by other anthropologists, the most popular being Tylor's definition (1871) which describes culture as "that complex whole which includes knowledge, belief, art morals, law, customs and any other capabilities and habits acquired by man as a member of society" (p.18). My culture is my identity and I am only exposed to the outside world as a contemporary academic.

2.15 Conclusion

This paper sets out to tell my Indigenous Yuri culture and lived personal stories using an auto-ethnographic methodology linking my culture to the western education system. The literature reveals that Indigenous culture is indeed an important element of gaining new knowledge and experience, therefore it must be given significant consideration by educators (Behjat, 2006). I tried to relate my

personal journey in an attempt to locate 'self' in my Indigenous Yuri cultural group. I have been able to connect myself with others sharing similar values, experiences and lifestyle. To present my narratives I employ auto-ethnography as a methodology to rethink and re-conceptualise my experiences and the challenges to see one's own worldview as a child in an isolated highlands village and grown up to be a man and find my own destiny.

Going through this process it has enabled me to bring together my cultural knowledge, cultural learning experiences and opening my mind to the western educational system. While it is an autobiographical genre of writing, the auto-ethnography is not simply personal narrative. Instead, I adopt an objective (or rather, as objective as possible) stance to the 'self' when interpreting my own actions, thoughts, and behaviour. At the same time, it is acknowledged that analysis presented in an auto-ethnography will necessarily bear the signature and voice of personal interpretations (Cunningham & Jones, 2005). In Ellis and Bochner words; "we have to make ethnography readable, evocative, engaging, and personally meaningful" (2000, p.761). I hope that my lived personal stories will provide valuable insights into the logistical and socio-cultural problems associated with a student accessing and participating in education in PNG. My complex whole has my Yuri culture at its core, one that has been exposed to the outside world. The fault lines are now within myself.

2.16 Acknowledgements

Associate Professor Paul Pagliano of JCU for scholarly support and challenging comments and to my Co Supervisor Professor Angela Hill.

2.17 References

Aiwa, J., & Pagliano, J. P. (2011a). The education of students with vision impairment in Papua New Guinea: A tentative review of the Literature. *Journal of South Pacific Educators in Vision Impairment, 5,* 1. 50-57.

Aiwa, J., & Pagliano, J. P. (2011b). Equity and access for students with vision impairment: Where is PNG now and where should it be in 2015? Inaugural National Universal Basic Education. *National Research Institute*, Port Moresby. Papua New Guinea.

Anderson, L. (2006). Analytic auto-ethnography. *Journal of Contemporary Ethnography, 35(4)*, 373-395.

Atkinson, D. R., Morten, G., & Sue, D. W. (1989). A minority identity development model. In D. R. Atkinson, G. Morten, & D. W. Sue (Eds.), *Counselling American minorities (pp. 35-52)*. Dubuque IA: William C Brown

Atkinson, D.R., Morten, G., & Sue, D. W. (Eds.). (1993). *Counselling American minorities (4ᵗʰ ed.)* Madison, WI: Brown & Benchmark.

Australian Government AusAID. (2010). *Papua New Guinea.* Retrieved from http://www.ausaid.gov.au/country/papua.cfm

Battiste, M. (2002). Indigenous knowledge and pedagogy in First Nations education: A literature review with recommendations. Retrieved 15 May 2012.

Bochner, A.P. & Ellis, C. (2000). Auto-ethnography, personal narratives, and personal reflexivity. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2ⁿᵈ ed., pp.733-768). Thousand Oaks, CA: Sage.

Boyd, D. & Chang, H. (Ed.). (Forth coming). *Spirituality in higher education*. Walnut Creek, CA: Left Coast.

Carillet, J. B., McKinnon, R., & Starnes, D. (2008). *Papua New Guinea and Solomon Islands.* Victoria, Australia: Lonely Planet Publishers.

Chang, H. (2008). *Auto-ethnography as method*. Walnut Creek, CA: Left Coast.

Chang, H. (2007). Auto-ethnography: Raising cultural awareness of self and others. In. G. Walford (Ed.), *Methodological developments in ethnography* (Studies in educational ethnography, Volume 12, pp.201-221). Boston: Elsevier.

Craven, R., Tucker, A., Munns, G., Hinkley, J., Marsh, H., & Simpson., K. (2005). *Indigenous student's aspirations: Dreams, perceptions and realities.* NSW: Department of Education Science and Training.

Cunningham, S. J., & Jones, M. (2005) *Auto-ethnography: A tool for practice and education.* CHINZ, 05, July 6-8, Auckland: New Zealand

Denzin, N. (2006). Analytic auto-ethnography, or déjà vu all over again. *Journal of Contemporary Ethnography, 35 (4),* 419-428.

Denzin, N. K., & Lincoln, Y.S. (Eds.). (1994). *Handbook of qualitative research*. Thousand Oaks, CA: Sage

Dyson, M. (2007). My story in a profession of stories: Auto ethnography-An empowering methodology for educators. *Australian Journal of Teacher Education, 32 (1).*

Ellis, C. (2009). *Revision: Auto-ethnographic reflections on life and work*. Walnut Creek, CA: Left Coast.

Ellis, C. (2004). The ethnographic I: *A methodological novel about auto-ethnography*. Walnut Creek, CA: AltaMira.

Frost, R. (2002). Papua New Guinea primary and secondary teacher education project (PASTEP). *Special Education: Student support material.* Australian Agency for International Development (AusAID). GRM International printers.

Gysbers, N. C., Heppner, M. J., & Johnson, J. A. (2003). *Career counseling: Process, issues, and techniques (2nd ed.),* Boston, MA: Allyn & Bacon.

Harris, P. (2000). *Mathematics In a Cultural Context: Aboriginal Perspectives On Space. Time And Money,* Melbourne, Australia: Deakin University.

Heinze, T. & Leyser, Y.(2001). Perspectives of parents of children who are visually impaired: Implications for the field. *RE: view, 33, 37-48.*

Holt, N.I. (2003). Representation, legitimating, and auto-ethnography: An auto-ethnographic writing story. *International Journal of Qualitative Methods, 2(1),* 18-28.

Human Development Indices. (2008). *Papua New Guinea slides further down United Nations Development Index.* Retrieved from cid.org.nz/news/nr1200541262.html

Keeffe, J. (2012). Success factors, issues and challenges. Paper presented at the *WBU-ICEVI General Assemblies: Achieving our vision through empowerment and partnerships.* Bangkok, Thailand: The Imperial Queen's Park Hotel. 17.11.2012.

Kincaid, J. (1995). Homework. *The New York.* 10, 95 pp. 54-64.

LiPuma, E. (1983). On the preference for marriage rules: A Melanesian example. *Royal Anthropological Institute of Great Britain and Ireland, 18,* 4, 766-785.

Nichol, R. & Robinson, J. (1998). *Building bridges between Aboriginal and western mathematics.* Melbourne, Australia: Latrobe University.

Patton, M.Q. (1990). *Qualitative research and evaluation methods* (2nd ed.). Newbury Park, CA: Sage.

Reed-Danahay, D.E. (Ed.) (1997). Auto-ethnography: *Rewriting the self and the social.* Oxford: Berg.

Salzman, P.C. (2002). On reflexivity. *American Anthropologist, 104(3),* 805-813.

Sparkes. P. (2002). On reflexivity. *American Anthropologist, 104 (3),* 805-813.

Sparkes, A.C. (2002). Auto-ethnography: Self-indulgence or something more? In A.

Staton, R. (1994). *Location: A cross-cultural mathematics theme in Aboriginal teacher education, Australian bridging mathematics network conference.* Centre of Educational Research and Conference, NT Australia, pp. 161-181.

Useem, R. (1993). Third culture kids: Focus on major study. Retrieved from http://en.wikipedia.org/wiki/Third_culture_kid.

Warren, J., & Hytten, K. (2004). The faces of whiteness: Pitfalls and critical democrat. *Communication Education 53,* 4, 321-339.

Wolcott, H. (2004). The ethnographic autobiography. *Auto/Biography, 12,* 93-106.

Chapter 3

The education of students with vision impairment in Papua New Guinea:

Review of the literature

3.1 Abstract

Because of the very limited amount of published information available on the education of students with vision impairment (VI) in Papua New Guinea (PNG) this is a tentative review of the literature. Information that is available tends to be general, dated and lack rigour. The lack of literature is partly due to the PNG context: a complex, impoverished and diverse nation (geographically, culturally and linguistically) with almost overwhelming challenges that directly impact on education. With roughly half the 6.4 million-population under 22, overall attendance, especially in secondary school, remains distressingly low. Despite there being a well-established Government education policy to support the inclusion of students with VI the reality is only a small percentage of the projected eligible students actually receive specialist services. Using an educational definition of VI to help read between the lines, my conjecture is that, as the small number of students who do receive support services are mostly Braille using and functionally blind, large numbers of children and young people with VI are not being identified, particularly those with low vision. Urgent research is therefore needed to clarify numbers and to find out what is actually happening to children and young people with VI in PNG. Given the International Council for Education of People with Visual Impairment (ICEVI) has identified PNG as a proposed focus country for their global campaign on education for all children with visual impairment, this research is both timely and necessary to drive policy forward, to stimulate action and to monitor progress.

3.2 Introduction

Very little published information about the education of students with VI in PNG is available and any that is tends to be general, dated and lacking in rigour (Gentle, 2012; Keeffe, 2012; Josephs, 2000). To more clearly and accurately understand the current state of education of students with VI it is therefore necessary to take into account the PNG context. This is because the background situation has had such a powerful effect on shaping the provision of education services.

PNG is an extremely complex and diverse nation with almost overwhelming challenges that have directly impacted on education. These challenges include problems with communication, socio-cultural multiplicity, historical influences, governance, infrastructure, transportation, poverty, attitudes towards people with disability, accessibility, specialist resources, and training.

After outlining important background information on PNG, a general overview of education in PNG is given followed by a brief depiction of special education and education services for students with VI. The chapter ends with a final summary, conclusion and recommendations.

3.3 Background

The nation of PNG occupies the eastern part of the large island of New Guinea. The western part of the island is the Indonesian province of Irian Jaya, also known as West Papua. The name Papua, a Malay word for frizzled Melanesian hair, was coined by the first recorded European navigator, Don Jorge de Meneses, between 1526 and 1527 (Bureau of East Asian and Pacific Affairs [BEAPA], 2010). Eighteen years later the Spaniard, Inigo Ortiz de Retes, named the island New Guinea, because he thought the inhabitants resembled those found on the African Guinea coast. As a consequence, even the country's name is somewhat confusing because both Papua and New Guinea refer to parts both inside and outside the national borders (BEAPA, 2010).

PNG achieved self-government on the 1st December, 1973 with full independence from Australia on the 16th September, 1975. The country is situated just north of Australia (with part of Queensland, the island of Saibai, only 4 km from the PNG mainland). In all, PNG comprises 600 islands and covers 462,840 square kilometres of land (about 16% of the size of Australia). The country is divided into four regions: Southern, Highlands, Islands and Momase; 20 provinces, plus Bougainville Autonomous Region and the National Capital District, and several thousand local communities, many of them exceedingly isolated and accessible only by water, air or foot. This largely rugged, mountainous country is subject to regular earthquakes, volcanic eruptions and tsunami (BEAPA, 2010).

For the most recent census in 2000 the population was 5,190,786. Guesstimates for 2013, based on close readings of data from the CIA World Fact Book (2012), Papua New Guinea National Statistics Office (2000), Australian Government AusAID (2010) and Bureau of East Asian and Pacific Affairs (2010) have the population at 6.4 million. Upward of 820 different languages – 12.5% of the world's total (Holloway, 2004) are spoken in PNG – of which three are nationally recognised: English, Tok Pisin (Talk Pidgin) and Hiri Motu. The estimated median age is 21.8 (CIA World Fact Book, 2012; Papua New Guinea National Statistics Office, 2000). Approximately 82% of the population live in rural areas and practice subsistence-based agriculture, around 37% are below the poverty line, there is low life expectancy (66.24 years), and high infant mortality rates (4.2) (CIA World Fact Book, 2012; Human Development Indices, 2008; Australian Government AusAID, 2010; BEAPA, 2010).

The large cities like the capital Port Moresby have serious crime problems, corruption is rife and there is little infrastructure in place, which makes travel and communication expensive, difficult and time consuming (BEAPA, 2010). Governance is dysfunctional:

PNG's biggest problem is neither its crime nor its corruption but a dysfunctional political system. The Australian-inherited Westminster system cannot cope with a bewildering political paradigm where MPs represent 820 languages and have no allegiance to the political party. The 109 members are essentially free agents who regularly cross the floor to vote with the opposition, resulting in 109 cross-purposes. As a consequence, until the most recent election in 2007, no prime minister in the 34 years of independence (since 1975) had served a full five year term without being brought down in a no-confidence vote – survival, not policy tends to be the focus of PNG politics (McKinnon, Carillet, & Staenes, 2008 p.12).

3.4 General overview of education in PNG

Education in PNG can be traced back to the 1870s (p. 27, National Education Board Report, 2008) and post-colonial national education began from independence in 1975. With the introduction of a provincial government system in 1978, the provision of education to students to Year 12 became largely decentralised, and this decentralised approach has continued through to the present day. Nevertheless the Department of Education retains its right to oversee the development of policy and remains directly answerable to the Minister for Education. In addition to government schools there are schools from six different religious denominations as well as privately run autonomous schools.

Even though money to support various education programs comes from many different international sources, in relative terms overall government spending on education appears to be in decline (Josephs, 2000). Despite a series of reforms guided by the first *National Education Plan 1995-2004* (Department of Education, 1997) and *Achieving a better future: A national plan for Education 2005-2014* (Department of Education, 2004) to improve enrolment figures school attendance is low, but improving. These two plans were developed in response to PNG being a signatory to the Jomtien Declaration, *UNESCO World Conference on Education For All* (1990) in Jomtien, Thailand and reaffirmed in Dakar, Senegal, 2000. The UN Millennium Development goal of achieving universal

primary education by 2015, including children with disabilities, was adopted by PNG. Nevertheless the government has entertained doubts as to whether such a goal is possible.

In the current economic climate it is difficult to see how the second of these goals [Universal Primary Education by 2015] can be achieved within the time frame. However, every effort is being made for children to achieve a primary education (Department of Education, 2004).

In addition the National Education Board of the Department of Education explicitly identifies as part of its mission: "to make education accessible to the poor and physically, mentally and socially handicapped as well as to those who are educationally disadvantaged" (Department of Education, 2004 p.6).

A key strategy has been to develop a national education structure. This began in 1993 with the relocation of Grades 7 and 8 from Secondary to Primary school. With more than ten times as many Primary schools as Secondary schools this change had an enormous impact on educational opportunity especially for children in isolated areas. Government sponsored education now begins with Elementary (Elementary Prep, Elementary 1 and 2) for students aged 6 to 8; Primary (Grades 3 to 8) for students aged 9 to 14; Lower Secondary (Grades 9-10) for students aged 15 to 16; and Upper Secondary (Grades 11-12) for students aged 17 to 18. Children younger than 6 years may attend kindergarten or pre-school but these are not funded by the government. The Department of Education has given moral support but it does not provide finance, curriculum materials and training of preschool teachers. It has left the responsibility to communities, non-government organisations and provincial governments. Students at Elementary school are educated in their home language, whereas at Primary school a bilingual program is introduced with English becoming the major language of instruction. English then continues to be the major language of instruction through to the end of

secondary school.

In 2006 there were 5,473 elementary schools with an enrolment of 330,713 students - of an estimated eligible 480,000 children. Despite there being elementary schools located in most small communities throughout the country, more than 30% of eligible children did not attend school (Department of Education, 2006). By 2008 enrolment in elementary school had increased to 423,149 (p. 21, 2008 Statistical Bulletin), marking a substantial boost, the result of an increase in overall population, in school attendance and retention.

In 2006 there were 3,355 Primary schools but this number does not include 15 International schools and 83 Seventh Day Adventist schools. In that year the combined primary school enrolment was given as 658,940 students - of an estimated eligible 741,031 children (Department of Education, 2006). By 2008 this figure had similarly been raised to 719,259 (Statistical Bulletin, 2008).

Attending lower Secondary school is even more problematic because, as of 2006 there were only 234 Lower Secondary Schools and these are located in only the larger population centres. Furthermore in order to be eligible to go into Grade 9 a student must pass a national examination. The same applies for entry into Grade 11. By the time a student gets to Grade 10 there are only 6 National High Schools and 45 Upper Secondary Schools (grades 11 and 12) (Philemon, 2009), 3 International High Schools and 4 Seventh Day Adventist High Schools. The 2006 total secondary school student enrolment was only 86,189 students, with the majority of these being in grades 9 and 10 (Department of Education, 2006). Enrolment figures for 2008 had climbed to 97,881 (Statistical Bulletin, 2008)

According to the Department of Education (2004) class sizes are capped at 45 but it is difficult to know if this is the case in practice. Analysis of both the 2006 and 2008 enrolment figures indicate considerably more boys attend school than girls (2008 Grade 12 ratio of 4,573 females to

6,877 males), more students from higher socio economic backgrounds who live in urban centres stay on at school, and disproportionally more able bodied students than those with disabilities receive a full school education (Statistical Bulletin, 2008).

3.5 Special Education in PNG

The UNESCO *Review of the present situation of special education* made a forlorn assessment of education for children with disabilities in developing countries, claiming "less than 2%" receive special services of any kind (UNESCO, 1998 p.3,). As the PNG Department of Education wrote: "It was generally accepted that these children would remain at home in the village and be cared for by the community" (The State of Education in Papua New Guinea, 2002 p. 105). This UNESCO review, in conjunction with PNG government's decision to sign the UNICEF (1989) *Convention on the rights of the child* (signed 30th September 1990), prompted the Department of Education through its National Education Board to conduct its own survey and to come up with a blueprint for future services. This became known as: *The national plan, policy and guidelines for special education* (NDoE, 1993).

The National Executive Council (by Cabinet decision) adopted a policy in respect to Special Education in 1993, which was defined for Papua New Guinea in terms of all children with disabilities having the right to be enrolled in regular schools and all teachers having the responsibility to teach children with special needs within the context of the regular classroom. (Papua New Guinea Country Report, 2008 p. 2)

Prior to the approval of Special Education policy in 1993, the NDoE has had a policy that concentrated solely on the provision of education for 'normal' children. Its argument was that: "it was unable to provide full primary education and any additional activities such as Special Education had to be a lower priority" (NDoE, 1993 p. 2,). However, this position changed by recognizing and accepting the Philosophy of Education which acknowledges the *National Constitution's Goal of*

70

Integral Human Development i.e., "giving each child the opportunity to develop as an integrated person in relationship with others" (Matane, 1986 p.6,).   As a result of change of position by NDoE, SE plan, policy and guidelines (1993) was approved by National Executive Council (NEC) and provision of education for children with disabilities was officially recognised by NDoE. The PNG legislation was opportune as it matched the *Salamanca Statement and Framework for Action on Special Needs Education* adopted at the UNESCO *World Conference on Special Needs Education: Access and Quality.*

From 1993 the Department of Education began a partnership with those charitable organisations actively involved in providing education services to children with disabilities to establish Special Education Resource Centres (SERC) across PNG. Currently there are 22 SERCs across PNG. The principal responsibility of each SERC is to provide support to students with special needs both at centre-based programs and in mainstream inclusive schools. Other duties include training and up-skilling of mainstream teachers and working with parents of children with disabilities in their homes and villages. Staff members are also involved in rehabilitation programs for youth and adults with disabilities in their villages.

A small number of children with VI would attend segregated non-government specialist facilities for their primary and secondary education prior to PNG government approval of SE plan, policy and guidelines (NDoE, 2009). This meant they had to leave their community, their language and culture in order to receive an education, one that often resulted in ongoing displacement. A report compiled by Boorer and Kiruhia (1987) recorded a total of 387 persons with disabilities in rehabilitation centres, which provided centre based vocational training. In another report by the Department of Home Affairs and Youth (1990) 1, 009 are recorded. Both reports do not have specific data on the number of persons with VI receiving educational services.

SERCs employ both professionals and para-professionals. Professionals hold specialist qualifications in teaching, nursing, physiotherapy, speech therapy and rehabilitation. Salaries for staff and teachers occupying Teaching Service Commission (TSC) positions at SERCs are now paid for by the Department of Education. However, those who do not meet the Department of Education entry qualifications (Diploma in Teaching and or related qualifications acceptable to the Secretary of Education) are paid by the sponsoring agency. Details of the 22 SERCs are shown in Table 3.1

Table 3.1 Special Education Resource Centres in PNG

SERC and Location	Date Est	Mailing Address	Agency	Finance	No of staff	Types of Programs
1. Callan SERC – Buka	2000	P. O. Box 85, Buka NS Ph: (675) 9739311 Fax: (675) 9739312	Catholic	Catholic Church NDOE* NBPD*	8	Inclusive Education Rehabilitation
2. Saint John Association for the Blind - Port Moresby	1982	P. O. Box 6075, Boroka NCD Ph: (675) 3251238 Fax; (675) 3254637	Saint John Ambu Asso	Saint John Association NDOE NBPD	10	Inclusive Education Rehabilitation Primary eye care
3. Callan SERC – Rabaul	1995	P. O. Box 1238, Rabaul ENBP Ph: (675) 9829738	Catholic	Cath Church NDOE NBPD	12	Inclusive Educ Training Rehabilitation
4. Mt. Sion SERC- Goroka	1982	P. O. Box 1068, Goroka, EHP Ph: (675) 7322 850 Fax: (675) 7323189	Catholic	Catholic Church NDOE NBPD	25	Inclusive Education Training Rehabilitation Primary Eye Care
5. Cheshire Homes - Port Moresby	1972	P. O. Box 1306, Boroko, NCD Ph: (675) 3255937	Board of Governor	BOG* NDOE NBPD	19 5	Residential care Inclusive education

Fax: (675) 3235419

6. Red Cross SERC	1974	P. O. Box 6545, Boroko, NCD Ph: (675) 3251374 Fax: (675) 73259714	PNG Red Cross	PNG Red Cross NDOE NBPD	6	Inclusive Education Elementary Training
7. Callan SERC – Aitape	1996	P. O. Box 35, Aitape, Sandaun Ph: (675) 8572228 Fax: (675) 8572107	Catholic	Catholic Church NDOE NBPD	8	Inclusive Education Elementary Education
8. Creative Self Help Centre	1992	P. O. Box 891, Madang, MP Ph: (675) 8523310	Board of Governor	BOD NDOE NBPD	12	Inclusive Education Elementary Education Rehabilitation
9. Callan SERC – Kiunga	1999	P. O. Box 42, Kiunga WP Ph: (675) 5481304	Catholic	Catholic Church NDOE NBPD	7	Inclusive Education Training Rehabilitation
10. Simbu SERC - Kundiawa	1997	P. O. Box 494, Kundiawa, SP Ph; (675) 7351036	Lutheran	Luth NDOE NBPD	9	Inclusive education Elementary Education
11. Callan SERC -Mendi	1999	P. O. Box 69, Mendi, SHP Ph: (675) 5491744 Fax: (675) 5491169	Catholic	Catholic Church NDOE NBPD	10	Inclusive Education Training
12. Morobe SERC – Lae	1975	P. O. Box 946, Lae, MP Ph: (675) 4722089 Fax: (675) 4723239	Board of Governor	BOG NDOE NBPD	12	Inclusive Education Elementary Education
13. Callan SERC - Mt. Hagen	1986	P. O. Box 1191, Mt. Hagen, WHP Ph: (675) 5422735 Fax: (675) 5423042	Catholic	Catholic Church NDOE NBPD	12	Inclusive Education Elementary Education

14. Callan SERC – Wewak	1992	P. O. Box 542, Wewak ESP Ph: (675) 8561081 Fax: (675) 8562924	Catholic	Catholic Church NDOE NBPD	30	Inclusive Education Training Elementary Rehabilitation
15. Callan SERC - Kundiawa	1997	P. O. Box 189, Kundiawa, SP Ph/Fax: (675) 7351047	Catholic	Catholic Church NDOE NBPD	8	Inclusive Education Rehabilitation
16. Callan SERC – Daru	2006	P. O. Box 59, Daru WP Ph: (675) 6459017	Catholic	Catholic Church NDOE NBPD	6	Inclusive Education Training
17. Callan SERC - Manus	2006	P. O. Box 49, Manus Manus Province	Catholic	Catholic Church NDOE	12	Inclusive Education Training
18. Callan SERC – Alotau	2006	P. O. Box 107, Alotau MBP	Catholic	Catholic Church NDOE	7	Inclusive Education Training
19. Callan SERC Kavieng	2008	P. O. Box 49, Kavieng New Ireland	Catholic	Catholic Church NDOE	4	Inclusive Education Training, CBR*
20. Callan SERC Kimbe	2008	P. O. Box 182, Kimbe West New Britian	Catholic	Catholic Church NDOE	4	Inclusive Education Training, CBR
21. Callan SERC Wabag	2008	P. O. Box 101, Wabag Enga Province	Catholic	Catholic Church NDOE	4	Inclusive Education Training

* BOG - Board of Governors, CBR - Community Based Rehabilitation, NBPD - National Board of Persons with Disabilities, NDoE - National Department of Education. (Adapted from the National Department of Education Special Education Office, 2009)

3.6 Education of students with vision impairment

In 2006 in conjunction with UNESCO, UNICEF, and the World Blind Union (WBU), the International Council for Education of People with Visual Impairment (ICEVI) launched its global campaign on education for all children with visual impairment in, identifying Fiji as a focus country for the South Pacific, and PNG as the next one in line. The success of this campaign will be measured by: "1. increased enrolment rates, 2. reduced dropout rates, 3. improved access to support services, and 4. educational achievement for children with vision impairment, on par with non-disabled children" (ICEVI, 2006). This action by ICEVI places PNG in the international spotlight regarding educational services for children with vision impairment. It is therefore timely for this review of the literature to find out what current information is available on the education of students with vision impairment in PNG, particularly regarding student numbers and the types of educational service available.

At the 2012 WBU–ICEVI General Assemblies in Bangkok Professor Jill Keeffe from the Centre for Eye Research at the University of Melbourne, Australia presented an estimation of the numbers of children and young people with vision impairment in PNG. She estimated that the total number of children aged zero to 15 who were blind was 1, 652 (0.07% of the population), and those with low vision given as being between 3, 304 to 4, 956 (0.14 to 0.21% of the population) (Keeffe, 2012).

I originally conducted this literature review in 2010 before I was aware of the Keeffe estimates. In 2010 when I was not able to locate accurate figures regarding the incidence and prevalence of VI in PNG in children and young people, I devised my own formula to estimate the numbers. This entailed working with two definitions of VI: a legal medical definition and an educational definition, and being guided by international experts in the field.

Vision impairment can be defined in a variety of ways according to context. A legal medical definition focuses on visual acuity and is used for administrative decisions (such as the award of a pension or to determine whether a person can obtain a driver's licence) and for preparing budgets. According to Keeffe, Konyama and Taylor (2002 p.60):

The World Health Organisation (WHO) has encouraged the use of standard visual acuity criteria to be used in surveys to estimate the prevalence and incidence of vision impairment. The level of categorisation as low vision is visual acuity <6/18 and blindness <3/60.

This is a simple definition and on it is predicated most of the information about the likely numbers of children with VI in PNG. This is the definition Keeffe (2012) used for her estimation.

A second type of definition focuses on available vision for learning. Pagliano (2005) for example argues from an educational perspective that VI:

Exist on a continuum of severity from mild (common) to profound (rare). In education, definitions focus on how vision impairment affects student learning. The term "impairment" indicates that the student's difficulty with learning is sufficiently significant to require support additional to that usually provided by the class teacher. (p. 322)

The definition goes on to describe educationally blind as there being "a total lack of functional vision for learning" (e.g., student must use an alternative form of literacy to print), and low vision as "after correction some functional vision is available" (e.g., student has sufficient vision to read print) (Pagliano, 2005). The education definition with its focus on visual skills for learning is more in line

with the point made by Professor Gordon Dutton that vision impairment is significantly under-reported in developed countries because of the over focus on measuring visual acuity rather that conducting a full visual assessment of visual skills for learning (Dutton, 2013).

For this research, both the medical and the educational definitions were taken into account because, while the standard visual acuity criteria provides an estimation of the incidence and prevalence of VI, the educational definition is more appropriate when reporting on the provision of educational services. The educational definition highlights the impact vision loss has on learning and emphasises the need for the provision of specialist human and material support and the specialist training of teachers and support staff, a point that can be sometimes overlooked when only using the legal medical definition. Another important educational consideration is the idea of there being a vision impairment continuum, which can be valuable when trying to better understand the available data on student numbers.

Modern medical treatment, corrective surgery, prosthetic devices such as glasses, contact lenses, low vision aids and vision training may make it possible for an individual to visually function at a higher, more efficient and effective level than their uncorrected visual acuity. This means that in countries like Australia, after correction, the prevalence of VI in children is decreasing (Charters, 2005; Hien, Keeffe, Mitchell, Pezzullo, Rachtchina, Taylor, & Wang, 2005), yet in PNG numbers are either increasing or remaining the same (Keeffe, Konyama, & Taylor, 2002).

In Australia most vision problems are easily corrected, with only 7 per 10,000 children (0.07%) having severe vision problems that require educational accommodations and adjustments. Of these a much smaller percentage are identified as being blind, perhaps 15 per 100,000 (0.015%) (Awan, & Gilbert, 2003; Blatch, Gale, & Kelly, 1998). These figures comprise children with ophthalmic VI and additional disabilities including cortical VI.

The situation in developing countries like PNG is very different. Anderton, Dandona Gilbert, and Foster (1999) argue there may be a "ten-fold" (p. 73) increase on the Australian figures, but given the available literature this figure is impossible to verify. Nevertheless for PNG a ten-fold estimate is possible given the significant health, nutrition and poverty concerns coupled with a serious lack of availability of medical care and support services. In PNG few children have access to basic health care, have their vision checked by an ophthalmologist or an optometrist or have glasses prescribed. Children with vision problems in PNG are therefore less likely to be functioning at a higher level than their uncorrected visual acuity.

Given the above rationale, a very rough estimate for PNG would therefore be 15 in 10,000 (0.15%) being blind and about 7 children in 1,000 (0.7%) having low vision (Awan, & Gilbert, 2003; Ajaiyeoba, Adeoye, Isawumi, & Oluleye, 2007; Dethlefs, Etya'ale, 1982; Farmer, 2000; Keeffe, Konyama & Taylor, 2002; Kocur, Pararajasegaram, Pascolini, & Resnikoff, 2004). This is considerably higher than Keeffe's (2012) figures of blind 0.07% (0.15%) and low vision 0.14-0.21% (0.7%). Other factors to consider are Dutton's argument the focusing on visual acuity alone results in under-reporting and Gilbert's (2003) argument that in poor countries, at least 50% of VI in children is avoidable, if only simple improvements are made in basic nutrition, water quality and intervention facilities in health and education. The reality is most children in PNG are not assessed so both sets of figures are only estimates.

By far the biggest problem in PNG is getting the child with VI to attend school (Adams, 1986). Many parents with children with VI still keep their children at home. There are many reasons for this. These include the negative attitudes of parents and logistical difficulties involved in getting their child to school. A further problem is getting those who do go to school to stay there by ensuring that the child is taught an appropriate inclusive curriculum. Blatch, Gale and Kelly (1998) describe an inclusive curriculum as age-appropriate, disability appropriate, and accessible to all students including

students with VI. Problems here relate to teacher attitudes, teacher training, teacher and available resources.

In PNG, the only way a student with VI can attend school is if the student's family lives near the school and if the family has the resources and will to make it happen. This however is unlikely given over one third of the population earn less than US$1.25 a day (Human Development Indices, 2006), live in isolated rural areas and the median age of the population is 19.7 years (Papua New Guinea National Statistics Office, 2000). Finally, if they do go to school, a student's VI is not officially acknowledged, nor is it catered for. This limits their achievement and reduces incentives for them to stay at school.

After the implementation of the National Department of Education policy in 1993, the number of students with VI attending elementary (Elementary 1 and 2) and primary school (grades 3 to 8) has risen but numbers are still much lower than they should be. Department of Education (2009) statistics (see Table 3.2) report that 366 school students with VI received services. If these figures are accurate it means many students with vision impairment are missing out this service. Even using Keeffe's (2012) figures of blind 1,652 and low vision 3,304-4,956 only about 10% of children and young people are receiving special education services.

Table 3.2 Students with Vision Impairment attending schools in PNG in 2009

Program	Age	Male	Female	Total
Centre based	0-5	25	23	48
Elementary	6-8	23	62	85
Primary	9-14	75	47	122
Secondary	15-18	75	47	122
Total		**198**	**179**	**377**

(Taken from the National Department of Education Special Education Office, 2009)

One reason for the discrepancy in the figures is most students who receive support are blind (e.g., non-print - Braille users), with students with low vision not being officially recognised. Some may attend school but special provisions are not made for them. Yet low vision can have a substantial impact on development and learning if appropriate support in not provided. This is because lack of vision inhibits opportunities for incidental learning. It is therefore vital that the child with low vision is identified and appropriately supported in schools.

Students with low vision experience significant problems with learning because of the limited amount of vision they have available for them to see both near and distant objects, the reduced extent of their visual field, their inability to be able to read regular print, difficulty with seeing colour, their ability to see in different lighting conditions and their ability to be able to use vision for particular purposes (Clarke, Keeffe, & Thies, 1998). Because of this students with low vision experience tiredness brought on by having to concentrate so hard to do a visual task. They also miss key information that is outside their range of vision. This reduces the amount of incidental learning. Without appropriate support these students are likely to fail, particularly the national examinations that permit entry into Grades 9 and 11.

Additional barriers that prevent students with VI attending secondary level studies include the fact schools are only located in major centres, so students have even greater distances to travel, and parents face even greater expenses associated with accommodating their child near the school (Australian Government AusAID, 2010, Carillet, McKinnpon & Starenes, 2008; Human Development Indices 2008;). Another problem is the need to pass the national examination to go into Year 9 and Year 11, and lack of adequate resource provision, both financial and human (in the form of specialist qualifications and know how), and materials (in the form of specialist teaching and reading materials).

3.7 Summary

In PNG the issue of providing an education for students with disabilities, particularly those with VI is a relatively a new phenomenon. Many teachers and school administrators are now tasked with the requirement of accepting and teaching students with VI in mainstream classes. This was a outcome of the PNG Government endorsement of Special Education policy in 1993 with the recognition of the *Philosophy of Education* (1986) which acknowledges the National Constitution's *Goal of Integral Human Development* and international commitment PNG has made including *Convention of the Rights on the Child* in 1989 and *Education For All (EFA)* at Jomtien in 1990 and *UN Millennium Development Goal* in 2000 (Department of Education, 2010). In addition, the *Salamanca Statement and Framework for Action on Special Needs Education* (1994) adopted at the *UNESCO World Conference on Special Needs Education.*

In PNG where there is still a problem achieving Universal Basic Education the goal of also achieving an inclusive education system is enormously challenging. All children, both regular and those with disabilities are now being encouraged to participate in mainstream education to enable them to reach their full potential. Even though this was a positive development, based on my reading of the very limited literature available it emerged that the recorded number of students with VI attending schools is very insignificant (about 10% of eligible children with low vision).

From the literature review, numerous factors have emerged which contributed to a small percentage of children attending schools in PNG. Some of these relate to the unique characteristics and background of PNG as a developing nation. Getting the child with VI to attend school appeared to be enormously difficult task (Adams, 1986). This was due to factors such as parents with children with VI still keeping their children at home because they think their children cannot learn. It further emerged that the parents of children with VI and the general community in PNG does not understand or recognise that children with VI are able to be educated (Frost, 2002). Their attitudes to children with disabilities including VI appear to be negative and these negative attitudes are accompanied by low expectations. In addition, there appears to be logistical problems of accessing schools. Many communities in PNG are exceedingly isolated and can only be accessed by water, air or foot (BEAPA, 2010). Most families live in isolated rural areas whereas schools are a long way away in major population areas from their homes. Students with VI experience difficulty travelling to school and often stay away, hidden in their homes (Australian Government AusAID, 2010; Carillet, McKinnon, & Starenes, 2008; Human Development Indices, 2008).

If the children do make it to school there are further problems with teachers who do not have sufficient specialist training to teach them and include them in school activities. This may include access to information if learning materials are not available in a media that matches the student's sensory learning needs (e.g. Braille, large print, audio format).

Furthermore, there is a discrepancy between students with low vision and those who are functionally blind. The large majority of those who currently receive specialist services are functionally blind with those with low vision not being officially recognised as having visual problems. It also appears that some children with vision problems may attend school but special provisions are not made for them. Students with low vision may experience significant problems with

82

learning because of the limited amount of vision available to them to effectively participate in the learning activities (Clarke, Keeffe, & Thies, 1998).

On top of the above, there appeared to be internal barriers that require the student with VI to pass national examinations, often highly visual in nature, in order to be able to transition to lower secondary school and upper secondary school.

3.8 Conclusion and recommendations

This tentative review of the literature has identified three key areas that I believe require urgent attention. They are:

1. The need for comprehensive research to clarify the numbers of children and adolescents with VI in PNG and to determine what is happening to them. This information will help to drive policy, stimulate action plans and monitor future progress. Particular questions that require answers are: How many children in PNG have VI (those with low vision and those who are functionally blind)? How many children have received ophthalmological and optometric attention (been prescribed glasses and other low vision devices)? What happens to children with VI who do not go to school?

2. When conducting this research it is strongly recommend that researchers use both the WHO definition of vision impairment and the educational definition. This will help to highlight the impact vision impairment has on learning and to emphasise the need for the appropriate provision of specialist human and material support, and the need for specialist training of teachers and support staff.

3. Conduct an ongoing nationwide information campaign using radio, internet and local support services in health and education, aimed at increasing community expectations regarding the education of students with VI and the more active participation of adults with VI in society.

3.9 References

Adams, J. (1986). Pilot programme of research in Papua New Guinea. In P. Pagliano (Ed.). *Proceedings of the Australian and New Zealand Association of Educators of the Visually Handicapped* (pp.61-63). Brisbane, Qld: ANZEAVH.

Adeoye., A., Ajaiyeoba, A. I., Isawumi, M., & Oluleye, T. S. (2007). Prevalence and causes of blindness and visual impairment among school children in south-western Nigeria. *International Ophthalmology, 26,* 121-125.

Aiwa, D. J. (2007). Attitudes and beliefs towards blind and visually impaired persons in Melanesian societies. *12th World Conference. International Council of Education of Persons with Visual Impairment (ICEVI)* Kuala Lumpur: Malaysia.

Anderton, L., Dandona, L., Gilbert, C. E., & Foster, A. (1999). *Blindness in childhood in developing countries: Time for a reassessment?* Retrieved 25.3.2011 from http://www.plosmedicine.org/article/infor:doi/10.1371/journal.pmed

Australian Government AusAID. (2010). *Papua New Guinea.* Retrieved 25.3.2011 from http://www.ausaid.gov.au/country/papua.cfm

Awan, H., & Gilbert, C. E. (2003). *Blindness in children*. Retrieved 25.3.2011 from http://www.bmj.com/content/327/7418/760

Blatch, P., Gale, G., & Kelley, P. (1998). Theoretical framework. In P. Kelley, & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments* (pp.33-40). North Rocks, NSW: North Rocks Press.

Boorer, D. R. & Kiruhia, J.B. (1987). Special education in Papua New Guinea: An overview. University of Papua New Guinea. *International Journal of Special Education 2, (2), 151-160*

Bureau of East Asian and Pacific Affairs. (2009). *Back ground note: Papua New Guinea.* Retrieved 25.3.2011 from http://www.state.gov/r/pa/ei/bgn/2797.htm

Charters, L. (2005). Australian kids found to have low rate of visual impairment. *Ophthalmology Times, 15.9.2005,* 30, 18.

CIA World Fact Book. (2012). *Median age, Papua New Guinea.* Retrieved 21.2.2012 from https://www.cia.gov/library/publications/the-world-factbook/fields/2177.html

Clarke, G., Keeffe, J. E., & Thies, L. (1998). Low vision. In P. Kelley, & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments* (pp.33-40). North Rocks, NSW: North Rocks Press.

Dethlefs, R. (1982). The trachoma status and blindness rates of selected areas of Papua New Guinea in 1979-80. *Australian Journal of Ophthalmology 10,* 13-18.

Department of Education. (1985). *Growth of education since independence: 1975 – 1985.* Waigani, NCD, Papua New Guinea.

Department of Education. (1993). *The national plan, policy and guidelines for special education.* Waigani, NCD, Papua New Guinea.

Department of Education. (1997). *National education plan 1995-2004.* Waigani, NCD, Papua New Guinea.

Department of Education. (2002). *The state of education in Papua New Guinea.* Waigani, NCD, Papua New Guinea.

Department of Education. (2004). *Achieving a better future: A national plan for Education 2005-2014.* Waigani, NCD, Papua New Guinea.

Department of Education. (2006). *National education board report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from

http://www.education.gov.pg/index.php?content=quicklinks/reports

Department of Education. (2008). *National education board report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from

http://www.education.gov.pg/index.php?content=quicklinks/reports

Department of Education. (2008). *The state of education report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from http://www.education.gov.pg/index.php?content=quicklinks/reports

Department of Education. (2009). *Special education office.* Waigani, NCD, Papua New Guinea.

Department of Education. (2010). *Achieving a better future through universal basic education: plan 2010 – 2019.* Waigani, NCD, Papua New Guinea.

Department of Home Affairs and Youth. (1990). *PNG national plan for prevention of disability and the integration of disabled persons in national development.*

Dutton, G. (2013). Assessing and teaching children with profound cerebral visual impairment. Paper presented to the *2013 Biennial Conference of the South Pacific Educators in Vision Impairment Weaving the Mat: Strength through Connection.* Rendezvous Hotel, Auckland, NZ. 17.1.2013.

Etya'ale, D., Gopal, P. P., Kocur, I., Mariotti, S. P., Pararajasegaram, R., Pascolini, D., & Resnikoff, S. (2004). *Policy and practice: Global data on visual impairment in the year 2002.* Bulletin of the World Health Organization.

Farmer, J. (2000). Developing eye care in Papua New Guinea. *Community Eye Health 13,* 34.

Fiji Report, (2000). *The Education for all: country reports Fiji*. Retrieved from

www.unesco.org/education/web/countryreports/fiji/rapport_1.html

Frost, R. (2002). *Special education: Student support material.*   Australian agency for international development (AusAID). GRM International.

Gentle, F. (2002). Inclusive education: Children with visual impairment in the Pacific. Inclusive Education in the Pacific. *The PRIDE Project Pacific Education Series NO. 6, 2009.*

Gentle, F. (2012). *Transforming the education systems for children with disability in Papua New Guinea and Timor-Leste.* PhD Thesis. The University of Newcastle.

Gilbert, C. E. (2003). Blindness in children. Half of it is avoidable, and suitable cost effective interventions are available. *BMJ, 327,* 760-1.

Hien, T.V., Keeffe, J. E., Mitchell, P., Pezzullo, M. L., Rachtchina, E., Taylor, H. R., & Wang, J. J., (2005). Vision loss in Australia. *The Medical Journal of Australia, 182,* 11, 565-568.

Holloway, B. (2004). *Achieving a better future*: *A national plan for education 2005-2014*. Retrieved 28.3.2011 from http://www.education.gov.pg/quicklinks/plans/national-education-plan.pdf

Human Development Indices. (2008). Port Moresby: Papua New Guinea.

ICEVI. (2006). A global campaign on education for all children with visual impairment. Retrieved 28.3.2011 from http://www.icevi.org/efa/efa_world_conference.html

Josephs, J. (2000). *Papua New Guinea country report.* The education for all 2000 assessment. UNESCO: Retrieved from 26.3.2011 from http://www.unesco.org/education/wef/countryreports/papua_new_guinea/contents.html#cont

Keeffe, J. (2012). Success factors, issues and challenges. Paper presented at the *WBU-ICEVI General Assemblies: Achieving our vision through empowerment and partnerships.* Bangkok, Thailand: The Imperial Queen's Park Hotel. 17.11.2012.

Keeffe, J. E., Konyama, K., & Taylor, H. R. (2002). Vision impairment in the Pacific region. *British Journal of Ophthalmology, 86,* 605-610.

Lene, D. (2002). Inclusive education: a Samoa case study. Inclusive education in the Pacific. *The PRIDE Project Pacific Education Series NO. 6, 2009.*

Lewis, S. (2011). *Millions lost in AusAID Foreign aid scam*. The Daily Telegraph, 24.3.2011. Retrieved from 25.3.2011 from http://www.new.com.au/national/millions-lost-in_foreign-aid-scam/story-ebfrfkvr-12260267078871

Matane, P. (1986). *A philosophy of education for Papua New Guinea*. Ministerial committee report, National Department of Education, Port Moresby.

McKinnon, R., Carillet, J. B., & Starnes, D. (2008). *Papua New Guinea and Solomon Islands.* Victoria, Australia: Lonely Planet Publishers.

Miller, F. (2002). Inclusive education: A Pacific perspective. Inclusive education in the Pacific. *The PRIDE Project Pacific Education Series NO. 6, 2009.*

Pagliano, J. P. (2005). Using the senses. In A. Ashman & J. Elkins (Eds.). *Educating children with diverse abilities* (2nd ed., pp. 319-359). Sydney: Pearson Prentice-Hall.

Papua New Guinea National Statistics Office. (2000). Port Moresby, Papua New Guinea: Government Printers.

Philemon, B. (2009). *Post Courier*. 9th October. Port Moresby.

Puamau, P. (2002). Advancing inclusive education in the Pacific. Inclusive education in the Pacific. *The PRIDE Project Pacific Education Series NO. 6, 2009.*

United Nations Education, Scientific Cultural and Organization. (1988). *Review of the present situation of special education.* New York, NY: New York House.

United Nation International Children Emergency Fund. (1989). *Convention on the rights of the child.* New York, NY: New York House.

United Nations Education, Scientific Cultural and Organization. (1994). Salamanca statement and framework for action on special educational needs education: *Adopted by the World Conference on Special Education: Access and Quality.* Paris: United Nations.

United Nations Education, Scientific Cultural and Organization. (2000). Jomtien Declaration,

UNESCO World Conference on Education For All. Dakar, Senegal.

Vanuatu Ministry of Education (1999). *Education Sector Plan 2000 – 2010.*

Chapter 4

The educational experiences of five former students with vision impairment participating in education in Papua New Guinea: A qualitative study

4.1 Abstract

In this study a qualitative research methodology was used to investigate the educational experiences of five former students with vision impairment (VI) in PNG who received specialist services during their schooling. The participants were purposively chosen to provide the widest possible range of information (for example: three female, two male; one with low vision, four functionally blind; with each participant from a different geographical region of PNG). A semi-structured 60-minute one-to-one interview was employed to explore whether suitable accommodations and modifications were made for the students and to assess whether they thought they received an inclusive and an appropriate education. The semi-structured questionnaire was developed to allow respondents to freely express their own opinions. Each interview was conducted in the participant's own natural environment and in a language suitable to them, i.e., either English or Tok Pisin (Talk Pidgin). Results indicate that there was a difference in quality of service for former students who were functionally blind compared to that provided for the student with low vision. The functionally blind students found it necessary to leave their families, home communities, language and culture to attend school away from their villages, whereas the student with low vision continued to live in his own local community. The functionally blind students were provided with alternative media such as Braille whereas no specialist provisions were made available for the student with low vision. All five former students reported a lack of service provision that focused on developing independence skills such as Orientation and Mobility and only one student who was functionally blind, the recipient of sponsorship by an Australian, felt he had achieved his best possible outcome.

4.2 Introduction

Research indicates that most students with vision impairment (VI) in PNG do not receive adequate support necessary for them to fully participate in inclusive school learning activities. According to the Papua New Guinea National Department of Education (NDoE) only 377 students of an estimated 3 to 5,000 children and adolescents with VI under the age of 16 received specialist education services in 2009 (Keeffe, 2012, NDoE, 2009; Aiwa & Pagliano, 2011a). As the majority of these 366 students were functionally blind, students with low vision tend to miss out on any specialist services whatsoever.

In 2006 the International Council of Education of People with Visual Impairment (ICEVI), in partnership with the World Blind Union (WBU), launched its Education for All (EFA): A global campaign to promote the education of all children with vision impairment. Later in 2011 ICEVI identified Papua New Guinea as a focus country in the Pacific region. This means that educational services for students with VI in PNG will be in the international spotlight (ICEVI Education for All, 2011). The purpose of this research therefore is to investigate whether the lived experiences of five of those 377 students identified as receiving specialist services in PNG aligns with international standards regarding an inclusive and appropriate education.

This study uses a qualitative research methodology to investigate the educational experiences of five former students with VI who received specialist educational services in PNG. The students were interviewed on one-to-one basis for 60-minutes in their own natural environment employing a semi-structured questionnaire. The study was designed to examine the particular social and educational experiences of participants, in order to identify whether accommodations and modifications were made to them during their time at school. An additional aspect of the research is to

investigate whether the former students themselves believe they received an inclusive and an appropriate education.

4.3 Background

There are many reasons to help explain why only about 10% of children and young people with VI under the age of 16 currently receive specialist education services (Keeffe, 2012; NDoE, 2009; Aiwa & Pagliano, 2011a). PNG is one of the most geographically isolated, culturally and linguistically diverse countries in the world with a predominately agricultural population living in mountainous rural areas accessible only by water, air or foot (Australian Government AusAID, 2010; BEAPA, 2010; CIA World Fact Book, 2010; Human Development Indices, 2008). Additionally, PNG is a developing country with limited infrastructure and significant economic challenges. Due to a low tax base and an emerging education system, Universal Basic Education (UBE) has not yet been achieved (State of Education Report, 2008). The majority of the very limited resources are therefore currently spent on trying to achieve UBE, with little money left over to cater for children and young people with disabilities or attend to any other social justice issues for that matter. A further limiting factor is the negative attitudes and low expectations of the largely uneducated general population towards people with disabilities.

Special educational services are provided in partnership with charities through 21 Special Education Resource Centres (SERCs). These are located in the major population centres in the country's four regions: Southern, Highlands, Islands and Momase (Aiwa & Pagliano, 2011b). Pragmatic, logistical, sociocultural, historical and economic factors dictate that only those students identified as having the most extreme needs and who are able to independently access services receive special education support (Aiwa & Pagliano, 2011a). For children with VI, this translates into those who are functionally blind (visual acuity of <3/60) and those with low vision (visual acuity of <6/18).

Students with low vision, who have sufficient vision to read large print, do not tend to receive specialist support (Pagliano, 2012; Aiwa & Pagliano, 2011a, b).

The role of the SERCs is to support the appropriate education of students with VI. Pagliano and Gillies (2012) describe an appropriate education as: "one that is accessible, provides equal opportunity, encourages self-sufficiency and guarantees that each student achieves the best outcomes possible" (p. 204). First identified in the landmark 1975 US legislation (PL94-142), these four standards provide an expedient measure to check whether an education service is appropriate and inclusive especially one struggling to achieve UBE.

These four standards are particularly relevant for students with VI. For example, accessibility for students with VI has both geographic and an information dimension. To gain an education the student must be able to attend his or her own local community school rather than having to leave home and culture. Learning materials must also be available in a media that matches the student's sensory learning needs (e.g., Braille, large print, audio format). Pagliano and Gillies (2012) identify equal opportunity as to whether the student is being treated fairly in comparison with sighted students. Three particular concerns are pertinent here. The first is whether there is equality of representation, the second equality of participation and the third equality of outcome. With self-sufficiency, the focus is on ensuring the student with VI is able to independently function within the learning environment and within the community. The fourth standard concentrates on the student with VI achieving the best possible outcomes in order to reach his or her own highest potential. Failure to achieve these standards means that the student will be seriously disadvantaged.

4.4 Method

4.4.1 Sample

Participants in this study were purposively chosen to provide the widest possible range of information. Purposive sampling demands that the researcher think critically about the parameters of the population being studied and carefully choose the sample (Denzin & Lincoln, 1994). The five participants with VI were selected employing important stratification criteria (see Table 4.1 for detail of these stratifications) (Glesne & Peshkin, 1992). For example one of these stratifications is the category of vision impairment, which for this study was identified as a principal criterion. It was expected that the level of vision of the interviewees could be identified using the standard visual acuity of either <6/18 for low vision or <3/60 for blindness (World Health Organisation, 2002). Two other key stratification criteria are gender and geographical region of birth.

Purposive sampling included nominating the specific settings for the research. It was decided to focus on the four geographical regions of PNG where SERCs were situated (Mt. Sion SERC Goroka in Highlands, Callan SERC Rabaul in Island, Callan SERC Wewak in Momase, and St John SERC in Southern). An up-dated address of 22 SERCs in each region was obtained from NDoE - Port Moresby. The sites were chosen because the four centres can easily be reached by both air and road. The researcher also had prior own knowledge of each Centre's history and a personal relationship with the centre and therefore considerable rapport had already been established (Edwards, 2002). Furthermore, each region offered valuable cultural information regarding the personal and professional life of each participant. Additionally, these factors combined to help reduce travelling costs and the amount of time required to conduct the research (Glesne & Peshkin, 1992), which was an important consideration for the researcher.

4.4.2 Participants

A summary of the relevant demographic data of each of the five participants is provided in Table 4.1 Participant demographic profile. Each participant has been given a number, a pseudonym (in order to protect the participant's privacy). Also included in the table are details of the participant's gender, category of visual impairment (e.g., either blind or low vision), level of education completed, geographical region of birth, and current employment.

Table 4.1 Participant demographic profile

No	Pseudonym	Gender	Age	Vis Cat	Education	Religion	Employment
1	Luke	M	19	LV	Gr 10	Island	Home duties
2	Julie	F	23	Blind	Gr 10	Momase	SERC
3	Mary	F	27	Blind	Col Cert	Momase	SERC
4	Moses	M	26	Blind	Diploma	Highland	NDoE
5	Joanne	F	24	Blind	Gr 10	Southern	Home duties

* Cert (certificate), Gr (grade), LV (low vision), NDoE (National Department of Education) SERC (Special   Education Resource Centre), Vis Cat (visual category)

4.4.3 Procedure

It is imperative that research is conducted in "a responsible and morally defensible way" (Gray, 2009, p.69). As a result, before collecting data, ethics approval was obtained from the James Cook University Human Research Ethics Committee (H3846, 24.8.2010) and permission to conduct the interviews was obtained from the PNG National Department of Education (FRI-1-2, 12.7.2010).

4.4.4 Interviews

Data were gathered using the semi-structured interviews held face-to-face. This method was chosen because it was thought to best suit the research focus (Denzin & Lincoln, 2008). The questionnaire was developed without fixed wording or fixed ordering of questions. This allowed the respondents to freely share their stories about their social and educational experiences in gaining an education in PNG (Burns, 2000). Questions were shaped by the researcher's twenty-seven years experience working in PNG as an itinerant/resource teacher for students with special needs, principal, inspector and teacher educator. Information from a recent review of the literature (Aiwa & Pagliano, 2012a) was also used when formulating the questions. As a result, two main themes emerged when developing the questions: the social and educational support provided by SERC teachers and the provision of material resources.

Although there are approximately 860 languages spoken in PNG, the three official languages are English, Tok Pisin (Talk Pidgin), and Motu. The one-on-one 60-minute semi-structured interview was conducted in a language suitable to each participant, which in this study consisted of a mixture of English and Tok Pisin. As the researcher is fluent in both languages, no outside assistance was required. A mixture of English and Tok Pisin was used to interview Julie, Mary, Moses and Joanne whereas Luke preferred to speak Tok Pisin for the entire interview. All "face-to-face encounters between the researcher and informants [were] directed towards understanding the informant's perspectives on their lives, experiences or situations as expressed in their own words" (Bogdan, 1984, p.77).

4.4.5 Data analysis

Each interview was audio-taped and subsequently fully transcribed verbatim. Creswell (2009) points out that before beginning the analysis, it is important to organise and prepare the data. As some parts

of the interviews were in Tok Pisin, the first step was to translate the sections of Tok Pisin into English. Although, standards of rigour exist for data collection, analysis, interpretation and reporting of qualitative data (Creswell, 1998; Denzin & Lincoln, 2003; Emden & Sandelowski, 1998a, 1998b), no such standard exists for translation of trans-linguistic qualitative data. However, it is well accepted in research that a translation should be accurate, use natural forms and express all aspects of the meaning that is understandable (Larson, 1991).

When each interview was translated, the analysis involved repeated reading through the transcripts in order to become familiar with the interview content. The strategy of reading line-by-line was to obtain a general sense of the information as well as to reflect on the overall meaning (Petals al et., 2009). Once this overall view of the participants had been gained, meaning was brought to the information through a detailed analysis and coding process. Specific themes emerged as the coding process progressed. For each of the themes, narrative passages were used to draw attention to the responses from the participants. These quotes also added to the sense of reality by describing exactly what the participants felt and experienced when gaining an education in the diverse culture of PNG. The final stage of the data analysis concentrated on highlighting the fundamental nature of the experiences of the students within mainstream schools.

4.5 Insider Perspectives

As previously stated the researcher has spent time working in PNG as a primary teacher, as a special education teacher and as a special education inspector. This therefore makes me an insider researcher. As an insider, the researcher was in a position to share the language of the respondents and add additional interpretation from personal experiences (Edwards, 2002). Walshaw (2009) describes an insider as performing the self, writing oneself into the research.

Working in various capacities with children with VI over a 27 years period had provided the opportunity to gain a wide knowledge of the topic being studied (Biley & Holloway, 2011). Edwards (2002) argued that the benefit of insider research is the knowledge of the situation the researcher brings concerning history, culture and an awareness of body language, semiotics and slogan system operating within the cultural norm. Coghlan (2003) shared similar views that insider research is valuable because it draws on the experiences of practitioners and so makes a distinctive contribution to the development of knowledge about the organization.

These experiences had also developed the groundwork for rapport with all respondents as well as breaking down many potential barriers that could have existed between the participants and researcher (Glesne & Peshkin, 2000). At the same time, the researcher was well aware that even though he has had extensive experiences working with children with VI that does not qualify him as a person with vision impairment. His inside knowledge is therefore limited.

Time is a major factor in the acquisition of trustworthiness. Glesne and Peshkin (2000) argued that time at the participant's site, times spent interviewing the participants and time spent with each participant to build a relationship all contribute to trustworthy data. If the researcher spent a large amount of time with each participant then he or she would be more likely to collect trustworthy data (Glesne & Peshkin, 200).

Even though in this study, the researcher only spent approximately 60-minutes with each participant, it is important to be aware that the researcher had already established a previous relationship with each of the participants. The interview therefore constituted a culmination of both past and present relationships. For each participant the actual interview presented an extension of an

existing relationship. This is because a solid rapport had already been established with the researcher when the students were school students.

Additionally, as an insider researcher trustworthiness was achieved through contact with professionals who worked in the field with the participants. For example based on prior knowledge of relevant professionals the researcher was able to tell whether behaviours of the participants and what they said were consistent, stable and dependable (Burns, 2000). It is therefore believed that all interviews reported are reliable and secondly the participants view point, thoughts, intentions are accurately reported. The researcher also believes that the interviewees were very frank and comprehensive (Glesne & Peshkin, 2000).

4.6 Results

Four main themes emerged from the interview transcript. Pagliano and Gillies (2012) used the words accessible, equal opportunity, self-sufficiency and best outcomes possible when describing an appropriate education. As these four standards were very relevant to the interview data they were used as analytic categories.

4.6.1 Demographics

An informative description of the participants emerged during the interviews. Luke was the only participant who could read large print (low vision). He was 19 years old and came from the Island region. He lost his sight when he was 3 years old. It was believed that a *masalai* (spirit) from the culture area made him blind (Mead, 1978). Sisters Mary (27) and Julie (23) were both functionally blind and they came from Momase region. The cause of their blindness was thought to be genetic. Their parents died when they were 8 and 4 years old, respectively. They were raised by their maternal

relatives in the village. Moses (26) originated from the Highlands region. He lost his sight at the age of eight when he was in grade one. He was playing with his friends when one of them threw a sharp stick at his eyes. Joanne (24) came from the Southern region. She was in grade eight when she became blind due to illness.

4.6.2 Theme 1: Accessibility

Accessibility for students with VI has both geographic and an information dimension. Most of the schools in PNG are located in major towns or population areas, yet many of the country's population live in isolated mountainous rural communities. The ideal is for students with VI to attend their local community school to gain an education. However, this means that learning materials must also be available in a media that matches the student's sensory learning needs (e.g., Braille, large print, audio format). During the interviews, the five students shared their experiences regarding the availability of information and their ability to access the school.

Luke who can read large print (low vision) stayed with his parents in the village on the Island to attend primary and secondary school in his local community. He shared his experiences on learning at primary and secondary school in his local community. At primary school "*I was adequately supported with modified learning materials and equipment to enable me to pass the national grade six examinations and continue to secondary*". At secondary school "*they did not consider my impairment … they put me together with others to do [the] same academic work with no accommodation*". His comment regarding access to school was: "*Yeah in regard to travelling, I had no problem travelling to school and back*". However, Luke's comment regarding his parents' attitude towards school was: "*Yes, my parents supported me going to school but [they] are always concern[ed] for [my] safety. They don't allow me to go by myself. They will ensure I go with someone*".

Moses, who was functionally blind left home in the Highlands to receive an education. He attended residential special school prior to mainstream primary and secondary school. During his time at school, he was supported by teachers from the SERC with Braille leaning materials. Moses explained that: *"SERC teachers are always supportive … I had all my materials in Braille"*.

He continued:

I know that things were not in place in terms of resources, materials and facilities… there are always difficulties around and challenges but we still have to pursue, be consistent and be persistent in what we do and carry on with learning (Moses, 2010).

When describing his access to education, he said: *"Well, I was lucky to be brought into residential special school in town where I got most of my support. Yeah, I was lucky. If I am in the village I would not go to school"* (Moses, 2010).

Mary and Julie were from Momase region. They were in their village until the Christian Brothers found them. They were sent to special residential school prior to starting their mainstream primary and secondary education. Mary's experience with information was: *"I was kindly supported by [the] SERC and mainstream school staff. The teachers were trained to use Braille so I would easily cope with other students"*. She described her access to school as: *"I did not do anything in my village. I was there until the Christian Brothers identified me and send me to residential special school"* (Mary, 2010).

Julie described a similar experience with access to information. She said: *"If teachers at the regular schools were more concerned about the type of disability a student has, then it's their responsibility to explain more carefully things on the board to the students with VI to understand"*.

Julie shared her experiences in regards to access as: *"no teachers at my local regular school can read and write Braille, therefore, they were unable to teach us"* (Julie, 2010).

Joanne from the Southern region attended school while living in the city with her parents. She shared her experience in regard to accessibility: *"I find my own way to school because I'm living near the school. It just takes ten minutes to walk from my house"* (Joanne, 2010). Her experience of the accessibility of information was: *"the materials like Braille materials were produced and it was on time ... the teachers come around to check all the time"* (Joanne, 2010). She described the education for students with VI in PNG with the following words:

> *"Well, I think, especially for students with VI in PNG that some of us are fortunate to stay in cities and major towns to attend school. Others throughout the country did not have a chance to attend school to learn to read and write Braille. Now we are only talking about few students with VI going to school"* (Joanne, 2010).

Luke lived with his parents in the village to attend primary and secondary school. He was therefore the only student to remain in a traditional community while attending school. He was the only student to remain in a traditional community and attend both primary and secondary school. Even though he resided in his village with his parents and attended his local school, he did face many challenges with his learning. In contrast, the four participants who were functionally blind left their homes, relatives, home language and culture to receive an education. They attended residential special schools prior to going to mainstream primary and secondary. The four functionally blind students were supported by teachers from the SERC with the provision of Braille leaning materials. Yet, for these four participants to receive an education they had to leave their community, their home language and culture. This often resulted in ongoing displacement even after they left school (Aiwa

& Pagliano, 2011a). In the next section the students shared their experiences about whether they felt they were treated equally in school compared to their sighted peers.

4.6.3 Theme 2: Equal opportunity

The theme equal opportunity in this research refers to whether students with VI are being fairly treated compared to their sighted peers (Pagliano & Gillies, 2012). The teachers were expected to provide equal learning opportunity to students with VI in their classrooms in the form of equality of representation, equality of participation and equality of outcome.

Luke described his experience regarding equal participation in academic activities: "*At secondary they do not help a lot … a few of the teachers try to encourage me but majority take no notice of me*" (Luke, 2010). He went on to give an account of his grade 10 national examination at secondary. "*I did the exam not in large print but it was written in normal print size like all the other exam papers. For those little tiny letters it was printed so small that I cannot see*" (Luke, 2010). He shared another experience in the classroom situation:

> *I was put to sit in the front but most of the times, the writing on the board was not clear enough. I tried my best to cope up with it but could not … sometimes I get help from other students* (Luke, 2010).

Similarly, Moses described a situation at secondary school:

> *The Mathematics teacher told me that I was not going to do the exam because the exam questions have a lot of diagrams. I felt it was not fair for me so I reported the matter to the Principal. The Principal then instructed the Mathematics teacher to give me the test* (Moses, 2010).

He described another situation with examinations in Braille: *"When reading and writing Braille it's quite time consuming because you will have to depend on your finger … normally takes more time but for me it's ok but I would suggest not sufficient"* (Moses, 2010).

Julie also shared one of her experiences with a Science lesson at secondary:

I can remember in my secondary school days … one time we went into the Science lab and the teacher tried to demonstrate to us an activity. He explained to other students in the class and showed them how to use the instruments. He did not explain and describe the instruments to me. I was lost and it was difficult to understand and follow them (Julie, 2010).

Furthermore, Julie described how teachers in mainstream schools organized outdoor activities for students with VI: "*Other outdoor activities including physical education, the teachers usually take us out of the field and let us read books*" (Julie, 2010).

Mary described her experience with examinations: *"I found difficulties with diagrams only where marks were lost. I think the diagrams can be audio recorded so the explanations of the diagrams are recorded and questions can be Brailled."* She further echoed: *"the teachers find it very difficult to explain the diagrams. They don't know how to explain to students with visual problems"* (Mary, 2010).

The teachers within the mainstream were challenged to provide an equal opportunity for Luke to be included in all the academic activities. He said: *"It was a real challenge for regular teachers, they just treat all of us the same. They don't allow extra time for me for exam, all of us had the same time"* (Luke, 2010). Clarke and Keeffe (1998) point out that with the reduced extent of their visual field many students are unable to read regular print. Therefore, students with low vision often

experience significant problems with learning because of the limited amount of vision they have available for them to see both near and distant objects. For the four functionally blind students, there were more opportunities to be included in the mainstream classroom. In the next section, the participants describe their experiences regarding functioning independently in their learning and in their local environment.

4.6.4 Theme 3: Self-sufficiency

In this study self-sufficiency refers to students with VI being able to function independently within the learning environment and the local community (Pagliano & Gillies, 2012).

Luke described situations regarding social skills:

"At school teachers do not allow me to play sports … I see that was a real challenge as all of us are not the same." He continued: *"I am doing matriculation up there but mummy and daddy, they are always concern with safety and do not allow me to travel by myself"* (Luke, 2010).

Joanne described her method of attending school in the following manner: "*I walked with a guide, a friend who also goes to school there. Somebody on my street takes me there and after school we walked back home together"* She further commented on how she functioned in the learning activities in the following manner: "*At high school, I had some students or teachers come around to assist or dictate what was written. I Braille them or just write the answers"* She continued: "*We had to move from classroom to classroom every forty minutes for different subjects. When we move I had my friends help me carry the Braille machine and the other always leading me to move to the next classroom"* (Joanne, 2010).

Julie described how she functioned in the class. "*When the teacher was writing on the board, my desk mate read the questions to me and I Braille them. With assignments, I do them at my own time with friends*". Julie further shared her experiences with mobility as: "*Most times life is very hard so I have to have a guide who guides me when I was going to school, work, banking or shopping and marketing*" (Julie, 2010).

Similarly, Mary's experience was: *"I think a person who is guiding us has to be responsible when we going to school, bank, market and shopping"* Her comment on mobility training for daily social and living skills was: "*My teachers actually did not know how to teach orientation and mobility and daily living skills*" (Mary, 2010).

Moses functioned similarly to Julie and Mary. His comment was: "*For handouts or notes, I normally ask my desk mate to read them to me so I Braille them. For test there was restriction so I asked the teacher to read out the questions and I Braille the answers*". His experience at university was: *"Well, at university it was quite different. Yeah, I did find it very difficult at university but not at primary and secondary"*. He further stressed that: *"Sometimes it depends very much on how you do your studies. You, as a student, do your studies very carefully and prepare well for the examinations*" He described his support for social skills as" "*I got 90% of the support from house parents at special residential school to look after myself*". He continued: "*Despite the impairment, I always try my best not to let this impairment overcome me but always pursue with life and I am so interested in going furthe*r" (Moses, 2010).

In regard to self-sufficiency, the aim was to ensure the student with VI is able to function independently within the learning environment and within the local community (Pagliano & Gillies, 2012). The student with VI is to achieve the best possible outcomes in his or her learning and in social

skills in order to reach his or her own highest potential. Failure to achieve these standards means that the student will be seriously disadvantaged. In spite of many opportunities provided for functionally blind students with academic work and access to schools there was mismatch between opportunities and self-sufficiency. Moses was the only participant who was self-sufficient with his learning. In the following section Moses shared his experiences of being self-sufficient and achieving the best possible outcome.

4.6.5 Theme 4: Best possible outcome

Amongst the participants who participated in this research, Moses obtained Diploma in Education from university, which was the highest educational qualification amongst the participants. He explained: "*at tertiary you are independent where you will do things at your own ...where you will find or source information yourself.*" He commented further on his achievement: "*it's quite hard and emotional to express ...very proud of my-self, sponsors and lecturers*". In regard to his overseas sponsorship he said: "*he continued to support me until I finished my university study with fees, other expenses and a laptop with jaws programme*" (Moses, 2010).

There were a number of negative and positive factors involved in reaching this outcome. He left his rural isolated village, culture and relatives to attend a residential special school prior to attending mainstream primary and secondary school. However, his personality and, in particular, his social skills helped him to participate in both the learning and social environments. Critically, he admitted that: "*he secured a sponsorship from John Smith a benefactor in Australia who paid for all his educational expenses*" (Moses, 2010).

4.7 Findings

This research found that one of the barriers, which prevented students with VI attending primary and secondary school, was the geographical location of schools. These are located in the major population centres in the country's four regions: Southern, Highlands, Islands and Momase. Yet, in PNG, much of the population live in isolated mountainous rural communities and students with VI have no access to school. This is because the closest school is often a considerable distance from the child's home and the family have no way for the child to reach the school. Thus the four students who were functionally blind had to leave their villages to attend school in the city. Luke, the only participant who resided with his family in his own local community, faced many challenges at school. Most parents face financial difficulties associated with accommodating the students near or at the school (Australian Government AusAID, 2010; Carillet, McKinnon & Starenes, 2008; Central Intelligence Agency, 2011; Human Development Indices 2008). The separation from families and relatives in the village often means that students with VI have significant limitations on their ability to gain independent skills (Aiwa & Pagliano, 2011a).

Luke, the participant with low vision experienced many challenges gaining to access learning materials in class. He reported that at secondary school: *"the teachers did not recognise me as having visual problems, few of the teachers try to help but majority take no notice of me"* (Luke, 2010). Luke therefore did not receive sufficient support from the teachers for him to reach his highest potential. He was seriously disadvantaged when he was at secondary school and this meant that he has missed out on possible employment since leaving school.

There was evidence from the research data that: "*brailing of textbooks was the main form of modification for functionally blind students*" (Mary, 2010). Students who are functionally blind typically need to learn to read and write Braille. Braille is an efficient and practical means of written

communication for students who are functionally blind (Friend, 2011). Mooney (1988) argues that when choosing, making and adapting materials for Braille, users, educators should use the same procedures as for print users. The most critical of these is obviously the literary value of the text. Blatch, Gale and Kelly (1998) describe an inclusive curriculum as age-appropriate, disability appropriate, and accessible to all students including students with VI. Thus, these students with VI participated fully in the class when appropriate accommodation and modification of curriculum was offered. The data also revealed that students who are functionally blind were identified as having the most extreme needs and therefore were able to access services and receive special education support. Bardin and Lewis (2008) and Bishop (2004) highlighted that teachers must ensure that appropriate accommodations and modifications were made in the learning environment with supplementary instructions provided as needed. The school teachers were expected to provide opportunities for students with VI in their classrooms that reflected equality of representation, equality of participation and equality of outcome.

In spite of this assistance, the data revealed only one past blind student was able to function independently in his learning and his local environment and has reached his highest potential. He was the only participant who progressed to university and graduated with a Diploma. His achievement was due to prerequisite social skills he attained earlier in the intervention program at SERC and secondly the support he received within PNG and overseas with materials, funds and equipment.

Sighted students normally develop social behaviour by observing social events, customs and imitating (Ashkenazy, Cohen, & Tirosh, 2005; Ophir-Cohen, 2006). Vision impairment often restricts incidental learning through observation and imitating, students with VI often have difficulties demonstrating socially appropriate behaviour (Celeste, 2006; Correa-Torres, 2008; Dummer, Lieberman, Moffett, & Sharprio, 2008). Thus the students were set for failure and social isolation in the classroom and local community. There was further evident from the data that they did not possess

the requisite social skills to participate effectively in the learning activity to reach their highest potential. Yet, Pagliano and Gillies (2012) argue that when students are able to function effectively in the learning environment, they are ready to engage themselves socially.

As well as being able to engage socially, students with VI require the ability to move independently about their environment. However, most homes in PNG are geographically isolated, with a predominately agricultural population living in mountainous rural areas (Australian Government AusAID, 2010; BEAPA, 2010; CIA World Face Book, 2010; Human Development Indices, 2008). Therefore, for students with VI to achieve self-sufficiency, it is necessary for teachers to explicitly teach orientation and mobility and skills for daily living and employment (Aiwa & Pagliano, 2011b). Additionally, Duquette and George (2006) and Blankenship, Hatlen and Lohmeier, (2009) highlighted the importance of access to the expanded core curriculum that uniquely addresses orientation and mobility for all students with VI.

4.8 Limitations

The limitations of this study arise from those of characteristics of design and method. The sample size was small with only five participants from four SERC in PNG who were selected for this research. The study would require large sample size to consider representative distribution of population of students with VI in PNG. This would include access to the estimated 377 children with VI who are currently attending schools throughout PNG. A major limitation with this study as well, was the unavailability of published PNG research literature on the subject. A high percentage of the literature available was too general and out-dated. Other limitations include limited time and funds caused on going difficulties; many SERCs lack effective email and phone connections; and transport difficulties encountered during travel by both air and road.

4.9 Conclusion and recommendations

This qualitative study provided the opportunity to document the experiences of five former students with VI who gained education in PNG. The focus of the study was to investigate the educational and social experiences of the students with VI who receive specialist educational services. The major feature of this study was interviewing the participants one-to-one in their own natural settings (Bogdan, 1984; Creswell, 2009).

Educating students with VI in a society with diverse cultures like PNG will not be easily accomplished. Despite the PNG government introducing a special education plan, policy and guidelines (NDoE, 1993) to support inclusion of students with special needs including students with VI, the reality is only a very small percentage of students with VI attend schools.

Data collected from this interview revealed that four functionally blind students had to leave their villages, relatives and cultures to receive an education. This was due to the fact that PNG is one of the most geographically isolated nations with 82% its population living in rural areas whereas schools are located in major population areas (Australian Government AusAID, 2010; BEAPA, 2010: CIA World Fact Book, 2010; Human Development Indices, 2008).

The data further revealed that there was a mismatch between services provided for students with low vision and functionally blind students. The discrepancies exist between the services provided for functionally blind students and students with low vision because students with low vision not being officially recognised whereas functionally blind students are obviously recognised (Aiwa & Pagliano, 2011a). Students with low vision experience significant problems with learning due to the limited amount of vision they have available to see both near and far distance (Keeffe, & Clarke, 1998)

Finally, it was evident from the data that only one functionally blind student was able to function independently both in his learning and local environment. Therefore he felt that he achieve the best outcome possible. Many factors have contributed to his success including good social skills, orientation and mobility skills, and support from within PNG and overseas sponsorship.

The research identified three recommendations for future research and actions:

1. Teachers in both SERCs and mainstream classes should be trained to teach students with VI the necessary daily living social skills including orientation and mobility for students to participate effectively in class and social activities to achieve self-sufficiency and reach highest potential.

2. Training is required for teachers to identify and differentiate the difference between low vision and functionally blind and the adaptations to curriculum that are pertinent to each. This would require pre-service and in-service teacher training which includes skills in modifying and adapting lessons for students who are functionally blind or having low vision.

3. For future research to be conducted into the identification, participation and learning of children with vision impairment including those who are educationally blind and those with low vision.

4.10 References

Adams, J. (1986). Pilot programme of research in Papua New Guinea. In P. Pagliano (Ed.). *Proceedings of the Australian and New Zealand Association of Educators of the Visually Handicapped* (pp.61-63). Brisbane, Qld: ANZEAVH.

Aiwa, J., & Pagliano, J. P. (2011a). The education of students with vision impairment in Papua New Guinea: A tentative review of the Literature. *Journal of South Pacific Educators in Vision Impairment, 5,* 1. 50-57.

Aiwa, J., & Pagliano, J. P. (2011b). Equity and access for students with vision impairment: Where is PNG now and where should it be in 2015? In A. Kuarai (Ed.). *Universalizing Basic Education in Papua New Guinea: Experiences, Lessons Learnt, and Interventions for Achieving the Goal of Universal Basic Education (pp.23-28).* National Research Institute. Port Moresby: Papua New Guinea.

Ashkenazy, E., Cohen, A., Ophir-Cohen, M., & Tirosh, E. (2005). Emotional status and development in children who are visually impaired. *Journal of Visual Impairment and Blindness, 99, 478-485.*

Australian Government AusAID. (2010). *Papua New Guinea.* Retrieved from http://www.ausaid.gov.au/country/papua.cfm

Awan, H. & Gilbert, C. E. (2003). *Blindness in children*. Retrieved from http://www.bmj.com/content/327/7418/760.

Bardin, J. A., & Lewis, S. (2008). A survey of the academic engagement of students with visual impairments in general education classes. *Journal of Visual Impairment & Blindness, 102, 472-483.*

Beeman, S. K. (1995). Maximizing credibility and accountability in qualitative data collection and data analysis: A social work research case example. *Journal of Sociology and Social Welfare, 22-99-144.*

Bernal, H., Cantero Gonzalez, M. L., Molina Contreras, J. L., Shellman, J., & Vargas Jimenez, J. A. (2006). The level of cultural self-efficacy among a sample of Spanish nurses in south eastern Spain. *Journal of Trans-cultural Nursing, 17, 164-239.*

Bishop, V. E. (2004). *Teaching visually impaired children (3ʳᵈ ed.).* Springfield, IL Charles C. Thomas.

Bogdan, T. & Taylor, S. (1984). *Introduction to qualitative research methods*. Wiley, New York.

Brannen, J. (2004). *Mixed method: qualitative and quantitative research.* Aldershot: Avebury

Burns, R. (2000). *Introduction to research methods*. (4ᵗʰ ed.). South Melbourne: Longman.

Carillet, J. B., McKinnon, R., & Starnes, D. (2008). *Papua New Guinea and Solomon Islands.* Victoria, Australia: Lonely Planet Publishers.

Celeste, M. (2006). Play behaviours and social interactions of a child who is blind: In theory and practice. *Journal of Visual Impairment and Blindness, 100, 75-90.*

Central Intelligence Agency. (2011).Papua New Guinea. In *The World Fact book.* Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/pp.html

Ceria, C., Kataoka-Yahiro, M., Kim, E., & Willgerodt, M. A. (2005). Issues of instrument translation in research on Asian immigrant populations. *Journal of Professional Nursing 21 (4), 231-239.*

Charters, L. (2005). Australian kids found to have low rate of visual impairment. *Ophthalmology Times, 30*, 18.

Clarke, G., Keeffe, J. E., & Thies, L. (1998). Low vision: In P. Kelley, & G. Gale (Eds.). Towards excellence: Effective education for students with vision impairments (pp33-40). North Rocks, NSW: North Rocks Press.

Corra-Torres, S. M. (2008). The nature of social experiences of students with deaf-blindness who are educated in inclusive settings. *Journal of Visual Impairment and Blindness, 102, 272-283.*

Creswell, J. W. (1998). *Qualitative inquiry and research design.* Thousand Oaks, CA: Sage.

Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed method approaches. (3rd ed.).* Thousand Oaks, CA: Sage.

Cronnin, P. & Gale, G. (1998). The School Years. In P. Kelly & G. Gale (Eds.). *Towards Excellence: Effective education for students with vision impairments.* Royal Institute for the Blind Children. North Rocks: Australia.

Department of Education. (2004). *Achieving a better future: A national plan for education 2005-2014.* Waigani, NCD, Papua New Guinea.

Department of Education. (2008).*The state of education report*. Papua New Guinea: National Department of Education. Retrieved from http://www.education.gov.pg/index.php?content=quicklinks/reports

Department of Education (PNGNDE). (2009). *Special education office.* Waigani, NCD, Papua New Guinea.

Department of Education. (2011). *Papua New Guinea Department of Education.* Retrieved from http://www.education.gov.pg/ personal communication (17th July 2011). Officer from PNG National Department of Education, Port Moresby, Papua New Guinea.

Denzin, N. K. & Lincoln, Y.S. (Eds.). (1994). *Handbook of qualitative research*. Thousand Oaks, CA: Sage.

Denzin, N. K. & Lincoln, Y.S. (2003). *The landscape of qualitative research.*

(2nd ed.). Thousand Oaks, CA: Sage.

Denzin, N. K. & Lincoln, Y.S. (2008). *Collecting and interpreting qualitative materials.* (3rd ed.). Thousand Oaks, CA: Sage.

Dummer, G. M., Lieberman, L., Moffett, A., & Shapiro, E. R. (2008). Domain-specific ratings of importance and global self-worth of children with visual impairments. *Journal of Visual Impairment and Blindness, 102, 232-244.*

Edwards, B. (2002). Deep inside research. *Qualitative Research Journal 2, (1), 71-84.*

Emden, C., & Sandelowski, M. (1998). The good, the bad, and the relative, part two: Goodness and the criterion problem in qualitative research. *International Journal of Nursing Practice, 5, 2-7.*

Emden, C., & Sandelowski, M. (1998b). The good, the bad, and the relative, part two: Goodness and the criterion problem in qualitative research. *International Journal of Nursing Practice, 5, 2-7.*

Friend, M. (2011). *Special education: contemporary perspectives for school professionals*. (3rd ed). Pearson Education. Upper Saddle River, New Jersey.

Frost, R. (2002). Papua New Guinea primary and secondary teacher education project (PASTEP). *Special education: Student support material.* Australian agency for international development (AusAID). GRM international printers.

Gillham, B. (2005). *Research interviewing the range of techniques*. Maidenhead, England: Open University Press.

Glaswer, B. G. & Strauss, A. L. (1967). *The discovery of grounded theory*. Aldine, Chicago.

Gray, D. E. (2009). *Doing research in the real world* (2nd ed.). London, England: Sage.

Guba, E. G & Lincol, Y. S. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Hammersley, M. (1992). *The politics of social research.* London: Sage. Hien, T. V., Keeffe, J. E., Mitchell, P., Pezzullo, M.L., Rachtchina, E., Taylor, H. R., & Wang, J. J. (2005). Vision loss in Australia. *The Medical Journal of Australia, 182,* 11, 565-568.

Hersey, J. (1988). Agee. *New Yorker*, 18 July, 72-82.

Hien, T. V., Keeffe, J. E., Mitchell, P., Pezzullo, M.L., Rachtchina, E.,   Taylor, H. R., & Wang, J. J. (2005). Vision loss in Australia. *The Medical Journal of Australia, 182,* 11, 565-568.

Human Development Indices. (2008). *Papua New Guinea slides further down United Nations Development Index.* Retrieved from cid.org.nz/news/nr1200541262.html.

Hollway, I. (2011). Being a qualitative researcher. Retrieved from http://www.sagepublication/21/7/968.

International Council for Educators of People with Visual Impairment. (2011). *Education for All*. A global campaign on education for all children with visual impairment. Retrieved from http://www.icevi.org/efa/efa_world_conference.html.

Jenkins, H. J. (2002). A continuum-based approach to inclusive policy and practice in regular schools. *Special Education Perspectives, 11, 56-71.*

John, R. B. (1997). Examining the validity structure of qualitative research. *Education 118.2 (Winter 1997): 282-292*

Josephs, J. (2000). *Education for all assessment 2000: Papua New Guinea country report.* UNESCO: Retrieved from http://www.unesco.org/education/wef/countryreports/papua_new_guinea/contents.html#cont

Keeffe, J. (2012). Success factors, issues and challenges. Paper presented at the *WBU-ICEVI General Assemblies: Achieving our vision through empowerment and partnerships.* Bangkok, Thailand: The Imperial Queen's Park Hotel. 17.11.2012.

Larson, M. L. (1991). Translation: theory and practice, tension and interdependence. *American Translators association scholarly monographs. 5*. Binghampton, NY: State University of New York.

Mead, M. (1978). The Sepik as a culture area: Comment. *Anthropological Quarterly 52*, 1, 69-75.

Mooney, M. (1998). *Developing life-long readers*. Wellington: Department of Education.

Muhlenhaupt, M. (2002). Family and school partnerships for IEP development. *Journal of Visual Impairment and Blindness, 96, 175-178.*

Pagliano, P. J. (2012). Facts about ... Vision and vision impairment. In A. Ashman & J. Elkins (Eds.). *Education for inclusion and diversity.* (4th ed., pp. 188-190). Sydney: Pearson Prentice.

Pagliano, P. J. & Gillies, R. (2012). Inclusive teaching practices. In A. Ashman & J. Elkins (Eds.). *Education for inclusion and diversity.* (4th ed., pp. 225-254). Sydney: Pearson Prentice.

Rallis, S. E. & Rossman, G. B. (1998). *Learning in the field: An introduction to qualitative research.* Thousand Oaks, CA: Sage. Shapiro, E. R., (2008). Domain-specific ratings of importance and global self-worth of children with visual impairments. *Journal of Visual Impairment and Blindness, 102, 232-244.*

United Nations Educational, Scientific and Cultural Organization (UNESCO). (2008). *Papua New Guinea Country report.* Paper presented to inclusive education: The way forward. Geneva, International Conference Centre, 25-28 November.

Westwood, P. (1997). *Common sense methods for children with special needs.* London: Routledge/Falme.

Chapter 5

Equity and access for students with vision impairment:

A quantitative study

5.1 Abstract

This paper reports on a quantitative research study on equity and access for students with vision impairment (VI) conducted in Papua New Guinea (PNG). Using the WHO definitions, students with VI comprise two groups: those with a low vision with visual acuity <6/18 and those who are legally blind with visual acuity <3/60. A survey questionnaire consisting of 16 questions plus a section for written comments was forwarded to 124 Special Education Resource Centre (SERC) teachers. There was a response rate of 83% (n=103). Respondents rated questions using a five point Likert scale from strongly disagree (1) to strongly agree (5). Preliminary results indicate the majority of the 377 students who received specialist services in 2009 are Braille using and legally blind, with students with low vision seriously neglected. In PNG approximately 160,000 children in any one year level and an incidence of VI of about 0.21% for low vision and 0.07% for legally blind, the numbers would be expected to be about 336 for low vision and 112 for blind in each school year cohort if all children went to school. Teachers in the survey identified significant problems as: negative attitudes of parents and regular teachers, an over focus on disability rather than student ability, the need for specialist pre-service and in-service training and a lack of resources to support student transition to secondary and tertiary education. The paper makes three recommendations. These are that the National Department of Education and relevant stakeholders:

1. Make a firm commitment to achieve equity and access for all children including those with VI.

2. Identify all children with VI (low vision and blind) and ensure that they are all assessed and appropriately supported.

3. Provide relevant pre and in-service teacher training and material resources.

5.2 Introduction

This research investigates circumstances that inhibit children with VI from receiving an education in PNG. It aligns with the *World Declaration on Education for All: Meeting Basic Learning Needs* (UNESCO, 1990), the *Salamanca Statement and Framework for Action on Special Needs Education (1994)* adopted at the *UNESCO World Conference on Special Needs Education: Access and Quality* and the *Dakar Framework for Action, Education for All: Meeting Our Collective Commitments* (UNESCO, 2000). As a signatory to the Universal Basic Education (UBE) conventions PNG has made a commitment to achieve education "For All Children" including children with disabilities by 2015. The PNG National Department of Education (NDoE) (2004, p. 6) identifies its mission as: "to make education accessible to the poor and physically, mentally and socially handicapped as well as to those who are educationally disadvantaged". This commitment was made explicit in the NDoE (1993) Special Education plan, policies and guidelines and subsequent publications.

5.3 Background

Prior to the implementation of the PNG NDoE (1993) plan, policies and guidelines on Special Education, a small number of students with VI attended segregated non-government specialist facilities for their primary and secondary education (Adams, 1986). To attend school and receive an education, students had to leave their community, their language and culture. This often resulted in ongoing displacement even after they left school (Aiwa & Pagliano, 2011).

122

The UNESCO (1988) *Review of the present situation of special education* estimated that: "less than 2%" (p. 3) of children with disabilities in developing countries receive special services of any kind). In PNG with one report stating: "It was generally accepted that these children would remain at home in the village and be cared for by the community" (NDoE, 2002, p.105). PNG NDoE Special Education Office (2009) data indicate that 377 students with VI currently attend school, a figure considerably lower than the estimated eligible number (Aiwa & Pagliano, 2011).

According to the WHO definitions, students with VI comprise those with low vision with a visual acuity of <6/18 and those who are legally blind with a visual acuity of <3/60. With approximately 160,000 children in any one year level and an incidence of VI of about 0.21% for low vision and 0.07% for legally blind if all children attended school the numbers could be as high as 336 for low vision and 112 for blind in each school year cohort (Keeffe, 2012). Aiwa and Pagliano (2011) argue that this discrepancy is largely because only students who are blind receive services, with children with low vision and children with multiple disabilities not identified as requiring assistance in the area of vision. They further indicate that the estimate would be substantially reduced if extensive preventive measures, such as basic health care and the prescription of spectacles became more widely available.

5.4 Method

In this study both quantitative and qualitative survey methods were used to collect, process and analyse the data. A survey consisting of sixteen questionnaires and a section for comments were used to assess teachers' feelings, thoughts, and opinions (Shaughnessy et al., 2003) about education of students with VI in PNG. The questionnaire was developed from information obtained from a review of the literature (Aiwa & Pagliano, 2011) and the principal investigator's 26-year experience of working in special education in PNG. Ethics approval for the research was obtained from the James

Cook University Human Research Ethics Committee (H3846, 24.8.2010) and the PNG National Department of Education (FRI-1-2, 12.7.2010).

The survey was sent by post to 124 teachers employed in 21 PNG Special Education Resource Centres (SERCs) (see Table 1 for full questionnaire). Participants were invited to rate each statement using a five point Likert scale. Responses were coded in numerical value from one to five (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree). The Likert scale was employed because it is easier to understand, code and interpret (Arnetz & Hanson, 2005).

5.5 Results

Of the 124 teachers in SERC in PNG who were sent the questionnaire, 83% (n=103) responded. Simple descriptive analysis, including the number and percentage of respondents, were conducted on the 16 questions (Burns, 2000). These data were then reduced by combining (1 strongly disagree with 2 disagree) and (4 agree with 5 strongly agree). See summary of results in Table 1.

Table 5.1 Summary of results

Statements	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	1	**2**	**3**	**4**	**5**
1. Children with VI do not attend school because parents and community members think the children are not capable of academic learning.	*Disagree*		*Undecided*	*Agree*	
	20% (n=21)		*13% (n=13)*	*67% (n=69)*	
2. Cultural attitudes and beliefs about VI negatively affect student	*Disagree*		*Undecided*	*Agree*	

124

	Disagree	Undecided	Agree
progress at school.	24% (n=25)	9% (n=9)	**67% (n=69)**
3. Parents of students with VI cannot afford to send their child to school.	*Disagree* **51% (n=53)**	*Undecided* *19% (n=19)*	*Agree* *30% (n=31)*
4. Children with VI do not attend school because of lack of appropriate policies and funding.	*Disagree* *38% (n=39)*	*Undecided* *7% (n=7)*	**Agree** **55% (n=57)**
5. Most schools are located in cities and towns but the majority of children with VI live in rural communities	*Disagree* *26% (n=27)*	*Undecided* *12% (n=12)*	**Agree** **62% (n=64)**
6. Students with VI do not progress to further education because of the examination process at grades 8, 10 and 12.	*Disagree* *25% (n=26)*	*Undecided* *16% (n=16)*	**Agree** **59% (n=61)**
7. Examination papers for Grades 8, 10 and 12 are provided in Braille, large print and audio format for all students with VI.	**Disagree** **56% (n=58)**	*Undecided* *10% (n=10)*	*Agree* *34% (n=35)*
8. The NDOE provides specific guidelines on how examinations are to be conducted for students with VI.	**Disagree** **61% (n=63)**	*Undecided* *6% (n=6)*	*Agree* *33% (n=34)*
9. Teachers in SERCs are given training in how to produce internal examinations in Braille, large print and audio format for students with VI.	**Disagree** **52% (n=54)**	*Undecided* *15% (n=15)*	*Agree* *33% (n=34)*
10. Teachers emphasise the disability rather than the student with VI's ability	*Disagree* *18% (n=22)*	*Undecided* *11% (n=11)*	**Agree** **71% (n=70)**
11. Mainstream schools receive SERC support for students with VI.	*Disagree* *22% (n=22)*	*Undecided* *18% (n=19)*	**Agree** **60% (n=62)**
12. All teachers in primary and secondary schools are trained in the education of students with special needs.	**Disagree** **73% (n=75)**	*Undecided* *8% (n=8)*	*Agree* *19% (n=20)*
13. All school administrators are familiar with NODE policy on	*Disagree*	*Undecided*	*Agree*

inclusive education.	**70% (n=72)**	10% (n=10)	20% (n=21)
14. Students with VI make little progress to tertiary institutions because of negative attitudes displayed by teachers and school administrators	*Disagree* 14% (n=14)	*Undecided* 11% (n=11)	**Agree** **75% (n=78)**
15. All needs of students with VI are adequately addressed by regular and SERC teachers.	**Disagree** **68% (n=70)**	*Undecided* 4% (n=4)	Agree 28% (n=29)
16. Students with VI should attend a Special Education Resource Centre rather than a mainstream school.	**Disagree** **56% (n=58)**	*Undecided* 11% (n=11)	Agree 33% (n=34)

Questions one to five focused on what teachers identify as reasons children with VI do not attend school. Sixty seven per cent of respondents indicated that the two strongest reasons for children not attending school were that parents and people in the community do not believe the children are capable of academic learning, and that negative cultural attitudes and beliefs about VI deter participation. The third reason identified, was the distance children have to travel to attend school (62%) and the fourth reason with 55% agreement was the lack of appropriate policies and funding. The majority of teachers did not consider parental socioeconomic status as an inhibiting factor with 51% disagreeing or strongly disagreeing, and only 30% agreeing or strongly agreeing.

In PNG, students must pass national examinations at grades 8, 10 and 12 to progress to further education. Questions six to nine were included to determine whether teachers considered that adequate arrangements were being made for students with VI. The strongest negative response (61% disagreeing or strongly disagreeing) indicated that the NDoE did not provide specific guidelines on how examinations are to be conducted for students with VI. Further, the survey responses indicated that 59% of respondents agreed that the national examinations did inhibit student with VI progressing to higher levels in education. Only 34% of teachers agreed or strongly agreed that examination papers were provided in appropriate formats such as Braille, large print or audio and only 33% of teachers

agreed or strongly agreed that they were given training in how to produce examinations in alternative formats.

A series of survey questions (10 to 16) focused on what happens while students with VI are at school. In this section the teachers gave their five strongest responses for any of the 16 questions. The majority of teachers (75% agreed or strongly agreed, believe negative attitudes of teachers and administrators inhibit student progress to tertiary education. Seventy-three precent of respondents disagreed or strongly disagreed that education of students with special need featured in primary and secondary teachers training. Further, 71% agreed or strongly agreed that teachers emphasise the disability rather than student ability when considering students' progress. Additionally, the survey respondents noted that school administrators lacked familiarity with NDoE policy on inclusive education (70%). This lack of awareness was consistent with the survey finding that 68% of respondents felt that student needs are adequately addressed by regular and SERC teachers. The remaining question that focussed on the ability of mainstream school teachers to support students with VI with 65% disagreeing or strongly disagreeing students with VI should attend SERCs rather than mainstream schools with only 33% agreeing or strongly agreeing.

5.6 Discussion

The most prominent result (75%) relates to the prevalence of perceived negative attitudes in the community, with parents, with teachers and with school administrators. Negative attitudes strongly influence expectations regarding student achievement. They begin with parents and community members not believing that children with VI are capable of achieving at school and are reinforced by pervasive negative cultural attitudes and beliefs. Teachers summed up the problem of negative attitudes by saying "most people see blind people as valueless". "More children with VI are held back at homes/villages because parents and children themselves do not know their rights". Most research

studies supported the idea that higher levels of personal contact improve attitudes towards disability group (Advokat, Gouvier & Meyer, 2001; Gouvier, Jackson, Schlater, Steiner & Rain, 1991; Grand, Purcell & Strohmer, 1984; Hunt & Hunt, 2000). One teacher describes attitudes "of able people towards VI (which) do not allow them to have basic education". Similarly, parent's cultural beliefs and attitudes about VI negatively affect student progress at school. Attitudes have always been a point of discussion and debate by professionals because of the assertion that attitudes direct behaviour (Azjen & Fishbein, 1980; Goddard & Jordan, 1998; Livneh, 1991; Millington, Strohmer, Reid, & Spengler, 1996; Yuker, 1988).). As one teacher puts it "cultural belief hinders the student with VI access to basic education". Another expressed similar sentiment that "classification tags of students with VI must be removed". Hence, Blatch, Cruickbank and Nagel (1998) share their experiences in New Zealand that diverse cultural needs of students with vision impairment will continue to be an issue. Frost (2002) on the other hand emphasised that it is vital to understand the difference between PNG traditional and western beliefs about why some children are born with disabilities could assist teachers, parents, and communities in their work with children with special needs. Furthermore, Evriss (1990) stressed that the attitudes of staff, parents, pupils and school community as well as ethos of the school will greatly impact on the educational services provided for students with VI.

This is because only those children who are functionally blind are identified and receive support (Aiwa & Pagliano, 2011). Children with low vision either attend school without being identified or do not go to school. Low vision is regarded as an invisible disability because it is not immediately apparent. As one teacher reported: "children [with VI] attending schools are not given [as] much attention as … children with other forms of disabilities." Another respondent went further to claim: "in PNG VI is the most neglected area". Clarke, Keeffe and Thies (1998) pointed out that with the reduced extent of their visual field many students with low vision were unable to read regular print. Therefore, students with low vision often experience significant problems with learning because of the limited amount of vision they have available for them to see both near and distant objects. Because of the importance of vision in perceiving information, the loss of vision results in

educational, social, and environmental experiences that are different from sighted peers (Groenveld, 1990; Rex et al., 1994).

The 16 questions in the survey covered possible reasons children do not get to school, do not stay at school, and/or do not make progress while at school. Teacher training and resourcing were two issues of considerable concern with some respondents arguing these measures are necessary to implement the policy. Teachers stressed regular teachers in primary and secondary schools require more training in special needs, and SERC teachers require training in areas other than primary. As one teacher describe "teachers at all levels … should be trained to teach [children with] special needs". Ferrell and Spungin (1992) share similar views that the students with VI are entitled to a teacher who is competent to provide specialist services for students with VI. Yet, another teacher stated that "SERC staff cannot support effectively students with VI at [higher levels] … because SERC staff are all primary … trained". Chapman and Stone (1988) emphasised that all teachers working with students with VI should have specialist training. "Inclusive education policy is there but teachers are not implementing purposively due to lack of knowledge and skills".

Special Education Resource Centre (SERC) teachers' comments around resources emphasised the need for both material resources such as specialist technology, Braille, low vision aids and large print materials as well as human resources such as staff who know Braille, Orientation and Mobility Instructors and much greater access to Optometrists and Ophthalmologists, especially in rural areas (Murphy, 2011). As one respondent described "all SERCs should be equipped with appropriate specialised equipment to produce materials to assist children with VI in their learning". Yet, another made similar comment "PNG has adopted and also came up with a very good policy on special education but lack of funding and resourcing is hindering effective implementation of the policies. I hope the government increases its funding allocation to the National Special Unit and Resource Centres to promote a wider inclusion in mainstream schools". Cronin and Gale (1998) argued that the

129

inclusion of students with VI in a class, forward planning is essential. Blatch, Cruicksbank and Nagel (1998) expressed that many students would require text and materials in alternative format which takes time to prepare. The students with VI should have access to the curriculum in the format that is appropriate, at the same time with sighted students. Therefore, the resources and support for students with VI should be shared amongst different organizations and individuals supporting the learning of students with VI. In Blatch (1997 p. 79) words "innovative planning and sharing of resources between agencies can help in this process".

5.7 Conclusion

The majority of respondents (75%) identified negative attitudes by stakeholders as the principal issue inhibiting students with VI making progress in school. Teachers made statements like: "More children with VI are held back at home in the village because parents and children themselves do not know their rights" and "Most people see blind people as valueless". Another concern was that regular teachers are over focused on disability rather than student ability, the need for specialist pre-service and in-service training and a lack of resources to support student transition to secondary and tertiary education.

The paper makes three recommendations. These are that the National Department of Education and relevant stakeholders:

1. Make a firm commitment to achieve equity and access for all children including those with VI. (This would require extensive work on reducing negative attitudes).
2. Identify all children with VI (low vision and blind) and ensure that they are all assessed and appropriately supported.
3. Provide relevant pre- and in-service training and material resources.

5.8 Acknowledgements

5.9 References

Adams, J. (1986). Pilot programme of research in Papua New Guinea. In P. Pagliano (Ed.). *Proceedings of the Australian and New Zealand Association of Educators of the Visually Handicapped* (pp.61-63). Brisbane, Qld: ANZEAVH.

Advokat, C., Duke, M., Gouvier, W. D., & Meyer, L. (2001). Influence of social context on reported attitudes of nondisabled students towards students with disabilities. *Rehabilitation Counselling Bulletin, 45,. 50-52.*

Aiwa, J. & Pagliano, J. P. (2011). The education of students with vision impairment in Papua New Guinea: A tentative review of the Literature. *Journal of South Pacific Educators in Vision Impairment, 5,*1. pp. 50-57

Azjen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviours*. Englewood Cliffs, NJ: Prentice Hall.

Baker, R. L., Koenig, A. J., Rex, E. J., & Wormsley, D.P. (1994). *Foundations in Braille literacy*. New York: American Foundation for the Blind.

Blatch, P. (1997). Draft standards for the education of students with vision impairment (including those with multiple impairments). *Newsletter of the Australia and New Zealand Association of Educators of the Visually Handicapped, 31 (1), 11-14.*

Blatch, P., Cruickbank, L. & Nagel, G. (1998). Current practice and future directions. In P. Kelley, & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments* (pp.33-40). North Rocks, NSW: North Rocks Press.

Burns, R. (2000). *Introduction to research methods*. (4th ed.). South Melbourne: Longman.

Chapman, E. K., & Stone, J. M. (1988). *The visually handicapped child in your classroom*. London: Cassell Educational.

Clarke, G., Keeffe, J. E., & Thies, L. (1998). Low vision: In P. Kelley, & G. Gale (Eds.). Towards excellence: Effective education for students with vision impairments (pp33-40). North Rocks, NSW: North Rocks Press.

Cronin, P. & Gale, G. (1998). In P. Kelley, & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments* (pp.33-40). North Rocks, NSW: North Rocks Press.

Department of Education. (1993). *The national plan, policy and guidelines for special education.* Waigani, NCD, Papua New Guinea.

Department of Education. (2002). *The state of education in Papua New Guinea.* Waigani, NCD, Papua New Guinea.

Department of Education. (2004). *Achieving a better future: A national plan for Education 2005-2014.* Waigani, NCD, Papua New Guinea.

Department of Education. (2009). *Special Education Office.* Waigani, NCD, Papua New Guinea.

Ferrell, K. A. & Spungin, S. J. (1992). The role and function of the teacher of students with visual handicaps: Proposed positions paper. *Division of the visually handicapped.* Reston, VA: Council for Exceptional Children.

Frost, R (2002). Primary and secondary teacher education project. (2002). *Special education: Student support material.* Australian Agency for International development (AusAID). GRM International

Goddard, L., & Jordan, L. (1998). Changing attitudes about persons with disabilities: Effects of a simulation. *Journal of Neuroscience Nursing, 30,. 307-313.*

Gouvier, W.D., Jackson, W. T., Rain, J. S., Schlater, D., & Steiner, D. D. (1991). Employment discrimination against handicapped job candidates: An analog study of the effects of neurological causation, visibility of handicap, and public contact. *Rehabilitation Psychology, 36, 121-129.*

Grand, S. A., Purcell, M. J. & Strohmer, D.C. (1984). Attitudes towards persons with disabilities: An examination of demographic factors, social context, and specific disability. *Rehabilitation Psychology, 29, 131-145.*

Groenveld, M. (1990). The dilemma in assessing the visually impaired child. *Developmental Medicine and Child Neurology 32, 105-113.*

Hunt, B., & Hunt. C. S. (2002). Attitudes toward people with disabilities: A comparison of undergraduate rehabilitation and business majors. *Rehabilitation Education, 14, 269-283.*

Keeffe, J. (2012). Success factors, issues and challenges. Paper presented at the *WBU-ICEVI General Assemblies: Achieving our vision through empowerment and partnerships.* Bangkok, Thailand: The Imperial Queen's Park Hotel. 17.11.2012.

Livneh, H. (1991). On the origins of negative attitudes toward people with disabilities. In R. P. Marinelli & A. E. Dell Orto (Eds.). *The psychological and social impact of disability* (3rd ed., pp.181-196). New York: Springer.

Millington, M. J., Reid, C. A., Spengler, P. M., & Strohmer, D. C. (1996). A preliminary investigation of the role of differential complexity and response style in measuring attitudes toward people with disabilities. *Rehabilitation Psychology, 41, 243-254.*

Murphy, K. (2011). Passing on the healing in PNG. *Surgical News,* Jan/Feb., 8-9.

Shaughnessy, J.J., Zechmeister, E. B. and Zechmeister, J. S. (2003). Research method in Psychology, 6th ed., McGraw-Hill, MA.

United Nations Education, Scientific Cultural and Organization. (1988). *Review of the present situation of special education.* New York, NY: New York House.

United Nations Educational, Scientific and Cultural Organization (UNESCO). (1990). *World Declaration on Education for All: Meeting basic learning needs*. New York: New York House.

United Nations Education, Scientific Cultural and Organization. (1994). Salamanca statement and framework for action on special educational needs education: *Adopted by the World Conference on Special Education: Access and Quality.* Paris: United Nations.

United Nations Education, Scientific Cultural and Organization. (2000). Jomtien Declaration, *UNESCO World Conference on Education For All.* Dakar, Senegal.

Yuker, H. E. (Ed.). (1988). *Attitudes towards persons with disabilities*. New York: Springer.

Chapter 6

Linking Paper

6.1 Introduction

The aim of this linking paper is to provide the reader with a synthesis of my learning during my doctoral studies. Therefore, it will not only detail the 'so what' of the research but, also tell the story of my own personal learning journey as a Professional Doctorate student. This information is useful to me personally because it helps me to understand my growing knowledge of research. In addition it provides an opportunity to share my new found knowledge with future higher degree by research students from Papua New Guinea (PNG). As this linking paper explores my own personal experiences, I have decided to employ auto-ethnographical methods to help tell the story of my learning journey.

The research, the first of its kind based in PNG, consists of a portfolio dissertation that includes four research projects: a survey of the literature plus three research activities each targeting the goal of improving educational services and opportunities for children and young people with vision impairment (VI) in PNG. In each research activity I employed a different research design: methodology, research method, data collection tools and forms of analysis.

The overarching research aim was to investigate the circumstances that may inhibit children and young people with VI participating in education in PNG. There were three research questions. They were:

1. How can I better understand my own education journey from indigenous Yuri child in PNG through to Doctor of Education candidate? (This question was used in the auto-ethnographic study – see Chapter 2.)

2. What is the current situation regarding the education of children and young people with vision impairment in PNG? (This research question was used in the survey of the literature and in the quantitative study – see Chapters 3 and 5).

3. What were the social and educational experiences of five former students with vision impairment in gaining an education in PNG? This research question was used in the qualitative study – see Chapter 4.)

The goal of this research was to promote and increase enrolment of children and young people with VI in mainstream schools by identifying factors that inhibit their participation in education, and to find ways to improve the current situation. The findings from these studies will be used to inform stakeholders and to propose new approaches to improve the quality and reach of specialist services that relate to the education of children and young people with VI in PNG.

6.2 The first hurdle of the long journey

My acceptance at James Cook University (JCU) for the Doctor of Education (Research) degree was on condition that in the first semester of my study I enrol in *ED5290-Introduction to Educational Research* (Australian Development Scholarship (ADS) Offer Letter, 2008). The ADS (2008) further stated that: "I must achieve a Credit grade or better" (p. 3). The subject was offered online, a totally new experience for me. I was used to a traditionally structured class with face-to-face delivery mode. ED5290 presented a range of key educational research designs and methods. We (the students) were to critically review approaches to research in education, related theoretical frameworks, methodologies and methods. The objective was to understand and develop key concepts from a range of research approaches. Additionally, the subject was designed to help develop skills in related research techniques of data gathering and analysis, ethical issues, critically reflective perspectives and the politics of research. On completing ED5290 we were expected to be able to demonstrate the necessary skills and ability to: appraise information critically; use independent judgment to synthesise

information to make intellectual and creative advances; conceptualise problems and evaluate a range of potential solutions; communicate the methodology, results and implications in a manner appropriate to different purposes and audiences (JCU Studyfinder, 2011).

In order to pass *ED5290*, my assessable task involved an online presentation worth 30% and a mini research worth 70%. From the start, I was lost and confused about the electronic presentation of assignments. It was the first of many noteworthy challenges on my doctoral journey. After many attempts and extra help, I learnt to regularly and independently present my assessment as well as contribute to online discussions. Furthermore, I found this method very useful, especially reading other students' and the teacher's comments, particularly as the students were located in different parts of Australia and overseas. I discovered too, that although with online learning, there was flexibility in completing the assignments and projects. I still needed to be highly disciplined when scheduling my time to complete each task. Even though I was able to overcome the initial difficulties with the online learning, the biggest challenge, carrying out a mini research study, still lay ahead. The title of my mini research study was: *Perceptions and attitudes of PNG post-graduate students studying at JCU.* The aim was to identify PNG post-graduate students' understanding, knowledge and attitudes regarding education of students with VI. Twenty post-graduate students from PNG studying at JCU in 2009 (12 females and 8 males) took part in this survey. The students represented the four regions of PNG (Island, Highland, Southern and Momase). Although the research approach used a quantitative methodology, opportunity was provided for participants to offer some qualitative data by adding written comments.

A survey method was used to collect data. The questions were developed as a pilot questionnaire of a proposed later broader research project. The results indicated that the post-graduate students believed that negative attitudes and beliefs about students with VI were present in PNG among parents (78.6%); secondary school administrators (57.1%) and other community members

(78.6%). Interestingly, a broader survey conducted later in 2010 with 108 teachers in Special Education Resources Centres (SERCs) across PNG revealed that 67% of respondents thought that cultural attitudes and beliefs about VI negatively affected students' progress at schools. Both studies indicated that respondents believed negative attitudes of parents, teachers, communities and school administrators do inhibit children and young people with VI's participation and progression in mainstream education in PNG.

In this study, I was expected to effectively employ the different research skills learnt in ED5290. The outcome of the mini research would be seen as my ability to demonstrate the qualities related to doctoral level study, such as critical thinking, self-awareness and scholarship (Petty & Stew, 2010). This was my first experience of undertaking research and generating knowledge and skills for the professional context (Nacey-Jane, 2008). When I revisited my mini research proposal and the ED5290 assignment, which were completed in 2009 and compared them with my current three studies I quickly realised there was an enormous difference in sophistication between the mini and subsequent broader research studies. This learning will become more apparent later on in this linking paper.

Overall my experience with the mini study would best be described by employing Bloom's Taxonomy (1956). Within the domains, Bloom (1956) stressed that a student's "learning at the higher levels is dependent on having attainted prerequisite knowledge and skills at the lower level" (p.1). Reflecting on my educational experiences I have no memory of previously learned knowledge, which would be helpful for study at doctorate level. It seemed like each idea and concept was new or needed to be understood in a new way. There was no learning I could just take for granted. I had to learn every skill involved in the research study, which would often delay the progress of my work in excruciatingly frustrating ways. I kept on discovering that I had gaps in my learning and these gaps made it problematic for me to consolidate my learning. It was like my brain was a sieve and I was

unable to retain the information I was studying. My limited skills with comprehension, application, analysis, synthesis and evaluation of academic writing were proving to be insufficient for doctoral study. At one stage, the coordinator of *ED5290* read through work I submitted and the comments were: 'Can you read and write at this level?' (Coordinator, 2009). The comments made me feel uncomfortable in many respects but, on the other hand, the comments reinforced the need to re-examine and reorganize my study pattern. Despite the weakness in my academic writing identified by the coordinator, I took all criticism and negative comments calmly and positively. I knew those comments were directed at my work and not at me as a person. I was also worried that I would take too much time reading and studying and might not find time to complete my mini research. During this period I felt like I was drowning in a sea of information as I read deeply and studied the research papers, journals, and books that would help me develop my knowledge and skills in research. My struggle was best described by Chynoweth (2006) as "professional doctorates are therefore sometimes described as tough doctorates" (p.1). The word "tough" resonates with my experience. He further elaborated that doctorates are entirely different from any other qualification that might have been studied for in the past, and represent the ultimate academic achievement in that profession.

After completing the *ED5290* in July 2009, for which I gained a Credit, I began to gain confidence in my own ability and believed that I had the necessary skills and knowledge required to continue my doctoral journey. However, there was no time to rest as to carry on the journey I had to prepare for the next hurdle - the Confirmation Seminar.

6.3 Confirmation Seminar

The next formal task of the doctoral journey was to pass the Confirmation Seminar. According to JCU Confirmation Policy and Procedure (1995) "a candidate enrolled in a research Doctorate degree normally has up to six months full-time to have his/her candidature confirmed" (p.1). To prepare for

the Confirmation Seminar I was required to prepare a written research proposal of at least 2, 000 words and submit a substantive piece of scholarly writing together with the research proposal to the Principal Supervisor and Head of School before the seminar (JCU Confirmation Policy and Procedure, 1995). In the research proposal I was expected to include: a concise statement of the research questions; a critical summary and analysis of relevant literature; an explanation of the conceptual framework to be used for the research; and an argument of the relevance and importance of the study (JCU Graduate Research School, 2009).

My research proposal began with a brief background on PNG because past history has had such a powerful effect on shaping the provision of education services for children and young people with VI (Aiwa & Pagliano, 2011). For the research proposal, four key terms were used. They were: visual impairment (VI), primary education, secondary education, and Special Education Resource Centres (SERC). The original aim of my study when I prepared the research proposal was: *To investigate the factors that may inhibit students with VI from participating in education in PNG.* After reviewing the research literature, this aim was changed. I discovered that the research problem was bigger than I had originally thought. Many children and young people with VI completely miss out on participating in education in PNG. The aim was therefore revised to: *To investigate the circumstances that surround the education of children and young people with VI in PNG.* I also learnt from my research that in Education Services in PNG there is an over focus on functional blindness, which means there are virtually no specialist services for those with low vision.

Another shortfall in the ED5290 proposal was I hardly even mentioned the significance of the research, whereas by the time I presented my confirmation seminar I had developed a more erudite justification. This justification came from my new understanding of the research literature and from my extensive personal experience as a teacher living and working in PNG. The idea that I could employ my own experience and expertise in qualitative research was also a revelation. Using my

experiences, I could be self-focused and context-conscious. Qualitative research also encouraged me to take a systematic approach to data collection, analysis, and interpretation about self and social phenomena involving self (Bochner & Ellis, 2000; Chang, 2007; Denzin, 2006; Ellis, 2004). The resulting data provided a window through which the external world could be understood.

In my proposal I identified three expected outcomes as:

1. A set of recommendations for the National Department of Education (NDoE) to guide resource allocations for the education of students with VI in PNG.

2. Guidelines for professional development of staff to ensure the participation of students with VI, and improve participation of students with VI.

3. Documented experiences of students with VI.

These expected outcomes were drawn from my views on the education of children and young people with VI in PNG. The difficulty regarding my preparation of these expected outcomes was I did not know very much about my own ignorance. I therefore needed to clarify the difference between what I believed to be the situation and what was actually happening (King & Kitchener, 1994). For example when I arrived in Australia I naively identified the major inhibiting factor relating to the education of children and young people with VI as a lack of support from the PNG government. I had quite a black and white understanding of the situation. I further believed that all assistance should focus on students who are functionally blind and that teacher training should concentrate on ensuring teachers know braille.

While conducting my review of the literature and doing the research projects, I discovered that what I formerly believed to be the case was only part of the story, and that the reality was much

more complicated. Looking back, I have been able to identify evidence that some of my pre-reflective thinking before I began my research was in fact inaccurate or merely uninformed personal opinion (King & Kitchener, 1994). Evidence from the literature revealed that there are many other issues that affect the education of children and young people with VI in PNG. For instance, even getting a child with VI to attend school in some isolated parts of PNG is an enormously difficult task (Adams, 1986). Many children with VI never even start school. Being aware of my own ignorance was not only important for my own development, but it is also of value when designing professional development for people working in this area in PNG. This is because these professionals are also likely to share these misunderstandings.

The realisation that I needed to better understand my own situation led to me decide to conduct a formal audit of my own learning journey. I therefore resolved to complete a series of three research activities that would help to better inform this understanding. They were:

1. To use auto-ethnography to conduct an intense self-observation and reflexive investigation into my own development and learning from Yuri child to western academic. The goal would be to create a personal theoretical explanation of this journey and in so doing give the reader a particular insight into the pivotal experiences that were influential in my life.

2. To use a quantitative survey research method with all teaching staff working in the SERC across PNG to identify teachers' perceptions on the education of students' with VI. In particular their views would be sought on the value of education for students with VI, the types of accommodations being made, and any factors, which may inhibit student participation.

3. To use a qualitative methodology that employs a semi-structured questionnaire research method to investigate the social and educational experiences of five former students with VI. The semi-structured interview would enable the researcher to gather particular information about the participants' social interactions, the resources available to assist them in their learning and the support that was provided to them while they were students.

The Confirmation Seminar was held on the 27th March 2010 and the examiners recommended a pass subject to gaining ethics approval.

6.4 Human Research Ethics

Completing the ethics application was a particularly rigorous process, especially for someone who has had so little prior experience with research. It was made even more challenging because it involved three different studies, each with different methodologies and research methods. As my intended research involved working with humans, I had to obtain approval from the JCU Human Ethics Committee (HEC). This Committee sets out very clear and precise guidelines and obligations when conducting research, which I needed to meet.

I submitted several draft copies to the Human Ethics Advisor of Education Research and Teaching (ERT) for review and advice. After each attempt I was told that my application did not meet the requirement and needed more work. At first the task seemed impossibly complex. It was especially difficult for me to develop a conceptual overview of the whole research study. As I went through this experience, I started to question my ability to succeed at this level of study, but I kept on trying and eventually my letter of application for permission to conduct interviews at SERCs across PNG was obtained from the PNG NDoE on 12 of July 2010 (FRI-1-2). Then finally my Ethics

144

application itself was approved on 24th of August 2010 (H3846) by the JCU Human Ethics Committee.

From the process of completing my ethics application, I learnt the value of preparing a cohesive, comprehensive, precise, concise yet detailed description of the study, with clearly stated aims and expected outcomes, step-by-step recruitment procedures, and step-by-step procedures of how to obtain informed consent. Once again my learning seemed to be limited by my inability to engage in higher order thinking, particularly at the synthesis and creating level (Bloom, 1956). Although there were feelings of achievement at finally gaining permission to start the research, there was also considerable apprehension as I faced the next stage of my journey, that of collecting data in PNG.

6.5 Data Collection

The core part of my research was to collect data. The data collection was focused on: the SERC teachers, five former students with VI and my own lived experience of gaining an education. In particular, the research concentrated on identifying factors that may inhibit the participation of students with VI in the classroom activities. Ultimately, the goal was to find ways to improve the situation for children and young people with VI.

The target group for the survey were specialist SERC teachers across PNG (see appendix for sites). Each survey consisted of 16 questions with space for qualitative comments with the paperwork sent by mail to the Coordinators of the 22 SERCs. Every teacher in the SERC was invited to participate in the survey. The participants did not identify themselves when completing the survey so the data was anonymous and their completion of the survey was an indication or their consent to

participate in the research. The Coordinators were to collect the completed survey and forwarded them to my address in Australia.

The second study concentrated on the five former students with VI and used semi-structured interviews. A letter of invitation was sent to the Co ordinator of St. John Association in Port Moresby (Southern), Mt. Sion SERC Goroka (Highland), Callan Rabaul SERC (Island) and Callan Wewak SERC (Momase). Interviews lasting approximately 60 minutes were conducted in these locations using both English and *Tok Pisin* (Talk Pidgen) (see appendix for interview sites). Each interview consisted of semi-structured questions that focused on gaining an education at different stages of schooling in PNG. The interviews were taped and later transcribed and translated into English.

For the auto-ethnographic study, I described and analysed my own lived experiences of gaining an education in PNG. While in PNG, I asked my Mother and the Elders of Minigauma clan to check my record of lived experiences for accuracy, additional information and comments.

6.6 Writing

The process of analysing the data and presenting the research results was very slow. This was due to the fact that I continued to encounter difficulties with comprehension of analytical techniques. Li and Phakiti (2011) accurately described my situation when they commented that the "difficulty to synthesize ideas from reading is related to difficulty to write". They further argued that "critical thinking is related to reading and writing difficulties" (p. 246). Despite my slow progress, I took advantages of the study facilities and support by attending extra classes, workshops on academic writing skills and reading research publications and journals.

6.7 Publications and presentations

One of the requirements of Doctoral studies was conference presentation and contribution to journal publication. During my Doctoral journey I have produced the following publications and presentations with the help of my Principal Supervisor.

Aiwa, J. & Pagliano, J. P. (Submitted for peer review). *Equity and access for students with vision impairment: Where is PNG now and where should it be in 2015? Journal of the South Pacific Educators in Vision Impairment.*

Aiwa, J. & Pagliano, J. P. (2011 July). *Equity and access for students with vision impairment: Where is PNG now and where should it be in 2015?* Paper presented to the Inaugural National Universal Basic Education Conference, 2011. National Research Institute. Port Moresby, Papua New Guinea.

Aiwa, J. (2011). *The strength of a woman (*part of the auto-ethnography)*.* The National: Weekender (2011 May 6, p.46). The National Papua New Guinea .

Aiwa, J. & Pagliano, J. P. (2011). The education of students with Vision Impairment in Papua New Guinea: A tentative review of the literature. *Journal of the South Pacific Educators in Vision Impairment, 5,1, pp. 50-57.*

Aiwa, J. (2011). *Creating [a] bridge to enable students with vision impairment to progress from primary to secondary education in PNG.* Biennial South Pacific Educators of the Vision Impairment Conference (SPEVI). Marriot Sydney Harbour, Australia.

Aiwa, J. (2009). *Overcoming the barriers that may inhibit students with vision impairment participating in education in PNG.* A research proposal presented at JCU/PNG Mini Conference. Celebrating 1000 voices Commemorating PNG 34th Independence. James Cook University, Australia.

6.8 Pre-completion seminar

After analysing the data and completing the research results, I had to present the findings to the JCU Advisory Committee Members (ACM) at the pre-completion seminar. Part of my preparation involve printing a copy of the Evaluation of a Pre-Completion Seminar and checking every requirement to ensure that I had completed each task. Unfortunately, with my Confirmation Seminar and Ethics application, I did not check my preparation thoroughly against the Confirmation of Candidature Report Form and the Policy and Information on Human Research Ethics. As a consequence, the Supervisory Committee Members (SCM) had identified additional needs for skill development. This time around I was much more careful and precise in my preparation.

I started my presentation by acknowledging persons and organizations that provided scholarly and financial support towards my research. This was followed by a theoretical background of the studies, which included a clear statement of each study and justification of aims of the study. The next part was the methodology and different methods employed for each study. The data analytical technique used in each study was explained, followed by the strengths and limitations of the studies and finally conclusion, which included results and recommendations.

According to ACM, the research was of an appropriate standard with approval granted for submission of a thesis. However, despite been awarded Outstanding, I was aware that a successful Pre-Completion was a necessary but not sufficient prerequisite for a successful thesis (Marsh, 2012).

6.9 Results

From the three studies emerged information that would assist children and young people with VI participating in education in PNG. In the first study, it was found that evocative auto-ethnographic

study is a useful way of telling lived emotional stories. Additionally, an Indigenous person with diverse cultures can still succeed in a mostly western dominated education system. As the Yuri culture and the western culture continue to co-exist to shape the researcher's cultural and professional life so too can the culture of the villages where the students with VI live co-exist with the western methods used to teach students with VI.

Data from the second study indicated that the majority (75%) of the teachers who were surveyed believed negative attitudes of teachers, parents and school administrators inhibited students' progress to tertiary education. Yet seventy-three precent (73%) of the teachers pointed out that education of students with special needs did not feature in primary and secondary teachers' training. A third concern indicated by seventy-one precent (71%) of the teachers was that teachers in mainstream often emphasised the impacts of the disability rather when considering students' progress and ability.

The results from the interviews with the five former students with VI provided evidence of differences in the quality of service for students who were functionally blind compared to that provided for the students with low vision. The research further found one of the barriers, which prevented students with VI attending primary and secondary schools, was the geographical location of schools. Due to difficulties with geographical location, only one the functionally blind students involved in the interviews felt he was able to function independently and, in doing so, reach the highest potential.

6.10 Conclusion

Many of my doctoral journey experiences have changed my pre-reflective views about doing research. I come from a remote and disadvantaged village in the highlands of PNG and completing a

149

Doctoratal Degree would be completely outside the understanding or life experiences of anyone in my Minigauma clan or the entire Yuri tribe.

Yet, in making this journey, I have been able to advocate for the opportunity for an education for children and young people with VI from remote and disadvantaged villages in PNG. My journey has been long with many challenges but as I reach the last stages, I believe that my research has the potential to encourage major stakeholders to make a firm commitment to achieve equity and access for all children including those with VI in PNG. In particular, this research has shown that it is vital that all children with VI (low vision and blind) in PNG are identified and appropriately supported by trained teachers with appropriate resources.

As I arrive at the final stage of this research journey, I want to reflect on my doctoral research experiences, consider what studying for a doctorate has meant for me and think about my future after the doctoral studies end. For Dewey (1933) reflection: "involves active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further consequences to which it leads" (p. 9). A second definition by Griffith and Frieden (2000) from the perspective of counsellor education describes reflection as: "the active, ongoing examination of the theories, beliefs, and assumptions that contribute to counsellors' understanding of client issues and guide their choices for clinical interventions" (p. 82). Both definitions focus on one's understanding of knowledge and awareness of context. In many ways I could describe my entire doctoral research experience as one long reflection. This is because I have spent the majority of my time during my study examining my own understanding of theories, beliefs and assumptions.

Even though I am certain that I must have started my doctorate with a lot of knowledge and understanding, looking back it seemed like I was starting on empty. Much of what I knew did not

appear to be useful or even relevant. It felt like I was starting all over again in my learning. Reflecting on my research experiences prior to starting my degree I have only a very limited memory of previously learned research skills and knowledge. I suppose I feel this way because of the tremendous changes that I have undergone. My pre-reflective thinking before I started this doctorate tended to be fairly dichotomous. I thought in terms of 'black and white'. My natural inclination was to see the extremes of a situation and focus on these rather than be aware of the grey areas, the complexities, the nuances. For example I can remember initially approaching my research question in highly simplistic ways, convinced that children with vision impairment just need more braille and teachers who can teach braille. Then gradually I became aware that vision impairment includes those with low vision in addition to those who are functionally blind, and all children with vision impairment need assistance and support.

At the start of my research I also assumed that knowledge is either gained by direct observation and or from an authority, and is absolutely correct or certain (King & Kitchener, 1994). After completing my literature review and four research studies my views about conducting research and the education of children and young people with vision impairment (VI) in PNG have substantially changed. I understand now that knowledge is gained from a variety of sources and this knowledge must be considered in relationship to a specific context and research methodology. This knowledge is therefore much more tenuous and uncertain than I had previously anticipated.

Completing the auto-ethnography was especially valuable for me because it helped me understand that I also bring tacit knowledge and understanding to the research. I learnt that even though it might be impossible to achieve a completely accurate understanding of certain problems, some judgments are going to be more accurate than others (Griffith & Frieden, 2000) and I have a range of tools available to me to help me make more sophisticated judgements especially reflection.

The big difficulty for me in the early part of my research journey was achieving synthesis and cohesion. When I first started my research it seemed like each idea or concept was new and I struggled to understand it in a new, a complex and a different way. Because of this I was not very good at linking these new concepts together. That is why I think writing this linking paper and conducting this final reflection has been such a worthwhile activity for me. It has helped me with my synthesis and with my ability to connect my research tasks together.

In this research journey I was expected to systematically and critically understand the complex body of knowledge in research particularly in my field of specialization. The outcome of my research can be judged by my ability to demonstrate the qualities related to doctoral level study, such as critical thinking, coherent, organized step-by-step ideas (Australian Qualification Framework [AQF], 2011).

6.11 Summary of activities

My dissertation consists of a portfolio of different research studies. Collectively these provide a substantial piece of research work and a complex body of knowledge aimed at helping to narrow the gap in the field of VI in PNG. The portfolio consists of:

• Chapter 1. Research Proposal

• Chapter 2. 'It's not easy': An auto-ethnographical account of my journey from Yuri villager in PNG to Doctoral candidate

• Chapter 3. The education of students with vision impairment in Papua New Guinea: A tentative review of the literature

• Chapter 4: The educational experiences of five former students with vision impairment participating in education in Papua New Guinea: A qualitative study

• Chapter 5. Equity and access for students with vision impairment: Where is PNG now and where should it be in 2015?

• Chapter 6. Linking paper

In addition to this portfolio I have worked hard to prepare a set of journal articles and to seek to have them published in peer reviewed international journals. So far one paper has been published and three other papers have been submitted for peer review. They are:

Literature review

Aiwa, J. & Pagliano, J. P. (2011). *The education of students with VI in Papua New Guinea: A tentative review of the literature*. Journal of the South Pacific Educators in Vision Impairment. .

Qualitative study

The educational experiences of five former students with vision impairment gaining an education in PNG: A qualitative study. This paper has been submitted to the editor of the Journal of the South Pacific Educators in Vision Impairment for blind peer review.

Quantitative study

Where is PNG now and where should it be in 2015? Equity and access for students with vision impairment. This paper has been submitted to the editor of the Journal of the South Pacific Educators in Vision Impairment for blind peer review.

Auto-ethnography

'It's not easy': An auto-ethnographical account of my journey from Yuri villager in PNG to Doctoral candidate. A shortened version of this study has now been submitted to the editor of the Multidisciplinary Journal of Social Diversity for blind peer review.

Additionally, I have presented four academic research papers at national or international conferences in the area of education of children and young people with VI in PNG. They are:

1. *The educational experiences of five former students with vision impairment gaining an education in PNG: A qualitative study.* Presented at the 2013 Biennial South Pacific Educators of the Vision Impairment Conference, Auckland, New Zealand.

2. *Equity and access for students with vision impairment: Where is PNG now and where should it be in 2015?* Presented to the Inaugural National Universal Basic Education Conference, 2011. National Research Institute. Port Moresby, Papua New Guinea.

3. *Creating [a] bridge to enable students with vision impairment to progress from primary to secondary education in PNG.* Biennial South Pacific Educators of the Vision Impairment Conference, Sydney, Australia.

4. *Overcoming the barriers that may inhibit students with vision impairment participating in education in PNG.* Presented at JCU/PNG Mini Conference. Celebrating 1000 voices James Cook University, Australia.

6.12 The future

Now that I have arrived at the end of my research journey, I feel more confident in my ability to use different research methodologies and research methods. I particularly look forward to working with my own post-graduate students when I return to the University of Goroka, PNG. It is my hope that my newly acquired knowledge and skills will positively contribute to the education of children and young people with VI in PNG and in the Pacific Region. I am excited about my newly elected position as Chair of the Pacific Region of ICEVI. I would also like to contribute to the literature on education of children with VI in PNG because currently there is very limited published information available. I believe this information is vital to formulate appropriate policy, promote the more equitable, responsible and transparent distribution of resources and to monitor progress.

6.13 References

Adams, J. (1986). Pilot programme of research in Papua New Guinea. In P. Pagliano (Ed.). *Proceedings of the Australian and New Zealand Association of Educators of the Visually Handicapped* (pp.61-63). Brisbane, Qld: ANZEAVH.

Aiwa, J., & Pagliano, J. P. (2011). The education of students with vision impairment in Papua New Guinea: A tentative review of the Literature. *Journal of South Pacific Educators in Vision Impairment, 5,* 1. 50-57.

Australian Government AusAID. (2008). Australian development scholarship awards public & open (Formal) category sponsor's acknowledgement & commitment. Canberra, Australia.

Australian Qualification Framework, (2011). *Australian qualification framework council.*

Bischoff, S., & Radler, T. (2011). What is the significance of the research question? *Doctoral seminar: Research methodology.*

Bloom, B. S., Engelhart, M., Furst, E. J., W. H., Krathwohl, D. R. (1956). *Taxonomy of educational objectives: the classification of educational goals; Handbook 1:* Cognitive Domain New York, Longmans, Green, 1956.

Bochner, A.P. & Ellis, C. (2000). Auto-ethnography, personal narratives, and personal reflexivity. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp.733-768). Thousand Oaks, CA: Sage.

Chang, H. (2007). Auto-ethnography: Raising cultural awareness of self and others. In. G. Walford (Ed.), *Methodological developments in ethnography* (Studies in educational ethnography, Volume 12, pp.201-221). Boston: Elsevier.

Chynoweth, P. (2006). *Profession Doctorate in the built Environment: How Higher Education is Responding to the Changing Needs of Industry and the Professions' Proceedings of the Built Environment Education Annual Conference 2006, Bonnington, Hotel, Bloomsbury, London.*

Coordinator ED5290, (2009). *Introduction to educational research.* James Cook University.

Cronnin, P. & Gale, G. (1998). The School Years. In P. Kelly & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments.* Royal Institute for the Blind Children. North Rocks: Australia.

ED5290 – Introduction to Educational Research (2012). JCU StudyFinder. Retrieved from: https://secure.jcu.edu.au/app/studyfinder/index.cfm?subject=ED5290&year=2011&tran

Denzin, N. (2006). Analytic auto-ethnography, or déjà vu all over again. *Journal of Contemporary Ethnography, 35 (4),* 419-428.

Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process.* Boston: Heath.

Ellis, C. (2004). The ethnographic I: *A methodological novel about auto-ethnography*. Walnut Creek, CA: AltaMira.

Griffith, B., & Frieden, G. (2000). Counsellor education and supervision. *ProQuest Education Journal, 40, 2; p.82*

Human Ethics Application, (2010). James Cook University, Australia

James Cook University: Confirmation seminar: Policy and procedure. (1995). 29 August 2012
http://www.jcu.edu.au/policy/research/hdr/JCUDEV_009931.html

James Cook University: Code for the responsible conduct of research (2007). 29 August 2012
http://www.jcu.edu.au/policy/goverance/conduct/JCUDEV_009786.html

James Cook University: Confirmation of candidature report form (2009).

James Cook University: Confirmation supervisory committee report (2010).

James Cook University: Evaluation of pre- completion seminar form (2012)

King, P. M. & Kitchener, K.S. (1994). Developing reflective judgment. San Francisco: Jossey-Bass Publisher, pp.14-16.

Li, L., & Phakiti, A. (2011). General academic difficulties and reading and writing difficulties among

    Asian ESL postgraduate students in TESOL at an Australian universities. RELCU Journal: a

    journal of language teaching and research in Southeast Asia, 42 (3), 227-264.

Marsh, H. (2012). Dean, graduate research studies. Graduate research school, James Cook University.

Nancey- Jane, L. (2008). Achieving your professional doctorate Berkshire, GRB: Open University

    Press.

Petty, N. & Stew, G. (2010). *What is a profession doctorate?* The 2010 SUADE Professional

    Doctorate Conference, University of Portsmouth, UK

References of the Portfolio Thesis

Adams, J. (1986). Pilot programme of research in Papua New Guinea. In P. Pagliano (Ed.). *Proceedings of the Australian and New Zealand Association of Educators of the Visually Handicapped* (pp.61-63). Brisbane, Qld: ANZEAVH.

Adeoye., A., Ajaiyeoba, A. I., Isawumi, M., & Oluleye, T. S. (2007). Prevalence and causes of blindness and visual impairment among school children in south-western Nigeria. *International Ophthalmology, 26,* 121-125.

Advokat, C., Duke, M., Gouvier, W. D., & Meyer, L., & (2001). Influence of social context on reported attitudes of nondisabled students towards students with disabilities. *Rehabilitation Counselling Bulletin, 45, 50-52.*

Aiwa, J. (2007). Attitudes and beliefs towards blind and visually impaired persons in Melanesian societies. *12th World Conference. International Council of Education of Persons with Visual Impairment (ICEVI)* Kuala Lumpur: Malaysia.

Aiwa, J., & Pagliano, J. P. (2011a). The education of students with vision impairment in Papua New Guinea: A tentative review of the Literature. *Journal of South Pacific Educators in Vision Impairment, 5,* 1. 50-57.

Aiwa, J., & Pagliano, J. P. (2011b). Equity and access for students with vision impairment: Where is PNG now and where should it be in 2015? Inaugural National Universal Basic Education. *National Research Institute*, Port Moresby. Papua New Guinea.

Anderson, L. (2006). Analytic auto-ethnography. *Journal of Contemporary Ethnography, 35(4)*, 373-395.

Anderton, L., Dandona, L., Gilbert, C. E., & Foster, A. (1999). *Blindness in childhood in developing countries: Time for a reassessment?* Retrieved 25.3.2011 from http://www.plosmedicine.org/article/infor:doi/10.1371/journal.pmed

Ashkenazy, E., Cohen, A., Ophir-Cohen, M., & Tirosh, E. (2005). Emotional status and development in children who are visually impaired. *Journal of Visual Impairment and Blindness, 99, 478-485.*

Atkinson, D.R., Morten, G., & Sue, D. W. (1989). A minority identity development model. In D. R. Atkinson, G. Morten, & D. W. Sue (Eds.), *Counselling American minorities (pp. 35-52).* Dubuque IA: William C Brown

Atkinson, D.R., Morten, G., & Sue, D. W. (Eds.). (1993). *Counselling American minorities (4th ed.)* Madison, WI: Brown & Benchmark.

Australian Government AusAID. (2008). Australian development scholarship awards public & open (Formal) category sponsor's acknowledgement & commitment.

Australian Government AusAID. (2010). *Papua New Guinea.* Retrieved from http://www.ausaid.gov.au/country/papua.cfm

Awan, H. & Gilbert, C. E. (2003). *Blindness in children*. Retrieved from http://www.bmj.com/content/327/7418/760.

Azjen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviours.* Englewood Cliffs, NJ: Prentice Hall.

Baker, R. L., Koenig, A.J., Rex, E. J., & Wormsley, D.P., & (1994). *Foundations in Braille literacy*. New York: American Foundation for the Blind.

Bardin, J. A., & Lewis, S. (2008). A survey of the academic engagement of students with visual impairments in general education classes. *Journal of Visual Impairment & Blindness, 102, 472-483.*

Battiste, M. (2002). Indigenous knowledge and pedagogy in first nations education: A Literature review with recommendations. Retrieved 15 May 2012.

Bayrakci, M. (2009). In-service teacher training in Japan and Turkey: A comparative analysis of institutions and practices. *Australian Journal of Teacher Education, 34,* 1 p?

Beeman, S. K. (1995). Maximizing credibility and accountability in qualitative data collection and data analysis: A social work research case example. *Journal of Sociology and Social Welfare, 22-99-144.*

Bernal, H., Cantero Gonzalez, M. L., Molina Contreras, J. L., Shellman, J., & Vargas Jimenez, J. A. (2006). The level of cultural self-efficacy among a sample of Spanish nurses in south eastern Spain. *Journal of Trans-cultural Nursing, 17, 164-239.*

Bischoff, S., & Radler, T. (2011). What is the significance of the research question? *Doctoral Seminar: Research methodology.*

Bishop, V. E. (2004). *Teaching visually impaired children (3rd ed.).* Springfield, IL Charles C. Thomas.

Blatch, P. (1997). Draft standards for the education of students with vision impairment (including those with multiple impairments). *Newsletter of the Australia and New Zealand Association of Educators of the Visually Handicapped, 31 (1), 11-14.*

Blatch, P., Gale, G., & Kelley, P. (1998). Theoretical framework. In P. Kelley, & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments* (pp.33-40). North Rocks, NSW: North Rocks Press.

Bloom, B. S., Engelhart, M., Furst, E. J., W. H., Krathwohl, D. R. (1956). *Taxonomy of educational objectives: the classification of educational goals; Handbook 1:* Cognitive Domain New York, Longmans, Green, 1956.

Bochner, A.P. & Ellis, C. (2000). Auto-ethnography, personal narratives, and personal reflexivity. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp.733-768). Thousand Oaks, CA: Sage.

Bogdan, T. & Taylor, S. (1984). *Introduction to qualitative research methods.* Wiley, New York.

Boorer, D. R. & Kiruhia, J.B. (1987). Special education in Papua New Guinea: An overview. University of Papua New Guinea. *International Journal of Special Education 2, (2), 151-160*

Bova, B. M., & Philips, R. R. (1983). Mentoring as a learning experience for adults. *Journal of Teacher Education, 35(3), 16-20.*

Boyd, D. & Chang, H. (Ed.). (Forth coming). *Spirituality in higher education*. Walnut Creek, CA: Left Coast.

Brannen, J. (2004). *Mixed method: qualitative and quantitative research.* Aldershot: Avebury.

Bureau of East Asian and Pacific Affairs. (2009). *Back ground note: Papua New Guinea*. Retrieved 25.3.2011 from http://www.state.gov/r/pa/ei/bgn/2797.htm

Burns, R. (2000). *Introduction to research methods*. (4th ed.). South Melbourne: Longman.

Carillet, J. B., McKinnon, R., & Starnes, D. (2008). *Papua New Guinea and Solomon Islands.* Victoria, Australia: Lonely Planet Publishers.

Celeste, M. (2006). Play behaviours and social interactions of a child who is blind: In theory and practice*. Journal of Visual Impairment and Blindness, 100, 75-90.*

Central Intelligence Agency. (2011).Papua New Guinea. In *The World Fact book.* Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/pp.html

Ceria, C., Kataoka-Yahiro, M., Kim, E., & Willgerodt, M. A. (2005). Issues of instrument translation in research on Asian immigrant populations. *Journal of Professional Nursing 21 (4), 231-239.*

Chang, H. (2007). Auto-ethnography: Raising cultural awareness of self and others. In. G. Walford (Ed.), *Methodological developments in ethnography* (Studies in educational ethnography, Volume 12, pp.201-221). Boston: Elsevier.

Chang, H. (2008). *Auto-ethnography as method*. Walnut Creek, CA: Left Coast.

Chapman, E. K., & Stone, J. M. (1988). *The visually handicapped child in your classroom*. London: Cassell Educational.

Charters, L. (2005). Australian kids found to have low rate of visual impairment. *Ophthalmology Times, 30*, 18.

Chynoweth, P. (2006). *Profession doctorate in the built environment: How Higher Education is Responding to the Changing Needs of Industry and the Professions' Proceedings of the Built Environment Education Annual Conference 2006, Bonnington, Hotel, Bloomsbury, London.*

CIA World Fact Book. (2011). *Median age, Papua New Guinea.* Retrieved 25.3.2011 from https://www.cia.gov/library/publications/the-world-factbook/fields/2177.html

Clarke, G., Keeffe, J. E., & Thies, L. (1998). Low vision: In P. Kelley, & G. Gale (Eds.). Towards excellence: Effective education for students with vision impairments (pp33-40). North Rocks, NSW: North Rocks Press.

Coordinator *ED5290 – Introduction to educational research* (2009). James Cook University.

Corra-Torres, S. M. (2008). The nature of social experiences of students with deaf-blindness who are educated in inclusive settings. *Journal of Visual Impairment and Blindness, 102, 272-283.*

Creswell, J. W. (1998). *Qualitative inquiry and research design.* Thousand Oaks, CA: Sage.

Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed method approaches. (3rd ed.).* Thousand Oaks, CA: Sage.

Cronnin, P. & Gale, G. (1998). The School Years. In P. Kelly & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments.* Royal Institute for the Blind Children. North Rocks: Australia.

Cunningham, S. J., & Jones, M. (2005) *Auto-ethnography: A tool for practice and education.* CHINZ, 05, July 6-8, Auckland: New Zealand

Denzin, N. (2006). Analytic auto-ethnography, or déjà vu all over again. *Journal of Contemporary Ethnography, 35 (4),* 419-428.

Denzin, N. K. & Lincoln, Y.S. (Eds.). (1994). *Handbook of qualitative research.* Thousand Oaks, CA: Sage.

Denzin, N. K. & Lincoln, Y.S. (2003). *The landscape of qualitative research.*

(2nd ed.). Thousand Oaks, CA: Sage.

Denzin, N. K. & Lincoln, Y.S. (2008). *Collecting and interpreting qualitative materials.* (3rd ed.). Thousand Oaks, CA: Sage.

Dethlefs, R. (1982). The trachoma status and blindness rates of selected areas of Papua New Guinea in 1979-80. *Australian Journal of Ophthalmology, 10,* 13-18.

Dummer, G. M., Lieberman, L., Moffett, A., & Shapiro, E. R. (2008). Domain-specific ratings of importance and global self-worth of children with visual impairments. *Journal of Visual Impairment and Blindness, 102, 232-244.*

Dyson, M. (2007). My story in a profession of stories: Auto ethnography-An empowering methodology for educators. *Australian Journal of Teacher Education, 32 (1).*

Edwards, B. (2002). Deep inside research. *Qualitative Research Journal2, (1), 71-84.*

ED5290 – Introduction to educational research (2012). JCU Finder. Retrieved 3 October 2012 from: https://secure.jcu.edu.au/app/studyfinder/index.cfm?subject=ED5290&year=2011&tran

Ellis, C. (2004). The ethnographic I: *A methodological novel about auto-ethnography*. Walnut Creek, CA: AltaMira.

Ellis, C. (2009). *Revision: Auto-ethnographic reflections on life and work*. Walnut Creek, CA: Left Coast.

Ellis, C., & Bochner, A. P. (2000). Autoethnography, personal narrative, reflexivity: researcher as subject. In N. K. Denzin & Y. S. Lincoln (Eds.*) Handbook of qualitative research*, 2nd, 733-768. London: Sage publications.

Emden, C., & Sandelowski, M. (1998a). The good, the bad, and the relative, part two: Goodness and the criterion problem in qualitative research. *International Journal of Nursing Practice, 5, 2-7.*

Emden, C., & Sandelowski, M. (1998b). The good, the bad, and the relative, part two: Goodness and the criterion problem in qualitative research. *International Journal of Nursing Practice, 5, 2-7.*

Etya'ale, D., Gopal, P. P., Kocur, I., Mariotti, S. P., Pararajasegaram, R., Pascolini, D., & Resnikoff, S. (2004). *Policy and practice: Global data on visual impairment in the year 2002.* Bulletin of the World Health Organization.

Farmer, J. (2000). Developing eye care in Papua New Guinea. *Community eye health 13,* 34.

Ferrell, K. A. & Spungin, S. J.(1992). The role and function of the teacher of students with visual handicaps: Proposed positions paper. *Division of the visually handicapped.* Reston, VA: Council for Exceptional Children.

Fiji Report, (2000). *The Education for all: country reports Fiji*. Retrieved from www.unesco.org/education/web/countryreports/fiji/rapport_1.html

Foreman, P. (2001). Integration and inclusion in action (2nd ed.). Harcout: Australia

Friend, M. (2011). *Special education: contemporary perspectives for school professionals*. (3rd ed). Pearson Education. Upper Saddle River, New Jersey.

Frost, R. (2002). Papua New Guinea primary and secondary teacher education project (PASTEP). *Special education: Student support material.* Australian agency for international development (AusAID). GRM International printers.

Gargiulo, R. (2006). *Special education in contemporary society* (2nd ed). Thomason Higher Education. Belmont: USA.

Gentle, F. (2012). *Transforming the education systems for children with disability in Papua New Guinea and Timor-Leste.* PhD Thesis. The University of Newcastle.

Gentle, F. (2002). Inclusive education: Children with visual impairment in the Pacific. Inclusive education in the Pacific. *The PRIDE Project Pacific Education Series NO. 6, 2009.*

Gibbs, P. (2003). *Attitudes and practice towards persons with disabilities*. A survey in the Woresa area of the East Sepik Province. Melanesian Institute. Goroka: Papua New Guinea.

Gilbert, C. E. (2003). Blindness in children. Half of it is avoidable, and suitable cost effective interventions are available. *BMJ, 327,* 760-1.

Gillies, R. & Pagliano, P. J. (2012). Inclusive teaching practices. In A. Ashman & J. Elkins (Eds.). *Education for inclusion and diversity* (4th ed., pp. 225-254). Sydney: Pearson Prentice.

Gillham, B. (2005). *Research interviewing the range of techniques*. Maidenhead, England: Open University Press.

Glaswer, B. G. & Strauss, A. L. (1967). *The discovery of grounded theory*. Aldine, Chicago.

Glesne, C., & Peshkin, A. (1992). *Becoming qualitative researchers: An Introduction.* Longman. White Plains, NY.

Goddard, L., & Jordan, L. (1998). Changing attitudes about persons with disabilities: Effects of a simulation. *Journal of Neuroscience Nursing, 30, 307-313.*

Gouvier, W.D., Jackson, W. T, Schlater, D., Steiner, D. D., & Rain, J. S. (1991). Employment discrimination against handicapped job candidates: An analog study of the effects of neurological causation, visibility of handicap, and public contact. *Rehabilitation Psychology, 36, 121-129.*

Grand, S. A., Purcell, M. J., & Strohmer, D.C. (1984). Attitudes towards persons with disabilities: An examination of demographic factors, social context, and specific disability. *Rehabilitation Psychology, 29, 131-145.*

Gray, D. E. (2009). *Doing research in the real world* (2nd ed.). London, England: Sage.

Groenveld, M. (1990). The dilemma in assessing the visually impaired child. *Developmental Medicine and Child Neurology 32, 105-113.*

Guba, E. G & Lincol, Y. S. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

166

Hammersley, M. (1992). *The politics of social research.* London: Sage.

Hardcastle, B. (1988). Spiritual connections: Proteges' reflections on significant mentorship. *Theory into practice, 27, 201-208.*

Harris, P. (2000). *Mathematics in a cultural context: Aboriginal perspectives on space. Time and money,* Deakin University, Australia.

Hersey, J. (1988). Agee. *New Yorker*, 18 July, 72-82.

Hien, T.V., Keeffe, J. E., Mitchell, P., Pezzullo, M. L., Rachtchina, E., Taylor, H. R., & Wang, J. J., (2005). Vision loss in Australia. *The Medical Journal of Australia, 182,* 11, 565-568.

Holloway, B. (2004). *Achieving a better future*: *A national plan for education 2005-2014.* Retrieved 28.3.2011 from http://www.education.gov.pg/quicklinks/plans/national-education-plan.pdf

Holloway, I. (2011). Being a qualitative researcher. Retrieved from http://www.sagepublication/21/7/968

Holt, N.I. (2003). Representation, legitimating, and auto-ethnography: An auto-ethnographic writing story. *International Journal of Qualitative Methods, 2(1),* 18-28.

Huberman, A. (1984). *Qualitative data analysis: a sourcebook of new methods*. Sage publications, Beverly Hills, Calfornia: USA

Human Development Indices. (2008). *Papua New Guinea slides further down United Nations development index.* Retrieved from cid.org.nz/news/nr1200541262.html.

Human Ethics Application, (2010). James Cook University, Australia

Hunt, B., & Hunt. C. S. (2002). Attitudes toward people with disabilities: A comparison of undergraduate rehabilitation and business majors. *Rehabilitation Education, 14, 269-283.*

Hytten, K., & Warren, J. (2004). The faces of whiteness: Pitfalls and critical democrat. *Communication Education 53 (4), 321-339.*

International Council for Educators of People with Visual Impairment. (2011). *Education for all*. A

global campaign on education for all children with visual impairment. Retrieved from

http://www.icevi.org/efa/efa_world_conference.html

James Cook University: Confirmation seminar: Policy and procedure. (1995). 29 August 2012

http://www.jcu.edu.au/policy/research/hdr/JCUDEV_009931.html

James Cook University: Code for the responsible conduct of research (2007). 29 August 2012

http://www.jcu.edu.au/policy/goverance/conduct/JCUDEV_009786.html

James Cook University: Confirmation of candidature report form (2009).

James Cook University: Confirmation supervisory committee report (2010).

James Cook University: Evaluation of pre - completion seminar form (2012).

Jenkins, H. J. (2002). A continuum-based approach to inclusive policy and practice in regular schools.

Special Education Perspectives, 11, 56-71.

John, R. B. (1997). Examining the validity structure of qualitative research. *Education 118.2 (Winter

1997): 282-292.*

Jonson, K. F. (2008). *Being an effective mentor: How to help beginning teachers succeed* (2nd ed.).

Thousand Oaks, CA: Corwin Press.

Josephs, J. (2000). *Education for all assessment 2000: Papua New Guinea country report.* UNESCO:

Retrieved from

http://www.unesco.org/education/wef/countryreports/papua_new_guinea/contents.html#cont

Katharine, H. (2003). The value of a mentor, Quintessential careers.

http://www.quintcarrers.pom/mentor_value.html

Kay, R. S. (1990). Mentoring: Definitions, principles and applications. In T. M. Bey & C. T. Holmes

(Eds.), *Mentoring: Developing successful new teachers* (pp.3-23). VA: Association of Teacher

Educators.

Keeffe, J. E. (2012). Success factors, issues and challenges. Paper presented at the *WBU-ICEVI General Assemblies: Achieving our vision through empowerment and partnerships.* Bangkok, Thailand: The Imperial Queen's Park Hotel. 17.11.2012.

Keeffe, J. E., Konyama, K., & Taylor, H. R. (2002). Vision impairment in the pacific region. *British. Journal of Ophthalmology, 86,* 605 -610.

Kincaid, J. (1995). Homework. *The New York.* 10, 95 pp. 54-64.

King, P. M. & Kitchener, K.S. (1994). Developing reflective judgment. San Francisco: Jossey-Bass Publisher, pp.14-16.

Larson, M. L. (1991). Translation: theory and practice, tension and interdependence. *American Translators Association scholarly monographs. 5.* Binghampton, NY: State University of New York.

Leininger, M. (Ed.). (1985). *Qualitative research methods in nursing.* New York: Grune & Stratton.

Lene, D. (2002). Inclusive education: a Samoa case study. Inclusive education in the Pacific. *The PRIDE Project Pacific Education Series NO. 6, 2009.*

Lewis, S. (2011). *Millions lost in AusAID Foreign aid scam.* The Daily Telegraph, 24.3.2011. Retrieved from 25.3.2011 from http://www.new.com.au/national/millions-lost-in foreign-aid-scam/story-ebfrfkvr-12260267078871

Leyser, Y., & Heinze, T. (2001). Perspectives of parents of children who are visually impaired: Implications for the field. *RE: view, 33, 37-48.*

LiPuma, E. (1983). On the preference for marriage rules: A Melanesian Example. *Royal Anthropological institute of Great Britain and Ireland, 18,(4). pp. 766-785*

Li, L., & Phakiti, A. (2011). General academic difficulties and reading and writing difficulties among Asian ESL postgraduate students in TESOL at an Australian universities. RELCU Journal: a journal of language teaching and research in Southeast Asia, 42 (3), 227-264.

Livneh, H. (1991). On the origins of negative attitudes toward people with disabilities. In R. P.

Marinelli & A. E. Dell Orto (Eds.). *The psychological and social impact of disability* (3rd ed.,

pp.181-196). New York: Springer.

Marsh, H. (2012). Dean, graduate research studies. Graduate research school, James Cook University.

Matane, P. (1986). *A philosophy of education for Papua New Guinea*. Ministerial committee report,

National Department of Education, Port Moresby.

McKinnon, R., Carillet, J., & Starnes, D. (2008). *Papua New Guinea and Solomon Islands.* Lonely

Planet Publishers. Victoria: Australia

McMillan, J. H. (2004). *Educational research* (4th ed.). Virginia Commonwealth University.

Miller, F. (2002). Inclusive education: a Pacific perspective. Inclusive education in the Pacific. *The*

PRIDE Project Pacific Education Series NO. 6, 2009.

Mead, M. (1978). The Sepik as a culture area: Comment. *Anthropological Quarterly 52*, 1, 69-75.

Millington, M. J., Reid, C. A., Spengler, P. M. & Strohmer, D. C. (1996). A preliminary investigation

of the role of differential complexity and response style in measuring attitudes toward people

with disabilities. *Rehabilitation Psychology, 41, 243-254.*

Mooney, M. (1998). *Developing life-long readers*. Wellington: Department of Education.

Muhlenhaupt, M. (2002). Family and school partnerships for IEP development. *Journal of Visual*

Impairment and Blindness, 96, 175-178.

Murphy, K. (2011). Passing on the healing in PNG. *Surgical News,* Jan/Feb., 8-9.

Nancey Jane, L. (2008). Achieving your professional doctorate Berkshire, GRB: Open University

Press.

National Department of Education. (1985). *Growth of education since independence: 1975 – 1985.*

Waigani, NCD, Papua New Guinea.

National Department of Education. (1993). *The national plan, policy and guidelines for special education.* Waigani, NCD, Papua New Guinea.

National Department of Education. (1997). *National education plan 1995-2004.* Waigani, NCD, Papua New Guinea.

National Department of Education, (2001). *The state of education in Papua New Guinea*. Port Moresby: Papua New Guinea.

National Department of Education. (2002). *The state of education in Papua New Guinea*. Waigani, NCD, Papua New Guinea.

National Department of Education, (2003). *The state of education in Papua New Guinea*. Port Moresby: Papua New Guinea.

National Department of Education. (2004). *Achieving a better future: A national plan for Education 2005-2014.* Waigani, NCD, Papua New Guinea.

National Department of Education. (2006). *National education board report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from http://www.education.gov.pg/index.php?content=quicklinks/reports.

National Department of Education. (2008). *The state of education report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from http://www.education.gov.pg/index.php?content=quicklinks/reports.

National Department of Education. (2008). *National education board report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from http://www.education.gov.pg/index.php?content=quicklinks/reports

National Department of Education. (2009). *Special education office.* Waigani, NCD, Papua New Guinea.

National Department of Education. (2010). *Achieving a Better Future through Universal Basic Education: plan 2010 – 2019.* Waigani, NCD, Papua New Guinea.

National Department of Education. (2011). Personal communication (17th July 2011). Officer from PNG National Department of Education, Port Moresby, Papua New Guinea.

National Department of Home Affairs and Youth. (1990). *PNG national plan for prevention of disability and the integration of disabled persons in national development.*

Nichol, R. & Robinson, J. (1998). *Building bridges between aboriginal and western mathematics.* Latrobe University.

Odell, S. J. (1990). Support for new teachers. In T. M. Bey & C. T. Holmes (Eds.), *Mentoring: Developing successful new teachers* (pp.24-37). VA: Association of Teacher Educators.

Pagliano, J. P. (1990). Visual impairment. In A. Ashman & J. Elkins (eds.), *Educating students with special needs* (pp. 338-275). Sydney: Prentice Hall.

Pagliano, J. P. (2005). Using the senses. In A. Ashman & J. Elkins (Eds.). *Educating children with diverse abilities* (2nd ed., pp. 319-359). Sydney: Pearson Prentice-Hall.Pagliano, J. P. (2012). Facts about ... Vision and vision impairment. In A. Ashman & J. Elkins (Eds.). *Education for inclusion and diversity.* (4th ed., pp. 188-190). Sydney: Pearson Prentice.

Papua New Guinea National Statistics Office. (2000). Port Moresby, Papua New Guinea: Government Printers.

Parsloe, E. & Leedham, M. (2009). Coaching and mentoring: practical conversations to improve learning (2nd ed.). London: Koganpage.

Patton, M.Q. (1990). *Qualitative research and evaluation methods* (2nd ed.). Newbury Park, CA: Sage.

Petty, N. & Stew, G. (2010). *What is a profession doctorate?* The 2010 SUADE Professional Doctorate Conference, University of Portsmouth, UK.

Philemon, B. (2009). *Post Courier.* 9th October. Port Moresby. Papua New Guinea.

Puamau, P. (2002). Advancing inclusive education in the Pacific. Inclusive education in the Pacific. *The PRIDE Project Pacific Education Series NO. 6, 2009.*

Rallis, S. E. & Rossman, G. B. (1998). *Learning in the field: An introduction to qualitative research.* Thousand Oaks, CA: Sage.

Reed-Danahay, D.E. (Ed.) (1997). Auto-ethnography: *Rewriting the self and the social.* Oxford: Berg.

Resnikoff, S., Pascolini, D., Etya'ale, D., Kocur, I., Pararajasegaram, R., Pokharel, Gopal., & Mariotti, S. (2004). *Policy and practice: global data on visual impairment in the year 2002.* Bulletin of the World Health Organization.

Salzman, P.C. (2002). On reflexivity. *American Anthropologist, 104(3),* 805-813

Shapiro, E. R., (2008). Domain-specific ratings of importance and global self-worth of children with visual impairments. *Journal of Visual Impairment and Blindness, 102, 232-244.*

Shaughnessy, J.J., Zechmeister, E. B. and Zechmeister, J. S. (2003). Research method in psychology, 6th ed., McGraw-Hill, MA.

Sparkes. P. (2002). On reflexivity. *American anthropologist, 104 (3),* 805-813.

Sparkes, A.C. (2002). Auto-ethnography: Self-indulgence or something more? In A. Bochner & C. Ellis (Eds.), Ethno-ethnographically speaking: *Auto-ethnography, literature, and aesthetics* (pp. 209-232). Walnut Creek, CA: AltaMira.

Staton, R. (1994). *Location: A cross-cultural mathematics theme in aboriginal teacher education, Australian bridging mathematics network conference.* Centre of Educational Research and Conference, NT Australia, pp. 161-181.

United Nations Education, Scientific Cultural and Organization. (1988). *Review of the present situation of special education.* New York, NY: New York House.

United Nation International Children Emergency Fund. (1989). *Convention on the rights of the child.* New York, NY: New York House.

United Nations Educational, Scientific and Cultural Organization (UNESCO). (1990). *World declaration on education for all: Meeting basic learning needs*. New York: New York House.

United Nations Education, Scientific Cultural and Organization. (1994). Salamanca statement and framework for action on special educational needs education: *Adopted by the World Conference on Special Education: Access and Quality*. Paris: United Nations.

United Nations Education, Scientific Cultural and Organization. (2000). Jomtien Declaration, *UNESCO world conference on education for all*. Dakar, Senegal.

United Nations Educational, Scientific and Cultural Organization (UNESCO). (2008). *Papua New Guinea Country report*. Paper presented to inclusive education: The way forward. Geneva, International Conference Centre, 25-28 November.

Useem, R. (1993). Third culture kids: Focus on major study. Retrieved from http://en.wikipedia.org/wiki/Third_culture_kid

Vanuatu Ministry of Education (1999). *Education sector plan 2000 – 2010*.

Westwood, P. (1997). *Commonsense methods for children with special needs*. London: Routledge/Falme.

Wolcott, H. (2004). The ethnographic autobiography. *Auto/Biography, 12, 93-106*

Yuker, H. E. (Ed.). (1988). *Attitudes towards persons with disabilities*. New York: Springer.

Appendices

Appendix A. JCU Ethics Approval

ADMINISTRATIVE DOCUMENTATION HAS BEEN REMOVED

Appendix B. PNG NDoE Approval for Research Proposal

ADMINISTRATIVE DOCUMENTATION HAS BEEN REMOVED

1

Appendix C. Special Education Resource Centres contact details in PNG

SERC and Location	Date Est	Mailing Address	Agency	Finance	No of Staff	Types of Programs
1. Callan SERC - Buka	2000	P. O. Box 85, BUKA NSP Ph: (675) 973 9311 Fax: (675) 973 9312	Catholic	Cath Chu NDOE NBPD	8	*Inclusive Education *Rehabilitation
2. St. John Association f/t Blind - Port Moresby	1982	P. O. Box 6075, Boroka NCD Ph: (675) 325 1238 Fax; (675) 325 4637	St John Ambul	SJ Ambul NDOE NBPD	10	*Inclusive Education *Rehabilitation *Primary eye care
3. Callan SERC - Rabaul	1995	P. O. Box 1238, Rabaul ENBP Ph: Ph: (675) 982 9738	Catholic	Cath Chu NDOE NBPD	12	*Inclusive Education *Training *Rehabilitation
4. Mt. Sion SERC- Goroka	1982	P. O. Box 1068, Goroka, EHP (675) 7322850 Fax: (675) 732 3189	Catholic	Cath Chu NDOE NBPD	25	*Inclusive Education * Training * Rehabilitation *Pri Eye Car
5. Cheshire Homes - Port Moresby	1972	P. O. Box 1306, Boroko, NCD	Board of Governors	BOG NDOE NBPD	19	*Residential care *Inclusive Edu
6. Red Cross SERC	1974	P. O. Box 6545, Boroko, NCD Ph: (675) 325 1374 Fax: (675) 7 325 9714	PNG Red Cross	PNG Red Cross NDOE NBPD	6	*Inclusive Education * Elementary Edu * Training
7. Callan SERC - Aitape	1996	P. O. Box 35, Aitape, Sandaun Ph: (675) 857 2228 Fax: (675) 857 2107	Catholic	Cath Chu NDOE NBPD	8	*Inclusive Education * Elementary Edu
8. Creative Self Help Centre	1992	P. O. Box 891, Madang, MP Ph: (675) 852 3310	Board of Governors	BOD NDOE NBPD	12	*Inclusive Education * Elem Education *Rehab
9. Callan SERC - Kiunga	1999	P. O. Box 42, Kiunga WP Ph: (675) 548 1304	Catholic	Cath Ch NDOE NBPD	7	*Inclusive Education * Training *Rehab

10. Simbu SERC - Kundiawa	1997	P. O. Box 494, Kundiawa, SP Ph; (675) 735 1036	Lutheran	Luth NDOE NBPD	9	*Inclusive education * Elementary Edu
11. Callan SERC - Mendi	1999	P. O. Box 69 Mendi, SHP Ph: (675) 549 1744 Fax: (675) 549 1169	Catholic	Cath Ch NDOE NBPD	10	*Inclusive Education *Training
12. Morobe SERC - Lae	1975	P. O. Box 946, Lae, MP Ph: (675) 472 2089 Fax: (675) 472 3239	Board of Governors	BOG NDOE NBPD	12	*Inclusive Education * Elementary Edu
13. Callan SERC - Mt. Hagen	1986	P. O. Box 1191, Mt. Hagen, WHP Ph: (675) 542 2735 Fax: (675) 542 3042	Catholic	Cath Chu NDOE NBPD	12	*Inclusive Education *Elementary Edu
14. Callan SERC – Wewak	1992	P. O. Box 542, Wewak ESP Ph: (675) 856 1081 Fax: (675) 856 2924	Catholic	Cath Chu NDOE NBPD	30	*Inclusive Education *Training *Elementary *Rehabilitation
15. Callan SERC - Kundiawa	1997	P. O. Box 189, Kundiawa, SP Ph/Fax: (675) 735 1047	Catholic	Cath Chu NDOE NBPD	8	*Inclusive Education *Rehabilitation
16. Callan SERC - Daru	2006	P. O. Box 59 Daru WP Ph: (675) 645 9017	Catholic	Cath Chu NDOE NBPD	6	*Inclusive Education *Training
17. Callan SERC - Manus	2006	P. O. Box 49, Manus MP	Catholic	Cath Chu NDOE NBPD	12	*Inclusive Education *Training
18. Callan SERC - Alotau	2006	P. O. Box 107, Alotau MBP	Catholic	Cath Chu NDOE	7	*Inclusive Education *Training

Appendix D. Statistics as supplied by the National Board for Disabled Persons (as of the 25th October, 1991)

Organization	Clients	Adm Staff	Social Worker	Nurses	Anc. Staff	Trainers	Cert Trs
1.WHAD - Mt. Hagen	273	1	0	0	4	4	5
2. Port Moresby SEC	180	0	0	1	1	1	3
3. ENB Project f/t Disabled - Rabaul	112	0	1	1	0	0	0
4. Morobe A f/t Disabled - Lae	147	2	0	2	2	4	7
5. Mt. Sion SERC	26	0	1	0	7	0	5
6. PNG Reh Centre - Port Moresby	53	1	1		0	0	0
7. St. John Ass f/t Blind - Port Moresby	45	0	2	0	1	5	3
8. Creative Self Help Centre - Madang	90	1	0	0	0	3	0
9. Cheshire Homes - Port Moresby	45	0	1	1	6	0	2
10. Lae Reh Centre	12	2	0	1	0`	0	0
11. Port Moresby Sheltered Workshop	11	0	1	0	0	0	0
12. Lae Sheltered Workshop	12	0	0	0	0	2	0
13. Callan SERC - Wewak	38	0	0	0	0	0	5
TOTALS	**1, 044**	**7**	**7**	**6**	**21**	**19**	**30**

National Department of Education (1993, p.5)

Appendix E. Invitation letter to SERC teachers in PNG.

ADMINISTRATIVE DOCUMENTATION HAS BEEN REMOVED

Appendix F. Survey questionnaire for SERC teachers

Instructions: Please place a tick in the appropriate box to rate how strongly you agree or disagree with each of the following statements. Please do not write you name on this form or provide any distinguishing details.

Statements	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. Children with VI do not attend school because parents and community members think the children are not capable of academic learning.	1	2	3	4	5
2. Cultural attitudes and beliefs about VI negatively affect student progress at school.	1	2	3	4	5
3. Parents of students with VI cannot afford to send their child to school.	1	2	3	4	5
4. Children with VI do not attend school because of lack of appropriate policies and funding.	1	2	3	4	5
5. Teachers emphasise the disability rather than the student with VI's ability.	1	2	3	4	5
6. Students with VI do not progress to further education because of the examination process at grades 8, 10 and 12.	1	2	3	4	5
7. Examination papers for Grades 8, 10 and 12 are provided in Braille, large print and audio format for all students with VI.	1	2	3	4	5
8. The NDOE provides specific guidelines on how examinations are to be conducted for students with VI.	1	2	3	4	5
9. Teachers in SERCs are given training in how to produce internal	1	2	3	4	5

examinations in Braille, large print and audio format for students with VI.					
10. Most schools are located in cities and towns but the majority of children with VI live in rural communities.	1	2	3	4	5
11. Mainstream schools receive SERC support for students with VI.	1	2	3	4	5
12. All teachers in primary and secondary schools are trained in the education of students with special needs.	1	2	3	4	5
13. All school administrators are familiar with NODE policy on inclusive education.	1	2	3	4	5
14. Students with VI make little progress to tertiary institutions because of negative attitudes displayed by teachers and school administrators.	1	2	3	4	5
15. All needs of students with VI are adequately addressed by regular and SERC teachers.	1	2	3	4	5
16. Students with VI should attend a Special Education Resource Centre rather than a mainstream school.	1	2	3	4	5

Other Comments:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Appendix G. Semi-structured questionnaire for student interview

Thank you for agreeing to take part in this interview. I am a Doctoral student currently studying at James Cook University in Australia. I am presently undertaking a study on the education of students with visual impairment (VI) in PNG. I am particularly interested in finding out about what it was like for you going to school in PNG. All information you provide will be kept confidential. When I write up my research I will not identify your name and any personal details that could be used to identify you. Also you are welcome to withdraw from this study at any time.

Did you complete grade 8? Did you attend a regular primary school? Did you receive support from specialist teachers at the SERC? How did you find this support? Can you tell me any stories about the kinds of support you received? What happened after grade 8?

How did you access information at school? Was it through Braille, large print, audio format or some other means?

If student says Braille (Could your teachers read Braille? Who transcribed your school material into Braille? How long did it take?

What about your school examinations? How were they conducted? Did you have any specialist equipment when you were at school? What equipment? Who supplied this equipment? Did you have anywhere to store it?

Do you have any other comments about resources?

Conclusion

I want to thank you again for taking part in this interview.

Bye for now.

Appendix H. Consent letter to the Parent/Guardian

ADMINISTRATIVE DOCUMENTATION HAS BEEN REMOVED

Appendix I. Letter to the student

ADMINISTRATIVE DOCUMENTATION HAS BEEN REMOVED

JAMES COOK
UNIVERSITY
AUSTRALIA

INFORMED CONSENT FORM (STUDENT)

PRINCIPAL INVESTIGATOR	James D Aiwa
PROJECT TITLE:	Overcoming the barriers that inhibit students with visual (VI) impairment participation in education in Papua New Guinea
SCHOOL	Education

I understand the aim of this research study is to find out the problems that inhibit students with VI participation in education in PNG and this research is to investigate ways of improving the barriers and increase enrolment of students with VI in schools. I consent to participate in this project, the details of which have been explained to me, and I have been provided with an information sheet to keep in my preferred format.

I understand that my participation will involve an **interview** and I agree that the researcher may use the results as described in the information sheet.

I acknowledge that:

- taking part in this study is voluntary and I am aware that I can stop taking part in it at any time without explanation or prejudice and to withdraw any unprocessed data I have provided;

- that any information I give will be kept strictly confidential and that no names will be used to identify me with this study without my approval.

(Please tick to indicate consent)

I consent to be interviewed ☐ Yes ☐ No

I consent for the interview to be audio taped ☐ Yes ☐ No

Name: *(printed)*	
Signature:	**Date:**

Note: This form will be available in print in English, Tok Pisin, and also in Braille, large print and audio format.

INFORMED CONSENT FORM PARENT/GUARDIAN

PRINCIPAL INVESTIGATOR	James D Aiwa
PROJECT TITLE:	Overcoming the barriers that inhibit students with visual impairment (VI) participation in education in PNG
SCHOOL	Education

I/we understand the aim of this research study is to find out the problems that inhibit students with VI participation in education in PNG. This research is to document educational and social experiences of students with VI gaining an education in PNG. I/we consent our son/daughter to participate in this project, the details of which have been explained to me/us, and I/we have been provided with a written information sheet to keep.

I/we understand that our son/daughter participation will involve an **interview** and I/we agree that the investigator may use the results as described in the information sheet.

I/we acknowledge that:

- taking part in this study is voluntary and I/we are aware that our son/daughter can stop taking part in it at any time without explanation or prejudice and to withdraw any unprocessed data he/she may have provided;

- that any information our son/daughter give will be kept strictly confidential and that no names will be used to identify him/her with this study without our approval.

(Please tick to indicate consent)

I/we consent our son/daughter to be interviewed	☐	**Yes**	☐	**No**
I/we consent for the interview to be audio taped	☐	**Yes**	☐	**No**

Name: *(printed)*	
Signature:	**Date:**

Note: This form will be available in print in English, Tok Pisin, and also in Braille and audio format.

ADMINISTRATIVE DOCUMENTATION HAS BEEN REMOVED

Appendix M. Consent letter to SERC Teachers

ADMINISTRATIVE DOCUMENTATION HAS BEEN REMOVED

Appendix N. Expedited Review

ADMINISTRATIVE DOCUMENTATION HAS BEEN REMOVED

Appendix O. Interview sites in Papua New Guinea

Interview sites: Wewak (Momase), Goroka (Highland), Rabaul (Island) Port Moresby (Southern)

Appendix P. Survey sites in Papua New Guinea

Survey sites of Special Education Resource Centres in Papua New Guinea

Appendix Q. Article published in JSPEVI

The education of students with vision impairment in Papua New Guinea: A tentative review of the literature

JAMES AIWA
Doctoral Candidate
James Cook University

ASSOCIATE PROFESSOR PAUL PAGLIANO
School of Education
James Cook University

ABSTRACT

This is a tentative review of the literature because of the very limited amount of published information available on the education of students with vision impairment (VI) in Papua New Guinea (PNG). Information that is available tends to be general, dated and lack rigour. The lack of literature is partly due to the PNG context: a complex, impoverished and diverse nation (geographically, culturally and linguistically) with almost overwhelming challenges that directly impact on education. With roughly half the 6.2 million-population under 22, overall attendance, especially in secondary school, remains distressingly low. Despite there being a well-established Government education policy to support the inclusion of students with VI the reality is only a small percentage of the projected eligible students actually receive specialist services. Using an educational definition of VI to help read between the lines, our conjecture is that, as the small number of students who do receive support services are mostly Braille using and functionally blind, large numbers of children with VI are not being identified, particularly those with low vision. Urgent research is therefore needed to clarify numbers and to find out what is actually happening to children with VI in PNG. Given the International Council for Education of People with Visual Impairment (ICEVI) has identified PNG as a proposed focus country for their global campaign on education for all children with visual impairment, this research is both timely and necessary to drive policy forward, to stimulate action and to monitor progress.

Introduction

Very little published information about the education of students with VI in PNG is available and any that is tends to be general, dated and lacking in rigour (Josephs, 2000). To better understand the current state of education of students with VI it is therefore necessary to take into account the PNG context. This is because the background situation has had such a powerful effect on shaping the provision of education services.

PNG is an extremely complex and diverse nation with almost overwhelming challenges that have directly impacted on education. These challenges include problems with communication, socio-cultural multiplicity, historical influences, governance, infrastructure, transportation, poverty, and attitudes towards people with disability, accessibility, specialist resources and training. After outlining important background information on PNG, a general overview of education in PNG is given followed by a brief depiction of special education and education services for students with VI. The paper ends with a final discussion, conclusion and recommendations.

Background

The nation of PNG occupies the eastern part of the large island of New Guinea. The western part of the island is the Indonesian province of Irian Jaya, also known as West Papua. The name Papua, a Malay word for frizzled Melanesian hair, was coined by the first recorded European navigator, Don Jorge de Meneses, between 1526 and 1527 (Bureau of East Asian and Pacific Affairs [BEAPA], 2010). Eighteen years later the Spaniard, Inigo Ortiz de Retes, named the island New Guinea, because he thought the inhabitants resembled those found on the African Guinea coast. As a consequence, even the country's name is somewhat confusing because both Papua and New Guinea refer to parts both inside and outside the national borders (BEAPA, 2010).

PNG achieved self-government on the 1st December, 1973 with full independence from Australia on the 16th September, 1975. The country is situated just north of Australia (with part of Queensland, the island of Saibai, only 4 km from the PNG mainland). In all, PNG comprises 600 islands and covers 462,840 square kilometres of land (about 16% of the size of Australia). The country is divided into four regions: Southern, Highlands, Islands and Momase; 18 provinces, plus Bougainville Autonomous Region and the National Capital District, and several thousand local communities, many of them exceedingly isolated and accessible only by water, air or foot. This largely rugged, mountainous country is subject to regular earthquakes, volcanic eruptions and tsunami (BEAPA, 2010).

For the most recent census in 2000 the population was 5,190,786. Guesstimates for 2011, based on close readings of data from the CIA World Fact Book (2010), Papua New Guinea

198

National Statistics Office (2000), Australian Government AusAID (2010) and Bureau of East Asian and Pacific Affairs (2010) have the population at 6.2 million. Upward of 820 different languages – 12.5% of the world's total (Holloway, 2004) are spoken in PNG – of which three are nationally recognised: English, Tok Pisin (Talk Pidgin) and Hiri Motu. The estimated median age is 21.8 (CIA World Fact Book, 2010; Papua New Guinea National Statistics Office, 2000). Approximately 82% of the population live in rural areas and practice subsistence-based agriculture, around 37% are below the poverty line, there is low life expectancy (66.24 years), and high infant mortality rates (3.34) (CIA World Fact Book, 2010; Human Development Indices, 2008; Australian Government AusAID, 2010; BEAPA, 2010).

The large cities like capital Port Moresby have serious crime problems, corruption is rife and there is little infrastructure in place, which makes travel and communication expensive, difficult and time consuming (BEAPA, 2010).

Governance is dysfunctional:

PNG's biggest problem is neither its crime nor its corruption but a dysfunctional political system. The Australian-inherited Westminster system cannot cope with a bewildering political paradigm where MPs represent 820 languages and have no allegiance to the political party. The 109 members are essentially free agents who regularly cross the floor to vote with the opposition, resulting in 109 cross-purposes. As a consequence, until the most recent election in 2007, no prime minister in the 34 years of independence (since 1975) had served a full five year term without being brought down in a no-confidence vote – survival, not policy tends to be the focus of PNG politics. (p.12, McKinnon, Carillet, & Starnes, 2008)

General overview of education in PNG

Education in PNG can be traced back to the 1870s (p. 27, National Education Board Report, 2008) and post-colonial national education began from independence in 1975. With the introduction of education to students to Year 12 became largely decentralised, and this decentralised approach has continued through to the present day. Nevertheless the Department of Education retains its right to oversee the development of policy and remains directly answerable to the Minister for Education. In addition to government schools there are schools from six different religious denominations as well as privately run autonomous schools.

Even though money to support various education programs comes from many different international sources, in relative terms overall government spending on education appears to be in decline (Josephs, 2000). Despite a series of reforms guided by the first *National Education Plan 1995-2004* (Department of Education, 1997) and *Achieving a better future: A national plan for Education 2005-2014* (Department of Education, 2004) to improve enrolment figures school attendance is low, but improving. These two plans were developed in response to PNG being a signatory to the Jomtien Declaration, *UNESCO World Conference on Education For All* (1990) in Jomtien, Thailand and reaffirmed in Dakar, Senegal, 2000. The UN Millennium Development goal of achieving universal primary education by 2015, including children with disabilities, was adopted by PNG. Nevertheless

the government has entertained doubts as to whether such a goal is possible.

In the current economic climate it is difficult to see how the second of these goals [Universal Primary Education by 2015] can be achieved within the time frame. However, every effort is being made for children to achieve a primary education. (p. 5, Department of Education, 2004) In addition the National Education Board of the Department of Education explicitly identifies as part of its mission: "to make education accessible to the poor and physically, mentally and socially handicapped as well as to those who are educationally disadvantaged" (p. 6, Department of Education, 2004).

A key strategy has been to develop a national education structure. This began in 1993 with the relocation of Grades 7 and 8 from Secondary to Primary school. With more than ten times as many Primary schools as Secondary schools this change had an enormous impact on educational opportunity especially for children in isolated areas. Government sponsored education now begins with Elementary (Elementary Prep, Elementary 1 and 2) for students aged 6 to 8; Primary (Grades 3 to 8) for students aged 9 to 14; Lower Secondary (Grades 9-10) for students aged 15 to 16; and Upper Secondary (Grades 11-12) for students aged 17 to 18. Children younger than 6 years may attend kindergarten or pre-school but these are not funded by the government. The Department of Education has given moral support but it does not provide finance, curriculum materials and training of preschool teachers. It has left the responsibility to communities, non-government organisations and provincial governments. Students at Elementary school are educated in their home language, whereas at Primary school a bilingual program is introduced with English becoming the major language of instruction. English then continues to be the major language of instruction through to the end of secondary school.

In 2006 there were 5,473 elementary schools with an enrolment of 330,713 students – of an estimated eligible 480,000 children. Despite there being elementary schools located in most small communities throughout the country, more than 30% of eligible children did not attend (Department of Education, 2006). By 2008 enrolment in elementary school had increased to 423,149 (p. 21, 2008 Statistical Bulletin), marking a substantial boost, the result of an increase in overall population, in school attendance and retention.

In 2006 there were 3,355 Primary schools but this number does not include 15 International schools and 83 Seventh Day Adventist schools. In that year the combined primary school enrolment was given as 658,940 students – of an estimated eligible 741,031 children (Department of Education, 2006). By 2008 this figure had similarly been raised to 719,259 (p. 32, 2008 Statistical Bulletin).

Attending lower Secondary school is even more problematic because, as of 2006 there were only 234 Lower Secondary Schools and these are located in only the larger population centres. Furthermore in order to be eligible to go into Grade 9 a student must pass a national examination. The same applies for entry into Grade 11. By the time a student gets to Grade 10 there are only 6 National High Schools and 45 Upper Secondary Schools (grades 11 and 12) (Philemon, 2009), 3 International High Schools and 4 Seventh Day Adventist High Schools. The 2006 total secondary school student enrolment was only 86,189 students, with the majority of these being in grades 9 and 10 (Department of Education, 2006). Enrolment figures for 2008 had climbed to 97,881 (p. 45, 2008, Statistical Bulletin).

According to the Department of Education (2004) class sizes are capped at 45 but it is difficult to know if this is the case in practice. Analysis of both the 2006 and 2008 enrolment figures indicate considerably more boys attend school than girls (2008 Grade 12 ratio of 4,573 females to 6,877 males), more students from higher socio economic backgrounds who live in urban centres stay on at school, and disproportionally more able bodied students than those with disabilities receive a full school education (p. 45, 2008, Statistical Bulletin).

Special Education in PNG

The UNESCO (1988) *Review of the present situation of special education* made a forlorn assessment of education for children with disabilities in developing countries, claiming "less than 2%" receive special services of any kind (p.3). As the PNG Department of Education wrote: "It was generally accepted that these children would remain at home in the village and be cared for by the community" (p. 105, The State of Education in Papua New Guinea, 2002). This UNESCO review, in conjunction with PNG government's decision to sign the UNICEF (1989) *Convention on the rights of the child* (signed 30th September 1990), prompted the Department of Education through its National Education Board to conduct its own survey and to come up with a blue print for future services. This became known as: *The national plan, policy and guidelines for special education* (Department of Education, 1993).

The National Executive Council (by Cabinet decision) adopted a policy in respect to Special Education in 1993, which was defined for Papua New Guinea in terms of all children with disabilities having the right to be enrolled in regular schools and all teachers having the responsibility to teach children with special needs within the context of the regular classroom. (p. 2, Papua New Guinea Country Report, 2008)

This PNG legislation was opportune as it matched the *Salamanca Statement and Framework for Action on Special Needs Education* adopted at the UNESCO World Conference on Special Needs Education: Access and Quality the following year in 1994.

From 1993 the Department of Education began a partnership with those charitable organisations actively involved in providing education services to children with disabilities to establish Special Education Resource Centres (SERC) across PNG. Currently there are 21 SERCs. The principal responsibility of each SERC is to provide support to students with special needs both at centre-based programs and in mainstream inclusive schools. Other duties include training and up-skilling of mainstream teachers and working with parents of children with disabilities in their homes and villages. Staff members are also involved in rehabilitation programs for youth and adults with disabilities in their villages.

SERCs employ both professionals and para-professionals. Professionals hold specialist qualifications in teaching, nursing, physiotherapy, speech therapy and rehabilitation. Most salaries are now paid for by the Department of Education. However, those who do not meet the Department of Education entry qualifications (Diploma in Teaching and or related qualifications acceptable to the Secretary of Education) are paid by the sponsoring agency. Details of the 21 SERCs are shown in Table 1.

Table 1

Special Education Resource Centres in PNG

SERC and Location	Date Est	Mailing Address	Agency	Finance	No of Staff	Types of Programs
1. Callan SERC – Buka	2000	P. O. Box 85, Buka NS Ph: (675) 9739311 Fax: (675) 9739312	Catholic	Catholic Church NDOE* NBPD*	8	Inclusive Education Rehabilitation
2. Saint John Association for the Blind – Port Moresby	1982	P. O. Box 6075, Boroka NCD Ph: (675) 3251238 Fax: (675) 3254637	Saint John Ambulance Association	Saint John Association NDOE NBPD	10	Inclusive Education Rehabilitation Primary eye care
3. Callan SERC – Rabaul	1995	P. O. Box 1238, Rabaul ENBP Ph: (675) 9829738	Catholic	Catholic Church NDOE NBPD	12	Inclusive Education Training Rehabilitation
4. Mt. Sion SERC-Goroka	1982	P. O. Box 1068, Goroka, EHP Ph: (675) 7322 850 Fax: (675) 7323189	Catholic	Catholic Church NDOE NBPD	25	Inclusive Education Training Rehabilitation Primary Eye Care
5. Cheshire Homes – Port Moresby	1972	P. O. Box 1306, Boroko, NCD Ph: (675) 3255937 Fax: (675) 3235419	Board of Governors	BOG* NDOE NBPD	19	Residential care Inclusive education

200

SERC and Location	Date Est	Mailing Address	Agency	Finance	No of Staff	Types of Programs
6. Red Cross SERC	1974	P. O. Box 6545, Boroko, NCD Ph: (675) 3251374 Fax: (675) 73259714	PNG Red Cross	PNG Red Cross NDOE NBPD	6	Inclusive Education Elementary Training
7. Callan SERC – Aitape	1996	P. O. Box 35, Aitape, Sandaun Ph: (675) 8572228 Pax: (675) 8572107	Catholic	Catholic Church NDOE NBPD	8	Inclusive Education Elementary Education
8. Creative Self Help Centre	1992	P. O. Box 891, Madang, MP Ph: (675) 8523310	Board of Governors	BOD NDOE NBPD	12	Inclusive Education Elementary Education Rehabilitation
9. Callan SERC – Kiunga	1999	P. O. Box 42, Kiunga WP Ph: (675) 5481304	Catholic	Catholic Church NDOE NBPD	7	Inclusive Education Training Rehabilitation
10. Simbu SERC – Kundiawa	1997	P. O. Box 494, Kundiawa, SP Ph; (675) 7351036	Lutheran	Luth NDOE NBPD	9	Inclusive education Elementary Education
11. Callan SERC – Mendi	1999	P. O. Box 69, Mendi, SHP Ph: (675) 5491744 Fax: (675) 5491169	Catholic	Catholic Church NDOE NBPD	10	Inclusive Education Training
12. Morobe SERC – Lae	1975	P. O. Box 946, Lae, MP Ph: (675) 4722089 Fax: (675) 4723239	Board of Governors	BOG NDOE NBPD	12	Inclusive Education Elementary Education
13. Callan SERC – Mt. Hagen	1986	P. O. Box 1191, Mt. Hagen, WHP Ph: (675) 5422735 Fax: (675) 5423042	Catholic	Catholic Church NDOE NBPD	12	Inclusive Education Elementary Education
14. Callan SERC – Wewak	1992	P. O. Box 542, Wewak ESP Ph: (675) 8561081 Fax: (675) 8562924	Catholic	Catholic Church NDOE NBPD	30	Inclusive Education Training Elementary Rehabilitation
15. Callan SERC – Kundiawa	1997	P. O. Box 189, Kundiawa, SP Ph/Fax: (675) 7351047	Catholic	Catholic Church NDOE NBPD	8	Inclusive Education Rehabilitation
16. Callan SERC – Daru	2006	P. O. Box 59, Daru WP Ph: (675) 6459017	Catholic	Catholic Church NDOE NBPD	6	Inclusive Education Training
17. Callan SERC – Manus	2006	P. O. Box 49, Manus Manus Province	Catholic	Catholic Church NDOE	12	Inclusive Education Training
18. Callan SERC – Alotau	2006	P. O. Box 107, Alotau MBP	Catholic	Catholic Church NDOE	7	Inclusive Education Training

201

SERC and Location	Date Est	Mailing Address	Agency	Finance	No of Staff	Types of Programs
19. Callan SERC Kavieng	2008	P. O. Box 49, Kavieng New Ireland	Catholic	Catholic Church NDOE	4	Inclusive Education Training, CBR*
20. Callan SERC Kimbe	2008	P. O. Box 182, Kimbe West New Britian	Catholic	Catholic Church NDOE	4	Inclusive Education Training, CBR
21. Callan SERC Wabag	2008	P. O. Box 101, Wabag Enga Province	Catholic	Catholic Church NDOE	4	Inclusive Education Training

* BOG – Board of Governors, CBR – Community Based Rehabilitation, NBPD – National Board of Persons with Disabilities, NDOE – National Department of Education. (Adapted from the National Department of Education Special Education Office, 2009)

Education of students with vision impairment

In 2006 in conjunction with UNESCO, UNICEF, and the World Blind Union (WBU), the International Council for Education of People with Visual Impairment (ICEVI) launched its global campaign on education for all children with visual impairment in, identifying Fiji as a focus country for the South Pacific, and PNG as the next one in line. The success of this campaign will be measured by: "1. increased enrolment rates, 2. reduced dropout rates, 3. improved access to support services, and 4. educational achievement for children with visual impairment, on par with non-disabled children" (ICEVI, 2006). This action by ICEVI places PNG in the international spotlight regarding educational services for children with vision impairment. It is therefore timely for this review the literature to find out what current information is available on the education of students with vision impairment in PNG, particularly regarding student numbers and the types of educational service available.

As we were not able to locate any accurate figures regarding the incidence or prevalence of VI in PNG in children we devised a strategy to help us estimate the numbers. This entailed working with two definitions of VI: a legal medical definition and an educational definition, and being guided by international experts in the field. Vision impairment can be defined in a variety of ways according to context. A legal medical definition focuses on visual acuity and is used for administrative decisions (such as the award of a pension or to determine whether a person can obtain a driver's licence) and for preparing budgets. According to Keeffe, Konyama and Taylor (2002, p. 605):

The World Health Organisation (WHO) has encouraged the use of standard visual acuity criteria to be used in surveys to estimate the prevalence and incidence of vision impairment. The level of categorisation as low vision is visual acuity <6/18 and blindness <3/60. This is a simple definition and on it is predicated most of the information about the likely numbers of children with VI in PNG. A second type of definition focuses on available vision for learning. Pagliano (2005, p. 322) for example argues from an educational perspective that VI exists on a continuum of severity from mild (common) to profound (rare). In education, definitions focus on how … [vision] impairment affects student learning. The term "impairment" indicates that the student's difficulty with learning is sufficiently significant to require support additional

to that usually provided by the class teacher. The definition then describes the term educationally blind as there being "a total lack of functional vision for learning" (e.g., student must use an alternative form of literacy to print), and low vision as "after correction some functional vision is available" (e.g., student has sufficient vision to read print).

Both the medical and the educational definition have been taken into account because, while the standard visual acuity criteria provides an estimation of the incidence and prevalence of VI, the educational definition is more appropriate when reporting on the provision of educational services. The educational definition highlights the impact vision loss has on learning and emphasises the need for the provision of specialist human and material support and the specialist training of teachers and support staff, a point that can be sometimes overlooked when only using the legal medical definition. Another important educational consideration is the idea of there being a vision impairment continuum, which can be valuable when trying to better understand the available data on student numbers.

Modern medical treatment, corrective surgery, prosthetic devices such as glasses, contact lenses, low vision aids and vision training may make it possible for an individual to visually function at a higher, more efficient and effective level than their uncorrected visual acuity. This means that in countries like Australia, after correction, the prevalence of VI in children is decreasing (Charters, 2005; Taylor, Keeffe, Hien, Wang, Rachtchina, Pezzullo, & Mitchell, 2005), while in PNG numbers are either increasing or remaining the same (Keeffe, Konyama, & Taylor, 2002).

In Australia most vision problems are easily corrected, with only 7 per 10,000 children (0.07%) having such a severe vision problem that educational accommodations and adjustments are required. Of these a much smaller percentage are identified as being blind, perhaps 15 per 100,000 (0.015%) (Kelley, Gale, & Blatch, 1998; Gilbert, & Awan, 2003). These figures comprise children with ophthalmic VI and additional disabilities including cortical VI.

The situation in developing countries like PNG is very different. Gilbert, Anderton, Dandona and Foster (1999) argue there may be a "ten-fold" (p. 73) increase on the Australian figures, but given the available literature this figure is impossible to verify. Nevertheless for PNG a ten-fold estimate is thought warranted given the significant health, nutrition and poverty concerns coupled with a serious lack of availability of medical care and support services. In PNG few children have access to basic health care, have their

vision checked by an optometrist or ophthalmologist or have glasses prescribed. Children with vision problems in PNG are therefore less likely to be functioning at a higher level than their uncorrected visual acuity.

Give the above rationale a very rough estimate for PNG would therefore be about 7 children in 1,000 (0.7%) having low vision, and 15 in 10,000 (0.15%) being blind (Gilbert, & Awan, 2003; Ajaiyeoba, Isawumi, Adeoye, & Oluleye, 2007; Farmer, 2000; Keeffe, Konyama & Taylor, 2002; Dethlefs, 1982; Resnikoff, Pascolini, Etya'ale, Kocur, & Pararajasegaram, 2004). According to 2006 Department of Education figures about 160,000 children were eligible to attend an elementary school year (Department of Education, 2006) and with the above prevalence figures about 1,120 would have low vision with about 240 would be educationally blind. According to Gilbert (2003), in poor countries, at least 50% of VI in children is avoidable if only simple improvements are made in basic nutrition, water quality and intervention facilities in health and education.

Prior to 1993 a small number of students with VI attended segregated non-government specialist facilities for their primary and secondary education (Adams, 1986). To attend school and receive an education, students had to leave their community, their language and culture. This often resulted in ongoing displacement even after they left school. After the implementation of the National Department of Education policy in 1993, the number of students with VI attending elementary (Elementary 1 and 2) and primary school (grades 3 to 8) has risen but numbers are still much lower than they should be. Department of Education (2009) statistics (see Table 2) report that 366 school students with VI received services. If these figures are accurate it means many students with vision impairment are missing out this service (1,120 x 13 years of schooling = 14,560; 240 x 13 = 3,120). So what is happening to children and adolescents with VI in PNG and why are the two sets of figures so different?

Table 2

Students with VI attending schools in PNG in 2009

Program	Age	Male	Female	Total
Centre based	0 – 5	25	23	48
Elementary	6 – 8	23	33	56
Primary	9 –14	78	62	140
Secondary	15 –18	75	47	122
Total	0–18	201	165	366

(Taken from the National Department of Education Special Education Office, 2009)

We speculate that one reason for the discrepancy in the figures is most students who receive support are blind (e.g., non-print – Braille users), with students with low vision not being officially recognised. Some may attend school but special provisions are not made for them. Yet low vision can have a substantial impact on development and learning if appropriate support in not provided. This is because lack of vision inhibits opportunities for incidental learning. It is therefore vital that the child is explicitly taught many behaviours children with regular vision learn through everyday interaction.

Students with low vision experience significant problems with learning because of the limited amount of vision they have available for them to see both near and distant objects, the reduced extent of their visual field, their inability to be able to read regular print, difficulty with seeing colour, their ability to see in different lighting conditions and their ability to be able to use vision for particular purposes (Thies, Keeffe, & Clarke, 1998). Because of this students with low vision experience tiredness brought on by having to concentrate so hard to do a visual task. They also miss key information that is outside their range of vision. This reduces the amount of incidental learning. Without appropriate support these students are likely to fail, particularly the National examinations that permit entry into Grades 9 and 11.

Getting the child with VI to go to school in the first place and to stay there once enrolled appears to be a considerable problem. Parents may keep their child hidden away because they are afraid their child with VI may be taken away from them and sent to a school in a far off place or they may keep them at home because they do think their child can learn. Children in

isolated rural areas must walk long distances to reach school but this is difficult for children with VI. Furthermore on arrival at school a teacher without specialist training may not make appropriate accommodations for the child.

Additional barriers that prevent students with VI attending secondary level studies include the fact schools are only located in major centres, so students have even greater distances to travel, and parents face even greater expenses associated with accommodating their child near the school (McKinnon, Carillet, & Starenes, 2008; Human Development Indices 2008; & Australian Government AusAID, 2010). Another problem is the need to pass the National examination to go into Year 9 and Year 11, and lack of adequate resource provision, both financial and human (in the form of specialist qualifications and know how), and materials (in the form of specialist teaching and reading materials).

Discussion

In PNG the ideology and principles associated with education of students with disabilities, particularly those with VI is a relatively new phenomenon. Many teachers and school administrators are now tasked with the requirement of accepting and educating students with VI in mainstream classes. This is an enormously challenging job. All children, both regular and those with disabilities are now being encouraged to participate in education to enable them to reach their full potential. This is as a result of the PNG Government endorsement of 1993 special education plan, policies and guidelines. Even though this is a positive development, based on our reading of the very limited literature available

we suggest that the recorded number of students with VI attending schools is very tiny (about 2.5% of eligible children with low vision and 12% of those who are blind).

Numerous factors have contributed to this situation. Many relate to the unique characteristics and background of PNG as a developing nation. In particular we are concerned about the attitudes of PNG citizens that do not understand or recognise that children with VI are able to be educated (Primary and Secondary Teacher Education Project, 2002) nor do they understand that students with low vision, as well as those who are functionally blind need specialist assistance in order to be able to reach their full potential. In addition to this there are the logistical problems of getting to school, especially for families that live in isolated rural areas where schools are a long way away from their homes. A further problem relates to teachers and school personnel not having sufficient training or the resources to adequately cater to the educational needs of these students once they do arrive at school. On top of these predicaments there are the internal barriers that require the student with VI to pass national examinations, often highly visual in nature, in order to be able to transition to lower secondary school and upper secondary school.

PNG will continue to face many educational predicaments, which are exacerbated by the large percentage of the population who live in rural areas where educational opportunities are limited or even non-existent. However if the goal of equal education for all is to be achieved in the foreseeable future in PNG, substantial changes must be made. These need to occur in consultation and cooperation with the National Department of Education, schools, parents and families and the larger PNG community.

Conclusion and recommendations

This tentative review of the literature has identified three key areas that we believe require urgent attention. They are:

1. The need for comprehensive research to clarify the numbers of children and adolescents with VI in PNG and to determine what is happening to them. This information will help to drive policy, stimulate action plans and monitor future progress. Particular questions that require answers are: How many children in PNG have VI (those with low vision and those who are functionally blind)? How many children have received ophthalmological and optometric attention (been prescribed glasses and other low vision devices)? What happens to children with VI who do not go to school?

2. When conducting this research we strongly recommend that researchers use both the WHO definition of vision impairment and the educational definition. This will help to highlight the impact vision loss has on learning and to emphasise the need for the provision of specialist human and material support, and the need for specialist training of teachers and support staff.

3. Conduct an ongoing nationwide information campaign using radio, internet and local support services in health and education, aimed at increasing community expectations regarding the education of students with VI and the more active participation of adults with VI in society.

References

Adams, J. (1986). Pilot programme of research in Papua New Guinea. In P. Pagliano (Ed.). *Proceedings of the Australian and New Zealand Association of Educators of the Visually Handicapped* (pp.61-63). Brisbane, Qld: ANZEAVH.

Ajaiyeoba, A. I., Isawumi, M., Adeoye, A. & Oluleye, T. S. (2007). Prevalence and causes of blindness and visual impairment among school children in south-western Nigeria. *International Ophthalmology*, 26, 121-125.

Australian Government AusAID. (2010). *Papua New Guinea*. Retrieved 25.3.2011 from http://www.ausaid.gov.au/country/papua.cfm

Bureau of East Asian and Pacific Affairs. (2009). *Back ground note: Papua New Guinea*. Retrieved 25.3.2011 from http://www.state.gov/r/pa/ei/bgn/2797.htm

Charters, I. (2005). Australian kids found to have low rate of visual impairment. *Ophthalmology Times*, 15.9.2005, 30,18.

CIA World Fact Book. (2011). *Median age, Papua New Guinea*. Retrieved 25.3.2011 from https://www.cia.gov/library/publications/the-world-factbook/fields/2177.html

Dethlefs, R. (1982). The trachoma status and blindness rates of selected areas of Papua New Guinea in 1979-80. *Australian Journal of Ophthalmology* 10, 13-18.

Department of Education. (1993). *The national plan, policy and guidelines for special education*. Waigani, NCD, Papua New Guinea.

Department of Education. (1997). *National Education Plan 1995-2004*. Waigani, NCD, Papua New Guinea.

Department of Education. (2002). *The State of Education in Papua New Guinea*. Waigani, NCD, Papua New Guinea.

Department of Education. (2008). *The State of Education Report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from http://www.education.gov.pg/index.php?content=quicklinks/reports

Department of Education. (2004). *Achieving a better future: A national plan for Education 2005-2014*. Waigani, NCD, Papua New Guinea.

Department of Education. (2006). *National Education Board Report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from http://www.education.gov.pg/index.php?content=quicklinks/reports

Department of Education. (2008). *National Education Board Report*. Waigani, NCD, Papua New Guinea. Retrieved 25.3.2011 from http://www.education.gov.pg/index.php?content=quicklinks/reports

Department of Education. (2009). *Special Education Office*. Waigani, NCD, Papua New Guinea.

Farmer, J. (2000). Developing eye care in Papua New Guinea. *Community Eye Health* 13, 34.

Gilbert, C. E. (2003). Blindness in children. Half of it is avoidable, and suitable cost effective interventions are available. *BMJ*, 327, 760-1.

Gilbert, C. E., & Awan, H. (2003). *Blindness in children*. Retrieved 25.3.2011 from http://www.bmj.com/content/327/7418/760.

Gilbert, C. E., Anderton, L., Dandona, L., & Foster, A. (1999). *Blindness in childhood in developing countries: Time for a reassessment?* Retrieved 25.3.2011 from http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed

Holloway, B. (2004). *Achieving a better future: A national plan for education 2005-2014*. Retrieved 28.3.2011 from http://www.education.gov.pg/quicklinks/plans/national-education-plan.pdf

Human Development Indices. (2008). Port Moresby: Papua New Guinea.

ICEVI. (2006). A global campaign on education for all children with visual impairment. Retrieved 28.3.2011 from http://www.icevi.org/efa/efa_world_conference.html

Josephs, J. (2000). *Papua New Guinea country report. The education for all 2000 assessment*. UNESCO: Retrieved from

204

26.3.2011 from http://www.unesco.org/education/wef/countryreports/papua_new_guinea/contents.html#cont

Keeffe, J. E., Konyama, K., & Taylor, H. R. (2002). Vision impairment in the pacific region. *Br. J. Ophthalmol, 86,* 605 -610.

Kelley, P., Gale, G., & Blatch, P. (1998). Theoretical framework. In P. Kelley, & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments* (pp.33-40). North Rocks, NSW: North Rocks Press.

Lewis, S. (2011). *Millions lost in AusAID Foreign aid scam.* The Daily Telegraph, 24.3.2011. Retrieved from 25.3.2011 from http://www.new.com.au/national/millions-lost-in foreign-aid-scam/story-ebfrfkvr-122602670788871

McKinnon, R., Carillet, J. B., & Starnes, D. (2008). *Papua New Guinea and Solomon Islands.* Victoria, Australia: Lonely Planet Publishers.

Pagliano, J. P. (2005). Using the senses. In A. Ashman & J. Elkins (Eds.). *Educating children with diverse abilities* (2nd ed., pp. 319-359). Sydney: Pearson Prentice-Hall.

Papua New Guinea National Statistics Office. (2000). Port Moresby, Papua New Guinea: Government Printers.

Philemon, B. (2009). *Post Courier.* 9th October. Port Moresby.

Primary and Secondary Teacher Education Project. (2002). *Special Education: Student Support Material.* Australian Agency for International development (AusAID). GRM International.

Resnikoff, S., Pascolini, D., Etya'ale, D., Kocur, I., Pararajasegaram, R., Gopal, P. P., & Mariotti, S. P. (2004). *Policy and practice: Global data on visual impairment in the year 2002.* Bulletin of the World Health Organization.

Taylor, H. R., Keeffe, J. E., Hien, T. V., Wang, J. J., Rachtchina, E., Pozzullo, M. L., & Mitchell, P. (2005). Vision loss in Australia. *The Medical Journal of Australia, 182,* 11, 565-568.

Thies, I., Keeffe, J. E., & Clarke, G. (1998). Low vision. In P. Kelley, & G. Gale (Eds.). *Towards excellence: Effective education for students with vision impairments* (pp.33-40). North Rocks, NSW: North Rocks Press.

United Nation International Children Emergency Fund. (1989). *Convention on the rights of the child.* New York, NY: New York House.

United Nations Education, Scientific Cultural and Organization. (1988). *Review of the present situation of special education.* New York, NY: New York House.

United Nations Education, Scientific Cultural and Organization. (1994). Salamanca statement and framework for action on special educational needs education: *Adopted by the World Conference on Special Education: Access and Quality.* Paris: United Nations.

United Nations Education, Scientific Cultural and Organization. (2000). Jomtien Declaration, *UNESCO World Conference on Education For All.* Dakar, Senegal.

205